JACOBS

Jacobs Civil Inc.
18302 Highwoods Preserve Parkway, Suite 200
Tampa, FL 33647
813.977.3434
Fax 813.977.3722

Ms. Lynda Crescentini
Florida Department of Transportation
11201 N. McKinley Dr.
Project Management MS 7-600
Tampa, FL. 33612

September 30, 2004

Re: FPN 2555991 Causeway Blvd.
US41 / Causeway Blvd. Conceptual Estimate Task

Lynda,

As requested, enclosed is the completed **US 41 / Causeway Blvd. Interchange Conceptual Estimate** for your use in work program development. The package includes Jacobs' estimate of the PD&E effort cost, the Design cost, and the Construction cost, based on the enclosed plans we developed from the concept provided to us by Pittman-Hartenstein.

We have broken out this data in several ways to help the Department clearly analyze the costs for the specific components of the conceptual plan. These estimates have been prepared with our understanding of their very preliminary conceptual nature and include adequate contingencies for initial work program entry. Please note that the estimates do not include any right-of-way costs.

Should later updates or modifications to these estimates be needed to reflect any clarifications to the conceptual plan, we are prepared to assist with that update.

In summary of the data, we show the following (present day costs):

| | | *Estimate* | *25% Contingency* | *Total* |
|---|---|---|---|---|
| **PD&E:** | | **$ 797,435** | **$ 199,359** | **$ 996,793** |
| **Design:** | | **$ 2,804,880** | **$ 701,220** | **$ 3,506,100** |
| **Construction:** | **US 41 corridor:** | **$31,370,428** | **$7,842,607** | **$39,213,035** |
| | **Causeway Blvd:** | **$20,679,395** | **$5,169,849** | **$25,849,244** |
| | **Const. Total** | **$52,049,823** | | **$65,062,279** |

Please call me if there is any way we can further assist the Department in preparing to address this complicated major interchange.

Sincerely,

Richard C. Rocktoff, P.E.
Project Manager

cc: Yvonne Arens - FDOT
Ron Glass – Jacobs Civil
Tom Montgomery – Pittman-Hartenstein


| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

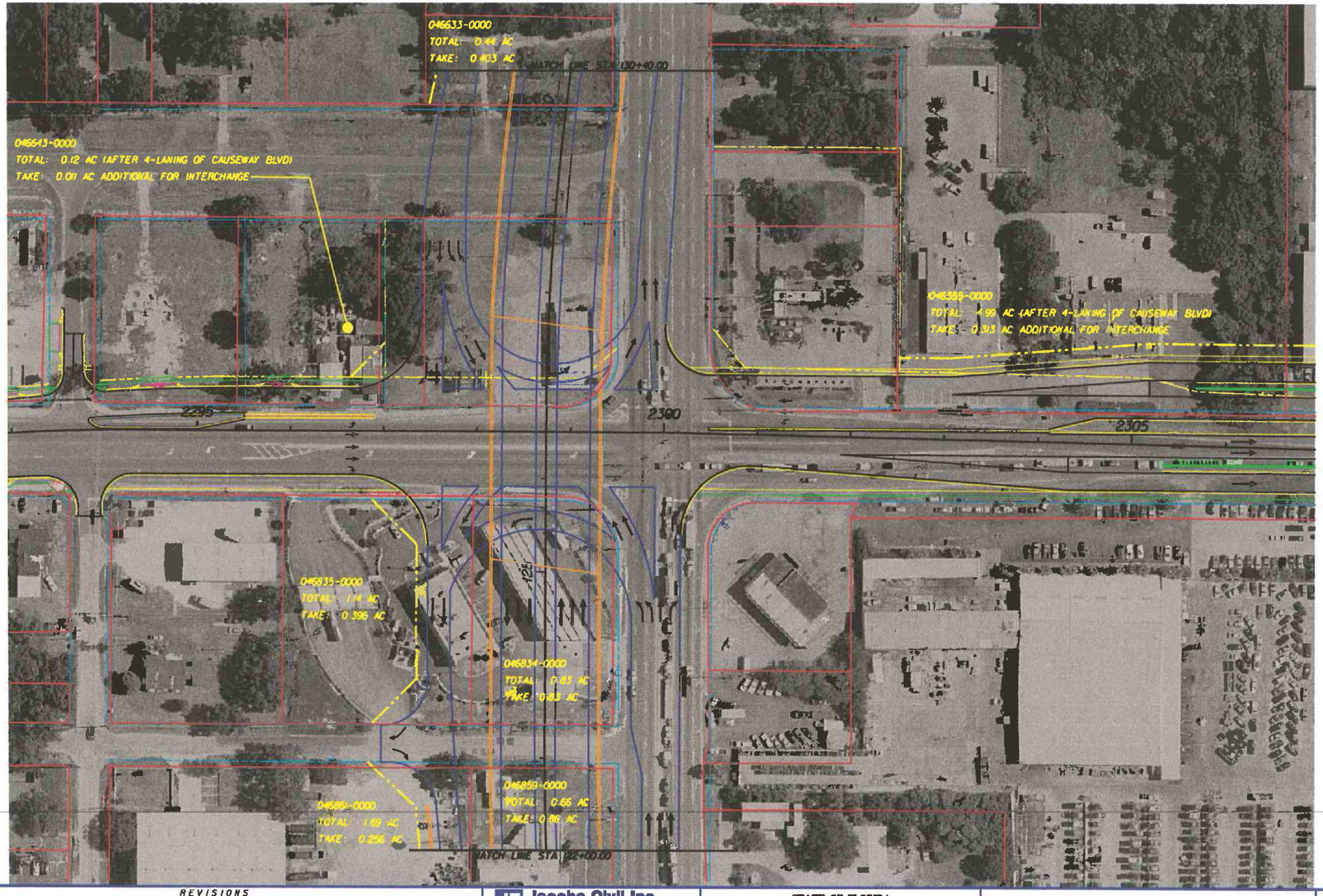
**Jacobs Civil Inc.**
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL. 33647
Tel.(813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032

