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COMMITTEE MEMORANDUM

TO: Members of the Land Use and Sustainability Committee

FROM: Jimmy L. Morales, City Manager

DATE: February 18, 2020

SUBJECT: **DISCUSSION TO REVIEW THE PALM AND HIBISCUS ROAD ELEVATION EXPERIENCE**

BACKGROUND

On January 21, 2020, the Land Use and Sustainability Committee discussed the Palm and Hibiscus project's road elevation experience, and as requested by the City Commission, the discussion also included the Venetian Islands, Lower North Bay Road, Sunset Harbour, and Alton Road projects. Staff was asked to return to the following meeting, and present estimated costs associated with raising the roads.

ANALYSIS

The request by the Committee to identify these costs is complicated by the significant variability in project scope, the degree to which contractors are willing to accept risk, unforeseen conditions, and resident engagement. That said, staff has made certain assumptions regarding roadway assemblies and pre-existing conditions. For example, we have assumed a standard, two-way, 22 feet wide residential road, with 2 feet valley gutters on each side, within a 50 feet right-of-way. We have also assumed that existing conditions are such that there would be no remediation of unsuitable soils or contaminants. Finally, it was assumed that the hypothetical project would require full roadway reconstruction.

Typical roadway assemblies, for residential streets in Miami Beach, consist of a compacted 12 inch layer of suitable fill (sub-grade), a compacted 8 inch layer of limerock base and a 2 inch layer of asphalt pavement. The table and diagrams included in Attachment A represent the estimated incremental costs to raise roadway assemblies. The base cost represents the cost per linear foot of roadway constructed at existing elevations. The subsequent line items reference raising the roads an average amount (12 inches) and an anticipated maximum amount (24 inches). All costs assume the re-use of existing suitable fill, to the extent possible. Due to the aforementioned variability in project scope, staff could not include in the estimated costs certain items such as adjustments to existing non-city owned utility structures or harmonization to private properties. The estimated costs include the tapering of the surface outside the paved areas, at a 4:1 slope. It does not account for additional items which would be difficult to establish without further design analysis for specific conditions. For example, tree relocations, driveway modifications, adjustment of street lights, relocation of fire hydrants, private drainage inlets or other unknown items.

CONCLUSION

While it is difficult to estimate the incremental added cost of road raising with any degree of certainty, the table provided presents staff's best estimate of those costs. Each future project would need to be evaluated more thoroughly, taking into account the specific scope of each project, in order to more accurately determine cost impact.

JLM/ETC/DM

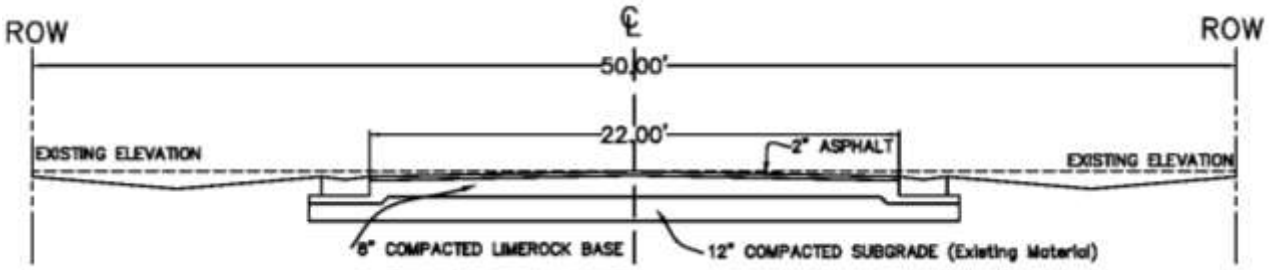
Attachments A: Costs to Raise Roads with Associated Diagrams

ATTACHMENT A

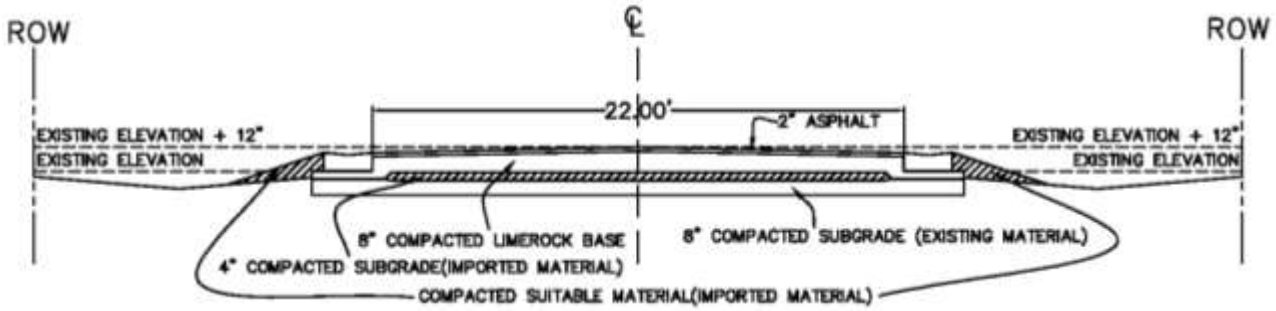
Cost to Raise Roads

22 Feet Wide, Two-Way, Road with 2 feet Valley Gutters

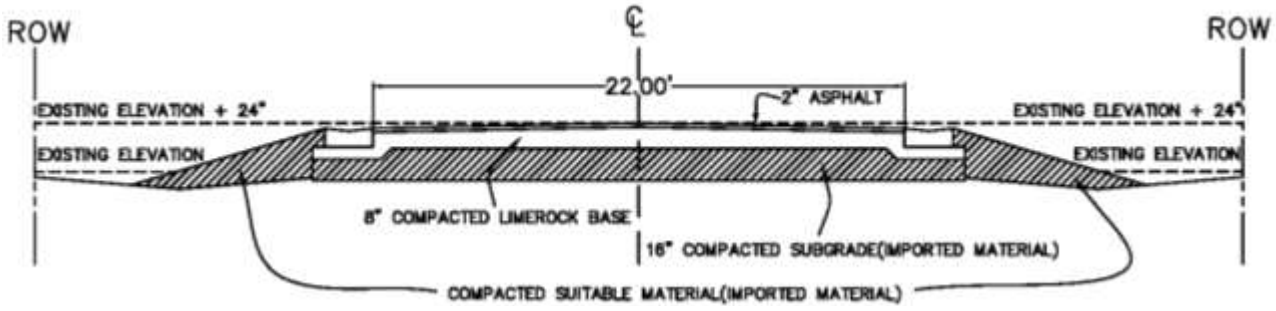
Assembly	Hard Cost	Soft Costs	Total Costs	Cost Increase per Mile of Roadway	Cost to Construct One Mile of Roadway
Base Cost	$210/LF	$74/LF	$284/LF	$0	$1,499,520
Raise 12 inches	$6/LF	$2/LF	$8/LF	$42,240	$1,541,760
Raise 24 inches	$27/LF	$9/LF	$36/LF	$190,080	$1,689,600



Min (Road Construction - Existing Elevation)



Avg (Road Construction - Existing Elevation +12 Inches)



Max (Road Construction - Existing Elevation +24 Inches)

Imported Suitable Fill