



**HARWICH FD 2**  
149 Route 137  
East Harwich, MA 02646

Prepared by: **Zachary Silvia**  
Date: **November 1, 2017**  
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**Schematic Design (SD) Documents:**

The following items are included in the SD package:

- **Project Cost** – (formatted 8 ½” x 11”)
  - Option 1-3 Opinion of Probable Cost (OPC)
  - Option 3 Schematic Design Estimate w/ alternates listed below
    - Line 14 “Cut & Fill” may be removed after site exploration (-\$62,800)
    - Alternate 1: Provide metal stud in lieu of wood framing (+\$11,000)
    - Alternate 2: SIP Panels in lieu of wood framing (+\$29,000)
    - Alternate 3: Prefabricated Apparatus Bay (-\$142,000)
    - Alternate 4: Rubber tile to VT (-\$8,000)
    - Alternate 5: Rubber tile to VCT (-\$10,900)
    - Alternate 6: Kitchen CT to VT (-\$3,800)
    - Alternate 7: Kitchen CT to VCT (-\$3,100)
    - Alternate 8: CT to VT (-\$8,800)
    - Alternate 9: CT to VCT (-\$9,400)
    - Alternate 10: Full Height CT to Half Height (-\$9,500)
- **Design Narratives** – (formatted 8 ½” x 11”)
  - Site Utility Narrative
  - Structural Narrative
  - Plumbing Narrative
  - Fire Protection Narrative
  - HVAC Narrative
  - Electrical Narrative
  - Technology Narrative
- **Schematic Design Drawings** – (formatted 30” x 42”)
  - Project Cover
  - General Information I
  - General Information II
  - Site Plan
  - Demolition Plan
  - Floor Plan & Finish Schedule
  - Exterior Elevations
  - Furniture/Massing/Roof





# Harwich Fire Station 2 (1)

October 31, 2017

## Schematic Design Opinion of Probable Costs

\* preliminary figures based on \$/sf approximation by estimator. Used to determine order of project magnitude

| Description                                  | Subtotals                    | Total: | Comments                      |
|--|------------------------------|--------|-------------------------------|
| <b>Construction Costs</b>                    |                              |        |                               |
| Building Demolition                          | n/a                          |        |                               |
| Hazmat Abatement                             | \$15,000                     |        | assumed (no report)           |
| Sitework                                     | \$485,030                    |        | assumed (w/o estimate)        |
| Renovation - App. Bay                        | 125 SF 3,304 SF \$413,000    |        |                               |
| Reno - Dayroom/Kitchen/Mech                  | 350 SF 2,217 SF \$775,950    |        |                               |
| New Construction - Dorms                     | 425 SF 2,876 SF \$1,222,300  |        |                               |
| New Construction - App. Bay                  | 400 SF 3,134 SF \$1,253,600  |        |                               |
| <b>Subtotal:</b>                             | <b>11,531 SF \$4,164,880</b> |        |                               |
| Concept Level Estimating Contingency @ 10.0% | \$416,488                    |        |                               |
| <b>Subtotal Direct Construction Costs:</b>   | <b>\$4,581,368</b>           |        |                               |
| General Conditions & Overhead @ 7.50%        | \$343,603                    |        |                               |
| Insurance @ 1.00%                            | \$49,250                     |        |                               |
| Bonds @ 0.65%                                | \$32,332                     |        |                               |
| GC Fee (Profit) @ 3.00%                      | \$150,197                    |        |                               |
| Permit Fee @ 1.50%                           | Waived                       |        |                               |
| Escalation (bid 1st Quarter of 2018) @ 2.25% | \$116,027                    |        |                               |
| <b>Subtotal Construction Cost:</b>           | <b>\$5,272,776</b>           |        |                               |
| <b>Owner's Indirect Costs</b>                |                              |        |                               |
| Temp Relocation                              | \$370,000                    |        | Chatam Trailer Numbers        |
| Land Survey                                  | \$0                          |        | performed by Tos              |
| Geotechnical investigation                   | \$10,000                     |        | Allowance                     |
| Arch.& Eng.Fees (Phase II)                   | \$180,000                    |        | Balance not including phase I |
| <del>Temp Facility Review</del>              | <del>n/a</del>               |        | <del>To be included/</del>    |
| <del>Traffic Engineering-</del>              | <del>n/a</del>               |        | <del>Not required</del>       |
| <del>Communications Equipment Design</del>   | <del>n/a</del>               |        |                               |
| Project Management (4%)                      | n/a                          |        |                               |
| Firematic Equipment                          | \$50,000                     |        | Allowance                     |
| Furniture & Furnishings                      | \$115,310                    |        | \$10/sf                       |
| Communications Equipment                     | \$50,000                     |        | To be determined              |
| Network & Computers                          | \$50,000                     |        | To be determined              |
| Utility Backcharge                           | \$25,000                     |        | Allowance                     |
| Moving                                       | \$10,000                     |        |                               |
| Bid Doc Reproduction / Miscellaneous         | \$5,000                      |        | Assume OnLine Service         |
| Legal/Advertising                            | \$5,000                      |        |                               |
| Material Testing                             | \$25,000                     |        |                               |
| Owner's Contingency (8% of all costs)        | \$493,400                    |        |                               |
| <b>Subtotal Indirect Costs:</b>              | <b>\$1,388,710</b>           |        |                               |
| <b>Total Project Cost:</b>                   | <b>\$6,661,486</b>           |        |                               |



# Harwich Fire Station 2 (2A)

October 31, 2017

## Schematic Design Opinion of Probable Costs

\* preliminary figures based on \$/sf approximation by estimator. Used to determine order of project magnitude

| Description                                  | Subtotals                   | Total: | Comments                      |
|--|-----------------------------|--------|-------------------------------|
| <b>Construction Costs</b>                    |                             |        |                               |
| Building Demolition                          | n/a                         |        |                               |
| Hazmat Abatement                             | \$15,000                    |        | assumed (no report)           |
| Sitework                                     | \$485,030                   |        | assumed (w/o estimate)        |
| Renovation - App. Bay                        | 125 3,304 SF \$413,000      |        |                               |
| Reno - Dayroom/Kitchen/Mech                  | 350 2,217 SF \$775,950      |        |                               |
| New Construction - Dorms                     | 425 1,800 SF \$765,000      |        |                               |
| New Construction - App. Bay                  | 400 SF \$400                |        |                               |
| <b>Subtotal:</b>                             | <b>7,321 SF \$2,454,380</b> |        |                               |
| Concept Level Estimating Contingency @ 10.0% | \$245,438                   |        |                               |
| <b>Subtotal Direct Construction Costs:</b>   | <b>\$2,699,818</b>          |        |                               |
| General Conditions & Overhead @ 8.00%        | \$215,985                   |        |                               |
| Insurance @ 1.00%                            | \$29,158                    |        |                               |
| Bonds @ 0.65%                                | \$19,142                    |        |                               |
| GC Fee (Profit) @ 3.00%                      | \$88,923                    |        |                               |
| Permit Fee @ 1.50%                           | Waived                      |        |                               |
| Escalation (bid 1st Quarter of 2018) @ 2.00% | \$61,061                    |        |                               |
| <b>Subtotal Construction Cost:</b>           | <b>\$3,114,087</b>          |        |                               |
| <b>Owner's Indirect Costs</b>                |                             |        |                               |
| Temp Relocation                              | \$370,000                   |        | Chatam Trailer Numbers        |
| Land Survey                                  | \$0                         |        | performed by Tos              |
| Geotechnical investigation                   | \$10,000                    |        | Allowance                     |
| Arch.& Eng.Fees (Phase II)                   | \$84,240                    |        | Balance not including phase I |
| <del>Temp Facility Review</del>              | <del>n/a</del>              |        | <del>To be included/</del>    |
| <del>Traffic Engineering-</del>              | <del>n/a</del>              |        | <del>Not required</del>       |
| <del>Communications Equipment Design</del>   | <del>n/a</del>              |        |                               |
| Project Management (4%)                      | n/a                         |        |                               |
| Firematic Equipment                          | \$50,000                    |        | Allowance                     |
| Furniture & Furnishings                      | \$73,210                    |        | \$10/sf                       |
| Communications Equipment                     | \$50,000                    |        | To be determined              |
| Network & Computers                          | \$20,000                    |        | To be determined              |
| Utility Backcharge                           | \$25,000                    |        | Allowance                     |
| Moving                                       | \$10,000                    |        | Included in Temp Relo?        |
| Bid Doc Reproduction / Miscellaneous         | \$5,000                     |        | Assume OnLine Service         |
| Legal/Advertising                            | \$5,000                     |        |                               |
| Material Testing                             | \$25,000                    |        |                               |
| Owner's Contingency (8% of all costs)        | \$307,300                   |        |                               |
| <b>Subtotal Indirect Costs:</b>              | <b>\$1,034,750</b>          |        |                               |
| <b>Total Project Cost:</b>                   | <b>\$4,148,837</b>          |        |                               |