**STATE OF FLORIDA**
**DEPARTMENT OF TRANSPORTATION**

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
# SR 676 (CAUSEWAY BLVD.)

SHEET NO.




| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

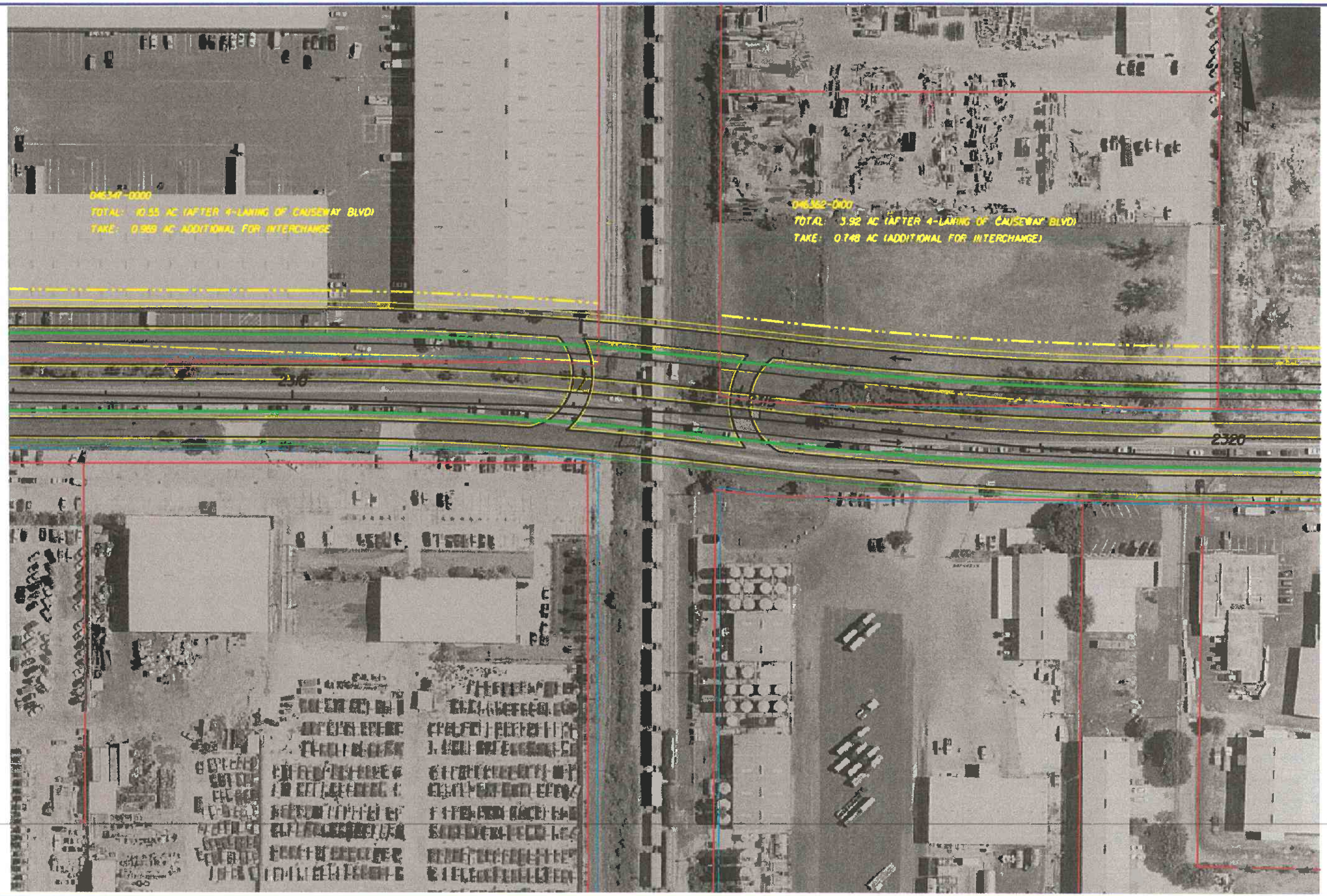

**Jacobs Civil Inc.**
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL. 33647
Tel.(813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


**STATE OF FLORIDA**
**DEPARTMENT OF TRANSPORTATION**

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
# SR 676 (CAUSEWAY BLVD.)

SHEET NO.




REVISIONS

| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |


Jacobs Civil Inc.
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL 33647
Tel.(813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
# SR 676 (CAUSEWAY BLVD.)

SHEET NO.


| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

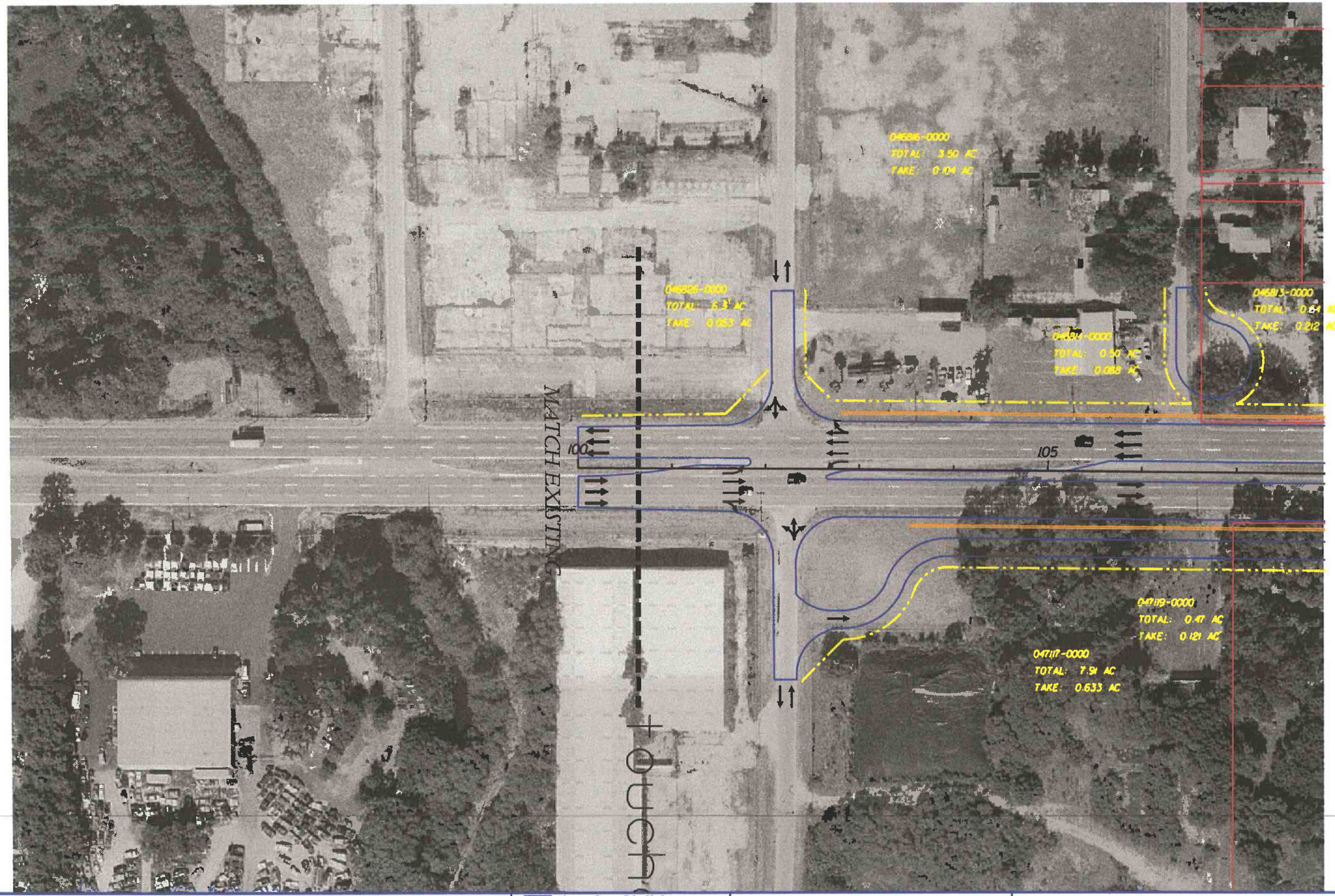

Jacobs Civil Inc.
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL. 33647
Tel. (813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


**STATE OF FLORIDA**
**DEPARTMENT OF TRANSPORTATION**

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
# SR 676 (CAUSEWAY BLVD.)

SHEET NO.




| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |

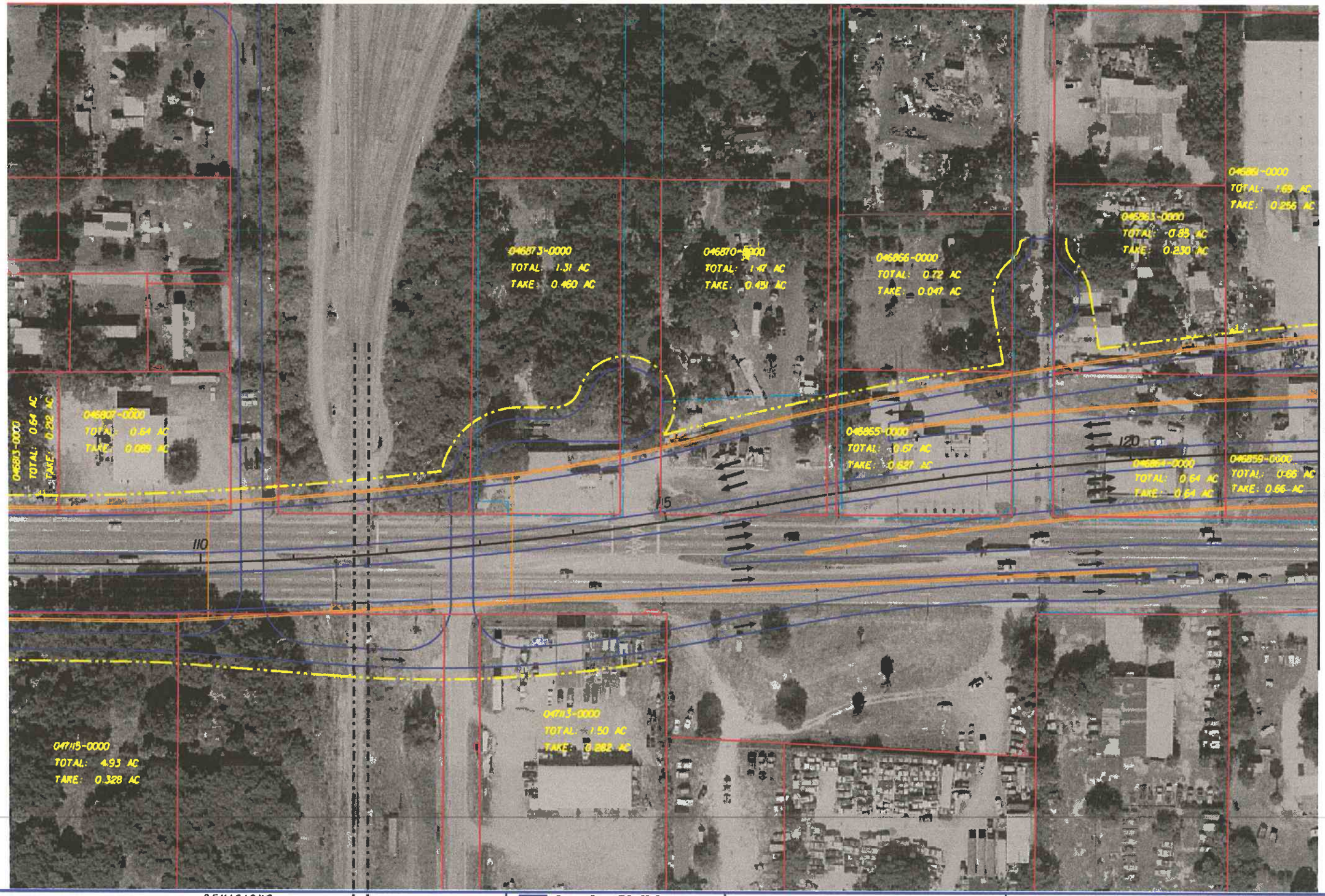

Jacobs Civil Inc.
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL. 33647
Tel. (813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
## SR 45 (US 41)

SHEET NO.




| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |


**Jacobs Civil Inc.**
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL 33647
Tel.(813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


**STATE OF FLORIDA**
**DEPARTMENT OF TRANSPORTATION**

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
## SR 45 (US 41)

SHEET NO.

MATCH LINE STA 130+40.00

046607-0000
TOTAL: 2.72 AC
TAKE: 0.442 AC

046606-0000
TOTAL: 4.53 AC
TAKE: 0.072 AC

046610-0000
TOTAL: 1.41 AC
TAKE: 0.088 AC

046631-0000
TOTAL: 0.89 AC
TAKE: 0.539 AC

046633-0000
TOTAL: 0.44 AC
TAKE: 0.403 AC

135

140

046361-0000
TOTAL: 0.61 AC
TAKE: 0.007 AC

046349-0000
TOTAL: 3.55 AC
TAKE: 0.205 AC

046354-0000
TOTAL: 1.74 AC
TAKE: 0.451 AC

046425-0000
TOTAL: 2.45 AC
TAKE: 0.675 AC

046426-0000
TOTAL: 3.71 AC
TAKE: 0.036 AC

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| DATE | BY | DESCRIPTION | DATE | BY | DESCRIPTION |
| | | | | | |


**Jacobs Civil Inc.**
18302 Highwoods Preserve Parkway
Highwoods Plaza, Suite 200
Tampa, FL. 33647
Tel. (813) 977-3434
CERTIFICATE OF AUTHORIZATION NO. 6572
ENGINEER OF RECORD:
RICHARD C. ROCKTOFF P.E. No. 47032


**STATE OF FLORIDA**
**DEPARTMENT OF TRANSPORTATION**

| ROAD NO. | COUNTY | FINANCIAL PROJECT ID |
|---|---|---|
| SR 676 | HILLSBOROUGH | 255599-1-52-01 |

