

INTRODUCTION

A flower whose form evokes mountains, clouds, seashells is a sculpture itself. Forms inspired by nature. Forms of Jamaica - lignum vitae is the national flower. Rising proudly from the garden. Shells in the sunshine, they catch the breeze and provide natural cooling.

T he spatial planning is inspired by the ideal of transparency of the government functions to the public, as well as critical functionality and ceremonial formality.

All spaces radiate around a central lobby consistent to the philosophy of Jamaica's motto **Out of Many One People**. Different functions are arranged in independent pavilions surrounding the nucleus. The whole is made from diversity.

The pavilions, all converging towards the centre, support sculptural and breeze harnessing roof shells above.

T he National Flower design team is honoured to be selected as a finalist and have developed the design to further detail, taking into account feedback from the jury and the client while remaining consistent to the fundamental design intentions of the first phase. This brochure text is an evolution of the first phase document and the key concepts ideas retained from the first phase are shown in italics.



Lignum Vitae or Wood of Life (Guaiacum Sanctum) Jamaica The flower



2018 - Jamaican elements and weather

AN ICON IN THE PARK



The second phase of the competition is an opportunity to reflect on the initial design and to see what other competitors have proposed, comparing our ideas with those of our eminent colleagues.

This period of reflection has convinced us that the National Flower design is the most appropriate solution. It is original and iconic, with a message about the heart of Jamaica. Like Reggae, the design is original and unique. The National Flower is an icon for what is unique about Jamaica. We remarked on the very significant recent event of the recognition of Reggae as a one of the world's unique cultures. This International recognition of true Jamaicanness reinforced our belief that the Parliament must be unique to the island in a similar way. The National flower design, as recognized in the jury report, is a 'flamboyant and iconic' symbol, 'deriving it's concept from nature'. Jamaica is indeed a garden of Eden in a moment of rebirth. The National Flower is a celebration of that rebirth.

It is an array of sails symbolizing the breezes.

It is a mountain symbolising the hills

It is a dome symbolizing of unity and transparency.

It is a stage symbolizing music

It is a Phoenix flame symbolising a rebirth and a positive future,

It is asymbol of harmony with nature so important for our future.

It is a heart of creative artistry

It is Jamaica's Sydney Opera house, Jamaica's Capitol building, Jamaica's Louvre pyramid in a park.

It would be built in Jamaica, by Jamaicans with Jamaican materials.

The National flower project is not only about a building but also a dialogue of a building in the park and the park with the community surrounding it. The Parliament building location in the park is a symbiosis. The building needs the park and the park needs the building. Like a flower needs the plant and the garden around it.

ADAPTATIONS

T he developement of the design has responded to the issues summarised below:

The Jury report invited the design team to respond to the 'scale and viability' of the roof shell. Also, specifically, the Jury invited the National Flower team to respond to the following issues:

- 1. The form, scale and nature of the dramatic roof form
- 2. The interface between the roof form and the spaces below
- 3. Elaboration of the proposed landscaping strategy to the existing
- 4. The scale of the respective chambers
- 5. The nature and quality of the interior spaces

The team was also invited to present the project to the client, Including the Prime Minister, senior government and parliament officials and the UDC. During this intervention, valuable feedback and commentary was received and the following key points were made:

- 1. Respond to the desire for reverence in the design and the relationship to the park
- 2. Demonstrate programmatic functioning
- 3. Demonstrate adequate provision is made for security

EXTERIOR DESIGN - CONTEXT AND PARK PLANNING

PARK SCOPE:



Home for the parliament

The competition scope corresponding to the stated budget is limited to the central designated 11.4 Acres. However, as has been invited, the design presented has considered a full landscaping exercise for the entire park. The full landscape design involves a much greater planting area, as well as the addition of a full length water feature. It has not considered cutting the park with a distinct landscaping treatment for the 11.4 acres.

If budgets are not available for the complementary planting and water feature, the design would still be able to function, but the opportunity for the public and the community would not be realized.

POLEMIC OF PARLIAMENT IN THE PARK

The implantation of the building in the park is a polemical issue. Much has been written and spoken in the press against the idea.

The brief presents the Parliament in the Park as part of a larger vision for the development of other important government buildings around the park. Our team considers that integrating the parliament Building in the park as a sustainable development that will in fact bring a new revival and a purpose that is lacking today. Today the park is used for parking, dumping with parched grass. It needs a revival.

The park belongs to the immediate community around it as much as it belongs to the nation as a whole. The proposal is a fusion of these needs.

The proposed park designs revive it, bringing fundamental Jamaican character and activities:

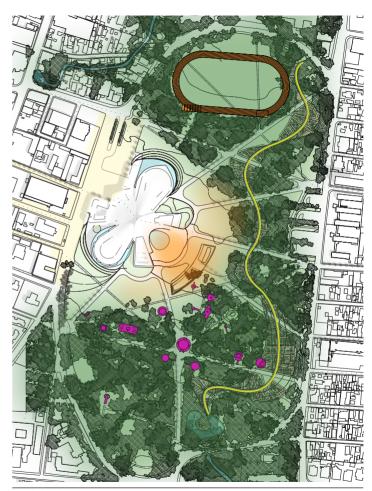
- Wood and Water,
- Music.
- Athletics,
- · Art.

The memory of our heroes deserve a revival of their resting place. Their place in the proposed garden will be enhanced to provide all future politicians and public with a fresh reminder of the context of Jamaica's political history.

The building is part of the park. It does not take a bite out of it but enriches it by bringing a new venue. The park flows through the building that is an open shelter.

The basic concept of the building with the park has not changed in the Second phase competition development, however more attention is given to the following:

- The relationship of the building with the park has been reinforced according to a 'Centrality' concept developed below, to enhance its reverence.
- The planting has been developed to express an ecological corridor of biodiversity through the park.
- The interface with the urban west front has been developed with the creation of an Urban Plaza adjancent to the Heroes Circle.



HOME FOR THE PARLIAMENT

T he park is a natural home for the parliament. It is the mother of the building, like the island of Jamaica is the mother of its people and her culture. It nurtures the building and helps the people grow. It is the natural history. It symbolises the island itself. The park needs the trees and water that Jamaican landscape is about. To be a true expression of nature, these essential ingredients are a must. The other parks in Kingston notably have wonderful trees that provide shading for people and that attract other flora and fauna. Reviving the park will be bringing water and trees.

SITING

The building is located to the west, near the gate opposite Torrington road with the following benefits:

- The full north south axis of the park is retained.
- An urban address at a distinct location for approaching traffic from the most busy traffic routes.
- The east breeze crossing the site is best harnessed if the building is located to the west.

Aerial photos allow us to track footpaths that have naturally been formed by the community as they pass through the park in their daily walks. These naturally formed pathways are evidence of how the community uses the park. This extensive network of pathways are paved and given complementary planting to recognise and formalise the ownership of the community.

WATER

Historically we understand there was water flowing through the site, but that has been diverted. Today a well exists in the north west. We propose to harness this source and use it to bring water to the park. We propose a river of water feature with meandering flows from north to south. Each of Jamaica's rivers have a different character, From Dunns river agitation to Rio Grande calm The water flow ties the park together from north to south, according to the natural flow of the land.

On the river banks planting of a rich variety of Jamaican fruits and plants symbolizing this natural wealth of the island.

Paving of pathways and outdoor parking will be permeable to allow infiltration and regeneration of the aquifer.

COMMUNITY PATHWAYS



Original pathway



CENTRALITY

Reverence–Superposition of national centrality $\qquad \qquad \text{with}$ the Life of the park.

The parliament in the park needs to respond to the to the central role of the Parliament as a national monument that is the seat of the government of the nation as well as respecting the park and community context.

We must find a balance between National presence and respecting the park.

Firstly, giving the building a street façade on the Heroes Circle to the west with a grand hardscape plaza as formal urban façade anchors it in the city.

Then the setting of the building in the landscape provides key perspective vantage points for a viewer on the ground. Radial pathways, emanating from the centre of the Parliament building cross the community pathways to major entry points that correspond to the surrounding ministries of Finance, Education, Culture and Labour. They provide formal axes that relate the Parliament to these important government institutions. Visual corridors provide perspective views along these axes for clear visibility of the Parliament. The axial paths merge and integrate with the community pathways.

Superimposing the centrality expression of the radial axis with the enriched landscaping and community life provides this balance.

The superposition is in itself very symbolic, how government can co-exist with nature.



URBAN FRONT

T he western edge of the parliament project is an urban façade. The Parliament is set back from Heroes Circle to provide a pedestrianized plaza is formed that is both a noble public plaza as well as a functional security threshold. It can be closed for special events or functions within the Parliament with traffic diverted to circuit through Slipe road to ensure smooth flow.

The plaza is in paving compatible to that of the other pedestrian routes in the park and traffic routes are identified with kerbs and bollards.

