Integrated Economic Zones in Haiti

Site Assessment

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International Finance Corporation

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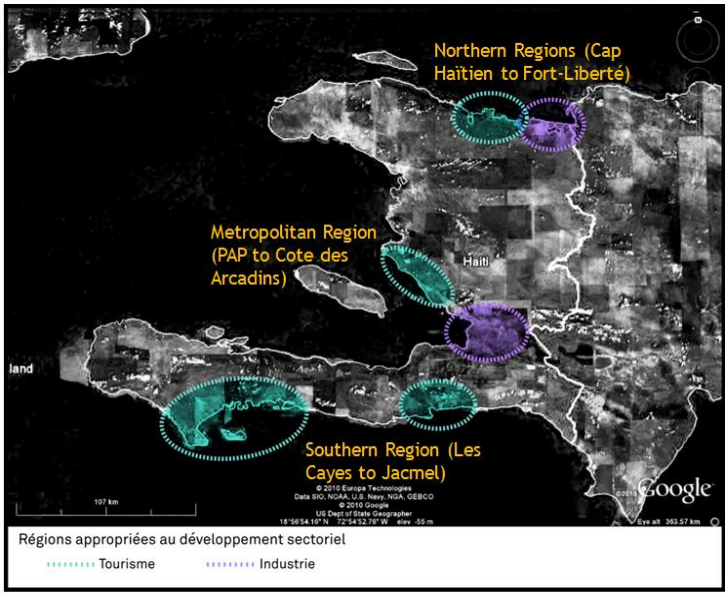
Acronyms

AECOM	AECOM International Government Services
BOT	Build-Operate-Transfer
DR	Dominican Republic
EIA	Environmental Impact Assessment
EPZ	Export Processing Zone
EZ	Economic Free Zone
FTZ	Free Trade Zone
FZ	Free Zone
GoH	Government of Haiti
GoK	Government of Korea
Ha	Hectare
IFC	International Finance Corporation
IEZ	Integrated Economic Zone
M	Million
M.	Ministry
MOU	Memorandum of Understanding
No.	Number
PAP	Port-au-Prince
PIM	Parc Industriel Metropolitan
PPP	Public Private Partnership
SEZ	Special Economic Zone
SONAPI	Société Nationale des Parcs Industriels

I. Executive Summary

Over the next 15 years, there is demand for 2,140 ha of serviced land for industrial, tourism, and residential use across Haiti. Most of this demand for industrial land is expected to materialize in Greater Port-au-Prince and the North/Northeast of the country, while tourism demand is widely distributed throughout the country (see Figure 1). Nationwide, this development stands to create 380,000 jobs by 2030. In the next five years, 600 hectares of serviced land will be required. By providing serviced land, critical infrastructure and an enhanced business environment, integrated economic zones (IEZs) can yield significant new investment and jobs for Haiti in line with the Government of Haiti's Action Plan.

Figure 1. Anticipated Target Regions for Industrial and Tourism Development



The identification of individual sites suitable for IEZ development was carried out using a three-step process. From an initial screening of 64 candidate sites identified by key government stakeholders and private developers, 20 sites were selected for further study. The seven highest-performing sites are discussed below.

High-Performing Sites

The seven sites with high development potential are Corail (NABATEC), Ganthier, Fort-Liberté, West Indies Free Zone, Laffiteau, Park Hispaniola, and Cap Haïtien.[1]

For each of the seven sites, strengths and weaknesses were analyzed, and the distinct set of project development requirements necessary to develop the site successfully into an IEZ were identified (*see* Figure 2 below). The point of the exercise was not to select the sites that will be developed, but rather to identify those indicative sites that can be developed *quickly and efficiently* in order to achieve the goals of the GoH and other stakeholders: job creation, redevelopment, and decentralization. To that end, a high-level cost-benefit analysis of each site was conducted by calculating the anticipated number of new jobs created over the next 15 years, as well as the development cost per job, as provided in Figure 3.

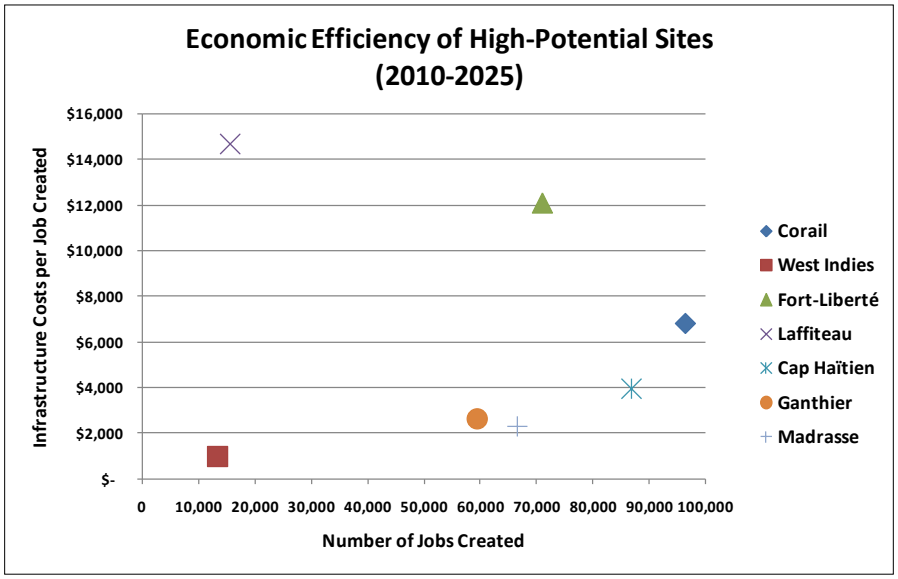
Figure 2. Summary of Strengths, Weaknesses and Development Requirements by Site

High-Performing Sites	Strengths	Weaknesses	Project Development Requirements
Corail (NABATEC)	• Synergistic mix of industrial and non-industrial land uses • Excellent location outside the congestion of central PAP, but near the port • Good access to highways	• Site is heavily squatted following 2010 earthquake • Land tenure unclear after partial expropriation by GoH	• Prepare resettlement plans • Identify institutional arrangements for implementation • Mobilize financing for trunk infrastructure
Ganthier	• Reasonably close to PAP labor and port. City is expanding towards the site. • Abundant public land • May have high-quality water for textile production	• No existing trunk infrastructure except the road • No specific plans are prepared • Untested interest from private sector •	• Delineate a specific parcel of land • Do feasibility study and master plan • Identify private sector partners
Fort-Liberté	• Well-situated for tourism and cultural sites • Nearby North Industrial Park (NIP) provides an industrial core	• Potential environmental concerns • Determine main road connectivity	• Mitigate negative environmental impacts after EIA is completed • Ensure main road connectivity

[1] The seven sites were presented to GoH and other stakeholders according to their development potential during the workshop in Port-au-Prince on September 18, 2010. Feedback on the analysis was solicited and received, both verbally and in writing, from workshop participants representing the highest levels of government, private sector organizations, civil society associations, and the donor community. The comments of the participants largely supported the main findings of the site assessment.

High-Performing Sites	Strengths	Weaknesses	Project Development Requirements
West Indies Free Zone	• Can integrate existing port into IEZ • No land tenure issues • Good access to roads, labor	• Small size -> limited economic impact • Exacerbates congestion in city center • Lacks financing	• Overpass linking apparel production to port • Secure container port license • Complete financing
Laffiteau	• Self-sufficient: planned on-site port and power • No land tenure obstacles • Well-connected to road network • Reasonably close to PAP port and labor	• Incompatibility of proposed land uses • No connection to power/water networks	• Find formulas for feasible port and power development
Park Hispaniola	• Central location • Ability to self-provide power • No land tenure obstacles	• Development program undefined • Small size -> limited economic impact • Exacerbates congestion in city center	• Develop a program and financing options • Find formulas for feasible port and power development
Cap Haïtien	• Close to major population center • Connected to regional road network • Existing port could convert to pleasure port • Fertile hinterland makes agro-processing possible	• No developer, preparation or financing • Shallow waters around new port site • Some resettlement may be required	• Verify feasibility of new port investment • Identify developer and financing

Figure 3. Economic Efficiency: Projected Job Creation Versus Infrastructure Costs per Job



Sites Strategy for IEZ Development

A flexible and multi-use IEZ regime allows the GoH and the private sector to set up a range of different types of zones, including tourism development districts, free zones, and industrial zones. Zones will be developed first where short-term job creation impacts and investment efficiencies are highest. This points first to the Port-au-Prince Metropolitan Area, where existing trunk infrastructure can be exploited. Port-au-Prince and its suburbs also represent a priority development area because of the need to reconstruct the city after the January 2010 earthquake. At the same time, to develop the North of Haiti, top GoH's priority for decentralization, trunk infrastructure should be expanded (*i.e.*, energy, water, wastewater, telecommunications) and one or two IEZs should be developed over in the short- to medium-term. In addition to NIP, a future IEZ could be located on Fort-Liberté bay for tourism, residential and other activities. As the road network to the South coast improves, additional IEZs could be developed in that region. At the same time, tourism development districts – a related but different development tool – can be designed and implemented in key tourism destinations, including those with significant cultural heritage assets, such as Jacmel and Cap Haïtien. In this way, a phased approach to zones development can ensure appropriate regional distribution of economic benefits to a broad cross-section of the Haitian population.

Figure 4. Land Development Strategy for IEZs in Haiti

Geographical Scope	Short-Term	Medium-Term	Long-Term
National Strategy	➢ Identify "development ready" sites for quick success ➢ Begin longer-term site selection	➢ Ensure that regional plans include infrastructure for IEZs ➢ Develop large new sites on a decentralized basis	➢ Encourage the growth of IEZs near new ports ➢ Use IEZs to enable Haiti to enter new, higher-value sectors
Port-au-Prince Strategy	➢ Expand PIM ➢ Develop West Indies Free Zone and/or Park Hispaniola	➢ Develop additional IEZs north or east of PAP (*e.g.*, Ganthier, Laffiteau, Corail)	➢ Develop new IEZs around new port
North Region Strategy	➢ Develop North Industrial Park (NIP) ➢ Prepare Regional Development Plan	➢ Establish Tourism Development District at Cape Haitian ➢ Develop Fort-Liberté IEZ ➢ Plan transshipment port and logistics facility	➢ Expand tourism and other value-added services
South Region Strategy	➢ Prepare Regional Development Plan with tourism clusters and associated developments	➢ Establish Tourism Development Districts ➢ Build trunk infrastructure ➢ Develop resorts	➢ Diversify IEZs into agro-processing and other industry as port facilities develop

II. Introduction

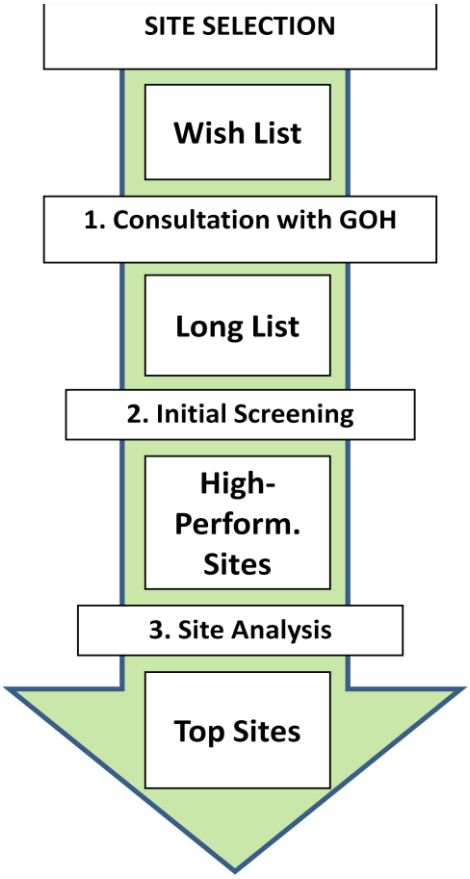
The objective of the site assessment exercise is to evaluate the suitability of various sites in the country for the development of one or more integrated economic zones (IEZs). The zones are anticipated to include industrial activity to take advantage of the preferential access to the U.S. market in the apparel sector. Where market conditions are favorable, the IEZs can also include other economic activities or land uses such as tourism, agricultural processing and marketing, services, and housing.

This report is composed of five sections, including an executive summary. Section III below discusses the methodology for and results of the site assessment exercise. Section IV details the development potential of the top-ranked seven sites, while Section V summarizes the proposed strategy for development of economic zones in Haiti. The annexes present the survey forms, tabulated data collected on the participating sites, and results of the high-level economic analysis.

III. Site Selection Methodology and Results

The site selection methodology was carried out using a three-stage process. In Step 1, initial consultation by the IFC and the consultant with key stakeholders including the Direction des Zones Franches, SONAPI, Ministry of Tourism, Ministry of Agriculture, and private developers yielded about 65 candidate sites. Sites were located in all regions of the country, including the south, southeast, center, west, north, and northeast. Following prioritization by the stakeholders, the long list was reduced to 20 sites. (*See* **Figure 5**).

Figure 5. Site Selection Methodology



In Stage 2, an initial screening of the 21 sites was carried out using the Initial Screening Checklist (*See* Annex A), which was completed by site promoters and/or developers (both public and private sector) and reviewed by the consultant. Checklists with obvious errors or figures that were inconsistent with background information were returned to the promoters for revisions. Two initial "fatal flaw" criteria are applied at the top of the Checklist. First, if the site was small, it was discarded, since it was unlikely to have a substantial development impact in terms of job creation. Second, if the owner/developer had unclear tenure rights to the land (contesting ownership claims, lack of title, etc.), then it was to be discarded based on the risk of difficulties and/or delays during implementation. The sites that do not have fatal flaws were scored according to the following criteria:

- Site area
- Suitable site topography
- General environmental condition of site
- Consistent with land use and zoning codes
- Clear land tenure
- Proximity to functioning port, airport and road network
- Access to power, water, telecoms, labor
- Access to labor
- Facilitates the development of multiple economic activities: industry, tourism, agribusiness, etc.

The sites on the long list were scored on a pass/fail basis for each of the evaluation criteria (*See* **Figure 6**). One point was awarded for each passing score and sites were ranked by scores. No score was calculated for four of the sites on the long list because no data was submitted by the developers, despite repeated invitations by the consultant. For detailed data on the 21 sites, please see Annex C.