# PLAN SHEET
## SR 45 (US 41)

SHEET NO.

## ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: Causeway Boulivard Interchange at US 41 PD&E Study
County: Hillsborough
FPN: 0
FAP No.: 0

Consult. Name: Jacobs Civil Inc
Consult. No. E9X94900
Date: 9/28/2004
Estimator: Gene Keeler

| Staff Classification | Total Staff Hours From "SH Summary - Firm" | Project Manager | Staff | Staff Classification 3 | Staff Classification 4 | Staff Classification 5 | Staff Classification 6 | Staff Classification 7 | Staff Classification 8 | Staff Classification 9 | Staff Classification 10 | Staff Classification 11 | Staff Classification 12 | SH By Activity | Salary Cost By Activity | Average Rate Per Task |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $55.00 | $38.09 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | | | |
| Public Involvement | 1,727 | 173 | 1,554 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,727 | $63,905 | $37.00 |
| Engineering Analysis & Report | 4,207 | 421 | 3,786 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,207 | $155,665 | $37.00 |
| Environmental Analysis & Reports | 963 | 96 | 867 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 963 | $35,625 | $36.99 |
| Miscellaneous | 310 | 31 | 279 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 310 | $11,470 | $37.00 |
| **Total Staff Hours** | 7,207 | 721 | 6486 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,207 | | |
| **Total Staff Cost** | | $39,655.00 | $227,010.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | | $266,665.00 | $37.00 |