 B_{us} stops in front of the parliament provide a public access point to the park and building

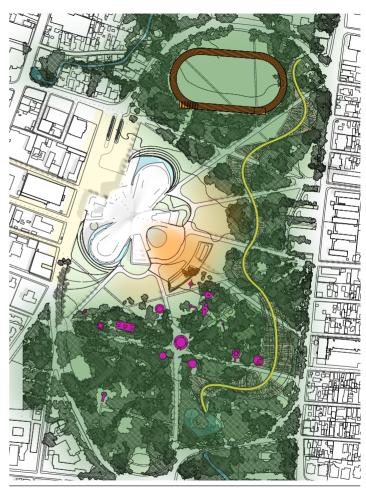


Urban front

ACTIVITIES

Bringing uses to the park will revive it, and the following are proposed for consideration in the full future park development:

- The Heroes monuments are already framed with small scale planting and lighting highlights. This strategy would be reinforced and the Community Pathways bring people to mingle with the monuments and communicate the link to Jamaica's political history.
- An amphitheatre is realised with a subtle berm opposite the park entrance canopy of the Parliament building. It will frame the ceremonial functions. Large guango trees are intended to provide shading and background
 - A water feature will bring calm and encourage reflection and connection with nature
- Cultivation parcels are proposed along the river presenting Jamaica's natural wealth and potentially providing a source for community participation
- A Running track in the north can be seen in the traces of past use of the park. It could be reinstated as a reminder and a tribute to Jamaica's other heroes of athletics
- Art installations of sculpture can punctuate the pathways at intersections such as to encourage artistic expression and appreciation of Jamaica's creative artists.



DESCRIPTION OF EXTERIOR DESIGN

- A: REQUALIFIED ENTRIES FROM THE PARK
- B: CIRCULATION AREA QUIETED
- C: Public parking with trees
- D: PARLIAMENT
- E: The Heroes Monuments used for Ceremonies
- F: Amphitheatre for national events
- G: Water feature
- H: Orchard for communities
- I: RUNNING TRACK
- J: Community Pathways
- K: ART INSTALLATIONS





PLANTING

Generally large indigenous Jamaican trees, to provide shade to the lawns. Visual perspectives will remain open for security. At the present time the following plant types are being considered. Use of native drought tolerant species reduces the irrigation requirements.

AROUND THE BUILDING (NATIVE/ENDEMIC/CULTURALLY SIGNIFICANT)

Royal Palm (Roystonea regia), Blue Mahoe (Hibiscus elatus), Lignum Vitae (Guaicum officinale), Black Olive (Busidia buceras), Buttonwood (Conocarpus erectus), Jamaican Mahogany (Swietenia mahagoni), Bull Thatch Palm (Sabal jamaicensis), Silver Thatch Palm (Coccothrinax jamaicensis), Pimento (Pimenta dioica), West Indian Ebony (Brya ebenus), Coffee (Coffeea arabica), Cocoa (Theobroma cacao)

AROUND THE PARK

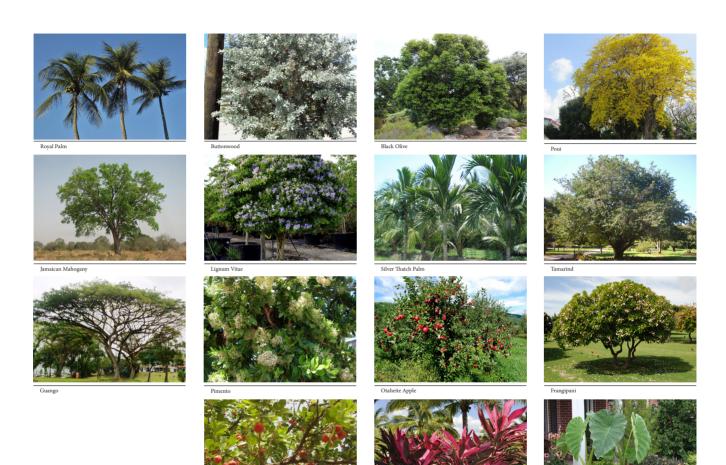
• Cannonball (Couroupita guianensis), Frangipani (Plumeria spp.), Guango (Samanea saman), Jacaranda (Jacaranda mimosifolia), Quick Stick (Gliricidia sepium), Red Birch (Bursera simaruba), Silk Cotton (Ceiba pentandra), West Indian Cedar (Cedrela odorata), Scarlet Cordia (Cordia sebestena), Pouis (Tabebuia spp)

FRUIT TREES ALONG THE RIVER

Ackee (Blighia sapida), Otaheite Apple (Engenia malaccensis), Avodaco Pear (Persea amencana), Starapple (Chrysophyllum cainito), Breadfruit (Artocarpus incisus), Guava (Psidium guajava), Mango (Mangifera indica), Tamarind (Tamarindus indica), Coconut (Cocos nucifera), Hog Plum (Spondias mombin)

INTERIOR PLANTS

• Ferns, Tree Ferns, Ti Plant (Cordyline spp), Philodendron spp, Bromeliad spp, Alpinia and Heliconia spp, Elephant Ear (Alocasia spp), Cocoa (Colocasia spp), Palms- Lady Palm, Parlour Palm, Bamboo Palm, Areca Palm, King Alexander Palm, Christmas Palm, Queen Palm



Ackee

Ti plant Elephant Ear

DESCRIPTION OF EXTERIOR DESIGN

PARLIAMENT OPENING CEREMONY

During the opening ceremony, the Governor General will disembark at the southern concourse to proceed to the ceremonial entry Plaza along on a newly orientated route through the Heroes monuments flanked by the military guard of honour. Each political party will disembark at the eastern gateways and proceed along designated paths lined with the military guard of honour and the public to converge at the apex on the ceremonial entry Plaza. The processions can then follow directly through the central lobby into the chamber through the Park level ceremonial doors. These pathways are planted with Royal Palms to reinforce the importance of the moment.

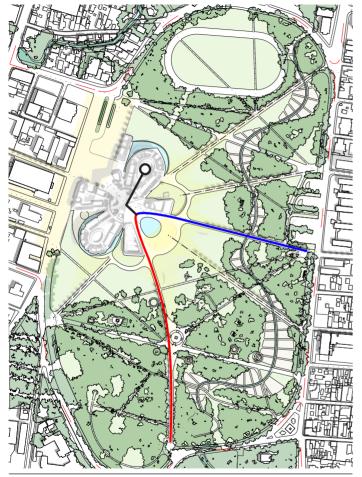
TRAFFIC CIRCULATION & ACCESS

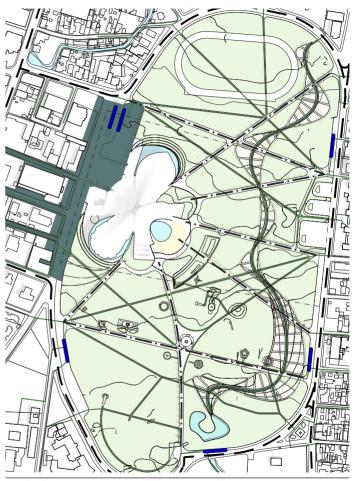
The peripheral National Heroes Circle is retained as a two way circuit, with access form all existing roads.

Bus laybys are around the periphery of the park on the Heroes Circle.

Vehicle access to secure parking for Parliament is concentrated at the West Plaza with checkpoints for security at the entrances to both parking areas beneath the House of representatives to the north and the senate to the south.

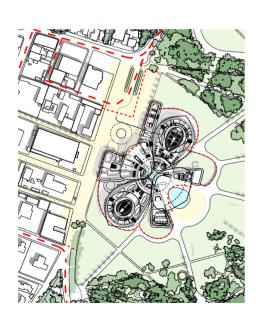
Open public parking has been removed from the south of the building because it would detract from the quality of the park environment. The biref has allowed to consider public parking off site and this aproach has been adopted. The team would study parking options in the subsequent project development if retained.





Parliament opening ceremony

Bus and circulation



The building needs to be a balance between the seemingly contradictory transparency of government to the people and security for all users. It must be a welcoming venue and a fortress at the same time.

The strategy employed is one of visibility and security presence whilst remaining open.

The building is clearly visible around the entire perimeter with an open urban plaza to the west and an unobstructed grass band around it. The clear visibility allows security personnel to monitor all approaches at all times, whilst giving the building a clear monumentality. The main security facilities centre are located at the highly visible entrance.

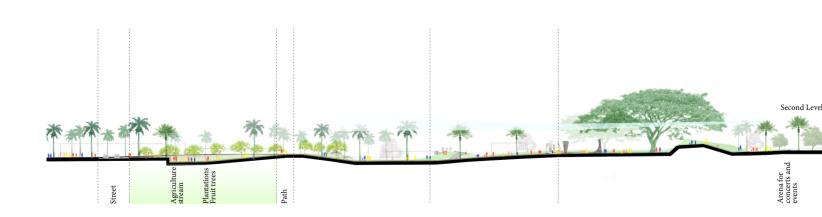
 \boldsymbol{A} continuous but discreet security barrier around the building is comprised of sunken gardens, sunken walls, ponds and decorative railings.