Figure 6. Summary of Strengths, Weaknesses and Development Requirements by Site

#	Site Name	Location	Region	Source	Score
1	Corail (NABATEC)	North of Port-au-Prince, Corail	METROPOLITAN	Private sector	15
2	West Indies Free Zone (WIN)	Port-au-Prince	METROPOLITAN	Private sector	14
3	Cap Haïtien	near Cap Haïtien	NORTH	M. Tourism	14
4	Park Hispaniola	Port-au-Prince	METROPOLITAN	Private sector	14
5	Laffiteau	NW of Port-au-Prince	METROPOLITAN	Private sector	14
6	Fort-Liberté	Fort-Liberté	NORTH	Private sector	13
7	Ganthier	Ganthier	WEST	SONAPI	13
8	Habitation La Selle	Gressier	WEST	SONAPI	12
9	Parc National Historique du Nord	Cap Haïtien and surrounding region	NORTH	M. Tourism	12
10	Habitation Madras	Trou-du-Nord/ Limonade	NORTH	SONAPI	11
11	Village Industriel de Paulette et Phaéton	Fort-Liberté	NORTH	SONAPI	11
12	Centre Historique de Cap Haïtien	Cap Haïtien	NORTH	M. Tourism	11
13	Réhabilitation du Cadre Ancien de Port-au-Prince	Port-au-Prince	METROPOLITAN	M. Tourism	11
14	Réhabilitation du Centre Historique de Jacmel	Jacmel	SOUTH-EAST	M. Tourism	11
15	Village Industriel de Dérac	Fort-Liberté	NORTH	SONAPI	10
16	Projet de Développement Urbain -- Plage de Port-Salut	Port-Salut	SOUTH	M. Tourism	10
17	Côtes des Arcadins	Cabaret to St. Marc	WEST	M. Tourism	10
18	Apaid Group industrial zone	Outside of Port-au-Prince	WEST	Private sector	-
19	Airport Industrial Park	Port-au-Prince	METROPOLITAN	Private sector	-
20	Mirabalais zone	Mirabalais area, 57 km N of PaP	TRANSVERSAL	Private sector	-
21	“Comme Il Faut” zone	PaP – Adjacent to airport	TRANSVERSAL	Private sector	-

In Step 3, the highest-scoring seven sites on the ranked long list were subjected to a more detailed site analysis. The seven sites are listed below; their locations are shown in Figures 7 and 8.

- Corail (NABATEC)
- West Indies Free Zone
- Cap Haïtien
- Park Hispaniola
- Fort-Liberté
- Laffiteau
- Ganthier

The methodology for Step 3 included field visits, satellite imagery analysis, interviews with project promoters and/or developers, and data collection from other relevant sources such as trunk infrastructure providers. Each site received a quantitative score for each criterion. The criteria were individually weighted. A total score was calculated for each site. The sites were ranked according to their total scores, from most suitable to least suitable for development of an economic zone. Detailed information on the seven sites is presented in the annexes as well as in Section IV.

The seven sites were presented to Government and other stakeholders according to their development potential during the workshop in Port-au-Prince on 18 September 2010. Feedback on the analysis was solicited and received, both verbally and in writing, from workshop participants representing the highest levels of government, private sector organizations, civil society associations, and the donor community. The comments of the participants largely supported the main findings of the assessment presented by IFC and its consultant. As described in the next section, each of the sites has strengths and weaknesses and will require a distinct set of actions in order to be developed successfully into an economic zone. The point of the exercise was not to select the sites that will be developed, but rather to identify those sites that can be developed quickly and efficiently in order to achieve the goals of government and other stakeholders.

Figure 7. High-Performance Sites in the Metropolitan Region

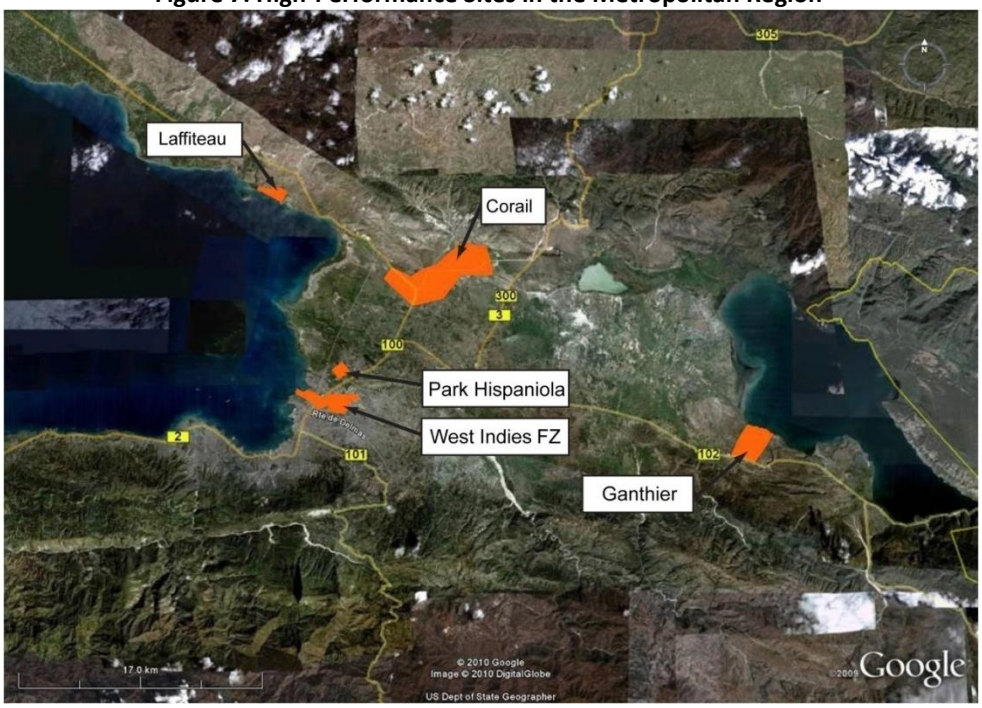
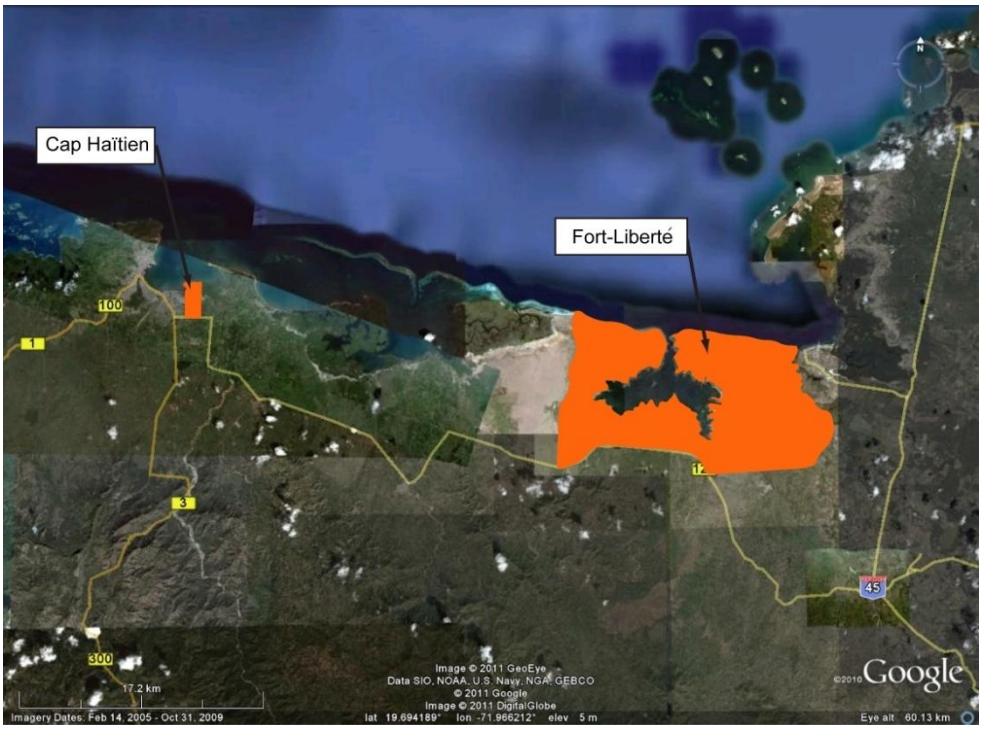


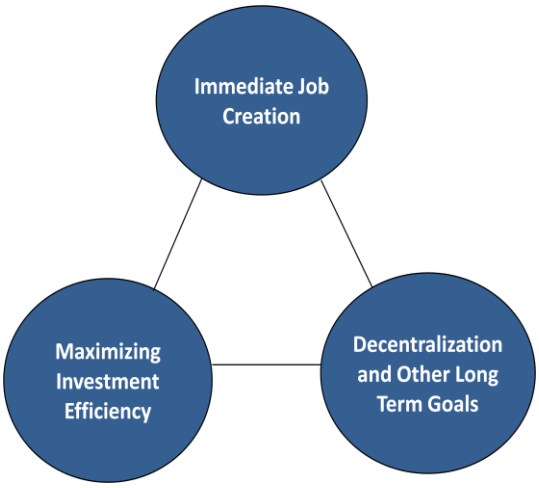
Figure 8. High-Performance Sites in the North/Northeast



As is typical when examining alternative sites, a number of trade-offs between sometimes competing objectives were observed during the site assessment process and the subsequent discussions at the workshop (*See* **Figure 9**). One of the main drivers of IFC assistance to Haiti in the area of IEZs is to promote job creation. The sooner the better, and the more jobs the better. This in itself can be taken as a major driver in the site selection process. Those sites for which there are prepared projects, with solid institutional arrangements for implementation and adequate financing would, from this perspective, be considered higher priority than other sites for which those conditions did not exist.

Another important overarching criterion is investment efficiency. Sites that have access to existing infrastructure networks (power, roads, port, airport, etc.) are much more efficient economically than those which require the construction of the trunk infrastructure as well as the economic zone itself.

Figure 9. Main Drivers in the Site Selection Process



Finally, the location of the economic zone can play a role in decentralization and other long-term socio-economic development goals of the Government of Haiti. Government and its donor partners have agreed on the broad outlines of a decentralization program that will focus on such outlying regions as the North, Northeast, and South. Developing a zone in Cap Haitien or Fort-Liberté can provide some of the jobs needed to grow the economy of that region. But it also requires significant investment in infrastructure, which is currently lacking. Similarly, investment in beach tourism destinations such as Port Salut/Les Cayes and cultural tourism destinations such as Jacmel can contribute to developing the economy of the South region of the country. The Job Creation and Growth project of the World Bank (formerly Growth Poles project) supports this initiative through targeted investment promotion in the North, Central and South

regions. In making any future final decisions to develop one site rather than another, these trade-offs between long-term goals and short-term employment impacts must be taken into account.

A high-level economic analysis was carried out for the seven high-performance sites. Two indicators were calculated: the number of jobs created at the zone over the next 20 years, and the development cost per job created. Development costs were calculated using local cost factors based on actual contracts and estimated costs using up-to-date cost factors such as materials and labor. Costs were adjusted using cost information on economic zones in other developing countries to account for the higher infrastructure service levels that future Haitian IEZs are expected to achieve.[2]

Figure 10. Economic Impact: Projected Job Creation 2010-2025 and Site Area

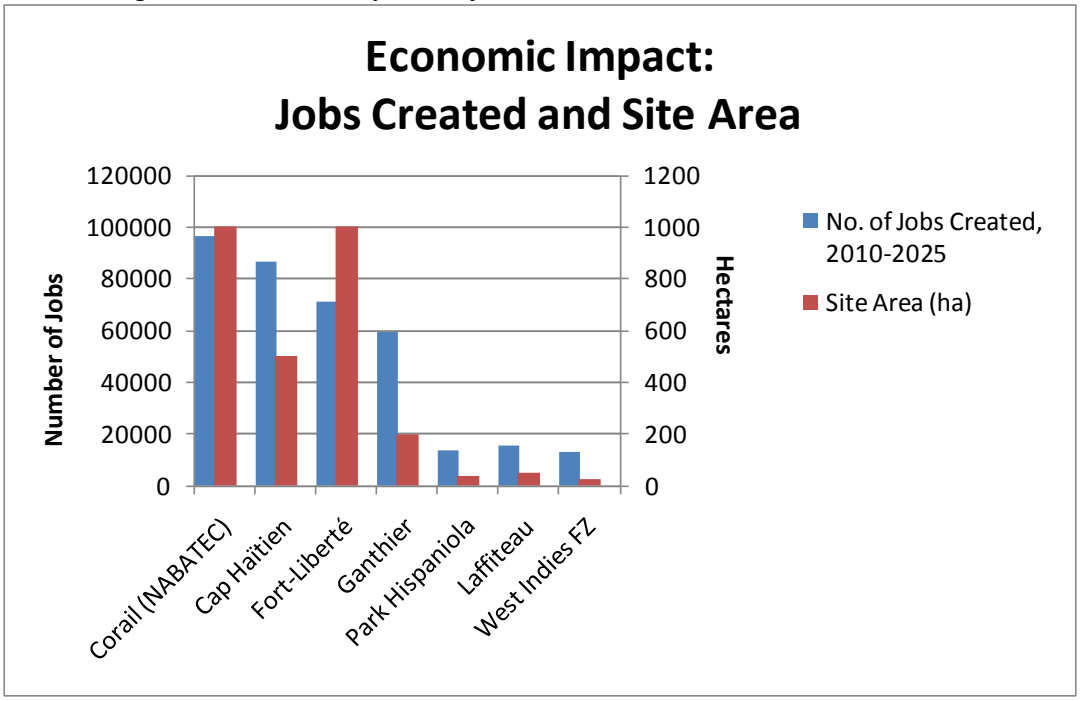


Figure 10 shows that there is a direct correlation between project size and economic impact. The larger sites such as Corail (1,000 hectares) and Cap Haïtien IEZ (500 hectares) would create significantly more jobs than smaller free zones such as West Indies Free Zone or Laffiteau Free Zone. In terms of the ability of the projects to contribute to post-earthquake economic recovery or more broadly to national economic growth, the large IEZ projects are more attractive than the smaller free zone projects. However, both

[2] Please note that development cost estimates presented here and in the financial and economic analysis for Corail and Fort-Liberté may differ because of the assumptions about distribution of costs among different parties. In case of discrepancies, the estimates in the financial analysis will take precedence.

types of projects can make positive contributions to employment generation and investment promotion in Haiti.