# Harwich Fire Station 2 (2B)

October 31, 2017

## Schematic Design Opinion of Probable Costs

\* preliminary figures based on \$/sf approximation by estimator. Used to determine order of project magnitude

| Description                                  | Subtotals          | Total: | Comments                      |
|--|--------------------|--------|-------------------------------|
| <b>Construction Costs</b>                    |                    |        |                               |
| Building Demolition                          | n/a                |        |                               |
| Hazmat Abatement                             | \$15,000           |        | assumed (no report)           |
| Sitework                                     | \$485,030          |        | assumed (w/o estimate)        |
| Renovation - App. Bay 125 3,304 SF           | \$413,000          |        |                               |
| Reno - Dayroom/Kitchen/Mech 350 2,217 SF     | \$775,950          |        |                               |
| New Construction - Dorms 425 0 SF            | \$0                |        |                               |
| New Construction - App. Bay 400 1,800 SF     | \$720,000          |        |                               |
| <b>Subtotal: 7,321 SF</b>                    | <b>\$2,408,980</b> |        |                               |
| Concept Level Estimating Contingency @ 10.0% | \$240,898          |        |                               |
| <b>Subtotal Direct Construction Costs:</b>   | <b>\$2,649,878</b> |        |                               |
| General Conditions & Overhead @ 8.00%        | \$211,990          |        |                               |
| Insurance @ 1.00%                            | \$28,619           |        |                               |
| Bonds @ 0.65%                                | \$18,788           |        |                               |
| GC Fee (Profit) @ 3.00%                      | \$87,278           |        |                               |
| Permit Fee @ 1.50%                           | Waived             |        |                               |
| Escalation (bid 1st Quarter of 2018) @ 2.00% | \$59,931           |        |                               |
| <b>Subtotal Construction Cost:</b>           | <b>\$3,056,484</b> |        |                               |
| <b>Owner's Indirect Costs</b>                |                    |        |                               |
| Temp Relocation                              | \$370,000          |        | Chatam Trailer Numbers        |
| Land Survey                                  | \$0                |        | performed by Tos              |
| Geotechnical investigation                   | \$10,000           |        | Allowance                     |
| Arch.& Eng.Fees (Phase II)                   | \$84,240           |        | Balance not including phase I |
| <del>Temp Facility Review</del>              | <del>n/a</del>     |        | <del>To be included/</del>    |
| <del>Traffic Engineering-</del>              | <del>n/a</del>     |        | <del>Not required</del>       |
| <del>Communications Equipment Design</del>   | <del>n/a</del>     |        |                               |
| Project Management (4%)                      | n/a                |        |                               |
| Firematic Equipment                          | \$50,000           |        | Allowance                     |
| Furniture & Furnishings                      | \$73,210           |        | \$10/sf                       |
| Communications Equipment                     | \$50,000           |        | To be determined              |
| Network & Computers                          | \$20,000           |        | To be determined              |
| Utility Backcharge                           | \$25,000           |        | Allowance                     |
| Moving                                       | \$10,000           |        | Included in Temp Relo?        |
| Bid Doc Reproduction / Miscellaneous         | \$5,000            |        | Assume OnLine Service         |
| Legal/Advertising                            | \$5,000            |        |                               |
| Material Testing                             | \$25,000           |        |                               |
| Owner's Contingency (8% of all costs)        | \$302,700          |        |                               |
| <b>Subtotal Indirect Costs:</b>              | <b>\$1,030,150</b> |        |                               |
| <b>Total Project Cost:</b>                   | <b>\$4,086,634</b> |        |                               |



# Harwich Fire Station 2 (3)

October 31, 2017

## Schematic Design Opinion of Probable Costs

\* preliminary figures based on \$/sf approximation by estimator. Used to determine order of project magnitude

| Description                                  | Subtotals                   | Total | Comments                      |
|--|-----------------------------|-------|-------------------------------|
| <b>Construction Costs</b>                    |                             |       |                               |
| Building Demolition                          | \$46,000                    |       |                               |
| Hazmat Abatement                             | \$15,000                    |       | assumed (no report)           |
| Sitework                                     | \$684,216                   |       |                               |
| New Construction                             | 9,461 SF \$3,360,713        |       |                               |
| <b>Subtotal:</b>                             | <b>9,461 SF \$4,105,929</b> |       |                               |
| Concept Level Estimating Contingency @ 10.0% | \$410,593                   |       |                               |
| <b>Subtotal Direct Construction Costs:</b>   | <b>\$4,516,522</b>          |       |                               |
| General Conditions & Overhead @ 7.50%        | \$338,739                   |       |                               |
| Insurance @ 1.00%                            | \$48,553                    |       |                               |
| Bonds @ 0.65%                                | \$31,875                    |       |                               |
| GC Fee (Profit) @ 3.00%                      | \$148,071                   |       |                               |
| Permit Fee @ 1.50%                           | Waived                      |       |                               |
| Escalation (bid 1st Quarter of 2018) @ 2.25% | \$114,385                   |       |                               |
| <b>Subtotal Construction Cost:</b>           | <b>\$5,198,144</b>          |       |                               |
| <b>Owner's Indirect Costs</b>                |                             |       |                               |
| Temp Relocation                              | \$0                         |       |                               |
| Land Survey                                  | \$0                         |       | performed by Tos              |
| Geotechnical investigation                   | \$10,000                    |       | Allowance                     |
| Arch.& Eng.Fees (Phase II)                   | \$180,000                   |       | Balance not including phase I |
| <del>Temp Facility Review</del>              | <del>n/a</del>              |       | To be included/               |
| <del>Traffic Engineering</del>               | <del>n/a</del>              |       | Not required                  |
| <del>Communications Equipment Design</del>   | <del>n/a</del>              |       |                               |
| Project Management (4%)                      | n/a                         |       |                               |
| Firematic Equipment                          | \$50,000                    |       | Allowance                     |
| Furniture & Furnishings                      | \$94,610                    |       | \$10/sf                       |
| Communications Equipment                     | \$50,000                    |       | To be determined              |
| Network & Computers                          | \$50,000                    |       | To be determined              |
| Utility Backcharge                           | \$25,000                    |       | Allowance                     |
| Moving                                       | \$10,000                    |       | Included in Temp Relo?        |
| Bid Doc Reproduction / Miscellaneous         | \$5,000                     |       | Assume OnLine Service         |
| Legal/Advertising                            | \$5,000                     |       |                               |
| Material Testing                             | \$25,000                    |       |                               |
| Owner's Contingency (6% of all costs)        | \$342,200                   |       |                               |
| <b>Subtotal Indirect Costs:</b>              | <b>\$846,810</b>            |       |                               |
| <b>Total Project Cost:</b>                   | <b>\$6,044,954</b>          |       |                               |

***Harwich Fire Station #2***  
Harwich, MA

October 27, 2017

**Schematic Design Estimate**

**Architect:**

Kaestle Boos Associates, Inc.  
325 Foxborough Boulevard, Suite 100  
Foxborough, MA 02035  
(508) 549-9906

**Cost Estimator:**

Miyakoda Consulting  
PO Box 47  
Raynham, MA  
(617) 799-5832



# **Harwich Fire Station #2**

Harwich, MA

## **Introduction**

### **Basis For The Estimate:**

- 1** The project consists of a new fire station #2 in Harwich, MA.
- 2** Sitework has been included.
- 3** This project will be built in 1 phase.