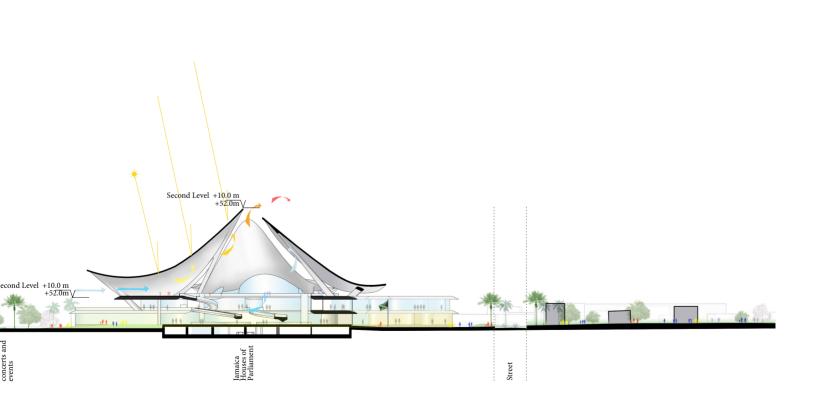
Controlled access through this barrier is provided at strategic entry points:

- One main entrance onto the west Heroes Circle plaza
- Two ramped entrances on the park façade either side of a pond
- Controlled vehicle entry into secure parking beneath the building with a foot traffic checks into the central lobby.

T hese security control points are the only entries throught the integral barrier. Emergency exit doors would be linked to alarms and surveillance.

Within this external and public barrier a second security barrier exists for Parliamentary users and staff. It is presumed a badge identity card will be provided for all users that will allow them access to the main entrances and lifts that are the control points for entry into this zone.







PROGRAMME

COMPONENT DISTRIBUTION & FUNCTIONAL CONNECTIONS

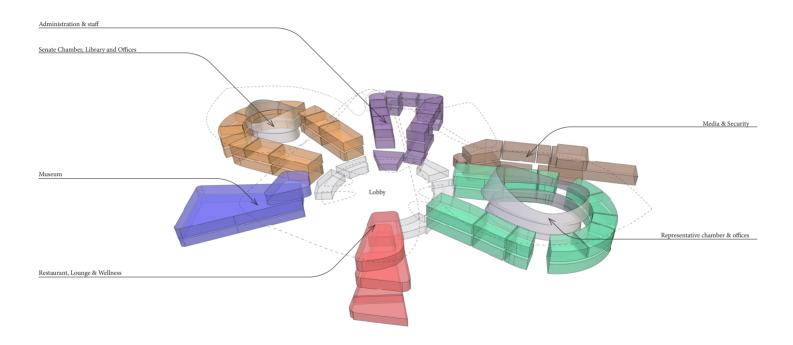
The "Out of Many one People" centrality concept permeates the entire building and functioning. All facilities have close access to each other by radiating around the central lobby. The concept provides adaptability allowing evolution of the programmatic facilities in response to specific requirements that may arise in future development of the project with the client.

Basic requirements of comfort, daylight, spatial quality, fresh air and views of the park are provided for all offices and facilities with the radiating pavilions concept.

The circular Central Lobby includes all the necessary reception and security functions required to provide optimal operation of the building at both ground level and basement level. All functions, Public or Government, are accessible through the Central Lobby directly or indirectly under the control of police and security review. Vertical circulation to the Government level above is provided by lifts around the perimeter of the Lobby or by ramps and stairs.

T he lobby is open air with a landscaped pond and a sculptural void to the sky above. It includes spiral ramps and stairs for users to experience the space as they enter the building.

Once at the gallery level, the public can exploit a belvedere overlooking the Park. The belvedere can also be exploited in reverse as a high level stage for events to express to public on the park plaza and amphitheatre lawn.



PARLIAMENT SUITES, OFFICES AND MEETING FACILITIES

T he Representatives Chamber is surrounded by attendant Government and Opposition Suites on the upper level. A clear distinction is made between Government and Opposition facilities by arranging them either side of the central axis of the Chamber itself behind closed doors. Additional office space has been provided for eventual opposition 'shadow' ministers as a complement to the government minister's offices.

On the lower level the chamber is surrounded by key parliamentary function offices and suites, such as the Speaker, President and House Leader. All these functions are provided with full height facades with balconies behind sun screening louvers and breezeblocks. All offices can enjoy fresh air and a view of the park.

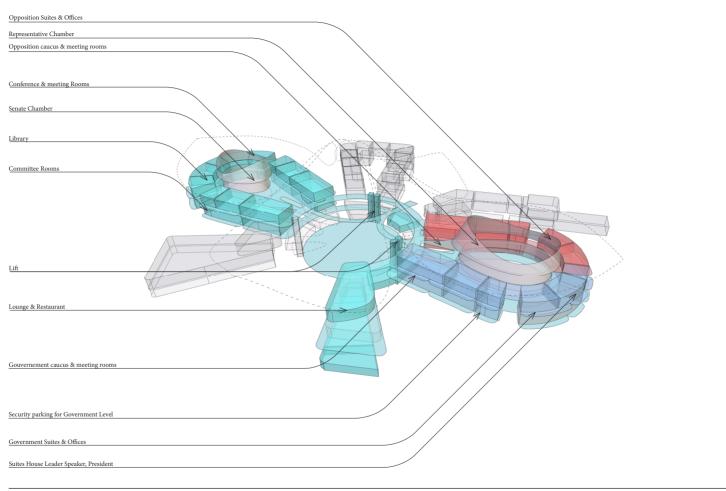
Similar facilities are provided for the senate leader, and additional spaces for government business offices complementary to those of the opposition have been provided if required.

Centralised offices for the Clerks have been provided on the lower park level adjacent to the house of representatives.

Restaurant and Lounge facilities for all members of parliament, either representatives or Senate, as well as VIPs or other guests are available adjacent to the House with park views in an independent pavilion.

The committee rooms surround the senate on the lower Park level. 4 large committee rooms are arranged around a central foyer adjacent to the senate itself. Access is provided from the main lobby directly from either level to a central committee room foyer.

The library surround the Senate on the upper level. It has a continuous peripheral façade with views on the park and notably to the Heroes shrine to the south.



PARLIAMENT CHAMBERS

The two Debating Chambers, the Senate and Representatives, are arranged opposite each other on either side of the Central Lobby. They are generally accessible from the government level but can be also accessed from the public Garden level in the case of ceremonial functions from the Central Lobby.

T he House of representatives chamber has been developed in the second phase. The chamber is larger, the gallery provisions have been developed and a daylight lighting feature ceiling has been added.

T he Senate Chamber is a smaller but almost identical to the main Representatives chamber as regards form, access and gallery functions

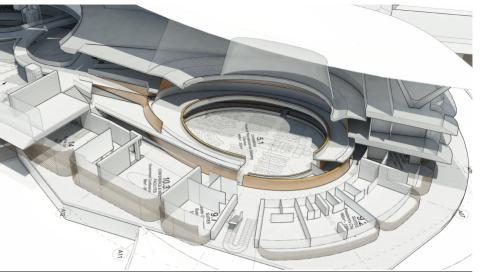
GALLERIES

The relationship of the Galleries with the Chamber floor itself takes into consideration that they are used by some people who need to have direct access to the floor and others that don't. One level of gallery is provided at chamber floor level and another at a mezzanine level.

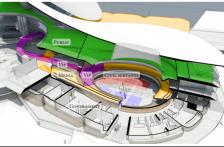
Chamber floor gallery provisions are for all people needing direct access to the representatives or vice versa, such as civil servants, assistants, hansard writers etc.

The mezzanine level accessible from the upper level for people who should remain a certain distance from the floor to witness the proceedings without participating. Media participation can be accomodated at the mezzanine level behind the president and speaker. VIP and invited guests may have a direct and independent gallery also on the mezzanine level.

Finally the public who should remain distant but still be able to appreciate the events are able to do so from the top Gallery level without ever entering the secure chamber level and upper Government level.



Parliament Chambers



Galleries

STAFF & Administration Facilities

G enerally all Staff and Administrative functions are located in a two storey independent pavilion forming a western urban façade of the building onto National Heroes Circle.

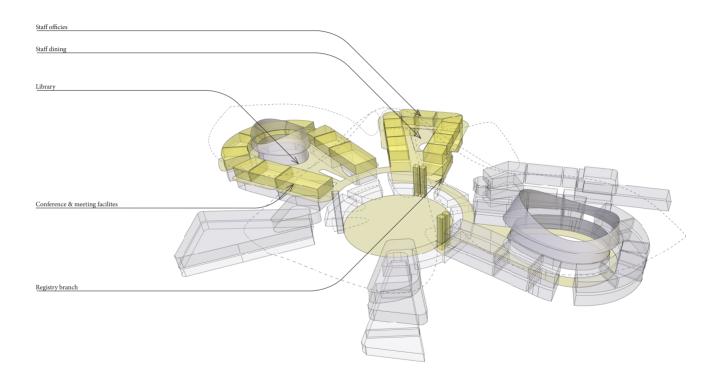
The facilities are accessible on two levels, either from Park or Government levels or from the basement parking and deliveries vehicle level below.