Figure 11.Economic Efficiency: Development Cost per Job Created

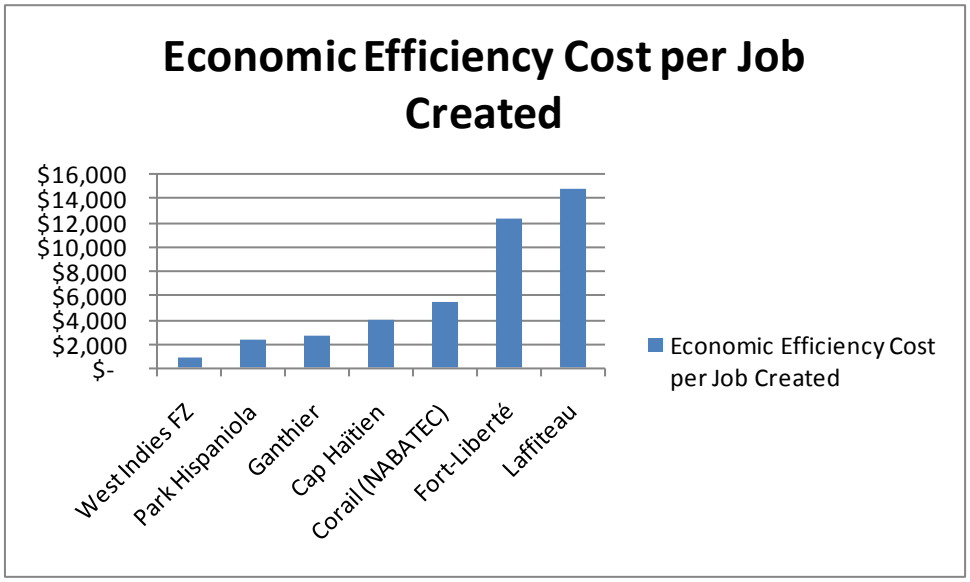
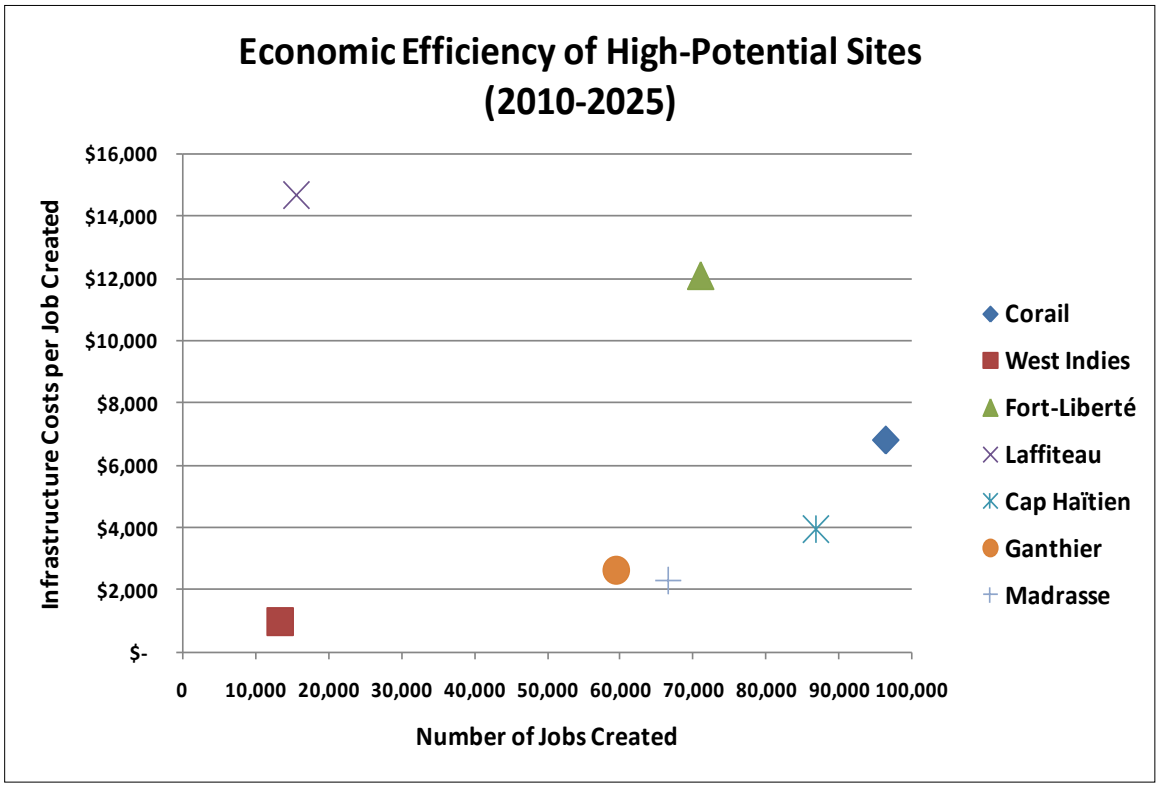


Figure 11 measures the economic efficiency of the seven projects. Taken together with the job creation data, the figure suggests that economic impact does not necessarily correlate with economic efficiency. The efficient projects, measured in terms of development cost per job created, are the ones that do not require substantial investment in trunk infrastructure. This is the case for small "infill" zones such as Park Hispaniola and the West Indies Free Zone, which is the most efficient of these seven investments. Larger zones that do not have significant on-site trunk infrastructure investments such as Ganthier are reasonably efficient. The least efficient projects are the ones that include major on-site infrastructure investment such as ports or power stations (as is the case for Fort-Liberté and Laffiteau Free Zone). In between is Corail, which has significant infrastructure costs for non-employment areas. However, this analysis does not take into account the financial and economic impact of those residential and mixed-use areas, which can be positive, especially in the current climate of extreme housing shortage.[3]

[3] For a more detailed evaluation of Corail and Fort-Liberté, please see the Financial and Economic Analysis Report.

Figure 12 below integrates the findings of **Figure 10** and **Figure 11**.

Figure 12. Economic Efficiency: Projected Job Creation Versus Infrastructure Costs per Job Created at Selected Sites, 2010-2025



IV. Prospects for Implementation of High-Performing Sites

This section analyzes the prospects for implementation of the seven high-performing sites. For each site, the section presents an analysis of the site as well as a discussion of the actions that need to be undertaken in order to develop the site successfully as an integrated economic zone. This does not constitute a recommendation to develop all seven sites; the licenses to develop the IEZs should be granted in a manner that is consistent with overall anticipated demand. Rather, the future success factors identified in this section are specific to each site, should the decision be made to develop (or study further the development of) that site. Additional data and analysis on each site are presented in Annexes C, D and E.

A. Corail

Location	Northern Metropolitan Port-au-Prince. Centroid at 18°40'17.90"N, 72°14'6.11"W
Size	1,000 ha
Assessment Score	43.2
Development Cost	$525 million
Employment at Buildout	95,500
Cost Efficiency (Cost per New Job)	$5,500
Land Ownership	NABATEC S.A.
Developer / Promoter	NABATEC S.A.
Status	Master plan prepared; no feasibility study prepared; no free zone application submitted

A.1 Analysis

The Corail project, commonly known as the NABATEC project after its developer, NABATEC S.A., is the clearest application of the IEZ concept among any proposed project in Haiti today. Corail is an integrated development area that combines a broad range of economic activities and land uses. It is designed as a high-quality environment for working and living, offering superior infrastructure and social services achieved through a special legal and institutional set-up to regulate and manage development. However, the site was occupied by thousands of informal settlers after the earthquake, and the resettlement issue poses a major obstacle to development of the site.

The location of the site is very good for IEZ development. It is well-connected to the road network, with connections along Route Neuve to the port and city center, Route 1 to the airport, and Route 3 to the Central Plateau. It is only 12 km north of the airport. It is outside the congestion of the city center, but close enough to access the labor pool and get goods to the port.

The Master Plan for the 1,000 hectare site calls for a 47-hectare apparel park, another 60-hectare light industrial park, a 40-hectare commercial center, an administrative center, and mixed-use predominantly residential development clustered around neighborhood centers. In 2010 the Government of Korea was considering financing the development of the apparel park. Korean apparel producers would then have the opportunity to locate there.

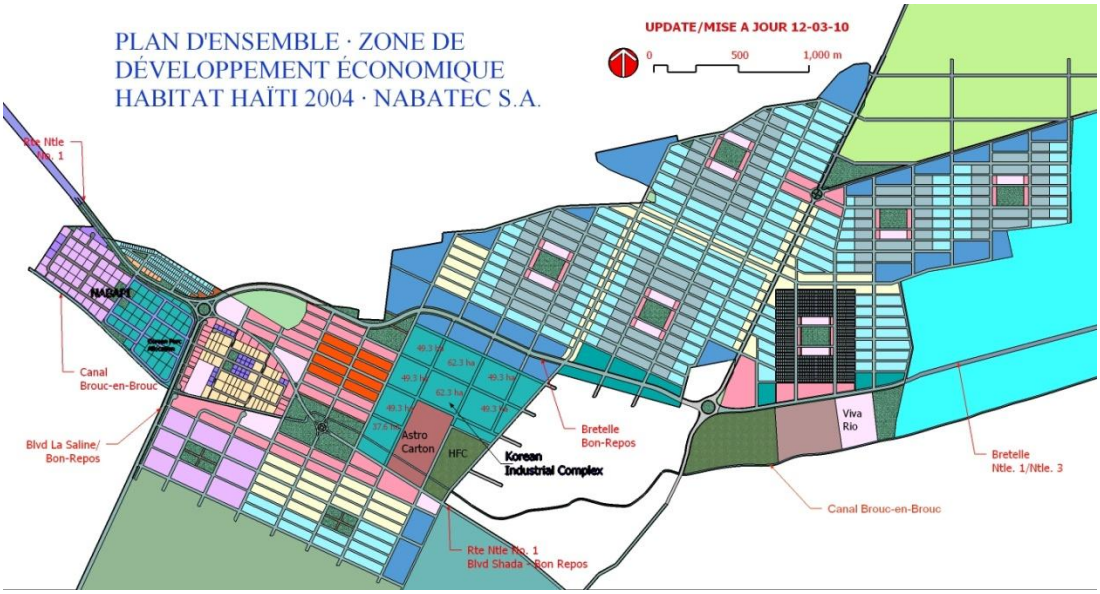
Land demand projections carried out under the market assessment task of this study, as reconciled to the land planning for financial and economic analysis, suggest that the net demand for land under the aggressive demand scenario over the next 20 years is approximately 400 hectares (or 563 hectares of gross land, including circulation and other non-saleable land).

The land tenure situation of the project needs to be resolved. At the time of this report, GoH had exercised eminent domain over about 90% of the land area in the IEZ but had paid no compensation to NABATEC, S.A., the developer that owns the land. The clarification of land use and development rights is closely linked to the definition of implementation arrangements for implementation of the project, which may include a public-private partnership between NABATEC and government, which can leverage donor financing to build trunk infrastructure that will benefit not only the Corail IEZ but also northern Port-au-Prince metropolitan area and perhaps Carrefour as well.

One of the main impediments to the development of Corail IEZ is the extensive informal settling that has taken place on the site since the earthquake. In addition to official location of some formal temporary housing on the site, there has been informal settling along the main roads and reaching back to the higher, northern portions of the site. As discussed below, this will make implementation of the project more complex and will likely cause delays.

Figure 13 depicts the land use plan for the Corail Site. A detailed description of factors that can ensure the viability of the site follows.

Figure 13. Corail Site Plans and Views



Future Success Factors

- ***Prepare and execute resettlement* plan**: The informal settlers need to be resettled in a manner that is consistent with international best practices. The World Bank resettlement methodology can be used to guide the preparation of the resettlement plan. The resettlement impacts of the proposed project on the existing informal settlers first need to be identified. Then the rights of the informal settlers to the land that they are living on should be ascertained. Informal surveys of local residents indicate that some of them relocated there as part of a strategy to acquire land. Others may have no other immediate housing options. The resettlement plan may consider a "right of first purchase" of existing informal settlers to serviced land and/or housing in Corail. This could be done at market prices. It is not clear that any compensation needs to be paid to the informal settlers. But the resettlement plan should be negotiated and agreed with the informal settlers before it is carried out. The resettlement plan will specify the timeline, the responsible parties, and the cost of all resettlement activities. Guidelines for avoiding additional informal settlement problems in the future will be included.

- ***Pay compensation for expropriated land***: Following expropriation of approximately 90 percent of the land within the Corail site, GoH should complete the process by compensating existing landowners. Alternatively, the exercise of eminent domain could be cancelled, and land ownership would remain with the 20 or so current landowners. In any case, the resolution of the eminent domain should be consistent with the implementation arrangements for the project.

- ***Determine implementation arrangements for the project*:** NABATEC S.A. is the master developer of the project. Given the high development cost (of this large, long-term project and the substantial infrastructure investment required, it may be necessary to bring in other partners, possibly including GoH entities benefitting from donor financing. The anticipated large-scale employment and economic growth benefits of the project may be sufficient to justify GoH financing of part of the trunk infrastructure for the entire project area (as well as northern Port-au-Prince) and/or some of the infrastructure (arterial roads, etc.) within the project. On the other hand, if GoH invests in infrastructure, it may not be appropriate for Government to compensate current landowners for the full value of land: many of the current owners are shareholders in NABATEC S.A., and the benefits of the Government infrastructure investments will accrue first and foremost to the master developer. The private parties could potentially bring the

land to a public-private partnership, while Government brings most of the infrastructure.

- ***Secure financing for apparel park*:** Given the short-term job creation prospects, this industrial park within Corail should be the highest-priority area for development. The Government of Korea is currently looking at a number of different sites. The financial and economic feasibility of Corail will increase substantially with the closure of this deal with the zone's main anchor tenant.

- ***Conduct a full feasibility study of the Corail IEZ*:** The social, economic, financial, environmental and technical aspects of this large project need to be studied in detail prior to implementation. The success of the project will depend on optimal allocation of risks and benefits among a range of different parties. Such allocation will not be possible until the study is undertaken. To expedite the development process, the first phase of the study can concentrate exclusively on the NAPABI II industrial park. Public-private partnerships arrangements should be explored.

- ***Revise the master plan*:** The master plan should be revised after the feasibility study to optimize the production and marketing of real estate products in a manner that is consistent with projected demand.

- ***Mobilize financing for trunk infrastructure:*** The financial viability of the Zone depends on the provision by others of key primary infrastructure investments such as electrical power plant, water treatment plant, and wastewater treatment plant. GoH should organize the development of this infrastructure for an area larger than that of the IEZ, e.g., for the entire northern part of the Port-au-Prince metropolitan area. Public-private partnerships could be used to lessen the financial burden on the state for these investments.

B. West Indies Free Zone (WIN)

Location	Port-au-Prince. Centroid at 18°34'13.82"N, 72°20'7.86"W
Size	24 ha.
Assessment Score	45.1
Development Cost	$13 million
Employment at Buildout	13,400
Cost Efficiency (Cost per New Job)	$1,000
Land Ownership	Free and clear title held by developer
Developer / Promoter	WIN
Status	Master plan and feasibility study prepared; free zone license granted

B.1 Analysis

This project represents a highly efficient industrial investment due to its excellent location and access to existing infrastructure. The 24-hectare site is located across Route Neuve from WIN company's private port and across Route 1 from the existing SHODACOSA industrial park. Investment in on-site infrastructure and buildings will leverage existing transport and other infrastructure in the central-city district; thereby achieving high ratios of job creation to investment cost (*See* **Figure 10** and **Figure 11**).

The other advantage of this project is that it is in an advanced stage of preparation and can therefore enable job creation in the short term. The master plan has been prepared, and the development costed. There are no land tenure conflicts, all of which can speed up implementation. The developer is, however, facing challenges in raising the necessary financing from investors.

The project would create jobs for residents of the adjacent low-income settlement, Cité du Soleil. This is a substantial social benefit of the West Indies Free Zone.

There is a possibility of creating a larger IEZ that extends from the free zone to WIN's bulk cargo port on the bay. This would require a solution for integrated transportation. If WIN could get a license to operate a container port, the larger IEZ is likely to be a particularly compelling investment.