### **Project Particulars:**

- 1** Estimate is based on drawings received from Kaestle Boos Associates, Inc. October 20, 2017

### **Assumptions:**

- 1** The project will be publicly bid amongst GC builders. This project will be bid with no less than four General Contractos bidding the project.
- 2** Our costs assume that there will be competitive bidding in all trades and sub-trades i.e. at least three bids per trade or sub-
- 3** Unit rates are based on current dollars (prevailing wage rates)
- 4** Design Contingency is an allowance for unforeseen design issues, design detail development and specification clarifications
- 5** General Conditions and Requirements value covers Construction Manager's site office overhead and on-site supervision
- 6** Fee markup is calculated on a percentage of direct construction costs.
- 7** Escalation has been included to Summer 2018.

### **Exclusions within the Estimate:**

- 1** Design fees and other soft costs
- 2** Interest expense
- 3** Owner's project administration
- 4** Construction of temporary facilities
- 5** Printing and advertising
- 6** Specialties, loose furnishings, fixtures and equipment beyond what is noted
- 7** Site or existing condition surveys and investigations
- 8** Hazardous materials survey, report and abatement
- 9** Temporary Quarters

## Harwich Fire Station #2

Harwich, MA

### Main Summary

9,461 GSF

| <u>DESCRIPTION</u>   |        |             | <u>TOTAL</u>       | <u>COST/SF</u>  |
|--|--------|-------------|--------------------|-----------------|
| Hazardous Waste  |        |             | NIC                |                 |
| Building Demolition  |        |             | \$46,000           |                 |
| Fire Station Building Trade Cost                             |        | 9,461 GSF   | \$3,360,713        | \$355.22        |
| Sitework Cost  |        |             | \$684,216          | \$72.32         |
| <b>Trade Cost Subtotal</b>                                   |        |             | <b>\$4,090,929</b> | <b>\$432.40</b> |
| Design Contingency   | 10.00% |             | \$409,093          | \$43.24         |
| <b>Trade Cost Total</b>                                      |        |             | <b>\$4,500,022</b> | <b>\$475.64</b> |
| <b>Mark-ups (on Direct Trade Costs Subtotal)</b>             |        |             |                    |                 |
| General Conditions and Requirements                          | 7.50%  | \$4,500,022 | \$337,502          | \$35.67         |
| Insurance  | 1.00%  | \$4,837,524 | \$48,375           | \$5.11          |
| Bonds  | 0.65%  | \$4,885,899 | \$31,758           | \$3.36          |
| Permit   |        | \$4,917,657 | NIC                |                 |
| Fee  | 3.00%  | \$4,917,657 | \$147,530          | \$15.59         |
| <b>Estimate Construction Cost Subtotal</b>                   |        |             | <b>\$5,065,187</b> | <b>\$535.38</b> |
| Escalation To The Start Of Construction - March 2018         | 2.25%  | \$5,065,187 | \$113,967          | \$12.05         |
| <b>ECC Total, including Escalation</b>                       |        |             | <b>\$5,179,154</b> | <b>\$547.42</b> |
| 1. Alternate 1: Metal Studs In Lieu Of Wood Framing          |        |             | \$11,000           |                 |
| 2. Alternate 2: SIP Panels                                   |        |             | \$29,000           |                 |
| 3. Alternate 3: of Aparatus Bay as a Pre-Fabricated Building |        |             | \$142,000          |                 |
| 4. Alternate 4: Rubber tile to VT                            |        |             | (\$8,000)          |                 |
| 5. Alternate 5: Rubber tile to VT                            |        |             | (\$10,900)         |                 |
| 6. Alternate 6: Kitchen CT to VT                             |        |             | (\$3,800)          |                 |
| 7. Alternate 7: Kitchen CT to VCT                            |        |             | (\$3,100)          |                 |
| 8. Alternate 8: CT to VT                                     |        |             | (\$8,800)          |                 |
| 9. Alternate 9: CT to VCT                                    |        |             | (\$9,400)          |                 |
| 10. Alternate 10: Full Height CT to Half Height              |        |             | (\$9,500)          |                 |

# Harwich Fire Station #2

Harwich, MA

## Fire Station Summary

9,461 GSF

| <u>ELEMENT</u>                                 | <u>TOTAL</u>     | <u>Total/GSF</u> |
|--|------------------|------------------|
| 02 26 00 Hazardous Material Assessment         | NIC              |                  |
| <b>02-EXISTING CONDITIONS</b>                  | <b>\$0</b>       | <b>\$0.00</b>    |
| 03 00 00 Cast-In-Place Concrete                | \$257,451        | \$27.21          |
| <b>03-CONCRETE TOTAL</b>                       | <b>\$257,451</b> | <b>\$27.21</b>   |
| 04 00 00 Masonry                               | \$210,061        | \$22.20          |
| <b>04-MASONRY TOTAL</b>                        | <b>\$210,061</b> | <b>\$22.20</b>   |
| 05 10 00 Structural Steel Framing              | \$119,496        | \$12.63          |
| 05 30 00 Metal Decking                         | \$0              | \$0.00           |
| 05 40 00 Cold Formed Metal Framing             | \$0              | \$0.00           |
| 05 50 00 Metal Fabrications                    | \$23,653         | \$2.50           |
| <b>05-METALS TOTAL</b>                         | <b>\$143,148</b> | <b>\$15.13</b>   |
| 06 10 00 Rough Carpentry                       | \$358,077        | \$37.85          |
| 06 20 00 Finish Carpentry                      | \$90,688         | \$9.59           |
| <b>06-WOOD AND PLASTICS TOTAL</b>              | <b>\$448,765</b> | <b>\$47.43</b>   |
| 07 10 00 Dampproofing and Waterproofing        | \$55,444         | \$5.86           |
| 07 20 00 Insulation                            | \$97,069         | \$10.26          |
| 07 40 00 Roofing and Siding Panels             | \$143,007        | \$15.12          |
| 07 46 00 Siding                                | \$89,069         | \$9.41           |
| 07 80 00 Firestopping & Fireproofing           | \$3,311          | \$0.35           |
| 07 92 00 Joint Sealants                        | \$23,653         | \$2.50           |
| <b>07-THERMAL AND MOISTURE TOTAL</b>           | <b>\$411,552</b> | <b>\$43.50</b>   |
| 08 10 00 Doors & Frames                        | \$29,175         | \$3.08           |
| 08 3 1 00 Access Doors & Panels                | \$2,000          | \$0.21           |
| 08 33 23 Coiling and Overhead Doors            | \$45,000         | \$4.76           |
| 08 41 13 Aluminum Framed Entrances, Storefront | \$21,915         | \$2.32           |
| 08 50 00 Windows                               | \$34,255         | \$3.62           |
| 08 80 00 Glazing                               | \$4,500          | \$0.48           |
| <b>08-DOORS AND WINDOWS TOTAL</b>              | <b>\$136,845</b> | <b>\$14.46</b>   |
| 09 21 00 Plaster and Gypsum Board Assemblies   | \$185,480        | \$19.60          |
| 09 30 00 Tile                                  | \$53,253         | \$5.63           |
| 09 51 00 ACT                                   | \$19,129         | \$2.02           |
| 09 65 00 Resilient Flooring                    | \$35,417         | \$3.74           |
| 09 67 23 Resinous Flooring                     | \$43,920         | \$4.64           |