Check = $266,665.00

| | | | |
|---|---|---|---|
| SALARY RELATED COSTS: | | | $266,665.00 |
| OVERHEAD: | 167% | | $445,330.55 |
| **SUBTOTAL:** | | | **$711,995.55** |
| OPERATING MARGIN: | 12% | | $85,439.47 |
| FCCM (Facilities Capital Cost Money): | 0.00% | | $0.00 |
| **EXPENSES (Note 2):** | | | $0.00 |
| Survey (Field) | 0.00 | 4-man crew day: $ - / day | $0.00 |
| **SUBTOTAL ESTIMATED FEE:** | | | **$797,435.02** |
| Optional Services | | | $0.00 |
| **GRAND TOTAL ESTIMATED FEE:** | | | **$797,435.02** |

Notes:

1. This sheet to be used by Subconsultant to calculate its fee.
2. Provide backup for the expense calculation in a format acceptable to the Department.

| Estimator: | Gene Keeler | | | | | Causeway Boulivard Interchange at US 41 PD&E Study |
|---|---|---|---|---|---|---|
| | | | | | | 0 |
| **Task No.** | **Task** | **Units** | **# of Units** | **Hours / Unit** | **HOURS** | **Comments** |
| | | | | | | |
| 1.0 | Public Involvement | | | | | |
| 1.1 | Public Involvement Program * | LS | 1 | 40 | 40 | |
| 1.2 | Public Involvement Data Collection | LS | 1 | 80 | 80 | |
| 1.3 | Notice of Intent * | LS | 1 | 0 | 0 | |
| 1.4 | Advance Notification * | LS | 1 | 24 | 24 | |
| 1.5 | Scheduled Public Meetings | LS | 1 | 0 | 317 | |
| | Scoping Meeting | | | | | |
| | Set Up/Scoping Package * | | | | 0 | |
| | Participation | | | | 0 | |
| | Elected Officials/Agency Kickoff Meeting | | | | | |
| | Set Up * | | | | 64 | assumes 3 DOT staff briefings prior |
| | Participation and notes | | | | 11 | 3 staff(1 hr travel + 2 hr meeting) + 2 hrs notes prep and dist |
| | Public Kickoff Meeting | | | | | |
| | Set up * | | | | 0 | |
| | Participation and notes | | | | 0 | |
| | Corridor Public Meeting | | | | | |
| | Set up * | | | | 0 | |
| | Participation and notes | | | | 0 | |

| Task No. | Task | Units | # of Units | Hours / Unit | HOURS | Comments |
|---|---|---|---|---|---|---|
| | Alternatives Public Meeting | | | | | |
| | Set up * | | | | 200 | |
| | Participation and notes | | | | 42 | 8 staff(1 hr travel + 4 hr meeting) + 2 hrs notes prep and dist |
| 1.6 | Unscheduled Public and Agency Meetings | per meeting | 10 | 8 | 80 | 2 staff(1 hr travel + 2 hr meeting) + 2 hrs notes prep and dist |
| 1.7 | Public Hearing | L.S. | 1 | 0 | 262 | |
| | Invitation / notification / setup / follow-up * | | | | 220 | |
| | Participation | | | | 42 | 8 staff(1 hr travel + 4 hr meeting) + 2 hrs notes prep and dist |
| 1.8 | Location and Design Concept Acceptance | L.S. | 1 | 8 | 8 | |
| 1.9 | Special Public Involvement Requirements | L.S. | 1 | 0 | 782 | |
| | News Letters, Preparation / Distribution * | | 4 | 28 | 112 | |
| | Web Site Development * | | 1 | 60 | 60 | |
| | Web Site Maintenance * | | 20 | 4 | 80 | |
| | Videos, Renderings, etc. * | | 2 | 265 | 530 | |
| | | **Sub Total** | | | **1593** | |
| | *subject to QC | | **% QC** | | | |
| 1.10 | Quality Control | L.S. | 10 | | 134 | |
| | | | | | | |
| | **PUBLIC INVOLVEMENT TOTAL HOURS** | | | | **1727** | |