The disadvantages of this project are that:

- It is relatively small at 24 hectares, and therefore the magnitude of its impact on job creation will be limited.
- The adjacent private port is only licensed for bulk commodities.
- The free zone will exacerbate city congestion in the north, with larger merchandise and worker flows to and from the park.
- Current pricing policy is likely to exclude the main industrial clients in Haiti: garment producers. The current proposed lease price of US$4.50/m2/month is significantly higher than what international investors claim to be willing to pay (<$3.00/m2/mo, please see Market Assessment) Report.

Figure 14 in the next page details the developer's concept plan for the **West Indies Free Zone Project (WIN**).

Figure 14. West Indies Free Zone Project (WIN)

Future Success Factors

- **Market Lease Price**. Find a match between building lease prices and client willingness-to-pay. Options include moving up-market to find other industrial tenants, reducing lease prices to meet the existing apparel market, or entering into a partnership with government to reduce infrastructure expenditures.
- **Container Port License**. Secure a container port license to allow direct exportation of garments and other container goods from the WIN port and contribute to decongest current roads and port. Alternatively, the road to the port should be expanded.
- **Customs.** Devise a solution to facilitate movement of goods between the Free Zone and the port without having to pass through Customs. This could include a transportation link (e.g., overpass) or a protocol on passage of bonded vehicles between the free zone and the port.

C. Cap Haïtien IEZ

Location	Cap Haïtien. Centroid at 19°44'1.06"N, 72°10'5.40"W
Size	500 ha.
Assessment Score	48.5
Development Cost	$350 million
Employment at Buildout	85,000
Cost Efficiency (Cost per New Job)	$4,000
Land Ownership	State land
Developer / Promoter	None
Status	No feasibility study or master plan prepared; no free zone application submitted

C. 1 Analysis

This hypothetical IEZ project is inspired by the tourism development proposals of the Ministry of Tourism, which is working to exploit the substantial cultural resources of Cap Haïtien and the Citadel. While downtown Cap Haïtien is worthy of designation as a special development district designed to facilitate historic preservation, the existing city center is not an appropriate area for an integrated economic zone which, for employment generation purposes, should be composed primarily of greenfield development. The 500-ha zone is proposed to be located next to the new port facility on the east side of Cap Haïtien Bay.

The development program of the IEZ would include light manufacturing (predominantly apparel), logistics and transport, and commercial uses (offices and regional retail). The relatively fertile land around Cap Haïtien could enable agro-processing activities to take place in the zone. Tourism uses would mostly likely be incompatible with the port/industrial functions in a zone of this size. Moreover, the prime beach and eco-tourism sites are to be found along the sea coast and at Fort-Liberté bay.

While most of the land in the area of the proposed site, shown in **Figure 15**, is State land ("*domaine privé de l'Etat*"), the exact cadastral boundaries are unknown. If a developer is identified to promote this project, due diligence as to land ownership in the area would have to be undertaken prior to delineation of exact IEZ site boundaries.

The 13.2 MW of electrical power generation capacity in the Cap Haïtien metropolitan area does not meet current demand.[4] Service is only provided 12 hours/day on average to the area's 17,000 customers. A new IEZ would require an increase in system capacity or the construction of a dedicated power plant for the zone.

The site is well connected to the national road network, including Route 3 through the central highlands, Route 1 to Port-au-Prince, and Route 121 to Fort-Liberté and Ounaminthe.

The site could use the existing port in Cap Haïtien, but few international investors, including apparel producers, are likely to find that attractive. Cargo going to port must pass through the heavily congested old colonial city center. It would be preferable to develop a new port adjacent to the zone. This would allow the conversion of the existing port into a pleasure port.

The shallow waters on the east side of Cap Haïtien Bay may require regular dredging of channels to gain access to the port. The impacts of the dredging on the local marine environment are unknown and would need to be investigated during the feasibility phase.

There are land acquisition and resettlement impacts associated with this project, as the existing farmers would lose their use rights to the land. Compensation would have to be paid according to World Bank-sanctioned resettlement practices. There are few residents on the site, however.

[4] Charles Jean-Harry, Responsable du centre communal du Nor, Eléctricité de Haïti, personal communication, 14 June 2010.

Figure 15. Cap Haïtien New Port

Future Success Factors

- Identify a capable organization that can champion this development zone project.
- Prepare a feasibility study and a concept master plan.
- Identify financing.
- Prepare and implement a resettlement plan as required.
- Study the feasibility of developing a port on or adjacent to the site.

D. Park Hispaniola

Location	Port-au-Prince. Centroid at 18°38'2.24"N, 72°16'18.39"W
Size	40 ha.
Assessment Score	46.1
Development Cost	$32 million
Employment at Buildout	13,700
Cost Efficiency (Cost per New Job)	$2,300
Land Ownership	Free and clear title by developer
Developer / Promoter	HINSA
Status	Power plant under construction; no feasibility study or master plan for an IEZ prepared; no free zone application submitted

D.1 Analysis

This project has an excellent location between Route Neuve and Route 1 due west of Port-au-Prince airport. The project takes advantage of existing transport, energy and environmental trunk infrastructure that serves the northwestern area of the capital city. But this centrally located project would exacerbate city congestion in the north of Port-au-Prince. The developer has free and clear title to the land; there are no land tenure obstacles to the development of the site.

The Park Hispaniola project also has potential access to additional power sources to the extent that E-Power generates electrical power on the site. The 30MW plant currently under construction will provide its power to the grid and is not allowed, under the terms of its agreement with Eléctricité de Haïti (EDH), to sell any of the power to the free zone planned for the site. That contract would have to be amended in order for the generator to serve the future clients of the IEZ. However, E-Power can install a smaller plant on the site and sell the power generated by it to users of the rest of the 40-hectare site.

Due to its central location, the site is generally well served by the existing primary infrastructure in Port-au-Prince. In addition to the electrical power grid, the urban water supply network serves the site, as does the fixed telecommunications network. The major drainage channels, culverts and roadside drains in the immediate surrounding area will help to limit flooding at the site. However, given that the entire alluvial plain on

which the capital city is built is classified as "frequent risk"[5] for flooding, there is still the possibility of flooding at this site in case of severe storms.

There are significant cultural amenities in Port-au-Prince that are available to employees at a future IEZ on this site. The ability to attract expatriate managers to companies locating at this site is higher than some of the more outlying sites, and in North or Northeast Haiti.

The developer has not formulated a specific program for the development of Park Hispaniola. They are considering (1) selling the land to investors (e.g., Korean textile manufacturers), who would develop an industrial park; (2) developing an industrial park themselves; or (3) developing a gated commercial center. Existing financing is not sufficient to exercise options 2 or 3 at this time.

There are no substantial social impacts associated with this development, since the site is neither inhabited nor under cultivation by third parties. There are no land acquisition and resettlement impacts. The site is vacant.

The anticipated environmental impacts depend entirely on the types of industrial activity to be located on the site. The site is generally not environmentally sensitive, and is appropriate for economic zone-type development.

[5] Government of Haiti/World Bank, "Analysis of Multiple Natural Hazards in Haiti," 2010.

Figure 16. Park Hispaniola Site Plans and Views

Future Success Factors

- Formulate a development program and associated implementation arrangements
- Prepare a feasibility study and master plan
- Identify financing
- Solve energy issue
- Port issue, the same way WIN or NAVATEC have

E. Fort Liberté

Location	Fort-Liberté Bay. Centroid at 19°41'57.29"N, 71°49'31.07"W
Size	1,000 ha.
Assessment Score	45.9
Development Cost	$875 million
Employment at Buildout	71,000
Cost Efficiency (Cost per New Job)	$12,400
Land Ownership	State land; use rights in dispute
Developer / Promoter	Société du Développement du Nord; Maular Holding
Status	Development concept prepared; no feasibility study or master plan prepared

E.1 Analysis

This section analyzes two proposed developments on Fort-Liberté Bay. One is the "Bizon Pointe" zone project proposed by the Société du Développement du Nord. Another is a free zone project proposed by Maular Holding on the same site, a 1,000 ha. parcel just west of the inlet to the bay. The Bizon Pointe proposal is given greater weight in the analysis, based on the more advanced stage of its preparation. This proposal was the basis of the scoring exercise carried out in Step 2 of the site assessment process.

Given the need to view any zone project in the context of the highest and best use of the entire Fort-Liberté Bay area, additional pre-feasibility analysis was carried out during Step 3 of the site assessment process. The results of this analysis and the proposed development district and integrated economic zone are also presented here.

In addition to Corail, the Bizon Pointe zone is the other clear example in Haiti of an integrated development zone project. It incorporates a broad range of economic activities and land uses, including manufacturing, logistics, commercial, residential and tourism.

It is proposed to construct a new port and airport on the site. Two French companies are assessing port development potential in Fort-Liberté Bay: Mediterranean Shipping Company and CMACGM. This will make the zone largely independent of regional infrastructure, which is generally lacking. At the same time, it greatly increases the

development cost and lowers the efficiency measured as cost per job created. The development concept also calls for construction of an electrical power plant, a water treatment plant, and a wastewater treatment plant. According to Société du Nord (SDN), Fort-Liberté is one of four suitable areas in Haiti for the development of wind power; no studies have been carried out to date. But the Northeast has the lowest rainfall in the country, and the limited supply of groundwater in the aquifer has high salinity. The groundwater will therefore require treatment on-site before it can be used for industrial or commercial purposes in the proposed zone. The Bizon Pointe project is illustrated in **Figure 17**.

In addition to the proposal by Société du Développement du Nord, Maular Holding of Cap Haïtien has also proposed to develop an economic zone on the same 1,000 hectare site. Maular Holding claims to own the use rights to the land, while SDN has a memorandum of understanding with the GoH to develop the Bizon Pointe project. The lack of clear land rights is a major weakness of this project. Maular Holding has not prepared a feasibility study or a master plan for its proposed zone.

The development of Bizon Pointe IEZ should be considered in the broader context of the prospects for development of the Northeast and North regions of the country. Fort-Liberté Bay has great potential as a tourism destination zone and an industrial/logistics zone. But there are trade-offs between these activities and limits to their compatibility in such a small and potentially delicate ecosystem. A regional plan, like the one that the IDB is planning to prepare this year, may conclude that the highest and best use of Fort-Liberté bay is tourism, open space, and low-impact mixed use development.[6]

As an alternative proposal, a high-level concept plan for a "Fort-Liberté Bay Development District" has been prepared. This plan includes the bay itself, a swath of land circling the bay and extending to the border with the Dominican Republic, and the city of Fort-Liberté. The plan is shown in **Figure 18** below. Under this concept the Development District would focus primarily on tourism and urban uses, with extensive open space set aside to enhance and conserve the high-value natural environment around the bay. The concept also includes land for industrial uses near Route 121.

Within the Development District it is proposed to create a Fort-Liberté Integrated Economic Zone (see **Fig 18**). The IEZ includes eco-tourism and a harbor/town center complex on the bay side, residential and commercial development areas, and a beach

[6] As of this writing, IDB is finalizing the Terms of Reference for the study.

resort area on the northern seaside. Based upon market demand requirements, as reconciled to the land planning, about 648 hectares (gross area) would be developed over the next 20 years under the plan. .

There are no land acquisition and resettlement issues associated with the IEZ. There are no inhabitants of the site today. Use rights to the State land can be transferred to the developer.

Figure 17. Bizon Pointe Developer Site Plans and Views

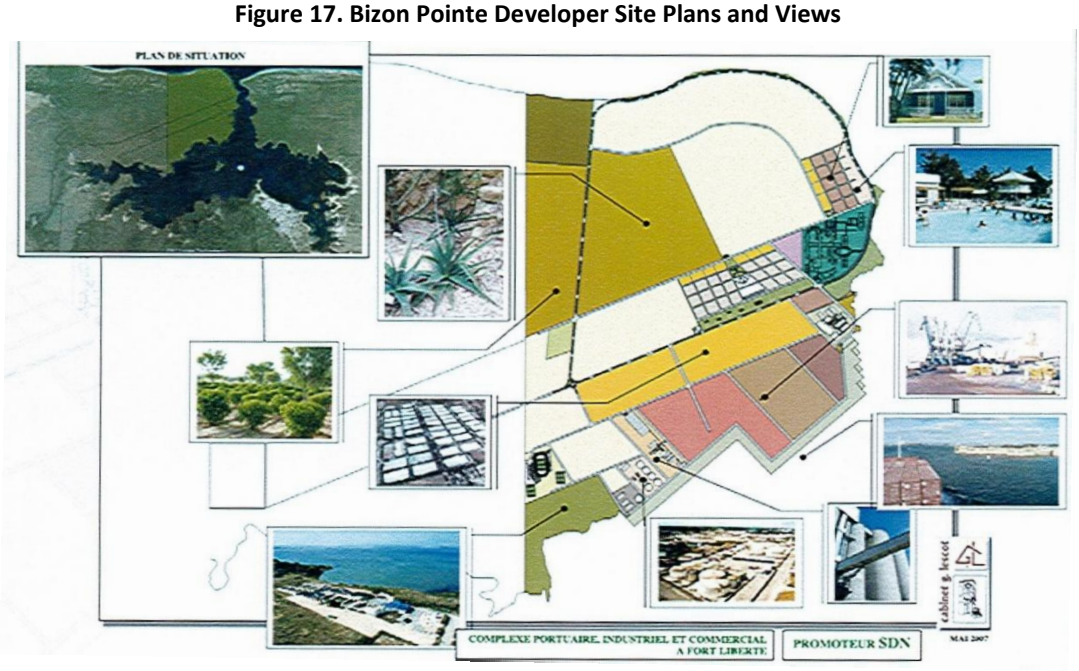
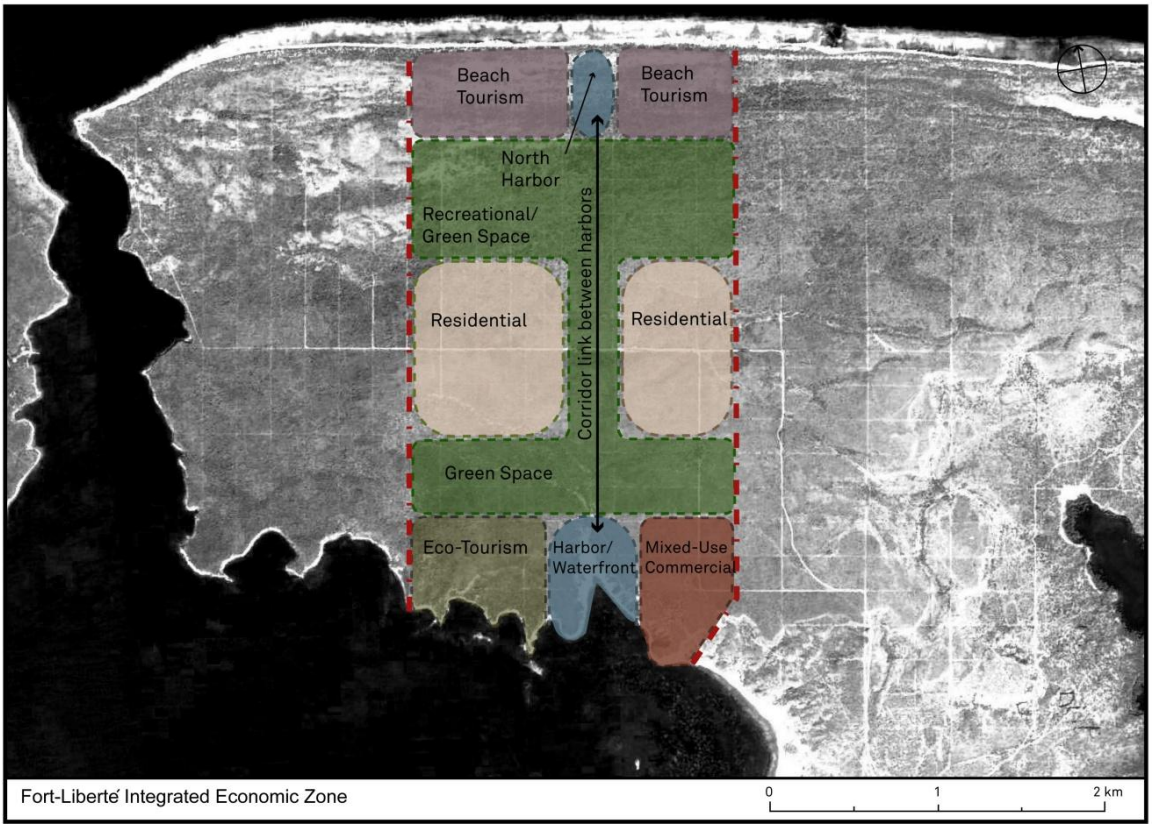


