

CONSTRUCTION WORK ORDER

Contract Title: **GENERAL UTILITIES SERVICES CONTRACT 2015**

Work Order Title: **Work Order # 1, FEMA Berm Rebuild / South, Simonton & Dog Beaches**

Project # FT19001701

CONTRACT NUMBER: ITB **15-021**

This Work Order is an authorization to proceed with the work described herein under the GENERAL UTILITIES SERVICES CONTRACT 2015 (GUSC) between the City of Key West and Charley Toppino & Sons Inc. (CTS) dated December 7, 2015. All work shall be executed under the provisions of the contract except as adjusted within this work order.

The Scope of Work is described as follows:

Provide all material, labor and equipment to rebuild Fema berms protective on South, Simonton & Dog beaches as shown on attached drawing and in compliance with the attached FDEP Field Permits #-7000208-MO Simonton Beach and Permit # -7000209-MO South Beach. All beaches must receive specified sand. (attached)

CONTRACTOR'S DECLARATION AND UNDERSTANDING

The contractor declares that he has carefully examined the Contract Documents, including this Work Order, that he has personally inspected the potential sites and the overall project area in general, that he has satisfied himself as to the quantities that may be involved, including materials and equipment, and conditions of work that may be involved, including the fact that the description of the quantities of

work and materials, as included herein, is brief and is intended only to indicate that general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this Work Order is made according to the provisions and under the terms of the GENERAL UTILITIES SERVICES CONTRACT 2015 Contract Documents between the City of Key West and Charley Toppino & Sons Inc. dated December 7, 2015 which this Work Order is hereby made a part of.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

The bidder further agrees to begin work as directed by city staff and to complete the construction, in all respects for this work order, within ten (20) working days.

Beach Berm Restoration South Beach

Item Description	Unit	Qty	Unit Price	Total Extended Price
Superintendent	HR	4	\$ 98.00	\$ 392.00
Foreman	HR	16	\$ 80.00	\$ 1,280.00
Operator	HR	16	\$ 60.00	\$ 960.00
Laborer x2	HR	32	\$ 42.00	\$ 1,344.00
Front End Loader	HR	16	\$ 65.00	\$ 1,040.00
Beach Sand	TN	669	\$ 65.00	\$ 43,485.00
			Subtotal	\$ 48,501.00
			Bond	\$ 970.02
Certified As-builts included in Mobilization			Mobilization	\$ 2,425.05
			Total	\$ 51,896.07

Beach Berm Restoration Dog Beach

Item Description	Unit	Qty	Unit Price	Total Extended Price
Superintendent	HR	2	\$ 98.00	\$ 196.00
Foreman	HR	8	\$ 80.00	\$ 640.00
Operator	HR	8	\$ 60.00	\$ 480.00
Laborer x2	HR	16	\$ 42.00	\$ 672.00
Front End Loader	HR	8	\$ 65.00	\$ 520.00
Beach Sand	TN	76	\$ 65.00	\$ 4,940.00
			Subtotal	\$ 7,448.00
			Bond	\$ 148.96
Certified As-builts included in Mobilization			Mobilization	\$ 372.40
			Total	\$ 7,969.36

Beach Berm Restoration Simonton Beach

Item Description	Unit	Qty	Unit Price	Total Extended Price
Superintendent	HR	2	\$ 98.00	\$ 196.00
Foreman	HR	8	\$ 80.00	\$ 640.00
Operator	HR	8	\$ 60.00	\$ 480.00
Laborer x2	HR	16	\$ 42.00	\$ 672.00
Front End Loader	HR	8	\$ 65.00	\$ 520.00
Beach Sand	TN	250	\$ 65.00	\$ 16,250.00
			Subtotal	\$ 18,758.00
			Bond	\$ 375.16
Certified As-builts included in Mobilization			Mobilization	\$ 937.90
			Total	\$ 20,071.06

Work Order Estimate Total: \$79,936.49

UNIT PRICE ITEMS

The contractor further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. The amount shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

Unit prices for items already established in the GENERAL UTILITIES SERVICES CONTRACT 2015 shall be identical to those provided in this Work Order.

Payment for materials and equipment authorized by the ENGINEER in a written Work Order but not listed in the Proposal will be provided at the suppliers' invoice plus shipping plus 25 % for overhead and profit. This work order will be paid from P.O. TBD.

ACCEPTANCE

By signature, the parties each accept the provisions of this work order and it authorizes CTS to proceed at the direction of the City's representative in accordance with the GENERAL UTILITIES SERVICES Contract between the City of Key West and Charley Toppino & Sons Inc. dated December 7, 2015.

Charley Toppino & Sons Inc.

By: _____

Date: _____

City of Key West

By: _____

Date: _____

Beach Fill Material

The Sand will be the following requirements:

Definition of Sand (Material) Mean Grain Size. The design requires the contractor to provide clean, debris-free, rock-free sand of an average mean grain size in the range of 0.35 mm (minimum) to 0.65 mm (maximum). The city also requires the sand source used for the renourishment project to be relatively uniform throughout the project area. The term “mean” in these specifications refers to the measure of the individual grains in each and every sample or load used to nourish the beach, rather than to a comparison of distinct samples or loads. The contractor shall understand that by agreeing to provide a specified mean grain size, he is agreeing to provide material whose various individual grains average the specified grain size, as measured in individual random samples and quantified by the method of calculation (moment method) described in these specifications. The contractor shall understand that this requirement applies to all of the material provided, and that the material shall be considered unacceptable if some of the material features a mean grain size (as calculated by the moment method) which is lower or higher than the specified average grain size range.

Characteristics of Fill Material. In order to provide the greatest stability on the beach as well as the best aesthetics and softness, the contractor must provide sand consisting entirely of the highest quality material. The sand must be rounded or semi-angular in shape and white or nearly white in color. Quarried (not manufactured) sand is the only acceptable material. All material used must meet all requirements of these plans and specifications and permits.

Prior to placement of sand, the contractor shall submit documentation to certify the type and source of material, including an analysis of the sand mean grain size as identified in the specifications (computed by the moment method). The contractor shall also certify that all of the sand to be used will be consistent with the analysis. The contractor shall provide samples of the proposed material from the supplier. No material that is inconsistent with the samples provided may be used. In addition to the mean grain size standard discussed above, the characteristics of acceptable sand are summarized below.