| Estimator: | Gene Keeler | | | | | Causeway Boulivard Interchange at US 41 PD&E Study |
|---|---|---|---|---|---|---|
| | | | | | | 0 |
| **Task No.** | **Task** | **Units** | **# of Units** | **Hours / Unit** | **HOURS** | **Comments** |
| 2.0 | ENGINEERING ANALYSIS and REPORTS | | | | | |
| | DATA COLLECTION | | | | | |
| 2.1 | Field Review | L.S. | 5 | 10 | 50 | 2 staff * (4 hrs on site ea + 1 hour travel) |
| 2.2 | Aerial Photography | L.S. | 1 | 16 | 16 | |
| 2.3 | Survey Coordination | L.S. | 1 | 32 | 32 | |
| 2.4 | Existing Roadway Characteristics | L.S. | 1 | 40 | 40 | |
| 2.5 | Existing Structures Characteristics | per struct. | 0 | 0 | 0 | |
| 2.6 | Traffic Data | L.S. | 1 | 80 | 80 | counts, historic data, etc. |
| 2.7 | Crash Data | L.S. | 1 | 8 | 8 | |
| 2.8 | Existing Signage Inventory | L.S. | 1 | 8 | 8 | |
| 2.9 | Utilities | L.S. | 1 | 24 | 24 | |
| 2.10 | Railroads | L.S. | 1 | 40 | 40 | 2 new rr overpasses |
| 2.11 | Transportation Plans | L.S. | 1 | 8 | 8 | |
| 2.12 | Soils | L.S. | 1 | 6 | 6 | |
| 2.13 | Base map * | Per sheet | 18 | 24 | 432 | 18 sheets highly urban, 2 rr crossings 2 major roads |
| | NEEDS | | | | | |
| 2.14 | Safety * | L.S. | 1 | 36 | 36 | |
| 2.15 | Analysis of Existing Conditions * | L.S. | 1 | 120 | 120 | |
| 2.16 | Development of Need Statement * | L.S. | 1 | 16 | 16 | |

| Task No. | Task | Units | # of Units | Hours / Unit | HOURS | Comments |
|---|---|---|---|---|---|---|
| | DESIGN ANALYSIS | | | | | |
| 2.17 | Corridor Analysis * | L.S. | 1 | 4 | 4 | existing corridor |
| 2.18 | Traffic Analysis | L.S. | 1 | 0 | 510 | |
| | Design Traffic * | | | | 240 | |
| | Traffic Operational Analysis * | | | | 190 | |
| | Design Traffic Documentation * | | | | 80 | |
| 2.19 | Typical Section Analysis * | L.S. | 1 | 32 | 32 | |
| 2.20 | Roadway Design Alternatives * | L.S. | 1 | 240 | 240 | |
| 2.21 | Prepare Concept Plans * | per Sheet | 18 | 12 | 216 | |
| 2.22 | Drainage Analysis and Pond Siting Report * | per Basin | 5 | 100 | 500 | |
| 2.23 | Structures * | LS | 1 | 450 | 450 | |
| 2.24 | Access Management * | LS | 1 | 40 | 40 | |
| 2.25 | Multi-modal Accommodations * | LS | 1 | 12 | 12 | |
| 2.26 | Maintenance of Traffic Analysis * | LS | 1 | 80 | 80 | |
| 2.27 | Geotechnical Coordination | LS | 1 | 16 | 16 | |
| 2.28 | Intelligent Transportation Systems * | LS | 1 | 0 | 0 | |
| | COMPARATIVE ANALYSIS OF ALTERNATIVES | | | | | |
| 2.29 | Comparative Analysis and Evaluation Matrix * | LS | 1 | 36 | 36 | |
| 2.30 | Selection of Alternative(s) * | LS | 1 | 16 | 16 | |