Figure 18. Fort Liberté Bay Development District and IEZ Concept Plan



Future Success Factors for Fort-Liberté Bay Development District

- Prepare a feasibility study for the Development District and the IEZ
- Carry out an initial environmental examination on the Development District and an environmental impact assessment on the IEZ. Given the valuable natural assets in the Bay, it will be important to ascertain the environmental impacts and any proposed mitigation measures. These will have to be taken into account in the final decision on whether to develop an IEZ on this site.
- Build 8km road to connect IEZ site to Highway 121
- Secure access to power supply through the construction of a new power plant for the Northeast region or a dedicated facility for the Development District
- Resolve land tenure conflicts stemming from the overlapping claims to development rights of the Bizon Pointe site by two different developers

F. Laffiteau IEZ

Location	West. Centroid at 18°41'48.59"N, 72°21'40.19"W
Size	50 ha.
Assessment Score	46.2
Development Cost	$230 million
Employment at Buildout	15,500
Cost Efficiency (Cost per New Job)	$14,800
Land Ownership	Free and clear title held by developer
Developer / Promoter	GB Group
Status	No feasibility study or master plan prepared; no free zone application

F.1 Analysis

Laffiteau Free Zone is proposed as a mixed-use zone combining heavy industry (steel, concrete), light industry (textiles, agro-processing), and logistics (port, warehousing area). In addition to the base site of 50 hectares, the private developer, GB Group, has option rights on another 100 hectares between the site and Route 1. The site is gently undulating and generally suitable for industrial development. No land tenure conflicts have been observed. Little or no resettlement is required.

The site is well connected to the road network and located reasonably close to Port-au-Price city center. National Route 1 passes 1 km north of the site. This provides excellent access to the PAP port, which is about 25 km away. The area around Laffiteau, at the eastern edge of the Côte des Arcadins, is generally uncongested, which will facilitate truck traffic into the PAP port.

In addition to proximity to PAP, there are plans to develop a new bulk cargo port on the site. This part of the Côte des Arcadins has been recognized in previous port studies as being one of the better sites in Haiti for port development because the sea is deeper close to the shore here than it is farther south, near downtown Port-au-Prince. For the moment, the developer does not plan to build any container handling facilities at the new port.

There is an old flour mill on the site. It is not currently integrated into the concept for development of the IEZ. The developer, GB Group, wants to transfer its existing steel plant from Drouillard in central Port-au-Prince to this site.

The site has certain environmental advantages compared to sites in more central PAP locations. First, the Côte des Arcadins has a lower seismic risk than the Port-au-Prince alluvial plane, which is closer to fault lines and suffers more soil liquefaction.[7] Further, while the coastline in this area is generally subject to flooding since it is located below a ridge of hills running southeast-northwest, the Laffiteau site is somewhat protected from this flooding by low hills immediately north of the site that channel water to the west and down to the sea.

The site has access to centralized power and water services because of its location near two small settlements and because of the old flour mill. However, the capacity in these systems is not sufficient. The power grid suffers from the same shortfalls here as it does in metropolitan PAP. (It is connected to the metropolitan grid.) The local water supply networks are serving populations of less than 5,000 people and do not have any substantial excess capacity (e.g., 2,000 m^3/day) to supply a free zone at this location.

Therefore the developer envisages a zone that is self-sufficient in infrastructure, with its own power supply, water supply, wastewater treatment, and port facilities. However, no specific plans for providing these services have been drawn up. The developer has not yet prepared a feasibility study, master plan, or business plan for the project. The combination of heavy industry and light industry proposed for the site may not be feasible, depending on the specific industries selected and the pollution created by the heavy industries.

The generation of jobs at this site will positively benefit the small population centers in the immediate surrounding area. More substantial benefits will accrue to residents of Greater PAP, who are likely to commute to work in Laffiteau if the employment opportunities materialize. Given the weak public transit links today between Laffiteau and PAP, it may be necessary for the developer to set up new shuttle services between the site and key population centers.

[7] Government of Haiti/World Bank, “Analysis of Multiple Natural Hazards in Haiti,” 2010.

Figure 19. Laffiteau IEZ Site Factors and Location

Future Success Factors

- Workers Transit: Facilitate access of workers to site. Set up public transit for workers living in Bon Repos and Port-au-Prince or develop new working housing on the Corail site (by housing sub-developer).
- Feasibility: Prepare a feasibility study, and if the results are positive, prepare a master plan.
- Infrastructure: Identify financial and contractual formulas, such as public-private partnerships, for successful delivery of power and port infrastructure development.
- Land Use: Resolve potential incompatibility of proposed land uses (e.g., heavy industry with food processing) as part of the preparation of a master plan for the site.

G. Ganthier

Location	Transversal. Centroid at 18°32'10.11"N, 72° 2'34.13"W
Size	200 ha. (indicative site)
Assessment Score	51.0
Development Cost	$160 million
Employment at Buildout	60,000
Cost Efficiency (Cost per New Job)	$2,500
Land Ownership	State land
Developer / Promoter	None
Status	No feasibility study or master plan prepared

G.1 Analysis

Ganthier is well-connected to Port-au-Prince (through Croix-des-Bouquets) and the Dominican Republic and its south coast ports (*See* **Figure 20: Ganthier Site Plans and Views**). There is also abundant State-owned land along the main east-west road bisecting the municipality. For this reason SONAPI proposed Ganthier as a potential site for IEZ development. However, no specific parcel of land has been demarcated. Land is generally abundant, but infrastructure networks are underdeveloped. The local workforce could meet some of the labor needs, as could the population of Croix des Bouquets.

For the purposes of the analysis, a parcel of land measuring 200 ha. has been identified in the area on the north side of Route 102, in between the road and Lake Azuei. It is assumed that this parcel falls within the *domaine privé de l'Etat* land. (Neither SONAPI nor the GoH has any records that would permit verification.) The site slopes gently from the road toward the lake to the north. The soils appear to be appropriate for industrial construction. There is no infrastructure on the site today.

The risk of flooding in this area is generally low. There is currently no flood protection infrastructure on the site. Flood protection requirements should be investigated during the feasibility analysis; construction of roadside drains or other storm water drainage works will be required.

The site is well connected to the national highway network due to its location directly adjacent to Route 102. However, it is fairly far from the nearest port — the driving distance to PAP port is about 40 km. The airport is 35 km away. There is little congestion along the eastern half of the journey, between Ganthier and Croix-des-Bouquets, which is currently the eastern most urbanized edge of Port-au-Prince. Between Croix-des-Bouquets and the port, however, the roads are very congested. Travel times between the site and the port are generally in the 1-2 hour range, depending on the traffic.

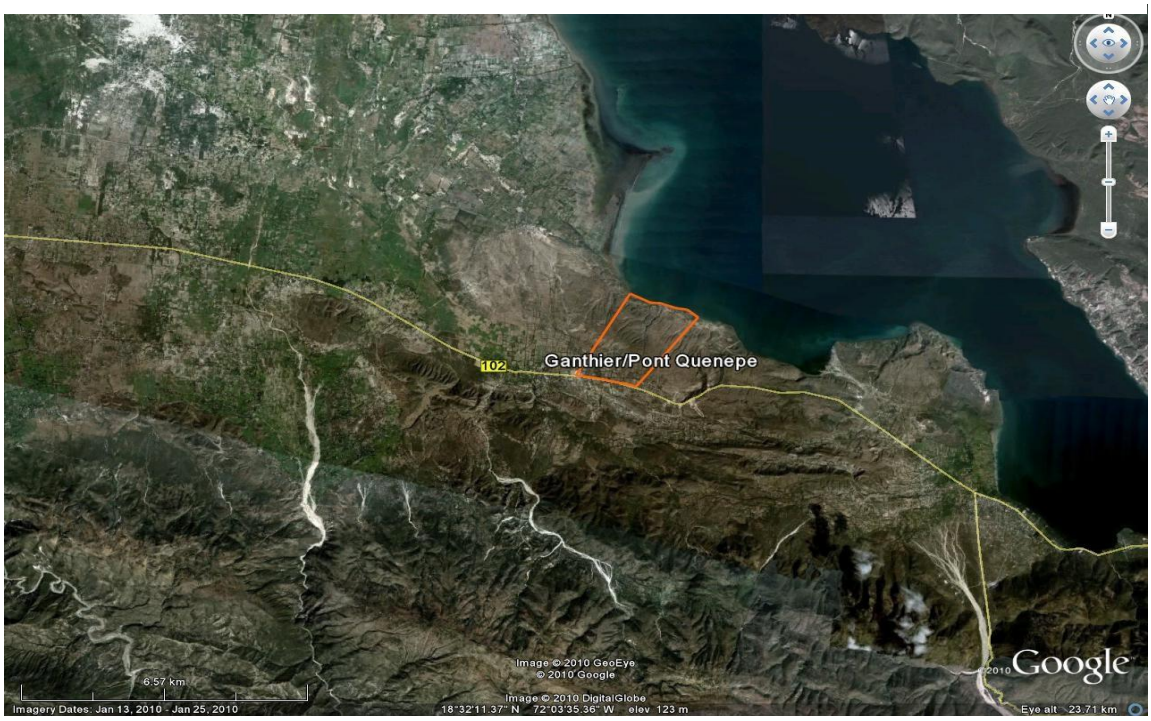
There is little power or water infrastructure in the immediate vicinity. The site has access to the electrical power grid, and therefore could use some existing power during a start-up phase. Given the deficit in the PAP/West region overall, however, this is not a long-term solution for a large, robust industrial zone. Additional power generation facilities will have to be developed for the region as a whole or for this site specifically.

Ganthier is one of the few areas in the general vicinity of Port-au-Prince that may have water resources of a sufficient quality to manufacture textiles (fabrics). Willbes Company of Korea explored the possibility of locating there to develop a vertically integrated complex that includes textiles and apparel. They are also considering two other places with water resources: Thomazeau and Mirebalais. Willbes is considering undertaking hydrological studies in Thomazeau and Ganthier. To date, however, no specific site has been identified. No other details on the company's plans have been provided.

Local labor is relatively scarce. The population of Ganthier commune is about 80,000. Most of them live in low-density rural areas. There is currently no industry in the area. However, a zone built in Ganthier could draw from the population of Croix-des-Bouquets, a major urban growth center. Moreover, the metropolitan area will likely continue to expand to the east in the coming years, so the labor pool will get closer and closer as time goes by.

Environmental impacts may include contamination of the aquifer, if the appropriate waste treatment works are not put into place. Social impacts are likely to be positive, since the IEZ would provide jobs for nearby communities.

Figure 20. Ganthier Site Plans and Views



Future Success Factors

- Water Supply: Determine suitability of the underground water supply for textile (fabric) production
- Willbes: Determine the interest of Willbes to locate a production unit in Ganthier.
- Feasibilty: Carry out a feasibility study and master plan, including identification of anticipated social and environmental impacts.
- Identify and delineate a specific parcel of land

V. Strategy for Development of Economic Zones in Haiti

Establishing Integrated Economic Zones in Haiti could benefit the entire country. However, this should be done in phases, starting with pilots where the framework could be tested and obtain rapid results. Figure 21 illustrates the proposed strategy for development of the economic zones sector in Haiti, with actions at the national and regional level, in the short, medium and long terms. The sector will incorporate a range of different types of zones, including integrated development zones, tourism development districts, free zones, and industrial zones.

Figure 21. Strategy for Economic Zone Development in Haiti

Geographical Scope	Short-Term	Medium-Term	Long-Term
National Strategy	➢ Identify "development ready" sites for quick success ➢ Begin longer-term site selection	➢ Ensure that regional plans include infrastructure for IEZs ➢ Develop large new sites on a decentralized basis.	➢ Encourage the growth of IEZs near new ports ➢ Use IEZs to enable Haiti to enter new, higher-value sectors
Port-au-Prince Strategy	➢ Expand PIM ➢ Develop West Indies Free Zone and/or Park Hispaniola	➢ Develop additional IEZs north or east of PAP (*e.g.*, Ganthier, Laffiteau, Corail)	➢ Develop new IEZs around new port
North Region Strategy	➢ Develop North Industrial Park (NIP) ➢ Prepare Regional Development Plan	➢ Establish Tourism Development District at Cape Haitian ➢ Develop Fort-Liberté IEZ ➢ Plan transshipment port and logistics facility	➢ Expand tourism and other value-added services
South Region Strategy	➢ Prepare Regional Development Plan with tourism clusters and associated developments	➢ Establish Tourism Development Districts ➢ Build trunk infrastructure ➢ Develop resorts	➢ Diversify IEZs into agro-processing and other industry as port facilities develop

Zones should be developed first where investor needs are best served and where short-term job creation impacts and investment efficiencies are highest. This points first and foremost to the greater Port-au-Prince metropolitan area because of existing infrastructure and labor availability. At the same time, the groundwork for development of the North and Northeast regions of Haiti should be laid through expansion of trunk infrastructure (*i.e.*, energy, water, wastewater, telecommunications) and development of IEZs. The IEZs could be located for example at Caracol, where the North Industrial

zone currently under development, and at Fort-Liberté Bay, where a tourism zone could extend development to this northern city as well. As the road network to the South coast is improved, additionals IEZs may be developed in that region. At the same time, tourism development districts — a related but different development tool — can be designed and implemented in key tourism destinations, including those with significant cultural heritage assets, such as Jacmel and Cape Haitien. In this way, a phased approach to zones development can ensure appropriate regional distribution of economic benefits to a broad cross-section of the Haitian population.