The material must satisfy the following criteria:

1. A mean grain size greater than or equal to 0.35 mm. and less than 0.65 mm.
2. Silt content (passing # 230 sieve) of less than 4%.
3. Ninety-nine percent (99%) of material must pass 3/8 inch sieve when tested and sand shall contain no material larger than 3/4 inch sieve.
4. Moderately to well sorted (0.40ϕ to 1.50ϕ).
5. Free of debris, sharp rocks and pebbles, concrete rubble, and clay.
6. Moisture content less than 5%.
7. Sand color will be similar to, and not darker than, the existing beach.

Calculation of Grain Size. The Mean Grain Size and Phi Standard Deviation (sorting value) shall be determined by Method of Moments Statistics calculated from sieve analysis of the proposed sand source. A Certified Testing Laboratory shall perform

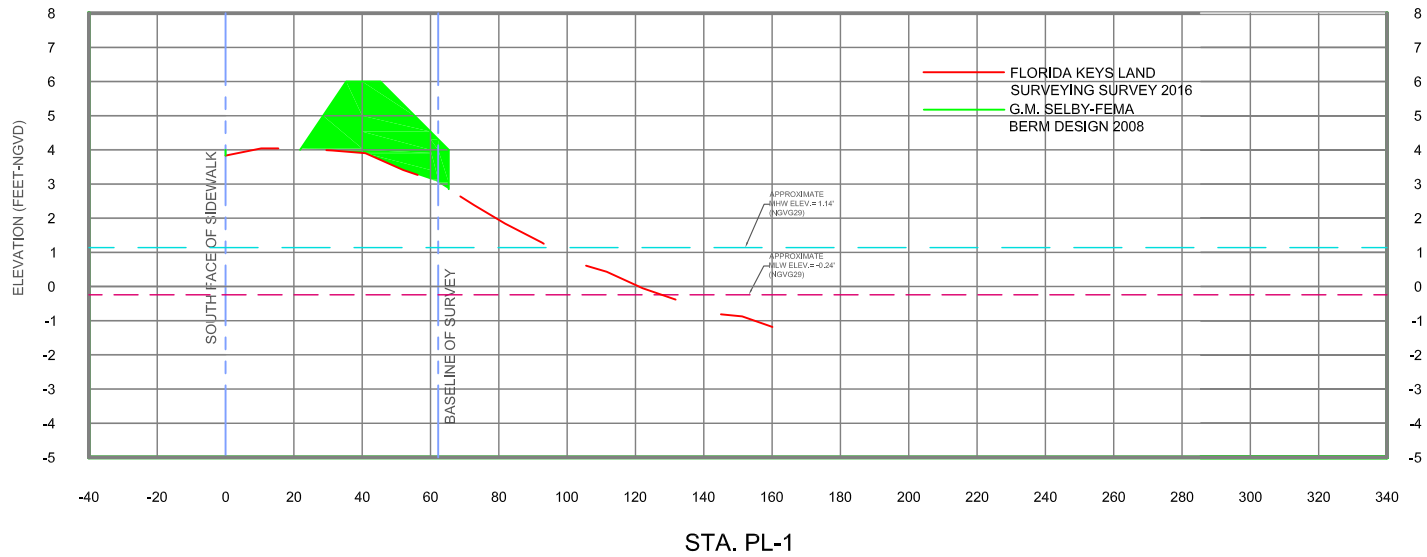
laboratory testing in accordance with ASTM-D422. The mean grain size and phi standard deviation are statistical measures of the textural character of a sample of sand, corresponding to the mean and standard deviation of a statistically normal population (example: sand grain sizes). Laboratory sieving of sand provides the data for calculation of the mean grain size and phi standard deviation. There are several methods of calculating these statistics. For the purposes of this contract, Mean Grain Size and Phi Standard Deviation shall be calculated by the Method of Moments. The method of calculation is included in this section. The Average Mean Grain Size refers to the average of the Mean Grain Size calculated for individual samples sieved in the laboratory.

Grain Size Reporting. The grain size distribution information shall be based upon ASTM-D422, using U.S. Standard sieves of square mesh woven wire cloth separated at 0.5 ϕ intervals (-4.0 ϕ to 4.0 ϕ and also the No. 200 & 230 sieve). All title information shall be filled out with project name, date, sample number, location sample obtained, unified soil classification, percent silt passing the No. 200 sieve (0,074 mm), percent silt passing the No. 230 sieve (0.063mm) and Method of Moments Mean Grain Size and Phi Standard Deviation. Each curve shall state what Mean Grain Size class the sample meets. A tabulation of the laboratory results of the cumulative percent retained on each sieve by weight shall be provided with each gradation curve. Samples from the project site shall be identified with the Acceptance section, and a station and range location.

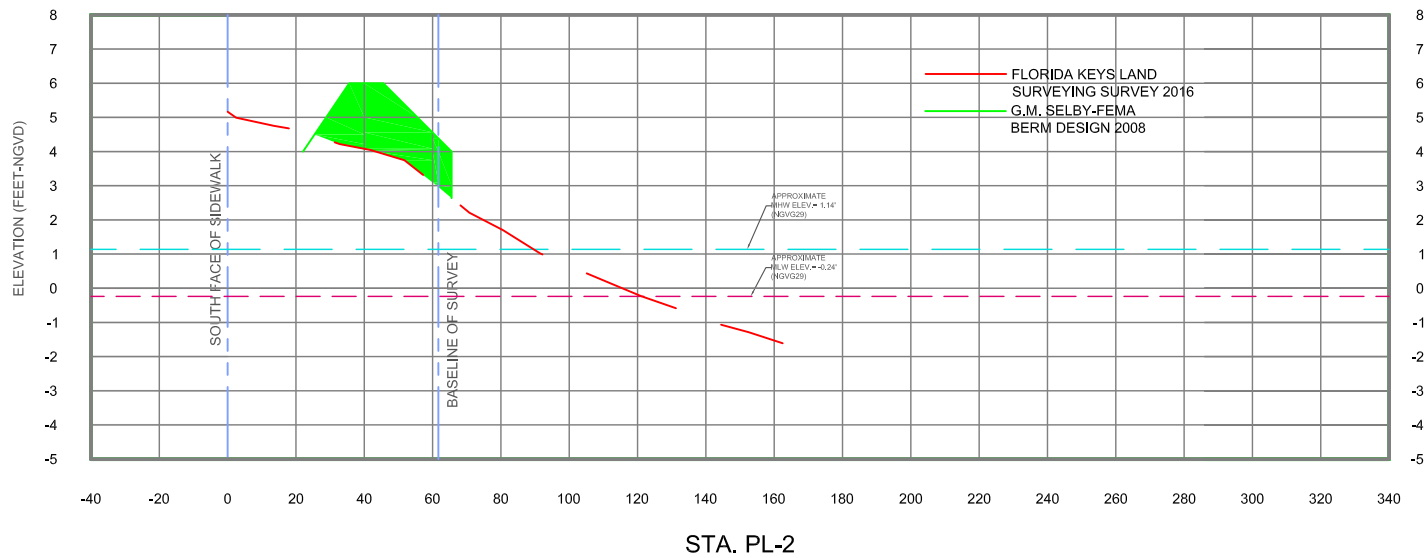
Certified Testing Laboratory. Certified Testing Laboratory refers to a geotechnical testing laboratory qualified under ASTM E329-95c standards and certified by AASHTO (American Association of State Highway and Transportation Officials) National Voluntary Accreditation Program; or MMRL (ASSHTO Material Reference Laboratory) accreditation; and personnel qualified by NICET (National Institute for Certification of Engineering Technicians).