## Harwich Fire Station #2

Harwich, MA

### Fire Station Summary

9,461 GSF

| <u>ELEMENT</u>                                   |        |             | <u>TOTAL</u>       | <u>Total/GSF</u> |
|--|--------|-------------|--------------------|------------------|
| 09 68 00 Carpeting                               |        |             | \$3,245            | \$0.34           |
| 09 90 00 Painting                                |        |             | \$50,348           | \$5.32           |
| <b>09-FINISHES TOTAL</b>                         |        |             | <b>\$390,791</b>   | <b>\$41.31</b>   |
| 10 00 00 Specialties                             |        |             | \$149,477          | \$15.80          |
| 10 28 13 Toilet Accessories                      |        |             | \$2,775            | \$0.29           |
| <b>10-SPECIALTIES TOTAL</b>                      |        |             | <b>\$152,252</b>   | <b>\$16.09</b>   |
| 11 00 00 Equipment                               |        |             | \$0                | \$0.00           |
| 11 31 00 Residential Appliances                  |        |             | \$25,000           | \$2.64           |
| <b>11-EQUIPMENT TOTAL</b>                        |        |             | <b>\$25,000</b>    | <b>\$2.64</b>    |
| 12 00 00 Furnishings                             |        |             | \$10,220           | \$1.08           |
| 12 20 00 Window Treatments                       |        |             | \$3,920            | \$0.41           |
| <b>12-FURNISHINGS TOTAL</b>                      |        |             | <b>\$14,140</b>    | <b>\$1.49</b>    |
| 14 20 00 Elevators                               |        |             | \$0                | \$0.00           |
| <b>14-CONVEYING DEVICES TOTAL</b>                |        |             | <b>\$0</b>         | <b>\$0.00</b>    |
| 21 00 00 Fire Protection                         |        |             | \$72,747           | \$7.69           |
| 22 00 00 Plumbing                                |        |             | \$170,298          | \$18.00          |
| 23 00 00 HVAC                                    |        |             | \$397,362          | \$42.00          |
| <b>21, 22, 23 - MECHANICAL TOTAL</b>             |        |             | <b>\$640,407</b>   | <b>\$67.69</b>   |
| 26 00 00 Electrical                              |        |             | \$473,050          | \$50.00          |
| <b>26-ELECTRICAL TOTAL</b>                       |        |             | <b>\$473,050</b>   | <b>\$50.00</b>   |
| 31 00 00 Earthwork                               |        |             | \$57,252           | \$6.05           |
| <b>31-EARTHWORK TOTAL</b>                        |        |             | <b>\$57,252</b>    | <b>\$6.05</b>    |
| <b>BUILDING DIRECT COST TOTAL</b>                |        |             | <b>\$3,360,713</b> | <b>\$355.22</b>  |
| Design Contingency                               | 10.00% | \$3,360,713 | \$336,071          | \$35.52          |
| <b>Trade Cost Total</b>                          |        |             | <b>\$3,696,784</b> | <b>\$390.74</b>  |
| <b>Mark-ups (on Direct Trade Costs Subtotal)</b> |        |             |                    |                  |
| General Conditions and Requirements              | 7.50%  | \$3,696,784 | \$277,259          | \$29.31          |
| Insurance  | 1.00%  | \$3,974,043 | \$39,740           | \$4.20           |