Out of a total national demand for industrial land of about 650 hectares (gross) over the next 20 years, about 300 hectares would be supplied by the Port-au-Prince area. That demand is likely to be satisfied in the short- to medium-term by such developments as the extension of the Park Industrial Metropolitain (16 hectares), the West Indies Free Zone (24 hectares), and Park Hispaniola (35 hectares). In addition to those projects which can be realized relatively quickly, the Corail or Ganthier sites can be developed to add another 120 hectares of gross serviced industrial land, while including the other users that would compose modern IEZs.

In the North and Northeast, the estimated demand for industrial land of about 250 hectares would be satisfied in part by the Northern Industrial Park being planned by SONAPI with support from the Inter-American Development Bank. In the medium term, a Tourism Development District at Cape Haitian could revitalize this town, link it with the cruise ship traffic and increase tourism revenues for its inhabitants. These open-access districts use fiscal incentives, public realm investments by government agencies, and technical assistance to promote the reconstruction of old buildings and the recreation of historic environments that will attract international and national tourism. Linkages between cultural and natural tourism destinations can be exploited. Further industrial land can be provided within the Fort-Liberté Bay Development District. In addition, the Fort-Liberté Bay Integrated Economic Zone can contribute to realizing the substantial tourism, residential and services development potential of the area around the bay.

The South region, because of its exposure to hurricanes and weak transportation connections to existing ports, has less industrial development potential than Transversal, North, and Northeast. This observation is supported by the enterprise survey carried out under this study. But there is substantial beach and cultural tourism development potential. IEZs can be used in Port Salut / Les Cayes to develop resort areas focusing on beach and eco-tourism. At the same time, Tourism Development

Districts can be used to enhance and preserve cultural assets such as the city center of Jacmel.

Annex A: Site Screening Checklist

Stage 1. Initial Site Screening
Site Screening Checklist

Name of site: _____

Location of site: _____

Instructions:

1. Determine whether the site has any fatal flaws. Fill in Actual Value column in Fatal Flaw Analysis table. If fatal flaw, then discard site. If not, proceed to Scoring by Criteria.
2. Fill in Actual Value column in Scoring by Criteria table.
3. Determine Pass or Fail on each criterion.
4. Add up the total number of Pass scores and enter it in the last row.

FATAL FLAW ANALYSIS

No.	Fatal Flaw	Unit	Actual Value	Indicator	Score (Pass/ Fail)
1	Site is too small to generate substantial job creation	Hectare		≥10 Ha.	
2	Lack of clear tenure to land	Yes/no		Competing ownership claims; lack of clear title; lack of consensus among owners	

SCORING BY CRITERIA

No.	Criterion	Unit	Actual Value	Indicator	Score (Pass/ Fail)
1	Relatively flat site	Average % slope		≤4%	
2	Soil conditions suitable for construction	Yes/no		Soil not too wet, sandy or rocky	
3	Availability of adjacent land for expansion	Hectare		≥50% of initial site area	
4	Absence of existing contamination of site	Yes/no		Yes	

No.	Criterion	Unit	Actual Value	Indicator	Score (Pass/ Fail)
5	Proximity to functioning port	Distance in km		≤25 km	
6	Access to paved roads	Yes/No		Yes	
7	Proximity to airport	Distance in km		≤25 km	
8	Access to electrical power network	Distance in km		0 km (adjacent to site)	
9	Access to water supply (network or ground/surface water)	Yes/No		Immediately adjacent to site or on site	
10	Access to fixed telecommunications network	Distance in km		0 km (adjacent to site)	
11	Access to labor	Yes/no		≤25 km to nearest settlement of min. 10,000 population	
12	Not highest risk of environmental disaster	Yes/no		Not on steep slope; not flood-prone; not on seismic fault	
13	Adjacent land uses are compatible	Yes/no		No heavily polluting or loud activities adjacent to any planned residential, recreational, health care, educational uses in zone	
14	No conflict with land use and zoning codes	Yes/no		Plans and codes to not prohibit the type of development proposed	
15	Has natural or cultural assets that could be basis for tourism component of zone	Yes/no		Attractive coastline or mountainous areas, historic buildings or sites, etc.	
16	Near agricultural production areas	Distance in km		≤40 km to farming area that can be served by warehouses or agro-processors	
	TOTAL SCORE*				

*****Total number of criteria satisfied (sum of all “Pass” scores)

Annex B: Site Evaluation Form

Stage 2. Site Assessment
Site Screening Checklist

Name of site: _____

Location of site: _____

Instructions:

1. Visit the site.
2. Collect data on the site from owner, developer, infrastructure and planning agencies, tax authority etc.
3. Assign a quantitative score from 1 to 5 for each criterion. 5 = high, 1 = low. Integers only.
4. Multiply the score for each criterion by the Weight and enter it into the table.
5. Add up the weighted scores to calculate the total score.

No.	Criterion	Score	Weighting	Weighted Score
1	Site large enough for job creation and future expansion		1.0	
2	Clear land tenure		1.0	
3	Suitable site topography		0.8	
4	Soil conditions suitable for proposed construction type(s)		0.8	
5	Proximity to functioning port		0.7	
6	General environmental condition of site		0.5	
7	Quality of road links		0.8	
8	Proximity to airport		0.5	
9	Electrical power supply (access, capacity, quality)		0.8	
10	Water supply (access, capacity, quality)		0.7	
11	Fixed telecommunications (access, capacity, quality)		0.4	
12	Access to labor		0.7	
13	Manageable environmental disaster risks		0.7	
14	Adjacent land uses are compatible		0.7	

No.	Criterion	Score	Weighting	Weighted Score
15	Consistent with land use and zoning codes		0.6	
16	Allows integrated development with multiple uses (tourism, agriculture-related, etc.)		0.7	
17	Near agricultural production areas		0.7	
--	TOTAL SCORE	--	--	

Annex C: Results of Stage 1 of the Site Selection Process

Initial List of Possible IEZ Sites

#	Site Name	Location	Region[1]	Source
1	Parc Industriel Metropolitan (expansion)	Port au Prince	METROPOLITAN	SONAPI
2	Sybert Industrial Park	Bouquet	METROPOLITAN	Private
3	Apaid Group Industrial Zone	Outside of Port au Prince		Private
4	SDN Project	Fort-Liberté	NORTH	Private firm
5	Fort-Liberté Zone	Fort-Liberté	NORTH	
6	Corail (NABATEC)	NWof Port au Prince, Corail	METROPOLITAN	DZF
7	NABAPI II within Corail	Northwest of Port au Prince	METROPOLITAN	DZF
8	Airport Industrial Park	Port au Prince	METROPOLITAN	
9	Hispaniola Investment Company (HINSA)	Port au Prince	METROPOLITAN	DZF
10	West Indies Industrial Mills (WIN)	Port au Prince	METROPOLITAN	DZF
11	Proposed Quisqueya industrial zone	Port au Prince	METROPOLITAN	
12	Willbes Industrial Zone	Mirabalais. No parcel specified.	TRANSVERSAL	Korean Investors
13	Palm Apparel Industrial Park	Carefour	METROPOLITAN	Private firm
14	Baconnoir	Anse-à-Veau	SOUTH	SONAPI
15	Papaye	Hinche	TRANSVERSAL	SONAPI
16	Baie des Flamands	Les Cayes	SOUTH	SONAPI
17	Paillant	Miragoâne	SOUTH	SONAPI
18	CA-TRACAS ou autres	Port-de-Paix	NORTH	SONAPI
19	Thomassique	Thomassique	TRANSVERSAL	SONAPI
20	Habitation Chastenoy	Cap Haïtien	NORTH	SONAPI
21	Cap Haitien Industrial Park	Cap Haïtien	NORTH	
22	Village Industriel de Dérac	Fort-Liberté	NORTH	SONAPI
23	Village Industriel de Paulette et Phaéton	Fort-Liberté	NORTH	SONAPI

#	Site Name	Location	Region[1]	Source
24	Ganthier/Pont Quenêpe	Ganthier	WEST	SONAPI
25	Gressier	Gressier	WEST	SONAPI
26	Habitation Madras	Trou-du-Nord/Limonade	NORTH	SONAPI
27	To be determined- Industrial	Anse-à-Pitres	WEST	SONAPI
28	To be determined - Industrial	Belladère	TRANSVERSAL	SONAPI
29	To be determined - Industrial	Gonaïves	TRANSVERSAL	SONAPI
30	To be determined - Industrial	Jérémie	SOUTH	SONAPI
31	To be determined - Industrial	Saint-Marc	TRANSVERSAL	SONAPI
32	To be determined for Tourism, Textile, Agriculture	Ouanaminthe	NORTH	GoH Action Plan
33	To be determined for Agriculture, Tourism	Gonaïves	TRANSVERSAL	GoH Action Plan
34	To be determined for Agriculture, Textiles and Tourism	TBD	SOUTH	GoH Action Plan
35	Plaine du Nord et Plaine de Maribarou	TBD	NORTH	GoH Action Plan
36	Plaine des Gonaives	TBD		GoH Action Plan
37	Valle de l'Artibonite	TBD		GoH Action Plan
38	Haut Plateau Central	TBD		GoH Action Plan
39	Plaine de l'Arcahaie	TBD		GoH Action Plan
40	Plaine de Cul-de-Sac	TBD		GoH Action Plan
41	Plaine de Léogane	TBD		GoH Action Plan
42	Plaine de Petit-Goave	TBD		GoH Action Plan
43	Plaine des Cayes	TBD		GoH Action Plan
44	Plaine d'Aquin – Fond-des-Negres – Paillant	TBD		GoH Action Plan
45	Château d'eau de Saint Louis du Nord – Anse a Foleur	TBD		GoH Action Plan
46	Château d'eau de Marmelade – Dondon	TBD		GoH Action Plan
47	Parc National Historique du Nord	Citadelle + Palais de Sans-Souci + Cap Haitien	NORTH	GoH Action Plan
48	Rénovation du Centre Historique de la Ville du Cap Haïtien	Cap Haïtien	NORTH	M. Tourism
49	Labadie Village (with RCCL)	Labadie	NORTH	M. Tourism
50	Cotes des Arcadins	Cabaret to St. Marc	WEST	M. Tourism

#	Site Name	Location	Region[1]	Source
51	Réhabilitation du Cadre Ancien de Port-au-Prince		METROPOLITAN	M. Tourism
52	Réhabilitation du Centre Historique de Jacmel	Jacmel	SOUTH-EAST	M. Tourism
53	Projet de Développement Urbain autours de la Plage de Port-Salut	Port-Salut	SOUTH	M. Tourism
54	Château d'eau de Valleur – Mont Organisé			GoH Action Plan
55	Château d'eau de Savonette – Baptiste			GoH Action Plan
56	Château d'eau de Dame Marie – Anse d'Haineaut			GoH Action Plan
57	Parc du Pic Macaya			GoH Action Plan
58	Zones des Cayemites – Pestel – Baraderes			GoH Action Plan
59	Château d'eau de Petit Goave			GoH Action Plan
60	Château d'eau de Seguin – Foret des Pins – Savanne Zombi			GoH Action Plan
61	Petion-Ville Special Reconstruction Zone	Petion-Ville County	METROPOLITAN	Talks with Mayor
62	Delmas Special Reconstruction Zone	Delmas County	METROPOLITAN	
63	New Regional Development Centre at Fond Mombin	Port au Prince	METROPOLITAN	GoH Action Plan
64	Projet d'Aménagement de la Zone Nord de Port-au-Prince (between Cabaret and Bon-Repos)	Nof Port au Prince	METROPOLITAN	

Results of Stage 1 Initial Site Screening

Scoring: 1 for every "pass" and 0 for every "fail".

#	Criteria	Indicator	Corail	West Indies Free Zone	Parc National Historique du Nord	Park Hispaniola	Fort- Liberté	Laffiteau	Ganthier	Habitation La Selle
Fatal Flaw Criteria										
1	Site is too small to generate substantial job creation	≥10 Ha.	pass	pass	pass	pass	pass	pass	pass	pass
2	Lack of clear tenure to land	Competing ownership claims; lack of clear title; lack of consensus among owners	pass	pass	pass	pass	pass	pass	pass	pass
Criterion										
1	Relatively flat site	≤4%	pass	pass	fail	pass	pass	pass	pass	pass
2	Soil conditions suitable for construction	Soil not too wet, sandy or rocky	pass	pass	pass	pass	pass	pass	pass	pass
3	Availability of adjacent land for expansion	≥50% of initial site area	pass	pass	fail	pass	pass	pass	pass	pass
4	Absence of existing contamination of site	Yes	pass	pass	pass	pass	pass	pass	pass	fail
5	Proximity to functioning port	≤25 km	pass	pass	fail	pass	fail	pass	fail	fail
6	Access to paved roads	Yes	pass	pass	pass	pass	Pass	pass	pass	pass

#	Criteria	Indicator	Corail	West Indies Free Zone	Parc National Historique du Nord	Park Hispaniola	Fort- Liberté	Laffiteau	Ganthier	Habitation La Selle
7	Proximity to airport	≤25 km	pass	pass	pass	pass	fail	pass	pass	fail
8	Access to electrical power network	0 km (adjacent to site)	pass	pass	pass	pass	pass	pass	fail	fail
9	Access to water supply (network or ground/surface water)	Immediately adjacent to site or on site	pass	pass	pass	pass	pass	pass	pass	pass
10	Access to fixed telecommunications network	0 km (adjacent to site)	fail	pass	fail	pass	fail	pass	fail	pass
11	Access to labor	≤25 km to nearest settlement of min. 10,000 population	pass	pass	pass	pass	pass	pass	pass	pass
12	Not highest risk of environmental disaster	Not on steep slope; not flood-prone; not on seismic fault	pass	pass	pass	pass	pass	pass	pass	Pass
13	Adjacent land uses are compatible	No heavily polluting or loud activities adjacent to planned residential, recreational, healthcare, educational uses	pass	fail	pass	pass	pass	pass	pass	Pass
14	No conflict with land use and zoning codes	Plans and codes to not prohibit the type of development proposed	pass	pass	pass	pass	pass	fail	pass	Pass

#	Criteria	Indicator	Corail	West Indies Free Zone	Parc National Historique du Nord	Park Hispaniola	Fort- Liberté	Laffiteau	Ganthier	Habitation La Selle
15	Has natural or cultural assets that could be basis for tourism component of zone	Attractive coastline or mountainous areas, historic buildings or sites, etc.	pass	fail	pass	fail	pass	fail	pass	Pass
16	Near agricultural production areas	≤40 km to farming area that can be served by warehouses or agro-processors	pass	pass	pass	fail	pass	pass	pass	Pass
Total Score			**15**	**14**	**12**	**14**	**13**	**14**	**13**	**12**