Consistency of Material. The contractor shall obtain from the sand supplier certification that the material is consistent with the criteria. If the supplier moves to another source in the mine or quarry, then the contractor shall obtain a separate certification that the alternative material continues to be in compliance with the criteria. If the engineer believes he or she has noted a change in the sand consistency, the engineer can request certification from the contractor that the sand is consistent with the accepted sample(s). In addition, the contractor shall measure (at his or her expense) grain size (mean and sorting) on a random sample anytime at the request of the engineer. If any individual measurement fails to achieve these criteria, then another random sample from the same load shall be measured in the same manner, and if this fails then the sand and sand source shall be considered unacceptable and not eligible for payment. The contractor shall provide such material that all sand used for the beach nourishment shall be consistent with these specifications. The results of measurements on multiple loads may not be averaged in any manner in order to argue a composite measurement of the sand characteristics consistent with these specifications.

Total PL-1-PL6:
495.15 CY



PL-1:
42.79 CY



PL-2:
94.78 CY



City of Key West

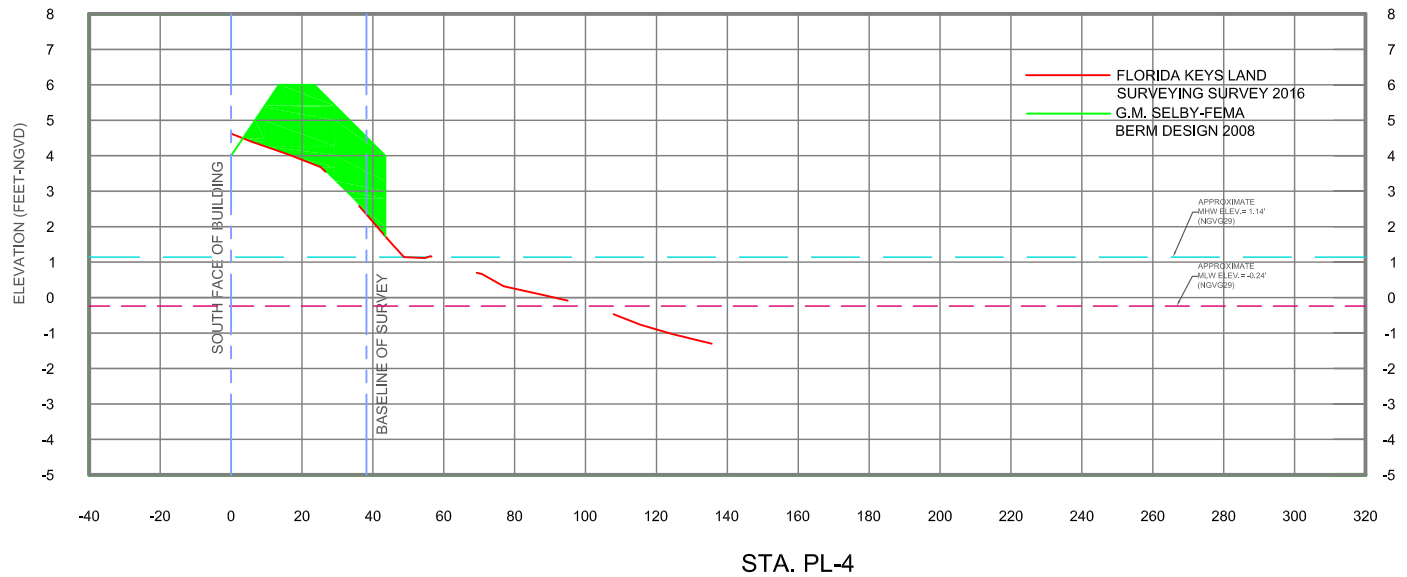
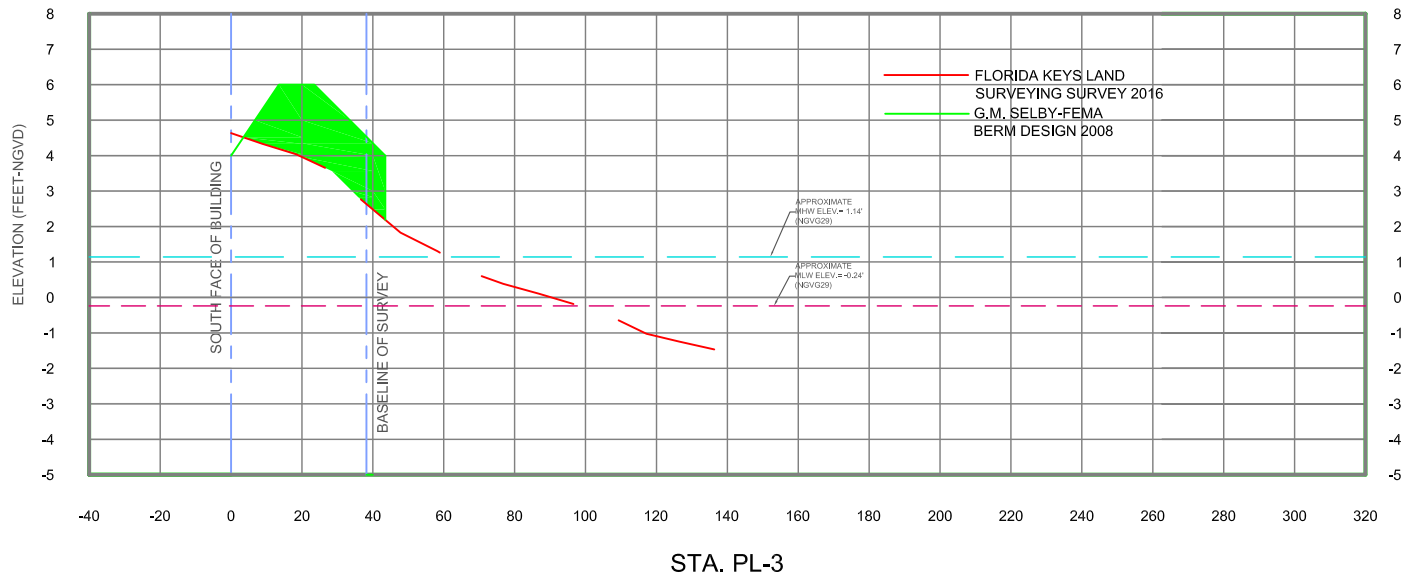
Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-1 & PL-2 South Beach