## ***Harwich Fire Station #2***

Harwich, MA

### **Fire Station Summary**

9,461 GSF

| <b><u>ELEMENT</u></b>                                |       |             |  | <b><u>TOTAL</u></b> | <b><u>Total/GSF</u></b> |
|--|-------|-------------|--|---------------------|-------------------------|
| Bonds  | 0.65% | \$4,013,784 |  | \$26,090            | \$2.76                  |
| Permit   | 0.00% | \$4,039,873 |  |                     |                         |
| Fee  | 3.00% | \$4,039,873 |  | \$121,196           | \$12.81                 |
| <b>Estimate Construction Cost Subtotal</b>           |       |             |  | <b>\$4,161,069</b>  | <b>\$439.81</b>         |
| Escalation To The Start Of Construction - March 2018 | 2.25% | \$4,161,069 |  | \$93,624            | \$9.90                  |
| <b>ECC Total, including Escalation</b>               |       |             |  | <b>\$4,254,693</b>  | <b>\$449.71</b>         |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                             | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u> |
|--|-----------------|-------------|-------------|--------------|
| 10 <b><u>02-EXISTING CONDITIONS</u></b>                |                 |             |             |              |
| 11   |                 |             |             |              |
| 12 <b>02 26 00 Hazardous Material Assessment</b>       |                 |             |             |              |
| 13 Hazmat  |                 |             |             | NIC          |
| 14 <b>02 26 00 Hazardous Material Assessment Total</b> |                 |             |             | NIC          |
| 15   |                 |             |             |              |
| 16   |                 |             |             |              |
| 17 <b><u>03-CONCRETE</u></b>                           |                 |             |             |              |
| 18   |                 |             |             |              |
| 19 <b>03 00 00 Cast-In-Place Concrete</b>              |                 |             |             |              |
| 20 <u>Footings</u>                                     |                 |             |             |              |
| 21 Continuous footings                                 | 455             | lf          |             |              |
| 22 Concrete; material                                  | 80              | CY          | \$120.00    | \$9,548      |
| 23 Concrete; place                                     | 80              | CY          | \$85.00     | \$6,763      |
| 24 Reinforcement                                       | 5,172           | LB          | \$1.15      | \$5,947      |
| 25 Keyways   | 455             | LF          | \$2.00      | \$909        |
| 26 Formwork  | 909             | SF          | \$8.00      | \$7,274      |
| 27   |                 |             |             |              |
| 28 <u>Spread footings</u>                              | 15              | ea          |             |              |
| 29 Concrete; material                                  | 75              | CY          | \$120.00    | \$8,960      |
| 30 Concrete; place                                     | 75              | CY          | \$85.00     | \$6,347      |
| 31 Reinforcement                                       | 5,600           | LB          | \$1.15      | \$6,440      |
| 32 Formwork  | 1,008           | SF          | \$8.00      | \$8,064      |
| 33   |                 |             |             |              |
| 34 <u>Foundations Walls</u>                            |                 |             |             |              |
| 35 Foundation walls                                    | 455             | lf          |             |              |
| 36 Concrete; material                                  | 101             | CY          | \$120.00    | \$12,120     |
| 37 Concrete; place                                     | 101             | CY          | \$85.00     | \$8,585      |
| 38 Reinforcement                                       | 15,150          | LB          | \$1.15      | \$17,423     |
| 39 Formwork  | 3,637           | SF          | \$12.00     | \$43,646     |
| 40   |                 |             |             |              |
| 41 <u>Slab on Grade; 4" thick @ Fire Dpt</u>           | 5,783           | sf          |             |              |
| 42 Concrete; material                                  | 74              | CY          | \$125.00    | \$9,277      |
| 43 Concrete; place & finish                            | 5,783           | SF          | \$2.50      | \$14,458     |
| 44 WWF   | 5,783           | SF          | \$0.50      | \$2,892      |
| 45   |                 |             |             |              |
| 46 <u>Slab on Grade; 8" thick @ Apparatus Bay</u>      | 3,678           | sf          |             |              |
| 47 Concrete; material                                  | 96              | CY          | \$125.00    | \$11,979     |
| 48 Concrete; place & finish                            | 96              | SF          | \$2.50      | \$240        |
| 49 2 Layer WWF   | 3,678           | SF          | \$0.85      | \$3,126      |
| 50 Additional concrete at thickened slab               | 78              | CY          | \$125.00    | \$9,791      |
| 51 Additional reinforcement at apparatus bay           | 3,678           | SF          | \$0.50      | \$1,839      |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                            | <u>Quantity</u>    | <u>Unit</u> | <u>Rate</u> | <u>Total</u>     |
|---|--------------------|-------------|-------------|------------------|
| 52 Frame/forming for 2nd layer                        | 4,046              | SF          | \$3.50      | \$14,160         |
| 53 Moisture vapor control; barrier 1 @ occupied areas | 170                | CY          | \$60.00     | \$10,203         |
| 54  |                    |             |             |                  |
| 55 <u>Miscellaneous</u>                               |                    |             |             |                  |
| 56 Allow for equipment pads                           | 1                  | LS          | \$5,000.00  | \$5,000          |
| 57 Vapor barrier under slab                           | 9,461              | SF          | \$1.00      | \$9,461          |
| 58 Rigid insulation under slab on grade               | 9,461              | SF          | \$2.50 NIC  |                  |
| 59 Rigid insulation under apparatus bay               | 3,678              | SF          | \$2.50 NIC  |                  |
| 60 Concrete accessories                               | 1                  | LS          | \$23,000.00 | \$23,000         |
| 61 <b>03 00 00 Cast-In-Place Concrete Total</b>       |                    |             |             | <b>\$257,451</b> |
| 62  |                    |             |             |                  |
| 63  |                    |             |             |                  |
| 64 Exterior closure total                             |                    |             |             |                  |
| 65  | Brick veneer       | 1,566       | sf          |                  |
| 66  | Fiber Cement       | 5,332       | sf          |                  |
| 67  | Curtainwall system | 157         | sf          |                  |
| 68  | Punch windows      | 403         | sf          |                  |
| 69  | total              | 7,458       | sf          |                  |
| 70  |                    |             |             |                  |
| 71  |                    |             |             |                  |
| 72 <b><u>04-MASONRY</u></b>                           |                    |             |             |                  |
| 73  |                    |             |             |                  |
| 74 <b>04 00 00 Masonry</b>                            |                    |             |             |                  |
| 75 Exterior façade:                                   |                    |             |             |                  |
| 76 Brick veneer                                       | 1,566              | SF          | \$32.00     | \$50,125         |
| 77 Interior CMU walls                                 | 3,225              | SF          | \$20.00     | \$64,500         |
| 78 CMU backup system                                  | 4,338              | SF          | \$22.00     | \$95,436         |
| 79 <b>04 00 00 Masonry Total</b>                      |                    |             |             | <b>\$210,061</b> |
| 80  |                    |             |             |                  |
| 81  |                    |             |             |                  |
| 82 <b><u>05-METALS</u></b>                            |                    |             |             |                  |
| 83  |                    |             |             |                  |
| 84 <b>05 10 00 Structural Steel Framing</b>           |                    |             |             |                  |
| 85 WF structural steel                                | 24                 | TNS         | \$4,500.00  | \$106,436        |
| 86 Base plates  | 15                 | EA          | \$75.00     | \$1,125          |
| 87 Relieving angle along perimeter each floor         | 477                | LF          | \$25.00     | \$11,935         |
| 88 <b>05 10 00 Structural Steel Framing Total</b>     |                    |             |             | <b>\$119,496</b> |
| 89  |                    |             |             |                  |
| 90 <b>05 30 00 Metal Decking</b>                      |                    |             |             |                  |
| 91 No work in this section                            |                    |             |             |                  |
| 92 <b>05 30 00 Metal Decking Total</b>                |                    |             |             | <b>\$0</b>       |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                               | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u>    |
|--|-----------------|-------------|-------------|-----------------|
| 93   |                 |             |             |                 |
| 94 <b>05 40 00 Cold Formed Metal Framing</b>             |                 |             |             |                 |
| 95 No work in this section                               |                 |             |             |                 |
| 96 <b>05 40 00 Cold Formed Metal Framing Total</b>       |                 |             |             | <hr/> \$0       |
| 97   |                 |             |             |                 |
| 98 <b>05 50 00 Metal Fabrications</b>                    |                 |             |             |                 |
| 99 Miscellaneous metals; TBD                             | 9,461           | GSF         | \$2.50      | \$23,653        |
| 100 <b>05 50 00 Metal Fabrications Total</b>             |                 |             |             | <hr/> \$23,653  |
| 101  |                 |             |             |                 |
| 102  |                 |             |             |                 |
| 103 <b><u>06-WOOD AND PLASTICS</u></b>                   |                 |             |             |                 |
| 104  |                 |             |             |                 |
| 105 <b>06 10 00 Rough Carpentry</b>                      |                 |             |             |                 |
| 106 Install doors and frames                             | 21              | EA          | \$150.00    | \$3,150         |
| 107 3/4" Plywood to roof                                 | 11,637          | SF          | \$4.00      | \$46,548        |
| 108 Wood studs and plywood                               | 7,458           | SF          | \$9.00      | \$67,123        |
| 109 Framing system                                       | 9,461           | SF          | \$23.50     | \$222,334       |
| 110 Rough carpentry / blocking                           | 9,461           | SF          | \$2.00      | \$18,922        |
| 111 <b>06 10 00 Rough Carpentry Total</b>                |                 |             |             | <hr/> \$358,077 |
| 112  |                 |             |             |                 |
| 113 <b>06 20 00 Finish Carpentry</b>                     |                 |             |             |                 |
| 114 Kitchen/dining casework                              | 1               | LS          | \$15,000.00 | \$15,000        |
| 115 Miscellaneous standing and running trim              | 9,461           | SF          | \$8.00      | \$75,688        |
| 116 <b>06 20 00 Finish Carpentry Total</b>               |                 |             |             | <hr/> \$90,688  |
| 117  |                 |             |             |                 |
| 118  |                 |             |             |                 |
| 119 <b><u>07-THERMAL AND MOISTURE</u></b>                |                 |             |             |                 |
| 120  |                 |             |             |                 |
| 121 <b>07 10 00 Dampproofing and Waterproofing</b>       |                 |             |             |                 |
| 122 Air/vapor barrier behind exterior siding             | 7,301           | SF          | \$6.00      | \$43,807        |
| 123 Air/vapor barrier at roof                            | 11,637          | SF          | \$1.00      | \$11,637        |
| 124 Vapor barrier under slab                             |                 |             |             | In 03           |
| 125 <b>07 10 00 Dampproofing and Waterproofing Total</b> |                 |             |             | <hr/> \$55,444  |
| 126  |                 |             |             |                 |
| 127 <b>07 20 00 Insulation</b>                           |                 |             |             |                 |
| 128 Rigid insulation under slab on grade                 |                 |             |             | In 03           |
| 129 Insulation to foundation walls                       | 1,819           | SF          | \$2.50      | \$4,547         |
| 130 Cell spray foam to roof                              | 11,637          | SF          | \$4.50      | \$52,367        |
| 131 Spray foam insulation                                | 7,301           | SF          | \$5.50      | \$40,156        |
| 132 <b>07 20 00 Insulation Total</b>                     |                 |             |             | <hr/> \$97,069  |
| 133  |                 |             |             |                 |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                                | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u>     |
|---|-----------------|-------------|-------------|------------------|
| 134 <b>07 40 00 Roofing and Siding Panels</b>             |                 |             |             |                  |
| 135 Asphalt shingle roofing                               | 11,637          | SF          | \$11.00     | \$128,007        |
| 136 Allow for roof accessories                            | 1               | LS          | \$15,000.00 | \$15,000         |
| 137 <b>07 40 00 Roofing and Siding Panels Total</b>       |                 |             |             | <b>\$143,007</b> |
| 138   |                 |             |             |                  |
| 139 <b>07 46 00 Siding</b>                                |                 |             |             |                  |
| 140 Fiber Cement  | 5,332           | SF          | \$15.00     | \$79,976         |
| 141 PVC trim  | 758             | LF          | \$12.00     | \$9,093          |
| 142 <b>07 46 00 Siding Total</b>                          |                 |             |             | <b>\$89,069</b>  |
| 143   |                 |             |             |                  |
| 144 <b>07 80 00 Firestopping &amp; Fireproofing</b>       |                 |             |             |                  |
| 145 Fire proof steel and deck                             |                 |             |             | NIC              |
| 146 Through floor penetration firestopping                | 9,461           | SF          | \$0.35      | \$3,311          |
| 147 <b>07 80 00 Firestopping &amp; Fireproofing Total</b> |                 |             |             | <b>\$3,311</b>   |
| 148   |                 |             |             |                  |
| 149 <b>07 92 00 Joint Sealants</b>                        |                 |             |             |                  |
| 150 Caulking and sealants                                 | 9,461           | SF          | \$2.50      | \$23,653         |