On the upper Government level, offices of hansard writers, legal advisors, ICT personnel, auditing, and general administration are provided.

On the lower Park level, a staff cafeteria is provided in a central court beneath a skylight. Adjacent kitchen, staff facilities and storage rooms with a goods lift to the loading bay below are provided.

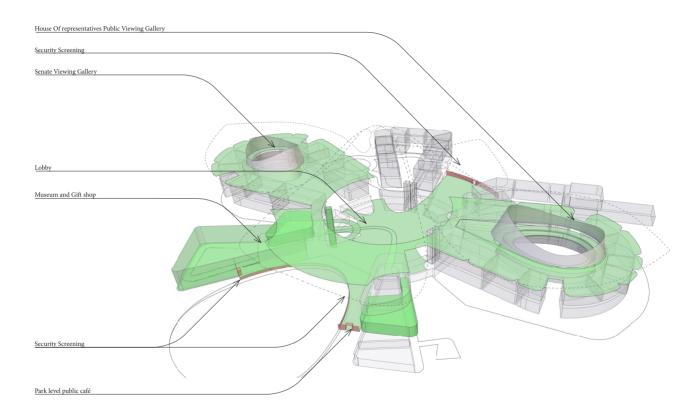
There are additional conference and meeting facilities which could be used by administrative personnel in the adjacent Senate pavilion on the upper Government level.

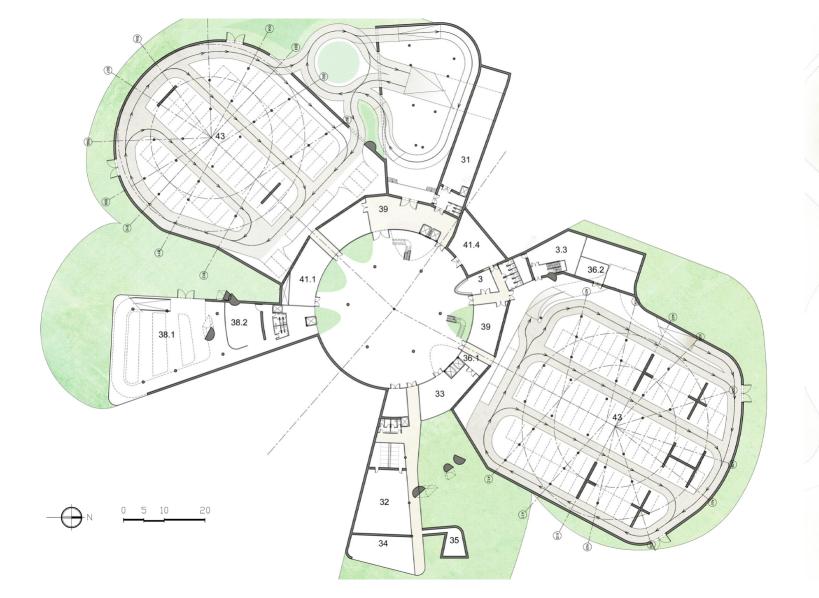
A basement registry branch is adjacent to the loading bay to facilitate access for deliveries.

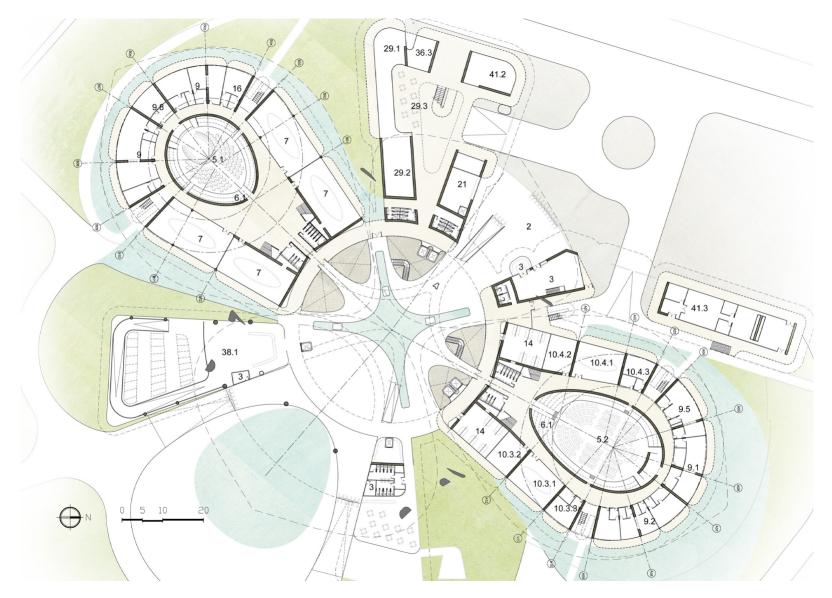


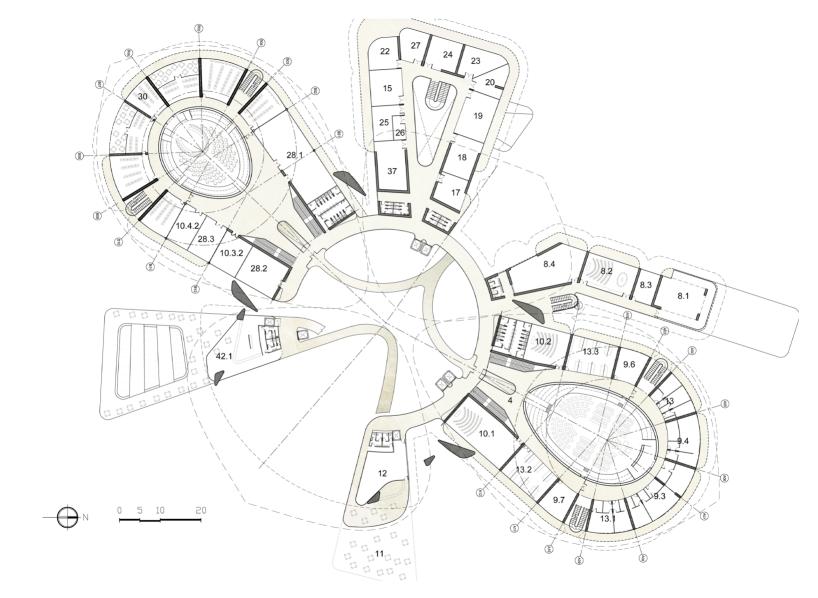
Public Access & Museum

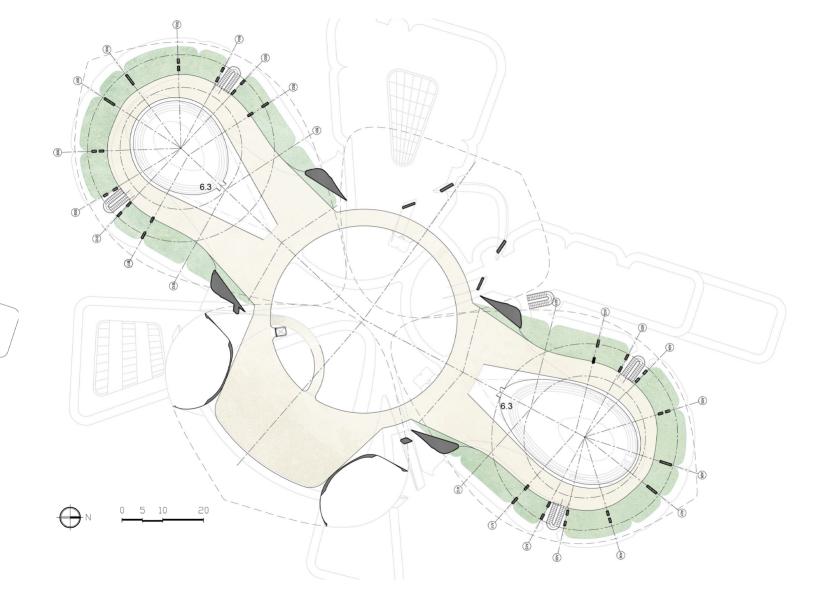
The museum, projecting into the Park to the south east of the Central Lobby is an open and transparent pavilion, housing a small shop and with the possibility of a rooftop terrace for sculpture expansion or events. As such the Museum location contributes to the cultural dialogue between the Parliament Building and the country's political heroes. The gesture of the museum opening in the direction of the Heroes monuments enhances this gesture.