NOTES:

1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/2016
SHEET	1 of 3



City of Key West

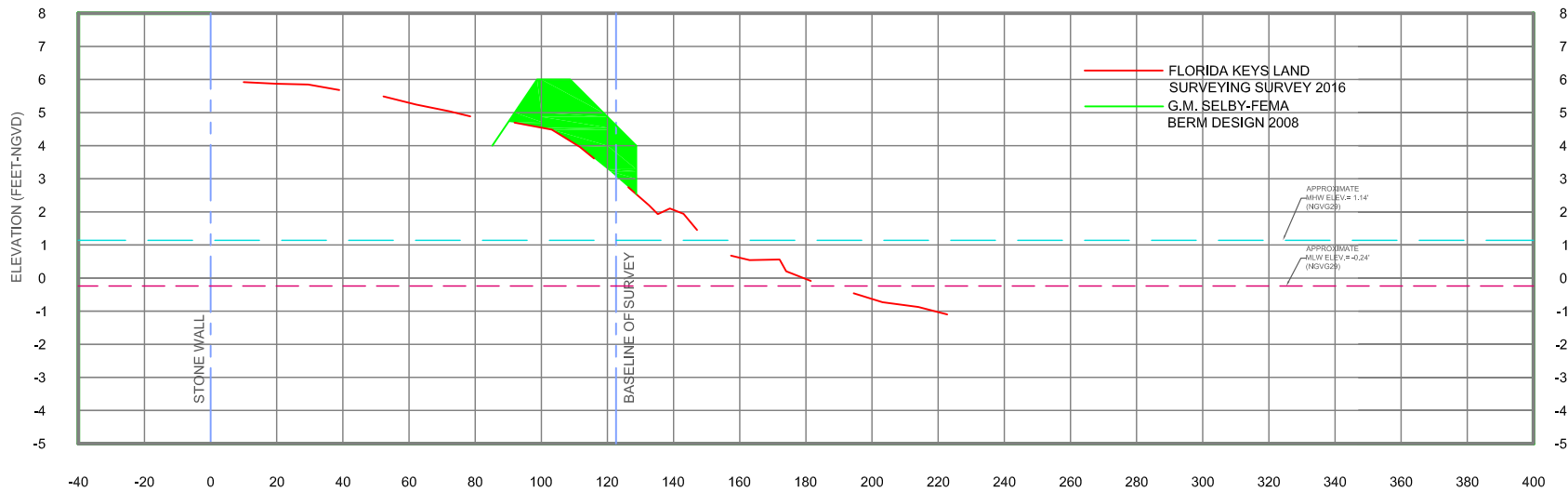
Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-3 & PL-4 South Beach

NOTES:

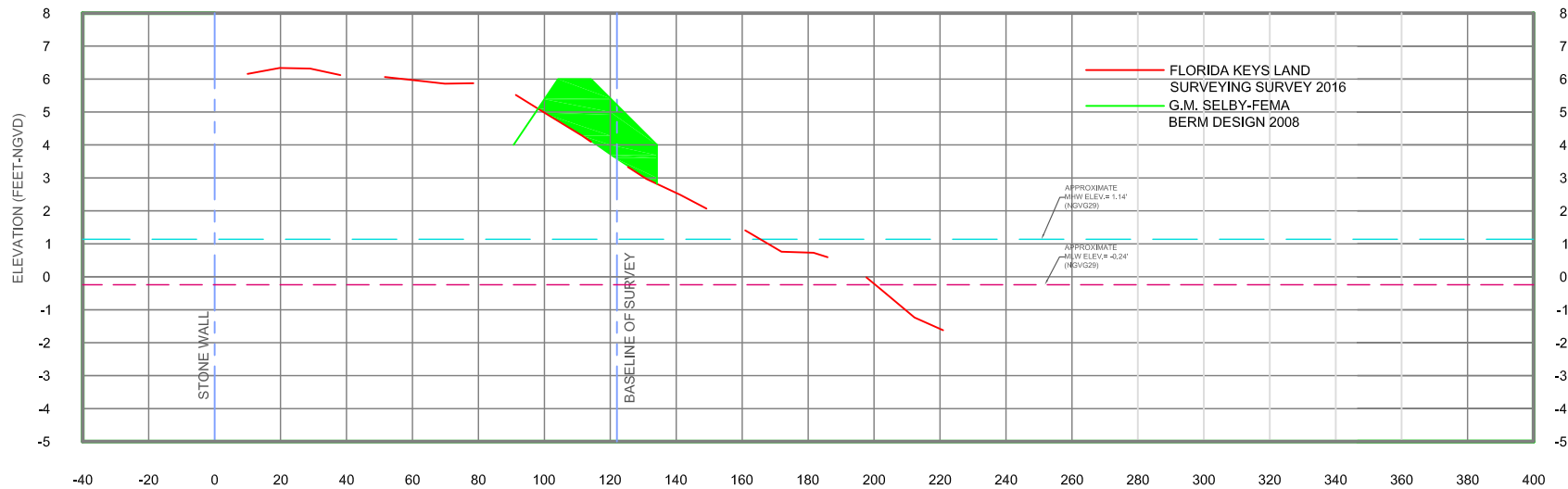
1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/2016
SHEET	2 of 3



