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Existing



Proposed (incl. new signpost installation)



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Wide angle view



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Night view



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# City of Key West Caroline Street Parking Deck Functional Design

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## Parking Deck Schemes

Initial studies to implement a two-bay parking deck with double loaded 90-degree parking and two-way traffic were explored, however the resulting proposed parking deck width would exceed the available width of the existing surface lot. Further studies were conducted to implement parallel parking within one bay, however maneuvering to and from parallel spaces can be challenging especially if they are placed within the ramped bay. Moving forward, the proposed scheme maintains a two-bay parking deck with two-way traffic with considerations for a single loaded 90-degree parking in one bay and the inclusion of compact parking spaces.

The proposed deck consists of two levels, one level of structured parking and one level of grade parking. Multiple parking deck schemes have been studied to determine the most efficient parking layouts considering both regular parking spaces and compact spaces. The settled upon parking deck scheme contains two bays with 90 degree-oriented parking and two-way traffic flow: a single loaded parking bay along the alley (North) and a double loaded parking bay along Caroline Street (South).

Per the City of Key West Land Development Regulations Article VII. Off-Street Parking and Loading, 9'x18' parking spaces and 24' drive aisles are utilized for 90-degree parking. Compact car parking spaces, 7.5'x15' parking spaces, may be incorporated up to 15% of the parking capacity.

A summary of the parking spaces is provided below:

PARKING TABULATION					
	Regular Spaces	Compact Spaces	ADA Spaces	Total Spaces	Net Increase
Existing Lot	88	30	4	122	
Scheme S4	152	24	6	182	60

Vehicular entry/exit access points into the deck are provided at the NE corner along Margaret Street and at the NW corner along the alley. Parking equipment at the vehicular entry/exit access points is not anticipated, allowing free flow of vehicles entering and exiting the deck. Parking payments are anticipated to be managed through pay station kiosks located near the stair towers or through a mobile application.

Vertical circulation between floors is achieved via a single-threaded helix ramp system located in the northern bay along the alley, sloped at 6.67% (12' rise over 180') for vehicle circulation between levels. Vertical pedestrian circulation is achieved via stair towers at the SE and SW corners.





# City of Key West Caroline Street Parking Deck Estimated Cost

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From their database of recently constructed parking deck projects in Florida, Walker Consultants recommends using a unit cost of \$80/SF for budgeting purposes. The chart below provides a summary of the construction cost and the related cost/space.

Additionally, the Owner may elect to include parking revenue control equipment and a parking space count system. The proposed parking payment systems includes the installation of pay station kiosks where patrons “pay on foot” prior to leaving the deck on their way to their destination. Typically, patrons enter a space number or their license plate at the kiosk, determine their length of stay, and provide payment usually via credit card. Additionally, patrons will have an option to provide parking payment through a mobile application.

Two pay stations kiosks are anticipated, placed on the Ground Level near each stair tower. Pay station costs are estimated at \$8,000 per unit, resulting in an estimated total cost of \$16,000.

If the Owner decides to implement a parking space count system, Walker recommends a facility count type of system considering the parking deck contains two levels. The counts would be conducted through the use of floor loops, ultrasonic sensors, or license plate recognition cameras. The “full” notification would be displayed on signage mounted near the vehicular entry/exit access points. A facility count system has an estimated cost of \$60,000.

## ESTIMATED CONSTRUCTION COSTS:

	Total SF	Cost/SF	Approx. Costs	Cost/Space
Scheme S4 building	64,965	\$80.00	\$ 5,197,200	\$ 28,600
Pay & count system			\$ 76,000	\$ 418
TOTAL*			\$ 5,273,200	\$ 29,018

Caroline lot parking spot annual revenue last 12 months: \$13,150/spot

Increased annual income of 60 additional spots:  $\$13,150 \times 60 = \$789,000$

\* Note, this unit cost is for the base structure and excludes façade upgrades, site utility work, signage, soft costs, etc.



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