No.	Criteria	Indicator	Habitation Madrasse	Village Industriel de Paulette et Phaéton	Village Industriel de Dérac	Projet de Développement Urbain -- Plage de Port-Salut	Côtes des Arcadins	Centre Historique de Cap Haïtien	Réhabilitation du Cadre Ancien de Port-au-Prince	Réhabilitation du Centre Historique de Jacmel
Fatal Flaw Criteria										
1	Site is too small to generate substantial job creation	≥10 Ha.	pass	pass	pass	pass	fail	fail	pass	pass
2	Lack of clear tenure to land	Competing ownership claims; lack of clear title; lack of consensus among owners	pass	pass	pass	pass	pass	pass	fail	fail
Criterion										
1	Relatively flat site	≤4%	pass	pass	pass	pass	fail	fail	pass	fail
2	Soil conditions suitable for construction	Soil not too wet, sandy or rocky	pass	pass	pass	pass	pass	pass	pass	pass
3	Availability of adjacent land for expansion	≥50% of initial site area	pass	pass	pass	pass	fail	fail	pass	fail
4	Absence of existing contamination of site	Yes	pass	pass	pass	pass	pass	fail	pass	pass
5	Proximity to functioning port	≤25 km	fail	fail	fail	fail	fail	pass	fail	fail
6	Access to paved roads	Yes	pass	pass	fail	pass	pass	pass	pass	pass
7	Proximity to airport	≤25 km	fail	fail	fail	fail	fail	pass	fail	pass

No.	Criteria	Indicator	Habitation Madrasse	Village Industriel de Paulette et Phaéton	Village Industriel de Dérac	Projet de Développe-ment Urbain -- Plage de Port-Salut	Côtes des Arcadins	Centre Historique de Cap Haïtien	Réhabilitati-on du Cadre Ancien de Port-au-Prince	Réhabilitati-on du Centre Historique de Jacmel
8	Access to electrical power network	0 km (adjacent to site)	fail	fail	fail	fail	pass	pass	fail	pass
9	Access to water supply (network or ground/surface water)	Immediately adjacent to site or on site	pass	fail	pass	fail	fail	pass	fail	pass
10	Access to fixed telecommunications network	0 km (adjacent to site)	fail	fail	fail	fail	pass	pass	fail	pass
11	Access to labor	≤25 km to nearest settlement of min. 10,000 population	pass	pass	pass	pass	pass	pass	pass	pass
12	Not highest risk of environmental disaster	Not on steep slope; not flood-prone; not on seismic fault	pass	pass	pass	pass	pass	fail	pass	pass
13	Adjacent land uses are compatible	No heavily polluting or loud activities adjacent to any planned residential, recreational, health care, educational uses in zone	pass	pass	pass	pass	pass	pass	pass	Fail
14	No conflict with land use and zoning codes	Plans and codes to not prohibit the type of development proposed	pass	pass	pass	fail	fail	pass	fail	pass

No.	Criteria	Indicator	Habitation Madrasse	Village Industriel de Paulette et Phaéton	Village Industriel de Dérac	Projet de Développe-ment Urbain -- Plage de Port-Salut	Côtes des Arcadins	Centre Historique de Cap Haïtien	Réhabilitati-on du Cadre Ancien de Port-au-Prince	Réhabilitati-on du Centre Historique de Jacmel
15	Has natural or cultural assets that could be basis for tourism component of zone	Attractive coastline or mountainous areas, historic buildings or sites, etc.	pass	pass	Pass	pass	pass	pass	pass	pass
16	Near agricultural production areas	≤40 km to farming area that can be served by warehouses or agro-processors	fail	pass	Fail	pass	pass	fail	pass	pass
Total Score			**11**	**11**	**10**	**10**	**10**	**11**	**11**	**11**

Annex D: Results of Stage 2 of the Site Selection Process

Scoring is from 1 (poor) to 5 (excellent). Integers only. W. Score = Weighted Score. Criteria weights are defined in Annex A.

No.	Criteria	Weight Value	Corail		West Indies Free Zone		Cap Haïtien		Park Hispaniola		Fort-Liberté		Ganthier		Laffiteau	
			Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*
1	Site large enough for job creation and future expansion	1.0	5.0	5.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2	Clear land tenure	1.0	1.0	1.0	5.0	5.0	3.0	3.0	5.0	5.0	3.5	3.5	5.0	5.0	5.0	5.0
3	Suitable site topography	0.8	3.0	2.4	5.0	4.0	4.0	4.0	5.0	4.0	4.0	3.2	4.0	3.2	4.0	3.2
4	Soil conditions suitable for proposed construction type(s)	0.8	4.0	3.2	5.0	4.0	4.0	3.2	4.0	3.2	3.0	2.4	5.0	4.0	4.0	3.2
5	Proximity to functioning port	0.7	4.0	2.8	5.0	3.5	1.0	0.7	5.0	3.5	0.5	0.35	3.0	2.1	4.0	2.8
6	General environmental condition of site	0.5	3.0	1.5	5.0	2.5	3.0	1.5	5.0	2.5	5.0	2.5	4.0	2.0	3.5	1.75
7	Quality of road links	0.8	4.0	3.2	4.0	3.2	4.0	3.2	5.0	4.0	3.5	2.8	4.0	3.2	4.0	3.2
8	Proximity to airport	0.5	4.0	2.0	5.0	2.5	3.5	1.75	5.0	2.5	0.5	0.25	3.0	1.5	3.5	1.75

No.	Criteria	Weight Value	Corail		West Indies Free Zone		Cap Haïtien		Park Hispaniola		Fort-Liberté		Ganthier		Laffiteau	
			Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*
9	Electrical power supply (access, capacity, quality)	0.8	4.0	3.2	4.0	3.2	4.0	4.0	3.5	2.8	3.0	2.4	3.0	3.2	4.0	3.2
10	Water supply (access, capacity, quality)	0.7	4.0	2.8	4.0	2.8	4.0	3.15	3.5	2.45	3.0	2.1	5.0	3.5	4.0	2.8
11	Fixed telecommunications (access, capacity, quality)	0.4	2.0	0.8	3.0	1.2	1.0	0.4	3.5	1.4	3.0	1.2	2.0	1.2	4.0	1.6
12	Access to labor	0.7	5.0	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0	3.5	4.0	2.8	4.0	2.8
13	Manageable environmental disaster risks	0.7	4.0	2.8	4.0	2.8	5.0	3.5	2.0	1.4	5.0	3.5	5.0	3.5	3.5	2.45
14	Adjacent land uses are compatible	0.7	5.0	3.5	2.0	1.4	5.0	3.5	3.5	2.45	5.0	3.5	5.0	3.5	4.0	2.8
15	Consistent with land use and zoning codes	0.6	5.0	3.0	4.0	2.4	3.0	1.8	4.0	2.4	4.5	2.7	4.0	2.4	3.0	01.8
16	Allows integrated development with multiple uses (tourism, agriculture-related, etc.)	0.7	2.5	1.8	2.0	1.4	5.0	3.5	0.0	0.0	5.0	3.5	3.0	2.1	0.0	0.0

No.	Criteria	Weight Value	Corail		West Indies Free Zone		Cap Haïtien		Park Hispaniola		Fort-Liberté		Ganthier		Laffiteau	
			Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*	Score	W. Score*
17	Near agricultural production areas	0.7	1.0	0.7	1.0	0.7	4.0	2.8	0.0	0.0	5.0	3.5	4.0	2.8	4.0	2.8
Total Value		--	60.5		64.0		63.5		64.0		63.5		68.0		63.5	
Total Score		--		**43.2**		**45.1**		**48.5**		**46.1**		**45.9**		**51.0**		**46.2**

*Weighted Score

Annex E: Matrix Analysis of the Seven High-Performance Sites

Matrix Analysis: Corail

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	1,000 ha. site located 12 km north of the city center near Bon-Repos. Extends from la Route Nueve along Route 1 to the Route 3 connector.	Large enough to accommodate future demand assessed at 400 ha. (net) of saleable land. Good access to labor at Bon-Repos, PAP, and Crois-des-Bouquets.
	Tenure	Extensive informal settlement has taken place on the site since the earthquake. In addition to official location of some formal temporary housing on the site, there has been informal settlement along the main roads and reaching back to the higher, northern portions of the site. Re: tenure, GOH exercised eminent domain over about 90% of the land area in the IEZ but has paid no compensation to NABATEC, S.A., the developer that owns the land. The clarification of land use and development rights is closely linked to the definition of implementation arrangements for implementation of the project, which may include a public-private partnership between NABATEC and government, which can leverage donor financing to build trunk infrastructure that will benefit not only the Corail IEZ but also northern Port-au-Prince metropolitan area and perhaps Carrefour as well.	The extent of informl settling is one of the main impediments to the development of the project. Resettlement requirements will make implementation of the project more complex and will likely cause delays. The land tenure situation of the project needs to be resolved.
	Topography	The southern portions of the site are either gently sloping or have gently undulating land. The northern portions are quite hilly.	The land is buildable, but the cost of foundations will be higher on the hilly parts of the site.
	Soils	Soils appear to be appropriate for the intended type of construction.	No issue.
	On-Site Infrastructure	There are major paved connector roads that cross the site. Otherwise, there is limited on-site infrastructure on the site at this time. There are water and power lines along the main thoroughfares such as Route 1 and the Route 3 Connector, but these primarily service the adjacent developed areas that are	New on-site infrastructure will have to be provided.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
		outside the site.	
Off-Site Infrastructure	Flood Protection and Drainage	A major stormwater drainage channel is under construction through the middle section of the site running from the northern hills to the southern reaches of the site.	Additional storm water drainage works will have to be provided in the hillier northern parts of the site. Roadside drains will be required throughout the site.
	Access to National Highway	The National Route 1 passes through the site. The Route 1 – Route 3 Connector also passes through the site.	Excellent connectivity to national highway network.
	Access to Railway	There are no railways near the site.	All goods will have to be transported to port by truck. Since there are no functional national railways, this site has no comparative advantage or disadvantage.
	Access to Sea / Port	PAP port is 12 km away.	Good port access.
	Access to Airport	PAP airport is 8 km away.	Excellent airport access.
	Access to Power	The site is connected to the PAP grid. But supply is not sufficient to meet demand today.	In the short run, the site will require its own power generation, especially for industrial production. The development of generation facilities for the PAP grid may meet the needs of the site in the future. This should be addressed during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.
	Access to Local Amenities	There are significant local amenities at PAP 12 km away. There are limited amenities in the immediate area.	The site can take advantage of amenities at PAP. Given the mixed-use program, it can also contribute to the development of urban amenities at the metropolitan PAP level.
Environment	Flood Risk	Flood risk in Corail is among the highest in Haiti, since the site is located at the base of the mountains at the northern edge of the PAP metropolitan plain.	Flood control infrastructure will be required as part of the capital improvement package.
	Earthquake Risk	The earthquake risk is relatively high, as one of the major faults passes through PAP.	Appropriate earthquake-resistant technologies should be incorporated into civil works.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
	Climate	Rainfall is moderate in Corail by Haitian standards.	None.
	Pollution	Pollution is limited since industry is underdeveloped and car ownership rates are low.	None.
Social	Communities	The existing developed communities are at Bon-Repos to the southeast. Job creation at Corail is likely to have a positive social impact on this and other nearby settlements.	Social impact on existing developed communities.
	Resettlement	There is a need for extensive resettlement of informal settlers that came to Corail after the earthquake.	Resettlement, if done properly, will cause delays and add cost to the project. If not done properly, it will cause social friction and potential unrest.
	Gender	Women are proportionally represented among the informal settlers on the site and among the local residents in developed population centers such as Bon-Repos. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: West Indies Free Zone

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	24 ha. site located in central PAP across Route Neuve from WIN company's private port and across Route 1 from the existing SHODACOSA industrial park.	Excellent location for connections to transport networks. Site is too small to make a major impact on employment generation.
	Tenure	The site is held on a freehold basis by WIN company.	No issue.
	Topography	The site is flat.	Storm water drainage infrastructure is required and has been incorporated into the master plan for the free zone.
	Soils	Soils appear to be appropriate for the intended type of construction.	No issue.
	On-Site Infrastructure	There is no on-site infrastructure.	New on-site infrastructure will have to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	Central PAP is equipped with major drainage channels, culverts and storm drains that service this parcel.	No investment required.
	Access to National Highway	Excellent access. Route 1 borders the site on the eastern side.	Existing connections are sufficient.
	Access to Railway	There are no railways near the site.	All goods will have to be transported to port by truck. Since there are no functional national railways, this site has no comparative advantage or disadvantage.
	Access to Sea / Port	PAP port is 2.5 km away. WIN's private port is adjacent to the site.	Excellent port access.
	Access to Airport	PAP airport is 4 km away.	Excellent airport access.
	Access to Power	The site is connected to the PAP grid. But supply is not sufficient to meet demand today.	In the short run, tenants can draw power from the grid. In the future, additional generation facilities will probably be required to meet needs of the project. This should be addressed during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
	Access to Local Amenities	There are significant local amenities in downtown PAP.	The site can take advantage of amenities at PAP.
Environment	Flood Risk	Floor risk is relatively high in central PAP. The entire alluvial plain around the capital city is classified as "frequent risk." Existing flood control infrastructure in the areas is sufficient to mitigate this risk during most storms.	No additional flood control infrastructure will be required as part of the capital improvement package.
	Earthquake Risk	The earthquake risk is relatively high, as one of the major faults passes through PAP.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	Rainfall is moderate in PAP by Haitian standards.	None.
	Pollution	Air pollution is limited since industry is underdeveloped and car ownership rates are low. Waterways in adjacent Cité du Soleil are polluted.	None.
Social	Communities	The existing low-income community of Cité du Soleil is located adjacent to the site to the north. Job creation at West Indies FZ is likely to have a positive social impact on this and other nearby settlements.	The project is likely to generate a positive social impact on existing developed communities.
	Resettlement	No resettlement is required.	None.
	Gender	Women are proportionally represented among the population of Cité du Soleil and other nearby population centers. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: Cap Haïtien