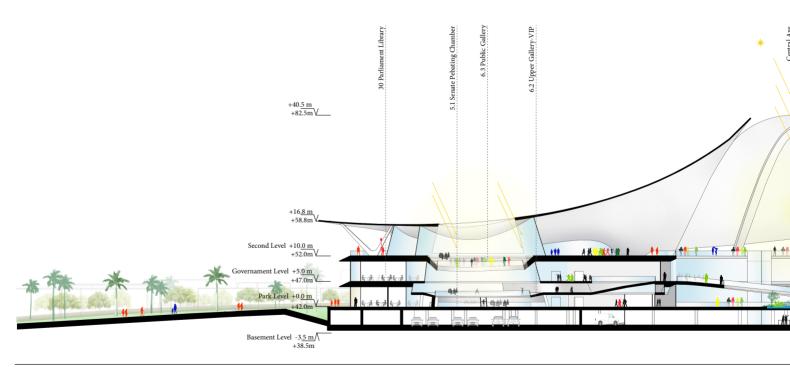


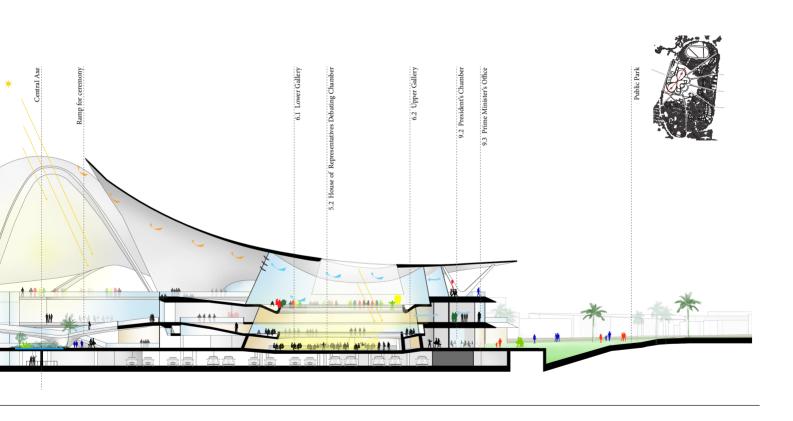




clr	Level	Nbr TITLE	Project m ²
	-1	3 : SECURITY AND PROTOCOL	240
	-1	32 : WELLNESS CENTRE/GYMNASIUM	244
	-1	33 : SICK BAY/FIRST AID FACILITY	108
	-1	34 : AFTERCARE FACILITY	119
	-1	36,1 : FACILITIES SPACE Facilities for Orderlies	18
	-1	36,2 : FACILITIES SPACE Facilities for Drivers	36
	-1	39 : BUILDING SERVICES	373
	-1	41,1 : LODGE FACILITIES Janitors' Quarters	107
	-1	41,4 : LODGE FACILITIES Panic/Strong Room	112
	-1	43 : PARKING SECURED AREA Senators	175
	-1	31 : REGISTRY BRANCH	232
	-1	38,1 : PARLIAMENT MUSEUM Art Gallery	769
	-1	38,2 : PARLIAMENT MUSEUM Souvenir/Gift Shop	91
	-1	35 : MEDITATION ROOM/CHAPEL	36
clr	Level	Nbr TITLE	Project m ²
	0	1 : PLAZA	
	0	2 : CENTRAL LOBBY	412
	0	5,1 : CHAMBERS Senate Debating Chamber	219
	0	5,2 : CHAMBERS House of Representatives Debating Chamber	361
	0	6,1 : GALLERIES - Lower Gallery	200
	0	9,1 : SUITES Speaker's Chamber	139
	0	9,2 : SUITES President's chamber	168
	0	9,5 : SUITES House leader office	73
	0	9,8 : SUITES Leader of opposition business (senate)	53
	0	10,3,1 : CONFERENCE & MEETING FACILITES Government conference room (large)	98
	0	10,3,2 : CONFERENCE & MEETING FACILITES Government conference room (small)	53
	0	10,4,1 : CONFERENCE & MEETING FACILITES Opposition conference Room (large)	98
	0	10,4,3 : CONFERENCE & MEETING FACILITES Opposition conference Room (small)	53
	0	14 : CLERK OF THE HOUSES	208
	0	7 : COMMITTEE ROOMS 4 *Accommodates 75 persons	708
	0	16 : COMMITTEE DIVISION	51
	0	21 : SECURITY & PROTOCOL BRANCH	83
	0	29,1 FOOD & BEVERAGE SERVICES BRANCH F&B Staff	100
	0	29,2 FOOD & BEVERAGE SERVICES BRANCH Kitchen	103
	0	29,3 FOOD & BEVERAGE SERVICES BRANCH Staff Dining	135
	0	36,3 : FACILITIES SPACE Janitorial & Kitchen Staff	45
	0	41,2 : LODGE FACILITIES Security Personnel Quarters	90
	0	42,2 : AMENITIES Helipad	90
	0	41,3 : LODGE FACILITIES Barracks outside	257

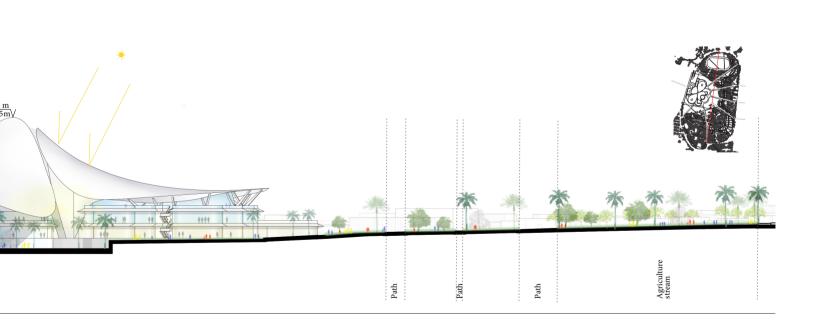
clr	Level	Nbr	TITLE	Project m ²
	1	42,1	AMENITIES Café/Coffee Shop	242
	1	9,3	SUITES Prime minister's office	139
	1	9,4	SUITES Opposition Leader's office	88
	1	9,6	SUITES Leader oppostion business house	53
	1	9,7	SUITES Leader govt business office	53
	1	10,1	CONFERENCE & MEETING FACILITES gouvernment caucus room	156
	1	10,2	CONFERENCE & MEETING FACILITES opposition caucus room	88
	1	10,3,2	CONFERENCE & MEETING FACILITES Government conferences room (medium)	80
	1	10,4,2	CONFERENCE & MEETING FACILITES Government conferences room (medium)	80
	1	13,1	OFFICE Minister of government	75
	1	13,2	OFFICE Government Members	98
	1	13,3	OFFICE Opposition Menbers	98
	1	4	: MEMBERS LOBBY	150
	1	6,2	GALLERIES -Upper Gallery	200
	1	8,1	MEDIA FACILITY Press / reporters Area	155
	1	8,2	MEDIA FACILITY Press conference room	102
	1	8,3	MEDIA FACILITY Broadcasting studio (PBS / JIS)	40
	1	8,4	MEDIA FACILITY Parliament Printing Facility	129
	1	11	: DINING / BANQUET FACILITY menbers' Dining Hall	261
	1	12	: LOUNGE BAR AREA lounge for menber and guest	120
	1	15	: LEGAL SERVICES BRANCH	70
	1	17	: PUBLIC RELATIONS & CORPORATE COMMUNICATIONS BRANCH	51
	1	18	: HANSARD WRITING UNIT	69
	1	19	: HANSARD EDITING DIVISION	91
	1	20	: INTERNAL AUDIT BRANCH	48
	1	22	: CORPORATE SERVICES DIVISION	55
	1		: FINANCE & ACCOUNTS BRANCH	155
	1		: HUMAN RESOURCE MANAGEMENT & DEVELOPMENT BRANCH	62
	1		: ICT BRANCH	50
	1		: INFORMATION TECHNOLOGY BRANCH	18
	<u> </u>		: FACILITIES & OFFICE MANAGEMENT BRANCH	51
	1		: CONFERENCE/MEETING ROOMS Large Room	184
	1		: CONFERENCE/MEETING ROOMS Large Room	95
			: CONFERENCE/MEETING ROOMS Medium Room : CONFERENCE/MEETING ROOMS Small Room	
	1			60
	1		: PARLIAMENT LIBRARY	711
	1	37	: REFERENCE AREA	87
clr	Level	Nhr	TITLE	m2
	2		GALLERIES - 2 x Public Gallery	396
		0,5	Grazzania Zarabiic Gallery	J.