| 151 <b>07 92 00 Joint Sealants Total</b>                  |                 |             |             | <b>\$23,653</b>  |
| 152   |                 |             |             |                  |
| 153   |                 |             |             |                  |
| 154 <b><u>08-DOORS AND WINDOWS</u></b>                    |                 |             |             |                  |
| 155   |                 |             |             |                  |
| 156 <b>08 10 00 Doors &amp; Frames</b>                    |                 |             |             |                  |
| 157 Interior Doors  |                 |             |             |                  |
| 158 3' x 7' Interior doors                                | 21              | EA          | \$300.00    | \$6,300          |
| 159 Frames  |                 |             |             |                  |
| 160 3' x 7' Interior door frame                           | 21              | EA          | \$225.00    | \$4,725          |
| 161 Exterior Doors  |                 |             |             |                  |
| 162 Exterior egress door & frame                          | 3               | EA          | \$1,500.00  | \$4,500          |
| 163 Hardware  |                 |             |             |                  |
| 164 Hardware sets   | 21              | EA          | \$650.00    | \$13,650         |
| 165 <b>08 10 00 Doors &amp; Frames Total</b>              |                 |             |             | <b>\$29,175</b>  |
| 166   |                 |             |             |                  |
| 167 <b>08 3 1 00 Access Doors &amp; Panels</b>            |                 |             |             |                  |
| 168 Allow for access doors                                | 1               | AL          | \$2,000.00  | \$2,000          |
| 169 <b>08 3 1 00 Access Doors &amp; Panels Total</b>      |                 |             |             | <b>\$2,000</b>   |
| 170   |                 |             |             |                  |
| 171 <b>08 33 23 Coiling and Overhead Doors</b>            |                 |             |             |                  |
| 172 Overhead doors - Apparatus bay                        | 6               | EA          | \$7,500.00  | \$45,000         |
| 173 <b>08 33 23 Coiling and Overhead Doors Total</b>      |                 |             |             | <b>\$45,000</b>  |
| 174   |                 |             |             |                  |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>   | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u>     |
|--|-----------------|-------------|-------------|------------------|
| <b>175 08 41 13 Aluminum Framed Entrances, Storefront</b>                    |                 |             |             |                  |
| <b>176</b> Storefront  | 157             | SF          | \$95.00     | \$14,915         |
| <b>177</b> Exterior doors  | 1               | EA          | \$3,500.00  | \$3,500          |
| <b>178</b> Vestibule doors   | 1               | EA          | \$3,500.00  | \$3,500          |
| <b>179 08 41 13 Aluminum Framed Entrances, StorefrontTotal</b>               |                 |             |             | <b>\$21,915</b>  |
| <b>180</b>   |                 |             |             |                  |
| <b>181 08 50 00 Windows</b>  |                 |             |             |                  |
| <b>182</b> Windows   | 360             | SF          | \$85.00     | \$30,600         |
| <b>183</b> Clerestory windows  | 43              | SF          | \$85.00     | \$3,655          |
| <b>184 08 50 00 WindowsTotal</b>   |                 |             |             | <b>\$34,255</b>  |
| <b>185</b>   |                 |             |             |                  |
| <b>186 08 80 00 Glazing</b>  |                 |             |             |                  |
| <b>187</b> Door glazing  | 1               | LS          | \$2,000.00  | \$2,000          |
| <b>188</b> Mirror  | 1               | LS          | \$2,500.00  | \$2,500          |
| <b>189 08 80 00 Glazing Total</b>  |                 |             |             | <b>\$4,500</b>   |
| <b>190</b>   |                 |             |             |                  |
| <b>191</b>   |                 |             |             |                  |
| <b>192 <u>09-FINISHES</u></b>  |                 |             |             |                  |
| <b>193</b>   |                 |             |             |                  |
| <b>194 09 21 00 Plaster and Gypsum Board Assemblies</b>                      |                 |             |             |                  |
| <b>195</b> Interior of exterior walls  | 7,458           | SF          | \$3.50      | \$26,103         |
| <b>196</b> Densglass wall board  | 7,458           | SF          | \$4.00      | \$29,832         |
| <b>197</b> Standard drywall partitions                                       | 7,320           | SF          | \$10.00     | \$73,200         |
| <b>198</b> Plumbing chasing wall   | 1,112           | SF          | \$12.00     | \$13,344         |
| <b>199</b> Allow for soffits   | 1               | LS          | \$5,000.00  | \$5,000          |
| <b>200</b> GWB ceiling (quantity provided by the architect)                  | 3,800           | SF          | \$10.00     | \$38,000         |
| <b>201 09 21 00 Plaster and Gypsum Board Assemblies Total</b>                |                 |             |             | <b>\$185,480</b> |
| <b>202</b>   |                 |             |             |                  |
| <b>203 09 30 00 Tile</b>   |                 |             |             |                  |
| <b>204</b> Ceramic tile flooring   | 662             | SF          | \$15.00     | \$9,930          |
| <b>205</b> Tile base   | 559             | LF          | \$10.00     | \$5,590          |
| <b>206</b> Tile walls  | 2,516           | SF          | \$15.00     | \$37,733         |
| <b>207 09 30 00 Tile Total</b>   |                 |             |             | <b>\$53,253</b>  |
| <b>208</b>   |                 |             |             |                  |
| <b>209 09 51 00 ACT</b>  |                 |             |             |                  |
| <b>210</b> Acoustical ceiling tile - Typical (quantity provided by the arch) | 3,800           | SF          | \$4.25      | \$16,150         |
| <b>211</b> Acoustical ceiling tile - moisture resistant                      | 662             | SF          | \$4.50      | \$2,979          |
| <b>212 09 51 00 ACT Total</b>  |                 |             |             | <b>\$19,129</b>  |
| <b>213</b>   |                 |             |             |                  |
| <b>214 09 65 00 Resilient Flooring</b>                                       |                 |             |             |                  |
| <b>215</b> Rubber flooring   | 3,141           | SF          | \$6.50      | \$20,417         |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                                | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u> |
|---|-----------------|-------------|-------------|--------------|
| 216 Base  | 1               | LS          | \$15,000.00 | \$15,000     |
| 217 09 65 00 Resilient Flooring Total                     |                 |             |             | \$35,417     |
| 218   |                 |             |             |              |
| 219 09 67 23 Resinous Flooring                            |                 |             |             |              |
| 220 Epoxy Flooring  | 4,880           | SF          | \$9.00      | \$43,920     |
| 221 09 67 23 Resinous Flooring Total                      |                 |             |             | \$43,920     |
| 222   |                 |             |             |              |
| 223 09 68 00 Carpeting                                    |                 |             |             |              |
| 224 Carpet  | 649             | SF          | \$5.00      | \$3,245      |
| 225 09 68 00 Carpeting Total                              |                 |             |             | \$3,245      |
| 226   |                 |             |             |              |
| 227 09 90 00 Painting                                     |                 |             |             |              |
| 228 Painting ceiling                                      | 3,800           | SF          | \$1.00      | \$3,800      |
| 229 Painting walls  | 24,322          | SF          | \$0.85      | \$20,674     |
| 230 Paint CMU walls                                       | 10,788          | SF          | \$1.25      | \$13,485     |
| 231 Paint exposed ceilings - Apparatus bay; double height | 0               | SF          | \$1.50      | \$0          |
| 232 Paint exposed ceilings                                | 5,972           | SF          | \$1.25      | \$7,465      |
| 233 Sealed concrete                                       | 129             | SF          | \$1.50      | \$194        |
| 234 Miscellaneous painting                                | 9,461           | SF          | \$0.50      | \$4,731      |
| 235 09 90 00 Painting Total                               |                 |             |             | \$50,348     |
| 236   |                 |             |             |              |
| 237   |                 |             |             |              |
| 238 <u>10-SPECIALTIES</u>                                 |                 |             |             |              |
| 239   |                 |             |             |              |
| 240 10 00 00 Specialties                                  |                 |             |             |              |
| 241 Allow for visual display boards                       | 1               | LS          | \$3,500.00  | \$3,500      |
| 242 Interior and exterior signage                         | 9,461           | SF          | \$1.25      | \$11,826     |
| 243 Impact resistant wall coverings allowance             | 1               | LS          | \$3,000.00  | \$3,000      |
| 244 Personnel Duty Lockers                                | 40              | EA          | \$1,800.00  | \$72,000     |
| 245 Bunk lockers  | 40              | EA          | \$650.00    | \$26,000     |
| 246 Equipment in locker room                              | 1               | LS          | \$15,000.00 | \$15,000     |
| 247 Mailboxes allowance                                   | 1               | LS          | \$3,500.00  | \$3,500      |
| 248 Aluminum louvers                                      | 75              | SF          | \$55.00     | \$4,125      |
| 249 Fire extinguisher cabinets                            | 2               | EA          | \$450.00    | \$1,064      |
| 250 Access flooring                                       |                 |             |             | NIC          |
| 251 Glass operable wall system                            |                 |             |             | NIC          |
| 252 Miscellaneous specialties                             | 9,461           | SF          | \$1.00      | \$9,461      |
| 253 10 00 00 Specialties Total                            |                 |             |             | \$149,477    |
| 254   |                 |             |             |              |
| 255 10 28 13 Toilet Accessories                           |                 |             |             |              |
| 256 Toilets   | 1               | EA          | \$650.00    | \$650        |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                       | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u>                       | <u>Total</u>    |
|--|-----------------|-------------|-----------------------------------|-----------------|
| 257 Toilet & Showers (private)                   | 2               | EA          | \$1,000.00                        | \$2,000         |
| 258 Mop and broom strip                          | 1               | EA          | \$125.00                          | \$125           |
| 259 <b>10 28 13 Toilet Accessories Total</b>     |                 |             |                                   | <b>\$2,775</b>  |
| 260  |                 |             |                                   |                 |
| 261  |                 |             |                                   |                 |
| 262 <b><u>11-EQUIPMENT</u></b>                   |                 |             |                                   |                 |
| 263  |                 |             |                                   |                 |
| 264 <b>11 00 00 Equipment</b>                    |                 |             |                                   |                 |
| 265 All loose equipment                          |                 |             | Not included within this estimate |                 |
| 266 <b>11 00 00 Equipment Total</b>              |                 |             |                                   | <b>\$0</b>      |
| 267  |                 |             |                                   |                 |
| 268 <b>11 31 00 Residential Appliances</b>       |                 |             |                                   |                 |
| 269 Kitchen equipment, allowance                 | 1               | AL          | \$25,000.00                       | \$25,000        |
| 270 Install appliances                           |                 | EA          | \$100.00                          | Included        |
| 271 <b>11 31 00 Residential Appliances Total</b> |                 |             |                                   | <b>\$25,000</b> |
| 272  |                 |             |                                   |                 |
| 273  |                 |             |                                   |                 |
| 274 <b><u>12-FURNISHINGS</u></b>                 |                 |             |                                   |                 |
| 275  |                 |             |                                   |                 |
| 276 <b>12 00 00 Furnishings</b>                  |                 |             |                                   |                 |
| 277 Walk Off mat                                 | 44              | SF          | \$5.00                            | \$220           |
| 278 Allow for miscellaneous furnishings          | 1               | LS          | \$10,000.00                       | \$10,000        |
| 279 <b>12 00 00 FurnishingsTotal</b>             |                 |             |                                   | <b>\$10,220</b> |
| 280  |                 |             |                                   |                 |
| 281 <b>12 20 00 Window Treatments</b>            |                 |             |                                   |                 |
| 282 Window treatment                             | 560             | SF          | \$7.00                            | \$3,920         |
| 283 <b>12 20 00 Window Treatments Total</b>      |                 |             |                                   | <b>\$3,920</b>  |
| 284  |                 |             |                                   |                 |
| 285  |                 |             |                                   |                 |
| 286 <b><u>14-CONVEYING DEVICES</u></b>           |                 |             |                                   |                 |
| 287  |                 |             |                                   |                 |
| 288 <b>14 20 00 Elevators</b>                    |                 |             |                                   |                 |
| 289 No work in this section                      |                 |             |                                   | NIC             |
| 290 <b>14 20 00 Elevators Total</b>              |                 |             |                                   | <b>\$0</b>      |
| 291  |                 |             |                                   |                 |
| 292  |                 |             |                                   |                 |
| 293 <b><u>21, 22, 23 - MECHANICAL</u></b>        |                 |             |                                   |                 |
| 294  |                 |             |                                   |                 |
| 295 <b>21 00 00 Fire Protection</b>              |                 |             |                                   |                 |
| 296 Sprinkler Coverage                           | 9,461           | SF          | \$6.50                            | \$61,497        |
| 297 6" Backflow Preventer                        |                 | EA          | \$6,850.00                        | Included        |