STA. PL-5

PL-5:
2 100.88 CY



STA. PL-6

P-6:
2 55.98 CY



City of Key West

Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-5 & PL-6 South Beach

NOTES:

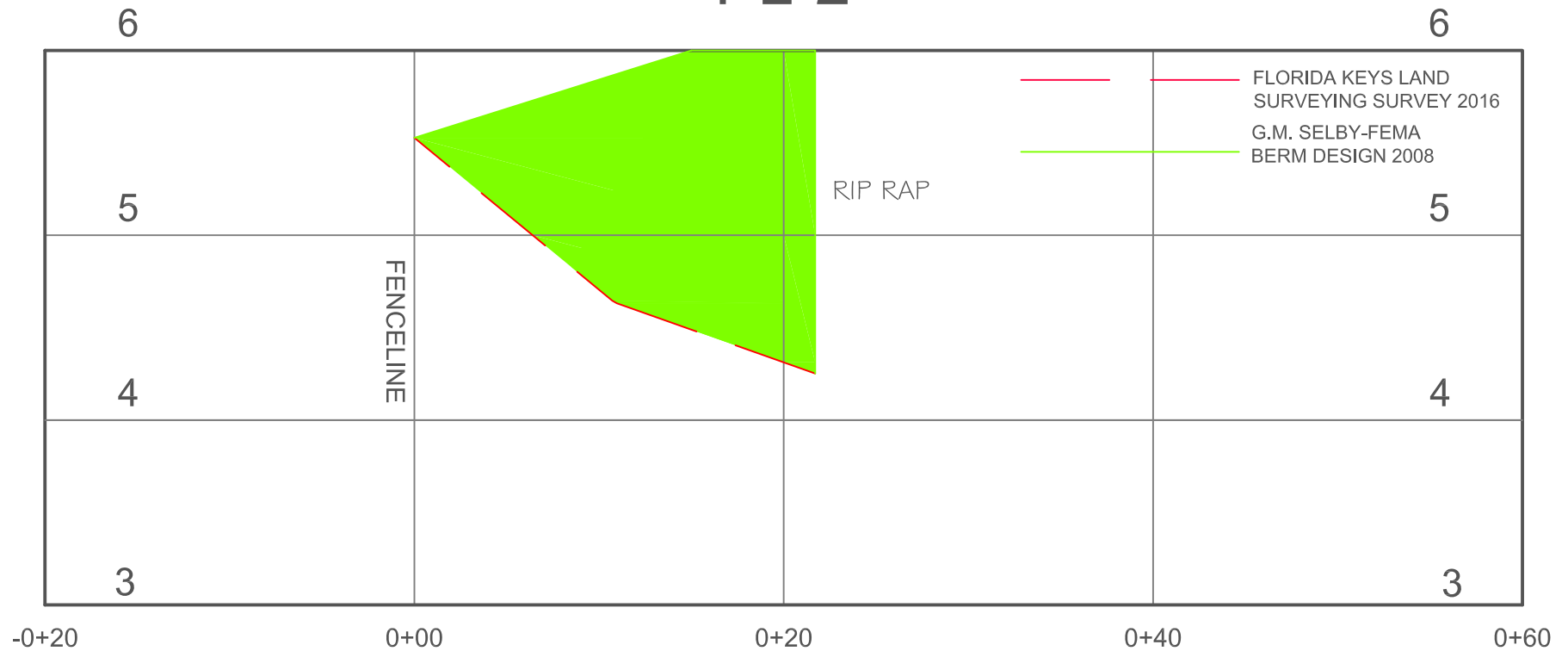
1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/2016
SHEET	3 of 3

Total PL-2-5:
184.74 CY

PL-2:
22.45 CY

PL-2



City of Key West

Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-2 Simonton Beach

NOTES:

1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

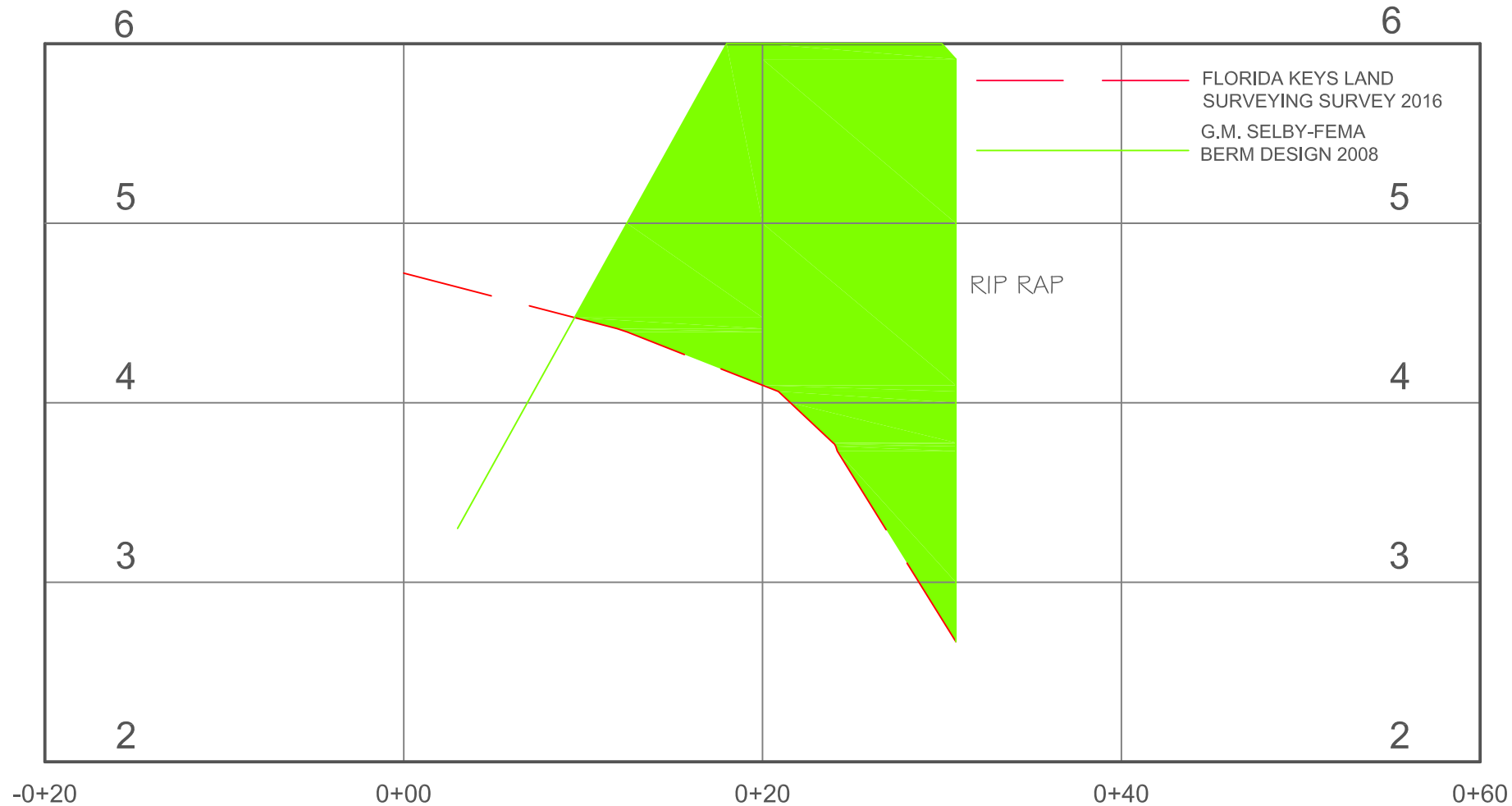
DRAWN THC

SCALE NTS

DATE 06/06/16

SHEET 1 of 4

PL-3:
33.42 CY



PL-3



City of Key West

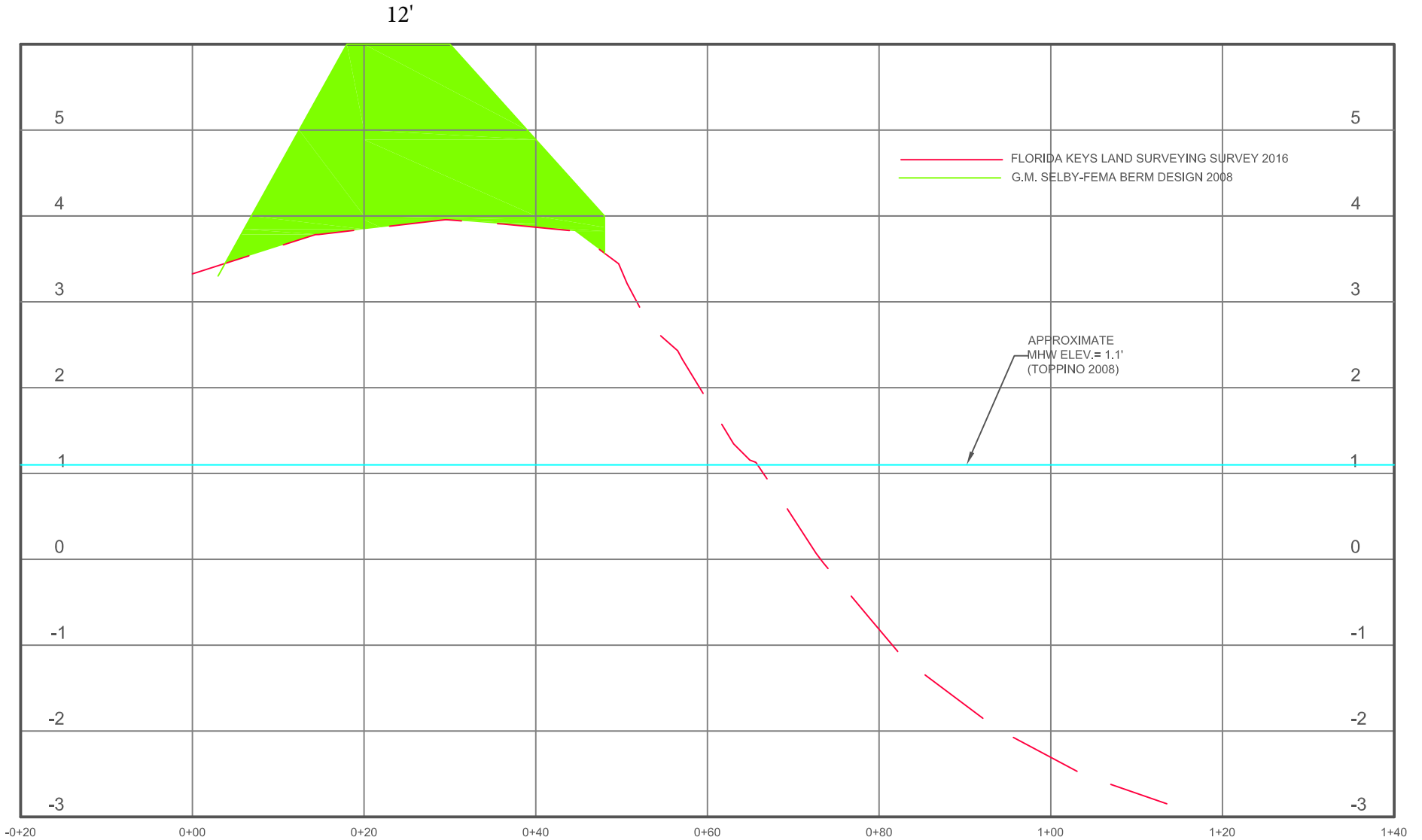
Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-3 Simonton Beach