Longitudinal Section of the Park



DESCRIPTION OF OTHER KEY ARCHITECTURAL ELEMENTS

STRUCTURE & GEOMETRY OF THE SHELL

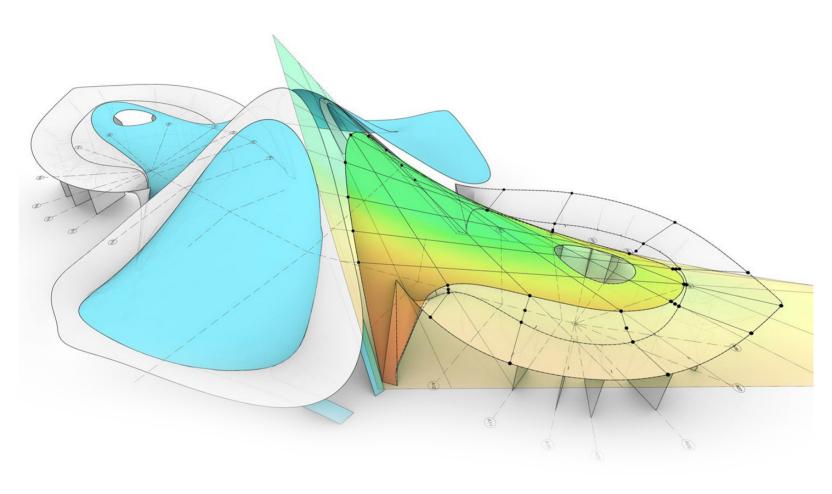
The shells are iconic forms that give the building its unique form. Though they are complex and their appeal lies in that complexity of form in light. They are also conventional structural systems that have been tried and tested in recent times. They are modern and innovative. Jamaica's Wilson Chong has designed several structures of this type on the island.

Most importantly, they are constructible in Jamaica with Jamaican resources and therefore, are an appropriate choice for the Island's economy.

T he shells do require complex engineering. Indeed the National flower design is about a cultural fusion and exchange with international high technology knowhow in Jamaica. The National Flower team has broad experience in complex engineering design throughout the world. Other complementary specialist design resources have been taken into account in the design fee proposals to provide the necessary consulting services for the shell design.

T he flower petals are Structural shells in cast concrete in optimal hyperbolic paraboloid funicular shapes.

T he shell surfaces are 'ruled surfaces', i.e. created by sweeping straight lines in space. The ruled surface is a clear and classic form that is simply definable and controllable given that it is constructed from straight lines. The perimeter edge curves generate the form and controlling the edge curve, control the surface.



STRUCTURE CONCEPT

SHELLS

T hey are reminiscent of engineer Felix Candela's dramatic shells, they are efficient forms whose geometry ensures their stability. The double curved surface, though generated by straight lines, is inherently structurally stable.

T he shell is a thin surface of reinforced concrete that is largely tensile between stiff edge beams. In some of Candela's shells, the concrete is a thin as 4cm for 10's of meter spans. The shells can therefore be lightweight, though built in concrete. They can be stiffened and reinforced simply by adding thickness or adapting the shapes to increase curvature.

SUPPORTS

As requested in the Jury comments, the supports critical to the shell structure have been defined.

In order to preserve the visual purity of the shells as they approach each other in the centre, each one is independent. As such they are structurally simpler, but require additional gravity support for the central cantilevering tips. The internal edges have been reinforced with inclined parabolic arches that provide direct gravity support as well as edge stiffness down to the ground.

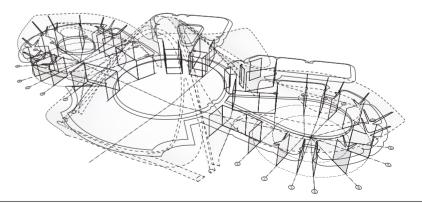
Perimeter supports to the flared out edges above the House and Senate chambers are provided by radiating wall planes with triangulated branch supports carrying the shells. Together the inclined parabolic arches and the radiating supports provide stiff anchorage for the tensile shell surface that is swept between them to provide the hyperparabolic surface required.

T he 'feet' of the parabolic arches find their way to the ground in the gaps between the pavilions. They become dramatic design features, in these voids and, in the case of the Museum, can engage with the space providing visual interest.

Clearly readable structural performance provides visual harmony.



Felix Candela - IVAM Institut Valencià d'Art Modern



Analysis

 $P_{\text{reliminary modelling of the typical Chamber shell has been carried out to demonstrate the basic structural stability of the independent shell and support conditions. The shell thickness has been assumed at 12cm with peripheral reinforcement to 16cm.$

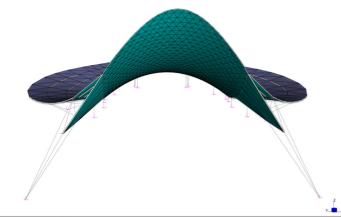
SEISMIC CONDITIONS

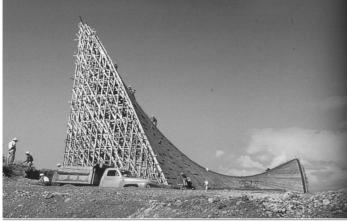
Jamaica is classified as a sensitive seismic zone. Structures of high mass are sensitive to seismic loading. The relatively compact form of the shells and the fact the tall portions are the thinnest means they are appropriate for seisme conditions. Base isolation systems at the interfaces with the foundations will provide an intelligent way of protecting the shells from seismic forces.

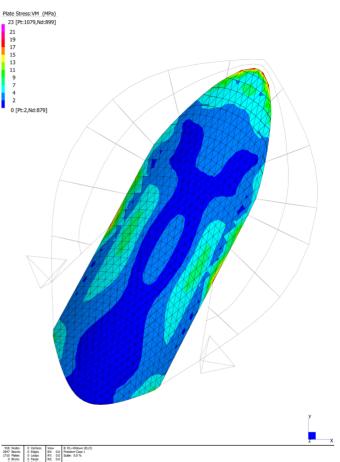
Construction

Kingston has a concrete factory and the concrete construction is a known and traditional technique on the island. The materials are durable and resistant to hurricanes and the test of time.

T he forms can be built on a traditional scaffolding using timber formwork. Shuttering formwork can be defined simply from the ruled surface shapes with planks. The plank shapes are visible on the interior surface and provide a subtle surface texture that reflects the construction process.







a New Land Red All Concreded to 10 An - High Dutton Ass. - PARES J Land Red All Concreded to 10 An - High Dutton Ass. - PARES J loded Rev Vysil CONCOURS(99) Jamaica Houses of Parliament Competition(1)2 CALCULS(ModellyDuA-99-MOD-2012-12-11.HyNorth.02.d7 earl Rev Vysil CONCOURS(99) Jamaica Houses of Parliament Competition(1)2 CALCULS(ModellyDuA-99-MOD-2012-12-11.HyNorth.02.MA 3 docentive 2018 7-44 pm

FACADES

The facades are designed for security and solar exposure as well as optimal visual transparency.

All internal volumes may have full height glazing to provide optimal transparency and daylight. All air conditioned spaces can be double glazed with high performance solar energy performance treatments to optimise energy consumption and comfort.

Circulation spaces, notably around the central Lobby are full height glazed.

All glazed surfaces can be in a safety laminate to provide resistance to hurricane winds and safety against falling. Laminated glass provides protection against intrusion.

Generally all floors have generous cantilever projections that provide solar protections and also deter an intruder from climbing the façade to an upper floor.

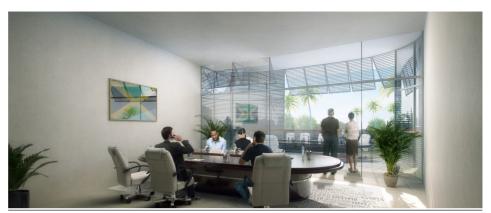
Lower Park level external facades are additionally protected by a ceramic "breezeblock" type protection around external balcony projections. The block sections, made from extruded ceramic forms, are optimised to protect from solar exposure. The occupants of the space inside will have views of the surrounding park through the voids in the blocks. The ceramic blocks provide a robust protection from infraction.

 $U_{pper\,Government\,level\,external\,facades\,are\,also\,additionally\,protected\,with\,openable\,jalousie}\ louvers\ to\ attenuate\ solar\ exposure\ and\ provide\ visual\ privacy\ to\ these\ important\ spaces.$

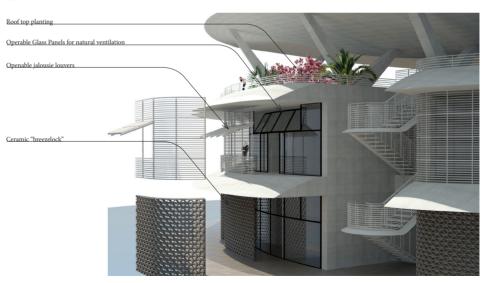


F.Escobedo - La Tallera Siqueiros

Devon House, Kingstone



Typical Office

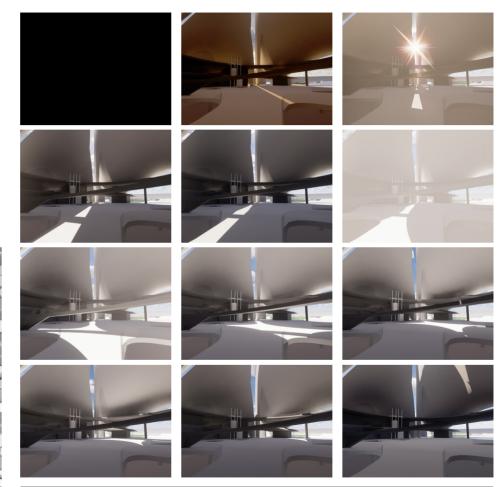


DAY LIGHT

The play of the shells in light is an important design feature. Light is encouraged to bounce and reflect from the shell surfaces so they provide a shimmering reflection of the ponds and water features surrounding the building on the internal surfaces.

