



# VILLAGE OF KEY BISCAYNE

Office of the Village Manager

## MEMORANDUM

*Village Council*  
Franklin H. Caplan, *Mayor*  
Michael W. Davey, *Vice Mayor*

Theodore J. Holloway  
Michael E. Kelly  
Mayra P. Lindsay  
Ed London  
James S. Taintor

*Village Manager*  
John C. Gilbert

**DATE:** April 8, 2014  
**TO:** Honorable Mayor and Members of the Village Council  
**FROM:** John C. Gilbert, Village Manager  
**RE:** Beach Cleaning, Maintenance and Beautification Services

On January 14, 2014, Council requested the Administration to research different levels of service that would include higher standards.

Our beach engineer, Coastal Systems International, Inc. conducted a comprehensive assessment and provided the attached Beach Level Maintenance Template Specifications of the three (3) different levels of service (Exhibit "A"). The current level of service provided by Universal Beach Services is level three (3) with the beach being cleaned five (5) times a week. If the Council desires to have the beach cleaned every day, the price would have to be increased accordingly. Additional equipment, days of service and extended hours of operation would also be required in order to upgrade to a higher level of service.

In order to upgrade to levels two (2) or one (1), an on-site staging spoil area behind the dunes would have to be identified. The staging site would accommodate the wrack until the material dries off and disintegrates. This usually takes from seven (7) to ten (10) days depending on the quantity and weather.

Should the Council elect not to have an on-site staging spoil area, the material would be hauled and disposed by contractor at a substantial cost. The cost estimate for hauling and disposing the wrack is based on an average of six (6) truck loads per week. To the best of our knowledge, there are no Municipalities in Florida that haul the material from the beach to an upland disposal site because of the nature of the wrack being wet, sandy and the substantial cost.

## Beach Level Maintenance Template Specifications

	Level 1 - Resort Quality Seven (7) days a week	Level 2 - Crandon Park Quality Seven (7) days a week	Level 3 - Key Biscayne Quality Five (5) days a week	Level 4 - Bill Baggs Quality
1	Contractor shall on a daily basis determine the appropriate equipment to optimize organic and non-organic debris removal.	Contractor shall on a daily basis determine the appropriate equipment to optimize organic and non-organic debris removal.	Contractor shall determine the appropriate equipment to optimize organic and non-organic debris removal	No daily beach cleaning efforts. Natural conditions and debris deposition created by prevailing coastal processes shall be acceptable.
2	Contractor shall remove large debris (e.g. trash, rocks, wood, etc.), either manually or mechanically, for disposal at an approved upland disposal site.	Contractor shall on a daily basis remove large debris (e.g. trash, rocks, wood, etc.), either manually or mechanically for disposal at an approved upland disposal site.	Contractor shall on a daily basis (minimum, five days per week) remove large debris (e.g. trash, rocks, wood, etc.), either manually or mechanically for disposal at an approved upland disposal site.	
3	Contractor shall use mechanical equipment (i.e. Kubota 7040-SUD or similar tractor) with trailing rake to remove deposited seaweed and debris by raking the top layer of beach sand (less than 2 inches), for disposal at an approved upland disposal site. Maximum depth of cleaning below existing grade shall be coordinated with environmental permit conditions. Alternative equipment and methods can be utilized by the Contractor to achieve similar results; however the removal of beach sand shall be minimized.	Contractor shall use large mechanical equipment (i.e. Caterpillar 615c or similar elevating scraper/motor grader) to remove deposited seaweed and debris by scraping the top layer of beach sand (less than 2 inches), and temporarily store it in on board hopper for disposal at an approved upland disposal site. Maximum depth of cleaning below existing grade shall be coordinated with environmental permit conditions. Alternative equipment and methods can be utilized by the Contractor to achieve similar results; however the removal of beach sand shall be minimized.	Contractor shall use mechanical equipment (i.e. Kubota 7040-SUD or similar tractor) with front end loader to excavate top layer of seaweed and temporarily place it at an approved storage site for drying.	
4	After seaweed removal, Contractor shall utilize sand sifters (i.e., Cherrington Sand Sifters, or similar) to further clean and separate debris from the cleaned beach upland of the Mean High Water Line. Maximum depth of cleaning below existing grade shall be coordinated with environmental permit conditions.	After completion of seaweed removal with large mechanical equipment, Contractor shall further clean beach with Barber surf rake, or similar equipment to remove remnant seaweed and smaller pieces of debris. Contractor shall make multiple passes using scraper blade to leave a graded, well groomed surface	Contractor shall re-integrate dried seaweed by excavating below Mean High Water Line and burying dried seaweed. Beach grade above excavation shall be consistent with adjacent beach grade. No wet seaweed shall be buried.	
5	Contractor shall rake the cleaned beach to leave a graded, well groomed surface. Equipment shall include a metal pipe to further groom and remove major tire tracks from equipment.	Not applicable	Contractor shall rake the cleaned beach to leave a graded, well groomed surface.	
6	Contractor shall utilize manual methods to remove remaining debris and use hand rakes as necessary to enhance cleaned beach surface.	Not applicable	Not applicable	
7	No non-organic material may remain after beach cleaning effort.	No non-organic material may remain after daily beach cleaning effort	No non-organic material shall remain after daily beach cleaning effort.	
8	No seaweed shall remain exposed on the cleaned beach surface after beach cleaning effort.	Minimal seaweed may remain exposed after daily beach cleaning effort.	Minimal seaweed may remain exposed on the cleaned beach surface after daily beach cleaning effort.	

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9	Color of cleaned beach sand shall be generally consistent with upland dry beach.	Color of cleaned beach sand shall be consistent with upland dry beach	Color of cleaned beach sand may be darker due to re-integration, but shall be generally consistent with upland dry beach.	No daily beach cleaning efforts. Natural conditions and debris deposition created by prevailing coastal processes shall be acceptable.
10	Level of compaction of cleaned beach sand shall be generally consistent with upland dry beach.	Level of compaction of cleaned beach sand shall be consistent with upland dry beach.	Level of compaction of cleaned beach sand shall be generally consistent with upland dry beach.	
11	All daily cleaning efforts shall be coordinated with the turtle monitoring permit holder (Miami-Dade DERM) during turtle nesting season.	All daily cleaning efforts shall be coordinated with the turtle monitoring permit holder (Miami-Dade DERM) during turtle nesting season.	All daily cleaning efforts shall be coordinated with the turtle monitoring permit holder (Miami-Dade DERM) during turtle nesting season.	
12	All operations shall comply with environmental permit conditions for mechanical beach cleaning and the FWC criteria.	All operations shall comply with environmental permit conditions for mechanical beach cleaning and the FWC criteria.	All operations shall comply with environmental permit conditions for mechanical beach cleaning and the FWC criteria.	