## Harwich Fire Station #2

Harwich, MA

### Detailed Estimate for Fire Station

9,461 GSF

| <u>Element/Description</u>                   | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u>     |
|--|-----------------|-------------|-------------|------------------|
| 298 6" Water Service                         |                 | EA          | \$2,250.00  | Included         |
| 299 6" Alarm Valve                           |                 | EA          | \$4,250.00  | Included         |
| 300 Dry Alarm Valve w/ compressor            |                 | EA          | \$4,000.00  | Included         |
| 301 Zones                                    |                 | EA          | \$3,250.00  | Included         |
| 302 Siamese connection                       |                 | EA          | \$2,100.00  | Included         |
| 303 Main piping:                             |                 |             |             |                  |
| 304 - 6"                                     |                 | LF          | \$65.00     | Included         |
| 305 Fees & Permit                            | 1               | LS          | \$1,850.00  | NIC              |
| 306 Seismic Restraints                       | 1               | EA          | \$3,250.00  | \$3,250          |
| 307 Shop drawings/hydraulic calculations     | 1               | LS          | \$5,500.00  | \$5,500          |
| 308 Lifts                                    | 1               | LS          | \$2,500.00  | \$2,500          |
| 309 <b>21 00 00 Fire Protection Total</b>    |                 |             |             | <b>\$72,747</b>  |
| 310  |                 |             |             |                  |
| 311 <b>22 00 00 Plumbing</b>                 |                 |             |             |                  |
| 312 Plumbing                                 | 9,461           | SF          | \$18.00     | \$170,298        |
| 313 <b>22 00 00 Plumbing Total</b>           |                 |             |             | <b>\$170,298</b> |
| 314  |                 |             |             |                  |
| 315 <b>23 00 00 HVAC</b>                     |                 |             |             |                  |
| 316 HVAC system                              | 9,461           | SF          | \$42.00     | \$397,362        |
| 317 <b>23 00 00 HVAC Total</b>               |                 |             |             | <b>\$397,362</b> |
| 318  |                 |             |             |                  |
| 319  |                 |             |             |                  |
| 320 <b><u>26-ELECTRICAL</u></b>              |                 |             |             |                  |
| 321  |                 |             |             |                  |
| 322 <b>26 00 00 Electrical</b>               |                 |             |             |                  |
| 323 Electrical system                        | 9,461           | SF          | \$50.00     | \$473,050        |
| 324 <b>26 00 00 Electrical Total</b>         |                 |             |             | <b>\$473,050</b> |
| 325  |                 |             |             |                  |
| 326  |                 |             |             |                  |
| 327 <b><u>31-EARTHWORK</u></b>               |                 |             |             |                  |
| 328  |                 |             |             |                  |
| 329 <b>31 00 00 Earthwork</b>                |                 |             |             |                  |
| 330 Rock removal, using back hoe jack hammer |                 |             |             | NIC              |
| 331 Rough and fine grade for new slab        | 9,461           | SF          | \$1.50      | \$14,192         |
| 332 Bulk excavation                          | 1,226           | CY          | \$10.00     | \$12,260         |
| 333 Gravel below slab                        | 350             | CY          | \$25.00     | \$8,760          |
| 334 Perimeter drain system                   | 455             | LF          | \$16.00     | \$7,274          |
| 335 Exterior strip footings                  | 455             | LF          |             |                  |
| 336 Excavation                               | 421             | CY          | \$9.00      | \$3,789          |
| 337 Remove soil                              | 324             | CY          | \$6.00      | \$1,944          |
| 338 Backfill with imported fill              | 336             | CY          | \$22.00     | \$7,392          |