NOTES:
1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/16
SHEET	2 of 4

PL-4:
59.83 CY



PL-4



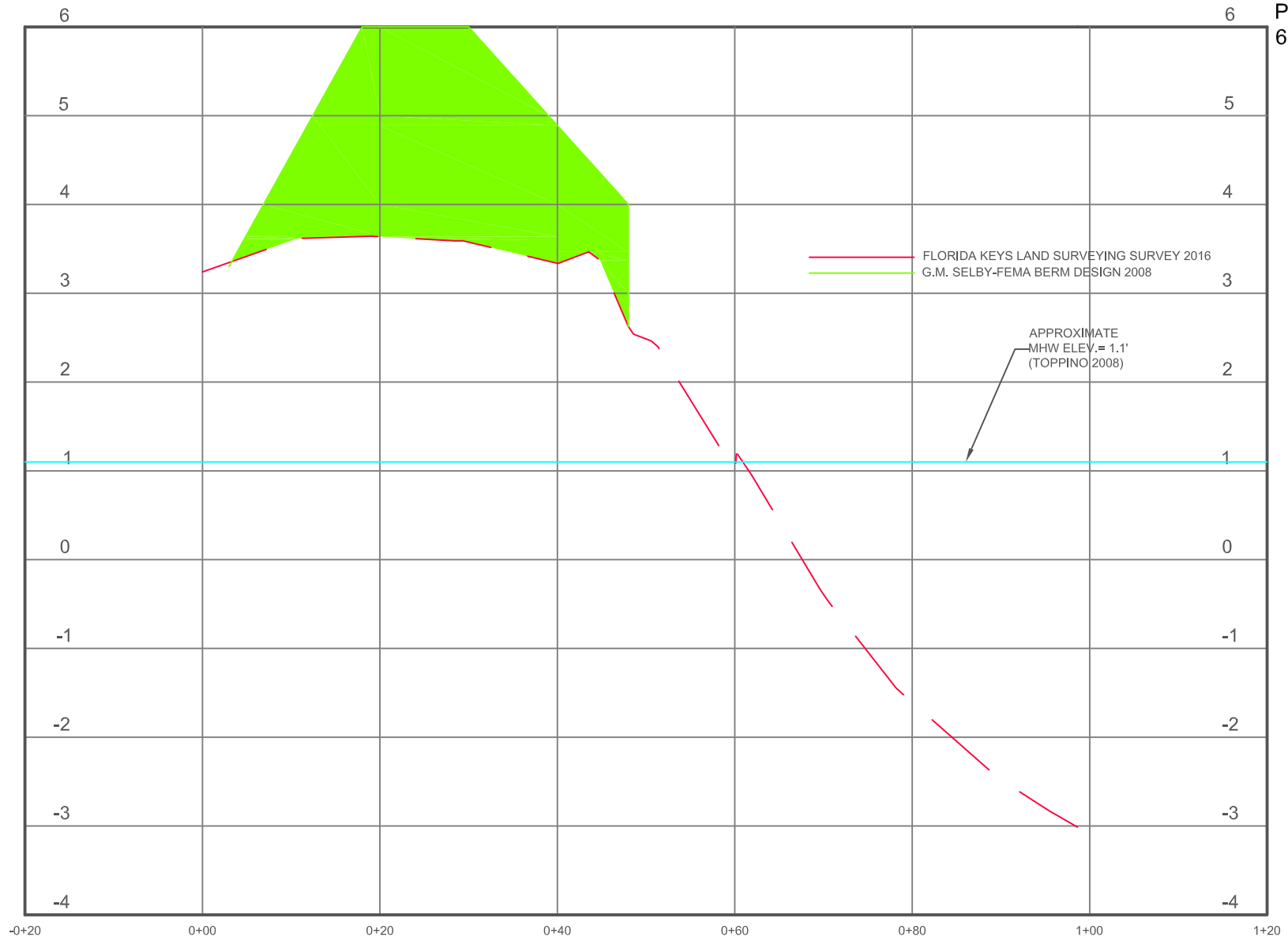
City of Key West

Engineering Services
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PL-4 Simonton Beach

NOTES:
1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/16
SHEET	3 of 4



PL-5:
69.04 CY

PL-5



City of Key West

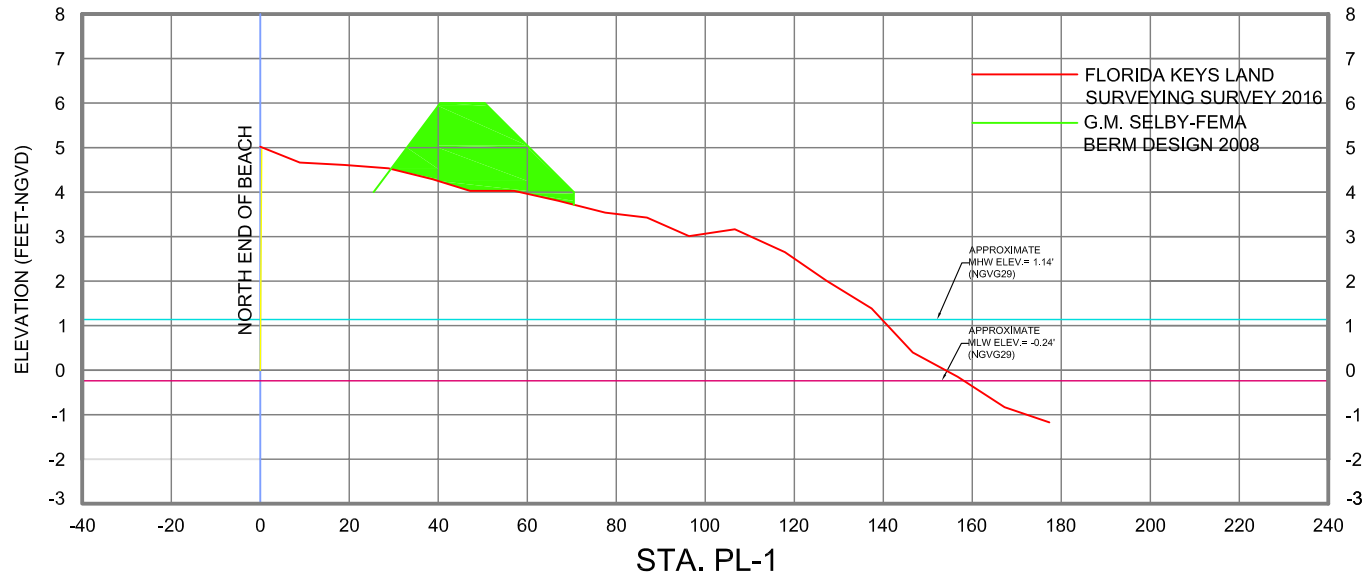
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PL-5 Simonton Beach