T he design team has consulted Spiers and Major, an internationally experienced lighting consultant for advice on the lighting performance.

T he internal surfaces of the shells, notably at the summits, can be complemented with ceramic incrustations that 'sparkle' and reflect light, so the internal surfaces are a spectacle of natural light that is so rich and generous in Jamaica





Ceramic tiles Day lig

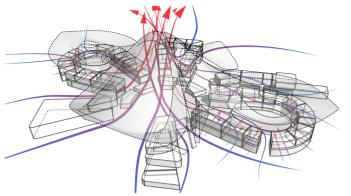
Day light studies

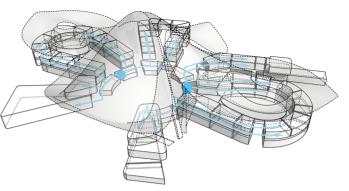
HVAC-Energy efficiency

One of the biggest consumers of energy is air conditioning. Reducing the requirement for cooling is the key intent of the proposal. Generous roof shells cover the programme pavilions protecting them from the sun. They are oriented to capture the prevailing east-south-east breezes. This air mouvement beneath the shells is further accelerated verticaly by a solar chimney stack effect. The resulting vertical flow is intended to encourage breezes to enter each of the pavilions around their perimeters and be ventilated naturally when the climate conditions permit.

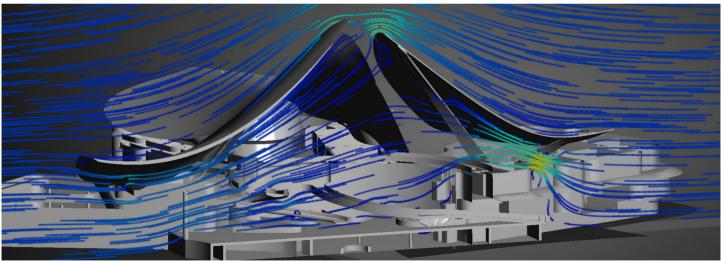
Cooling workspaces is a necessity to improve working environment and productivity. Spaces are naturally cooled with breeze flow as was the traditional approach in Jamaica before the invention of air conditioning. To optimise energy consumption, cooling is provided only as a complement to the natural cooing

White surfaces of the shells reflect heat energy reducing the amount of solar heat absorbed.





Breeze flow Cooling



Wind effect study

Green Energy sources A lready the concept of harnessing breezes for natural cooling is a green energy source in that it is reducing considerably the consumption required;

Ground water may be used for assisting in cooling

Photovoltaic coverings beneath a white screen as discussed in the first phase to the roof shells is still a viable additional option for green energy source.



a few key facts

white PV façade power output

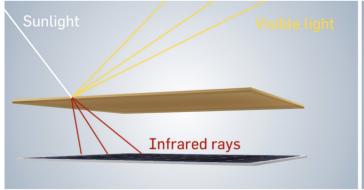
Conventional passive façade elements made of plaster, aluminium, marble or other materials can finally be replaced by active PV building elements.

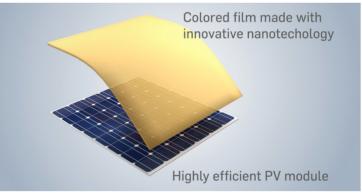
The typical power output of a PV module with our most vivid white film is around 100 Wp/m². Higher powers are obtained with darker tones, since brighter appearances require more visible light to be reflected. Any colour can be developed to match the project design.

Typical PV module electrical **performance** output using our films:

Black	Light grey	Standard white	Vivid white
170 Wp/m ²	121 Wp/m ²	117 Wp/m ²	106 Wp/m ²

Values obtained with 156 x 156 mm² mono-crystalline PERC c-Si cells under STC.





PV facade performance

SUSTAINABLE MATERIALS AND CONSIDERATIONS

 I_{n} general the building is conceived in materials that are available locally. This is not only sustainable from an energy point of view but is also economically sustainable.

- Concrete shells are sustainable because of local sourcing. Their thermal mass is exploited for the heat
- Paving in local limestone
- Timber interior finishes
- Ceramic breezeblocks

W ater management is an important part of the sustainable design intents of the proposal. Rainwater will be collected from the roof and exploited for use where appropriate within the building, such as toilets and irrigation of internal plants.







Concrete

Paving in local limestone







PINCON

Mahogony

Ceramic breezeblocks

COST ESTIMATION

ACCOMMODATIO	N AREAS	CLASS A	CLASS B	CLASS C	CLASS D	WELFARE	SERVICES	PLAZA	LOBBY	PARKING	TOTAL	
BASEMENT		0	0	301	949	278	276	0	0	660	2,464	
GROUND		1,576	1,263	1,135	116	0	0	0	0	90	4,180	
FIRST		0	2,995	831	0	0	0			0	3,826	
SECOND		36	0	396	0	0	0	ĺ		0	432	
AREA M2		1,612	4,258	2,663	1,065	278	276	0	0	750	10,902	
AREA SF		17,352	45,833	28,665	11,464	2,992	2,971	0	0	8,073	117,349	
BUILDINGS												
CONSTRUCTION	COST PER	R SQ FT.										
SUBSTRUCTURE		\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
SUPERSTRUCTURE		\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
FINISHES		\$7,500	\$3,000	\$2,500	\$1,750	\$1,750	\$400	\$1,000	\$1,000	\$500	\$2,156	
MEASURED WORK		\$19,500	\$15,000	\$14,500	\$13,750	\$13,750	\$12,400	\$13,000	\$13,000	\$12,500	\$14,156	
PRELIMINARIES	12.50%	\$2,438	\$1,875	\$1,813	\$1,719	\$1,719	\$1,550	\$1,625	\$1,625	\$1,563	\$1,769	
COST PER SF		\$21,938	\$16,875	\$16,313	\$15,469	\$15,469	\$13,950	\$14,625	\$14,625	\$14,063	\$15,925	
CONSTRUCTION	BUDGET											
BUDGET	LLATI	\$380,650,023	\$773,433,765	\$467,590,178	\$177,328,491	\$46,288,564	\$41,443,553	\$0	\$0	\$113,526,563	\$2,000,261,136	\$15,750,08
M&E INSTA		ONS R SQ FT.									· · · · · ·	\$15,750,08
M&E INSTA CONSTRUCTION (M&E		ONS R SQ FT. \$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$15,750,08
M&E INSTA CONSTRUCTION (M&E MEASURED WORK	COST PER	ONS R SQ FT. \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$7,500 \$7,500	\$15,750,08
M&E INSTA CONSTRUCTION (M&E		ONS R SQ FT. \$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$15,750,081
M&E INSTA CONSTRUCTION M&E MEASURED WORK PRELIMINARIES COST PER SF	12.50%	ONS R SQ FT. \$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$15,750,08
M&E INSTA CONSTRUCTION M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION	12.50%	ONS R SQ FT. \$7,500 \$7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$ 8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	
M&E INSTA CONSTRUCTION M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION I BUDGET	12.50%	ONS 8 SQ FT. \$7,500 \$7,500 \$938 \$8,438 \$146,403,855	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	\$7,500 \$7,500 \$938	
M&E INSTA CONSTRUCTION M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION	12.50%	ONS 8 SQ FT. \$7,500 \$7,500 \$938 \$8,438 \$146,403,855	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$ 8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	
M&E INSTA CONSTRUCTION M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION I BUDGET	12.50% BUDGET	ONS R SQ FT. 57,500 57,500 5938 \$8,438 \$146,403,855	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	\$7,500 \$ 7,500 \$938 \$ 8,438	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438	
M&E INSTA CONSTRUCTION IN M&E MARE MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION IN BUDGET EXTERNAL CONSTRUCTION EXTERNAL WORKS	12.50% BUDGET	ONS R SQ FT. \$7,500 \$938 \$8,438 \$146,403,855 \$ \$ R SQ FT. \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$386,716,883	\$7,500 \$7,500 \$938 \$8,438 \$241,856,989	\$7,500 \$7,500 \$938 \$8,438 \$96,724,631	\$7,500 \$7,500 \$938 \$8,438 \$25,248,308	\$7,500 \$ 7,500 \$938 \$8,438	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0	\$7,500 \$7,500 \$938 \$8,438 \$68,115,938	\$7,500 \$7,500 \$938 \$8,438	
M&E INSTA CONSTRUCTION I M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION I BUDGET EXTERNAL CONSTRUCTION EXTERNAL WORKS MEASURED WORK	12.50% BUDGET WORK COST PER	S	\$7,500 \$7,500 \$938 \$8,438 \$386,716,883	\$7,500 \$7,500 \$938 \$8,438 \$241,856,989	\$7,500 \$7,500 \$938 \$8,438 \$96,724,631	\$7,500 \$7,500 \$938 \$8,438 \$25,248,308 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$25,066,665 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$68,115,938	\$7,500 \$7,500 \$938 \$8,438 \$990,133,268	
M&E INSTA CONSTRUCTION IN M&E MARE MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION IN BUDGET EXTERNAL CONSTRUCTION EXTERNAL WORKS	12.50% BUDGET	ONS R SQ FT. \$7,500 \$938 \$8,438 \$146,403,855 \$ \$ R SQ FT. \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$386,716,883	\$7,500 \$7,500 \$938 \$8,438 \$241,856,989	\$7,500 \$7,500 \$938 \$8,438 \$96,724,631	\$7,500 \$7,500 \$938 \$8,438 \$25,248,308	\$7,500 \$7,500 \$938 \$8,438 \$25,066,665	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0	\$7,500 \$7,500 \$938 \$8,438 \$68,115,938	\$7,500 \$7,500 \$938 \$8,438 \$990,133,268	
M&E INSTA CONSTRUCTION I M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION I BUDGET EXTERNAL CONSTRUCTION EXTERNAL WORKS MEASURED WORK	12.50% BUDGET WORK COST PER	S	\$7,500 \$7,500 \$938 \$8,438 \$386,716,883	\$7,500 \$7,500 \$938 \$8,438 \$241,856,989	\$7,500 \$7,500 \$938 \$8,438 \$96,724,631	\$7,500 \$7,500 \$938 \$8,438 \$25,248,308 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$25,066,665 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$68,115,938	\$7,500 \$7,500 \$938 \$8,438 \$990,133,268	
M&E INSTA CONSTRUCTION I M&E MEASURED WORK PRELIMINARIES COST PER SF CONSTRUCTION I BUDGET EXTERNAL CONSTRUCTION EXTERNAL EXTERN	12.50% BUDGET WORK COST PER 12.50%	ONS R SQ FT. \$7,500 \$938 \$8,438 \$146,403,855 S R SQ FT. \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$386,716,883 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$241,856,989 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$96,724,631 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$25,248,308 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$25,066,665 \$1,500 \$1,500	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$0 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$68,115,938 \$1,500 \$1,500 \$188	\$7,500 \$7,500 \$938 \$8,438 \$990,133,268 \$1,500 \$1,500 \$1,80	\$15,750,08