## ***Harwich Fire Station #2***

Harwich, MA

### **Detailed Estimate for Fire Station**

9,461 GSF

| <b><u>Element/Description</u></b>   | <b><u>Quantity</u></b> | <b><u>Unit</u></b> | <b><u>Rate</u></b> | <b><u>Total</u></b> |
|-------------------------------------|------------------------|--------------------|--------------------|---------------------|
| 339 Isolated footings               | 15                     | EA                 |                    |                     |
| 340 Excavation                      | 89                     | CY                 | \$9.00             | \$801               |
| 341 Remove soil                     | 85                     | CY                 | \$6.00             | \$510               |
| 342 Backfill with imported fill     | 15                     | CY                 | \$22.00            | \$330               |
| 343 <b>31 00 00 Earthwork Total</b> |                        |                    |                    | <b>\$57,252</b>     |
| 344                                 |                        |                    |                    |                     |
| 345                                 |                        |                    |                    |                     |

## Harwich Fire Station #2

Harwich, MA

### Sitework Detail and Summary

| <u>Description/Element</u>                        | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u> |
|---|-----------------|-------------|-------------|--------------|
| <b>9 SITEWORK</b>                                 |                 |             |             |              |
| <b>10</b>   |                 |             |             |              |
| <b>11</b> Site clearing                           | <b>141,294</b>  | SF          | \$0.25      | By Owner     |
| <b>12</b> Site demolition and relocations         | <b>1</b>        | AL          | \$25,000.00 | \$25,000     |
| <b>13</b> Site protection                         | <b>1</b>        | AL          | \$15,000.00 | \$15,000     |
| <b>14</b> Cut and fill                            | <b>7,850</b>    | CY          | \$8.00      | \$62,800     |
| <b>15</b> Rough grading                           | <b>15,699</b>   | SY          | \$1.00      | By Owner     |
| <b>16</b> Fine grading                            | <b>27,235</b>   | SF          | \$1.50      | \$40,853     |
| <b>17</b> Light weight paving                     | <b>4,139</b>    | SF          | \$2.25      | \$9,313      |
| <b>18</b> Heavy weight paving (quantity provided) | <b>20,000</b>   | SF          | \$2.90      | \$58,000     |
| <b>19</b> Apron                                   | <b>2,250</b>    | SF          | \$3.50      | \$7,875      |
| <b>20</b> Concrete walks                          | <b>846</b>      | SF          | \$12.00     | \$10,152     |
| <b>21</b> Gravel                                  | <b>1,009</b>    | CY          | \$35.00     | \$35,315     |
| <b>22</b> Erosion control                         | <b>1,472</b>    | LF          | \$9.50      | \$13,984     |
| <b>23</b> Construction fence                      | <b>1,253</b>    | LF          | \$8.00      | \$10,024     |
| <b>24</b> Construction gate                       | <b>2</b>        | EA          | \$1,500.00  | \$3,000      |
| <b>25</b> Granite curbs                           | <b>58</b>       | LF          | \$42.00     | \$2,436      |
| <b>26</b> Cape Cod Berm                           | <b>1,318</b>    | LF          | \$7.00      | \$9,226      |
| <b>27</b> Parking spaces (quantity provided)      | <b>30</b>       | EA          | \$35.00     | \$1,050      |
| <b>28</b> HC parking spaces (quantity provided)   | <b>2</b>        | EA          | \$350.00    | \$700        |
| <b>29</b> Miscellaneous marking                   | <b>1</b>        | LS          | \$1,500.00  | \$1,500      |
| <b>30</b> Concrete curb ramp                      | <b>4</b>        | EA          | \$350.00    | \$1,400      |
| <b>31</b> Site and street furnishes               | <b>1</b>        | LS          | \$35,000.00 | \$35,000     |
| <b>32</b> Transformer pad                         | <b>1</b>        | EA          | \$3,500.00  | \$3,500      |
| <b>33</b> Dumpster pad                            | <b>1</b>        | EA          | \$3,000.00  | \$3,000      |
| <b>34</b> Transformer pad                         | <b>1</b>        | EA          | \$5,000.00  | \$5,000      |
| <b>35</b> Gate to dumpster                        | <b>1</b>        | EA          | \$1,500.00  | \$1,500      |
| <b>36</b> Fence to dumpster                       | <b>40</b>       | LF          | \$32.00     | \$1,280      |
| <b>37</b> Flagpole                                | <b>1</b>        | EA          | \$7,500.00  | \$7,500      |
| <b>38</b> Bollards (quantity provided)            | <b>33</b>       | EA          | \$600.00    | \$19,800     |
| <b>39</b> Evergreen Tree                          | <b>12</b>       | EA          | \$500.00    | \$6,000      |
| <b>40</b> Deciduous Tree                          | <b>5</b>        | EA          | \$750.00    | \$3,750      |
| <b>41</b> Proposed ornamental Tree                | <b>2</b>        | EA          | \$1,200.00  | \$2,400      |
| <b>42</b> Shrubs                                  | <b>23</b>       | EA          | \$150.00    | \$3,450      |
| <b>43</b> Allow grond cover                       | <b>1</b>        | LS          | \$5,000.00  | \$5,000      |
| <b>44</b> Lawns                                   | <b>11,622</b>   | SY          | \$0.33      | \$3,835      |
| <b>45</b> Structural fill                         | <b>1,314</b>    | CY          | \$22.00     | \$28,909     |
| <b>46</b> Mow Strip                               | <b>433</b>      | LF          | \$5.00      | \$2,165      |
| <b>47</b> Water service                           | <b>1</b>        | AL          | \$35,000.00 | \$35,000     |
| <b>48</b> Sanitary sewer                          | <b>1</b>        | LS          | \$40,000.00 | \$40,000     |
| <b>49</b> Septic system                           | <b>1</b>        | LS          | \$12,000.00 | \$12,000     |
| <b>50</b> Tite tank                               | <b>1</b>        | LS          | \$15,000.00 | \$15,000     |
| <b>51</b> Storm drainage                          | <b>1</b>        | AL          | \$50,000.00 | \$50,000     |

## Harwich Fire Station #2

Harwich, MA

### Sitework Detail and Summary

| <u>Description/Element</u>                              | <u>Quantity</u> | <u>Unit</u> | <u>Rate</u> | <u>Total</u>            |
|---|-----------------|-------------|-------------|-------------------------|
| 9 SITEWORK  |                 |             |             |                         |
| 52 Gas  | 1               | AL          | \$2,500.00  | \$2,500                 |
| 53 Site electrical                                      | 1               | AL          | \$90,000.00 | \$90,000                |
| 54 SITEWORK TOTAL                                       |                 |             |             | <u>\$684,216</u>        |
| 55  |                 |             |             |                         |
| 56  |                 |             |             |                         |
| 57  |                 |             |             |                         |
| 58  |                 |             |             |                         |
| 59 Design Contingency                                   | 10.00%          |             | \$684,216   | \$68,422                |
| 60  |                 |             |             |                         |
| 61  |                 |             |             |                         |
| 62 Trade Cost Total                                     |                 |             |             | <u>\$752,638</u>        |
| 63  |                 |             |             |                         |
| 64 Mark-ups (on Direct Trade Costs Subtotal)            |                 |             |             |                         |
| 65 General Conditions and Requirements                  | 7.50%           |             | \$752,638   | \$56,448                |
| 66 Insurance  | 1.00%           |             | \$809,086   | \$8,091                 |
| 67 Bonds  | 0.65%           |             | \$817,176   | \$5,312                 |
| 68 Permit   |                 |             | \$822,488   | NIC                     |
| 69 Fee  | 3.00%           |             | \$822,488   | \$24,675                |
| 70  |                 |             |             |                         |
| 71  |                 |             |             |                         |
| 72 Estimate Construction Cost Subtotal                  |                 |             |             | <u>\$847,163</u>        |
| 73  |                 |             |             |                         |
| 74 Escalation To The Start Of Construction - March 2018 | 2.25%           |             | \$847,163   | \$19,061                |
| 75  |                 |             |             |                         |
| 76  |                 |             |             |                         |
| 77 ECC Total, including Escalation                      |                 |             |             | <u><u>\$866,224</u></u> |
| 78  |                 |             |             |                         |
| 79  |                 |             |             |                         |