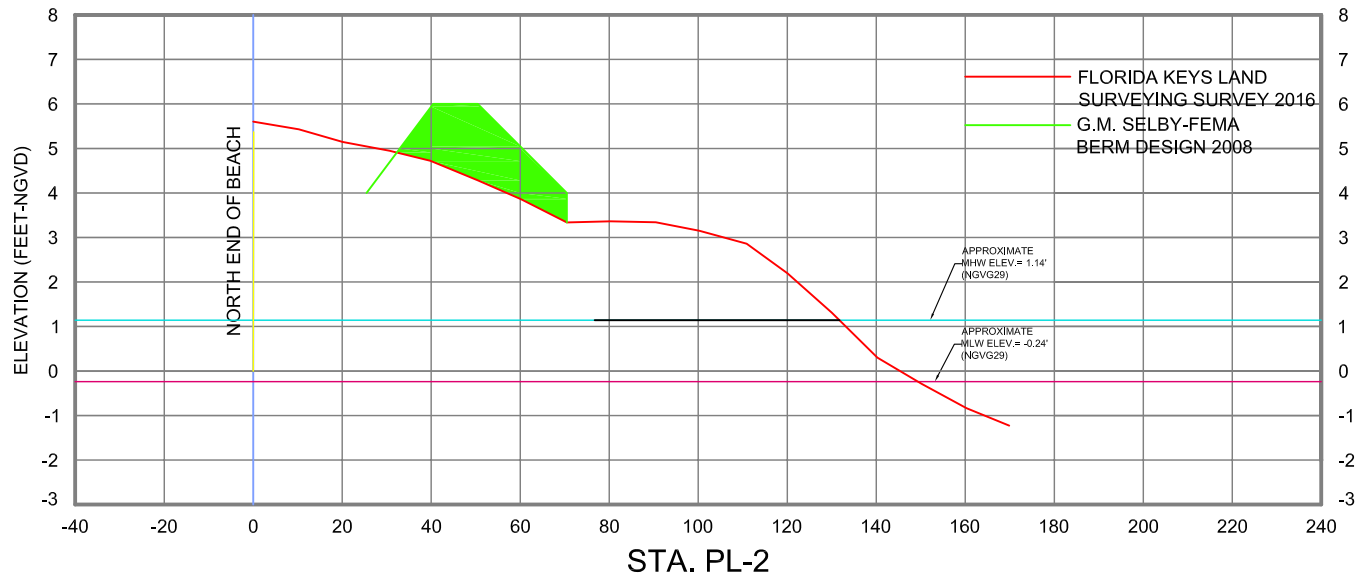
NOTES:
1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/16
SHEET	4 of 4

Total PL-1-PL3:
56.32 CY



PL-1:
16.37 CY



PL-2:
30.36 CY



City of Key West

Engineering Services
3132 Flagler Avenue, Key West, FL 33040

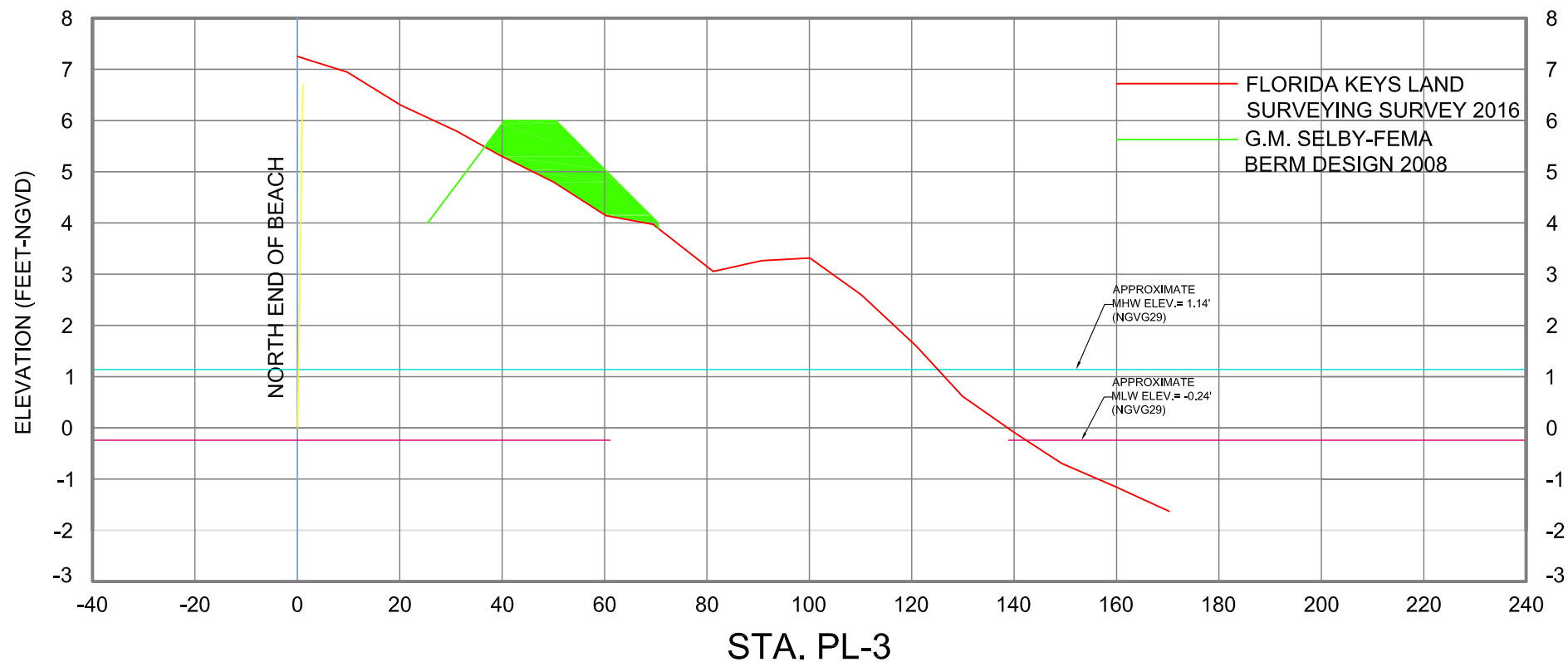
PL-1 & PL-2 Dog Beach

NOTES:

1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/16
SHEET	1 of 2

PL-3:
9.59 CY



City of Key West

Engineering Services
3132 Flagler Avenue, Key West, FL 33040

PL-3 Dog Beach

NOTES:

1.) VOLUMES WERE DETERMINED BY MULTIPLYING THE AREA BETWEEN THE SURVEY AND DESIGN LINES BY THE EXTRAPOLATED LENGTH BETWEEN MIDPOINTS OF EACH PL.

DRAWN	THC
SCALE	NTS
DATE	06/06/16
SHEET	2 of 2