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	500 ha. site located on the east side Cap Haïtien bay. Immediately adjacent to the existing urbanized area.	Well connected to transport network and located right next to labor supply.
	Tenure	The tenure arrangements of the site are not known. The land is in the vicinity of Habitation Chastenoy and State-owned lands.	Tenure arrangements need to be verified. Land acquisition may be required.
	Topography	The land is generally flat.	No issue.
	Soils	The soil is suitable for industrial development.	No issue.
	On-Site Infrastructure	There is no on-site infrastructure.	On-site infrastructure will need to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	There is no flood protection infrastructure. The northern coastal area of the site is prone to flooding.	Flood protection infrastructure would need to be provided.
	Access to National Highway	National Highway 121 passes along the southern side of the side.	No issue.
	Access to Railway	There are no railways near the site. There are no functional railways in Haiti.	All goods will have to be transported to port by truck.
	Access to Sea / Port	There is an existing port at Cap Haïtien 6 km to the west. However, it is located in the city center and access is difficult.	This project would be viable if a new industrial port were constructed on or adjacent to the site.
	Access to Airport	The Cap Haïtien airport is 2 km to the west. There are plans for expansion of the airport.	No issue.
	Access to Power	The site is adjacent to the Cap Haïtien grid. But the 13.2 MW of electrical power generated in the metropolitan area is not sufficient to meet demand.	In the short run, tenants can draw power from the grid. In the future, additional generation facilities, either on-site or off-site, will probably be required to meet needs of the project. This should be addressed during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.
	Access to Local Amenities	The site is well-located next to urban Cap Haïtien and can therefore take advantage of the existing local amenities. But with the exception of the historical city center, which is on the UNESCO World Heritage List, there are few cultural or	It would be harder to attract expatriate skilled labor here than to PAP.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
		recreational amenities likely to satisfy the needs of expatriate employees.	
Environment	Flood Risk	Cap Haïtien and the coastline extending east to the Dominican Republic are classified as "frequent risk" for flooding.	Flood control infrastructure would have to be developed as part of the project.
	Earthquake Risk	The area has a moderate to high earthquake risk. It is not as high as for the PAP area. The risk of soil liquifaction is also high.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	The climate is hot and dry.	None.
	Pollution	Streams in the urban area and Cap Haïtien bay are polluted.	Beach tourism would be hard to develop under existing levels of pollution. The zone should therefore have an industrial vocation.
Social	Communities	Low- and middle-income communities are located to the west of the site. Job creation at the zone is likely to have a positive social impact on these communities.	The project is likely to generate a positive social impact on nearby communities.
	Resettlement	There are very few residents on the site. However, some of the land is under cultivation. Depending on the tenure arrangements (see above), it may be necessary to pay compensation for loss of farming rights.	Depending on the tenure arrangements (see above), it may be necessary to pay compensation for loss of farming rights.
	Gender	Women are proportionally represented among the population of Cap Haïtien and other nearby population centers. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: Park Hispaniola

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	40 ha. site located 1 km west of the PAP airport.	Well connected to transport network and located right next to labor supply. The size of the site is too small to make a major impact on job creation.
	Tenure	The site is held on a freehold basis by the developer.	No issue.
	Topography	The site is flat.	Storm water drainage infrastructure is required and has been incorporated into the master plan for the free zone.
	Soils	Soils appear to be appropriate for the intended type of construction.	No issue.
	On-Site Infrastructure	The only on-site infrastructure is a 30 MW power plant constructed by E-Power. And this is on a separate 5 ha. parcel that is not included in the proposed zone.	New on-site infrastructure will have to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	Central PAP is equipped with major drainage channels, culverts and storm drains that service this parcel.	No investment required.
	Access to National Highway	Excellent access. Route 1 is close to the eastern boundary of the site, while the Route Neuve is close to the western boundary.	Existing connections are sufficient.
	Access to Railway	There are no railways near the site. There are no functional railways in Haiti.	All goods will have to be transported to port by truck.
	Access to Sea / Port	PAP port is 5 km away.	Excellent port access.
	Access to Airport	PAP airport is 1 km away (3 km to the main entrance).	Excellent airport access.
	Access to Power	The site is connected to the PAP grid. But supply is not sufficient to meet demand today.	In the future, depending on the land use mix, additional generation facilities may be required to meet the needs of the project. This should be addressed during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.
	Access to Local Amenities	There are significant local amenities in downtown PAP.	The site can take advantage of amenities at PAP.
Environment	Flood Risk	Floor risk is relatively high in central PAP. The entire alluvial plain	It is probable that no additional flood control

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
		around the capital city is classified as “frequent risk.” Existing flood control infrastructure in the areas is sufficient to mitigate this risk during most storms.	infrastructure will be required as part of the capital improvement package. This should be addressed during feasibility analysis.
	Earthquake Risk	The earthquake risk is relatively high, as one of the major faults passes through PAP.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	Rainfall is moderate in PAP by Haitian standards.	None.
	Pollution	Air pollution is limited since industry is underdeveloped and car ownership rates are low. Waterways in nearby Cité du Soleil are polluted.	None.
Social	Communities	The existing low-income community of Cité du Soleil is located southwest of the site. Job creation at West Indies FZ is likely to have a positive social impact on this and other nearby settlements.	The project is likely to generate a positive social impact on existing developed communities.
	Resettlement	No resettlement is required.	None.
	Gender	Women are proportionally represented among the population of Cité du Soleil and other nearby population centers. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: Fort-Liberté (Bizon Pointe)

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	1000 ha. site at the mouth of Fort-Liberté bay.	Excellent potential for industrial or tourism development. Large enough to have a substantial impact on job creation.
	Tenure	The ownership of the site is in dispute between two different developers, Société du Développement du Nord and Maular Holding.	Tenure arrangements need to be clarified.
	Topography	The land is generally flat.	No issue.
	Soils	The soil is suitable for industrial, commercial or residential development.	No issue.
	On-Site Infrastructure	There is no on-site infrastructure.	On-site infrastructure will need to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	There is no flood protection infrastructure. The northern coastal area of the site is prone to flooding.	Flood protection infrastructure would need to be provided.
	Access to National Highway	National Highway 121 passes to the south of Fort-Liberté about 7 km from the nearest boundary of the site. There is only a track at present connecting the site to the highway.	A new access road will have to be constructed.
	Access to Railway	There are no railways near the site. There are no functional railways in Haiti.	All goods will have to be transported to port by truck.
	Access to Sea / Port	There is an existing port at Cap Haïtien 40 km to the west. However, it is located in the city center and access is difficult.	This project would be more viable if a new industrial port were constructed on or adjacent to the site, as proposed by one of the developers.
	Access to Airport	The Cap Haïtien airport is 35 km to the west. There are plans for expansion of the airport.	The site is not currently appropriate for goods requiring airport access.
	Access to Power	The site is adjacent to the Fort-Liberté grid. But the electrical power generated in the metropolitan area is not sufficient to meet demand.	In the short run, tenants can draw power from the grid. In the future, additional generation facilities, either on-site or off-site, will probably be required to meet needs of the project. This should be addressed during feasibility analysis.
	Access to	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
	Telecommunications		has insufficient capacity. Mobile telecoms will be required. This should be addressed during feasibility analysis.
	Access to Local Amenities	The site is fairly remote. The nearest town, Fort-Liberté, has few cultural or recreational amenities likely to satisfy the needs of expatriate employees.	It would be harder to attract expatriate skilled labor here than to PAP.
Environment	Flood Risk	The Northeast coastline extending east to the Dominican Republic is classified as “frequent risk” for flooding.	Flood control infrastructure would have to be developed as part of the project.
	Earthquake Risk	The area has a moderate to high earthquake risk. It is not as high as for the PAP area. The risk of soil liquifaction is also high.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	The climate is hot and dry.	None.
	Pollution	The site is pristine. There is little or no pollution.	Tourism is an appropriate use for this site, given the high quality of the natural environment.
Social	Communities	The only community near the site is Village Industriel de Paulette et Phaéton, with a population of only 3,600. Fort-Liberté is nearby. Job creation at the zone is likely to have a positive social impact on these small communities.	The project is likely to generate a positive social impact on nearby communities, but the population is not sufficient to achieve a major impact.
	Resettlement	There are no residents on the site.	None.
	Gender	Women are proportionally represented among the population of nearby population centers. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: Laffiteau

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	50 ha. site located 25 km northwest of PAP on the Côte des Arcadins. Option to purchase an additional 100 ha.	Well connected to PAP, yet roads are free of congestion. Reaonably close to labor supply. Base site alone would not allow for a major impact on job creation.
	Tenure	The site is held on a freehold basis by the developer.	No issue.
	Topography	The site is gently undulating. This will protect the assets from rising seas during storms.	Appropriate for development.
	Soils	Soils appear to be appropriate for the intended type of construction.	No issue.
	On-Site Infrastructure	There is no on-site infrastructure. An old flour mill is on the site, but it not currently integrated into the plans for the zone.	New on-site infrastructure will have to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	The site has no flood protection. There is some risk of flooding from run-off from the hills above, but the contours will channel most water west of the site.	No investment required.
	Access to National Highway	Excellent access. National Route 1 is passes 1 km north of the site. That road leads directly into PAP and to the port and airport.	Existing connections are sufficient.
	Access to Railway	There are no railways near the site. There are no functional railways in Haiti.	All goods will have to be transported to port by truck.
	Access to Sea / Port	PAP port is 25 km away. The developer plans to build a bulk port on the site as part of the project.	Port access is sufficient.
	Access to Airport	PAP airport is 20 km away.	Airport access is sufficient.
	Access to Power	The site is connected to the grid. But supply is not sufficient to meet demand today.	In the short run, tenants can draw power from the grid. In the future, depending on the land use mix, additional generation facilities may be required to meet the needs of the project. This should be addressed during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
	Access to Local Amenities	There are significant local amenities in downtown PAP.	The site can take advantage of amenities at PAP.
Environment	Flood Risk	Floor risk is moderate along the eastern half of the Côte des Arcadins. But the small hills north of the site will protect it partially from run-off, which tends to flow to the west before reaching the sea.	The requirement for flood control infrastructure will have to be investigated during feasibility analysis.
	Earthquake Risk	The earthquake risk is moderate along the Côte des Arcadins. The risk is lower when compared to PAP sites.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	Rainfall is moderate in PAP by Haitian standards.	None.
	Pollution	Air pollution is limited since industry is underdeveloped and car ownership rates are low.	None.
Social	Communities	There are two small communities located within a 2 km radius of the site. Job creation in the FZ is likely to have a positive social impact on this and other nearby settlements.	The project is likely to generate a positive social impact on existing developed communities.
	Resettlement	There are very few residents on the site. However, some of the land is under cultivation. Depending on the tenure arrangements (see above), it may be necessary to pay compensation for loss of farming rights.	Depending on the tenure arrangements (see above), it may be necessary to pay compensation for loss of farming rights.
	Gender	Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Matrix Analysis: Ganthier

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Site Conditions	Location and Area	200 ha. site located 1 km west of the PAP airport. The site is hypothetical, as SONAPI has not delineated any specific site.	The land is readily available, but the distance to the port is greater than competing sites.
	Tenure	Much of the land in the area is State-owned (*domaine privé de l'Etat*). But in the absence of a cadastre, the extent of State lands is unknown.	A survey will have to be undertaken. The limits of the State land will have to be verified.
	Topography	The site slopes gently from the road toward the lake to the north.	The topography is appropriate for zone development.
	Soils	Soils appear to be appropriate for the intended type of construction. The quality of the water in the aquifer may be sufficient to produce textiles on the site.	The availability of groundwater of sufficient quality to produce textiles needs to be verified during feasibility analysis.
	On-Site Infrastructure	There is no infrastructure on the site.	New on-site infrastructure will have to be provided.
Off-Site Infrastructure	Flood Protection and Drainage	There is no flood protection infrastructure near the site. However, the risk of flooding is low.	Flood protection requirements should be investigated during feasibility analysis.
	Access to National Highway	Route 102 is adjacent to the site. It provides a direct link to central PAP. However, the travel time is generally 1-2 hours, depending on traffic.	Existing connections are sufficient.
	Access to Railway	There are no railways near the site. There are no functional railways in Haiti.	All goods will have to be transported to port by truck.
	Access to Sea / Port	PAP port is 40 km away.	Adequate port access.
	Access to Airport	PAP airport is 35 km away.	Adequate airport access.
	Access to Power	The site is connected to the grid. But supply is not sufficient to meet demand today.	In the short run, tenants can draw power from the grid. In the future, depending on the land use mix, additional generation facilities may be required to meet the needs of the project. This will have to be verified during feasibility analysis.
	Access to Telecommunications	The fixed telecoms system passes near the site.	Fixed telecoms are available, but the system has insufficient capacity. Mobile telecoms will be required.
	Access to Local Amenities	There are significant local amenities in downtown PAP. There are also some amenities in Crois-des-Bouquets.	The site can take advantage of amenities at PAP.

Aspect	Sub-Aspect	Existing Conditions	Implications for Development
Environment	Flood Risk	Floor risk is relatively high in central PAP. The entire alluvial plain around the capital city is classified as "frequent risk." Existing flood control infrastructure in the areas is sufficient to mitigate this risk during most storms.	No additional flood control infrastructure will be required as part of the capital improvement package.
	Earthquake Risk	The earthquake risk is relatively high, as one of the major faults passes through PAP and the Ganthier area.	Appropriate earthquake-resistant technologies should be incorporated into civil works.
	Climate	Rainfall is moderate in the area by Haitian standards.	None.
	Pollution	Air pollution is limited since industry is underdeveloped and car ownership rates are low.	None.
Social	Communities	There are a few existing communities in the area. Job creation is likely to have a positive social impact on these communities.	The project is likely to generate a positive social impact on existing developed communities.
	Resettlement	No resettlement is required.	None.
	Gender	Women are proportionally represented in nearby population centers. Since many apparel workers tend to be women, that part of the proposed project is likely to have a positive impact on women.	None.

Annex F: Development Costs and Employee Generation

Development Cost (USD)

Costs	Corail	WIN	Fort-Liberté	Laffiteau	Cap Haitien	Ganthier	Park Hispaniola
Off-Site Infrastructure	158,656,620	-	11,750,000	2,500,000	1,875,000	-	-
On-Site Infrastructure							
Site Preparation	50,000,000	336,000	14,000,000	1,250,000	7,000,000	2,800,000	1,000,000
Transport	312,500,000	2,363,837	487,500,000	165,625,000	156,250,000	62,500,000	12,500,000
Electrical Power	39,678,728	7,072,717	89,782,353	17,593,823	82,074,859	50,080,273	9,341,089
Potable Water	9,852,044	851,267	35,469,469	1,773,473	17,734,735	7,093,894	1,418,779
Wastewater	7,804,778	798,685	35,896,565	1,794,828	17,948,282	7,179,313	1,435,862
Stormwater Drainage	17,065,459	409,571	17,065,459	853,273	8,532,729	3,413,092	682,618
Telecommunications	817,291	19,615	817,291	40,865	408,645	163,458	32,692
Subtotal Hard Costs	437,718,300	11,363,067	720,209,865	188,931,262	289,949,250	131,652,615	26,411,031
Soft Costs	87,543,660	1,704,460	144,041,973	37,786,252	57,989,850	26,330,523	5,282,206
Total Development Cost	$ 525,261,960	$ 13,067,527	$ 876,001,838	$ 229,217,514	$ 349,814,101	$ 157,983,138	$ 31,693,237

Note:

Employment Generation by Project, 2010-2025

Sector	Corail	WIN	Fort-Liberte	Laffiteau	Cap Haitien	Ganthier	Madrasse
Apparel	27,115	11,538	42,000	9,231	60,000	36,923	46,154
Other Light Industrial	28,125	1,875	11,250	3,750	18,750	18,750	18,750
Heavy Industry	--	--	--	2,109	--	--	--
Textile	--	--	--	--	--	3,482	--
Logistics	--	--	2,273	57	1,705	227	341
Tourism	--	--	3,000	--	3,000	--	--
Commercial Center	3,714	--	3,482	348	3,482	--	1,393
Neighborhood Commercial	6,166	--	--	--	--	--	--
Social Services	8,317	--	--	--	--	--	--
Residential	23,031	--	9,000	--	--	--	--
Total	96,468	13,413	71,005	15,495	86,937	59,382	66,638