10.00%	\$556,334,649	\$1,237,494,024	\$757,818,565	\$293,398,048	ATC FOC 500						
10.00%				3233,330,040	\$76,586,533	\$71,523,551	\$0	\$0	\$195,265,688	\$3,188,421,057	\$25,105,678
10.0070	55,633,465	123,749,402	75,781,856	29,339,805	7,658,653	7,152,355	0	0	19,526,569	318,842,106	\$2,510,568
	611,968,114	1,361,243,426	833,600,421	322,737,853	84,245,186	78,675,906	0	0	214,792,256	3,507,263,163	\$27,616,245
	35,269	29,700	29,081	28,153	28,153	26,483	#DIV/0!	#DIV/0!	26,606	29,887	\$23!
ONETI	DUCTION	ECTIMATE	•								
	RUCTION	ESTIMATE	•								
Г											
										3,507,263,163	\$27,616,245
										100,000,000	\$787,402
										250,000,000	\$1,968,504
15.00%										578,589,474	\$4,555,823
										4,435,852,637	\$34,927,974
	г	ONSTRUCTION	35,269 29,700 ONSTRUCTION ESTIMATE T	35,269 29,700 29,081 ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 ONSTRUCTION ESTIMATE T	35,269 29,700 29,081 28,153 28,153 ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 28,153 26,483 ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 28,153 26,483 #DIV/0! ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 28,153 26,483 #DIV/0! #DIV/0! ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 28,153 26,483 #DIV/0! #DIV/0! 26,606 ONSTRUCTION ESTIMATE	35,269 29,700 29,081 28,153 28,153 26,483 #DIV/0! #DIV/0! 26,606 29,887 ONSTRUCTION ESTIMATE 3,507,263,163 100,000,000 250,000,000 15,00%

OVERALL BUILDING ESTIMATE

\$127.00

CONSTRUCTION BUDGET



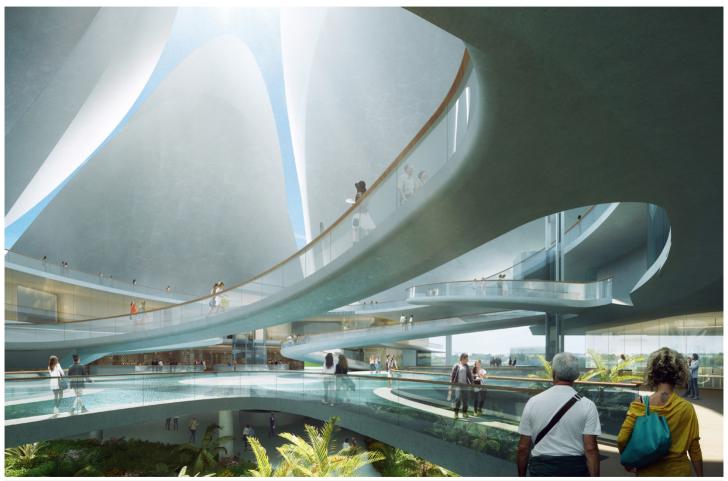
Ceremony of opening



Urban entrance Torrington road



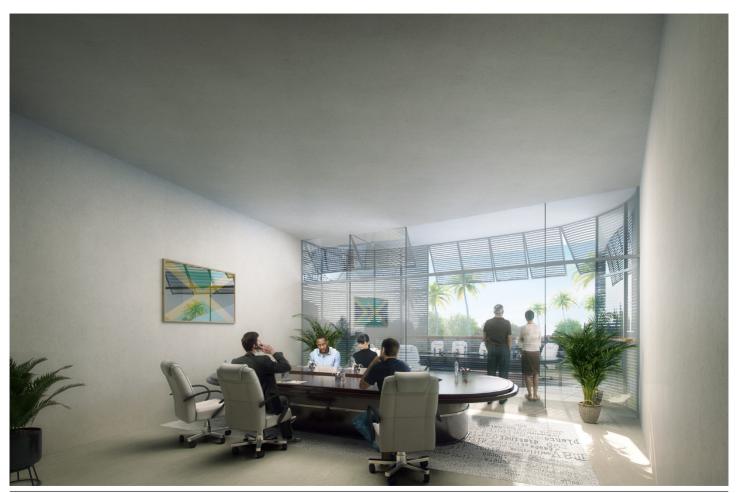
Representatives chamber



Central Lobby



Public Gallery



Typical office

DESIGN TEAM

As the second phase is no longer anonymous, we take the opportunity to present the team members.

The team was formed with the intent of a cultural exchange between Jamaica and Paris.

The National Flower design team is an Jamaican group of design professionals, artists and students in architecture committed to Jamaica. All with Jamaican connections and all sharing the national ambition of a new and modern future for the island.

Stephen Facey, team leader invited architect **Hugh Dutton** with whom he grew up in Jamaica in the 60's and 70's, to collaborate as design leader for the Parliament competition together with artist sister Laura Facey. Hugh who currently has a specialist design studio in Paris, with worldwide experience in iconic climate responsive designs and structures, still considers Jamaica home.

Hugh is committed to bringing his work back to the island, creating a cultural exchange between Paris and Jamaica. Sharing what he has learned with young Jamaicans and to training tomorrow's architects, Hugh quotes his mentor: Sydney Opera House engineer Peter Rice, " We have a duty to pass our experience on to the young".

Patricia Elaine Green, architect specializing in heritage and urbanism, is a teaching professional at the Caribbean School of Architecture. In April 2018, Patricia conducted a workshop for the students of the Jamaican Master of Architecture First Year graduate design with Hugh's studio in Paris. This experience inspired Hugh and Stephen to invite Patricia and some of her students to join the team for the competition.

Jenna Blackwood, landscape architect, also a teaching professional from the Caribbean School of Architecture, completes the team with her extensive professional experience providing the essential landscape design support for the insertion of the Parliament building in the National Heroes Park.

T his international team developed the national flower design with inspiration and creativity responding to the challenging brief of creating an iconic symbol for the government of a new Jamaica in the downtown greenspace.

gaetankohler.com Azhar Khan, Architect azharkportfolio.com Jean Huet Patricia Elaine Green, Architect patricaegreenarchiects.com Jayce Richardson, Architecture student Kelli-Rae K Ashley, Architecture student Leslie Gordon, Architecture student

Stephen B. Facey, Architect - Team leader

Hugh Dutton, Architect - Lead designer

Yingjie Yu, Architect Gaëtan Kohler, Architect

Laura Facey, Artist,

Hanif James, Architecture student Kenrick Basch, Architecture student Jenna Blackwood, Landscape architect

Linkedin.com/in/jenna-blackwood-67467218

panjam.com

laurafacey.com

hda-paris.com