| Task No. | Task | Units | # of Units | Hours / Unit | HOURS | Comments |
|---|---|---|---|---|---|---|
| 2.31 | Conceptual Design Plans (preferred) * | per sheet | 18 | 6 | 108 | |
| 2.32 | Identify Construction Segments * | LS | 1 | 24 | 24 | |
| 2.33 | Value Engineering | per study | 0 | 40 | 0 | |
| 2.34 | Construction Cost Estimates * | LS | 1 | 40 | 40 | |
| 2.35 | Right of Way Cost Estimates | LS | 1 | 0 | 82 | |
| | Notes and Maps for Estimate * | | | | 32 | |
| | Preparation Cost Estimate * | | | | 50 | |
| 2.36 | Typical Section Package * | LS | 1 | 32 | 32 | |
| 2.37 | Design Exceptions and Variations * | LS | 1 | 20 | 20 | |
| 2.38 | Preliminary Engineering Report (PER) | LS | 1 | 0 | 480 | |
| | First Draft * | | | | 250 | |
| | Second Draft * | | | | 140 | |
| | Final * | | | | 90 | |
| 2.39 | IMR / IJR * | LS | 1 | 0 | 0 | |
| | | **Sub Total** | | | **3854** | |
| | *Subject to QC | | **% QC** | | | |
| 2.40 | Quality Control | LS | 10 | | 353 | |
| | **ENGINEERING TOTAL HOURS** | | | | **4207** | |

| Estimator: | Gene Keeler | | | | | Causeway Boulivard Interchange at US 41 PD&E Study |
|---|---|---|---|---|---|---|
| **Task No.** | **Task** | **Units** | **# of Units** | **Hours / Unit** | **HOURS** | **Comments** |
| | | | | | | |
| 3.0 | ENVIRONMENTAL ANALYSIS and REPORTS | | | | | |
| | SOCIAL IMPACTS | | | | | |
| 3.1 | Land Use Changes * | LS | 1 | 24 | 24 | |
| 3.2 | Community Cohesion * | LS | 1 | 16 | 16 | |
| 3.3 | Community Services * | LS | 1 | 12 | 12 | |
| 3.4 | Social and Economic Impacts * | LS | 1 | 32 | 32 | |
| 3.5 | Relocation Potential | LS | 1 | 0 | 60 | |
| | Concept Stage Relocation Plan * | | | | 40 | |
| | Review and Impact Determination * | | | | 20 | |
| 3.6 | Archaeological and Historical Sites * | LS | 1 | 60 | 60 | |
| 3.7 | Section 4(f) | LS | 1 | 0 | 0 | |
| | Section 4 (f) Applicability * | | | | 0 | |
| | Section 4 (f) Statement * | | | | 0 | |
| 3.8 | Visual Impacts and Aesthetics * | LS | 1 | 12 | 12 | |
| 3.9 | Utilities & Railroad * | LS | 1 | 80 | 80 | |
| | NATURAL IMPACTS | | | | | |

| Task No. | Task | Units | # of Units | Hours / Unit | HOURS | Comments |
|---|---|---|---|---|---|---|
| 3.10 | Wetlands | LS | 1 | 0 | 40 | |
| | Data Collection | | | | 24 | 1/2 mile out from intersection w 41 on all 4 approaches |
| | Evaluation/Report * | | | | 16 | |
| 3.11 | Conceptual Mitigation Plan * | LS | 1 | 4 | 4 | |
| 3.12 | Water Quality * | LS | 1 | 8 | 8 | |
| 3.13 | Outstanding Florida Waters, Wild And Scenic Rivers, And Aquatic Preserves * | LS | 1 | 1 | 1 | |
| 3.14 | Floodplains * | LS | 1 | 40 | 40 | |
| 3.15 | Coastal Barrier Resource * | LS | 1 | 0 | 0 | |
| 3.16 | Wildlife and Habitat | LS | 1 | 0 | 22 | |
| | Data collection | | | | 12 | |
| | Analysis and report * | | | | 10 | |
| | Mitigation Plan * | | | | 0 | |
| 3.17 | Identify Permit Conditions * | LS | 1 | 12 | 12 | |
| 3.18 | Farmlands * | LS | 1 | 2 | 2 | |
| | PHYSICAL IMPACTS | | | | | |
| 3.19 | Noise | LS | 1 | 0 | 122 | |
| | Data collection, and field work | | | | 50 | |
| | Analysis * | | | | 40 | abatement not physicall feasible |
| | Report * | | | | 32 | |

| Task No. | Task | Units | # of Units | Hours / Unit | HOURS | Comments |
|---|---|---|---|---|---|---|
| 3.20 | Air Quality | LS | 1 | 0 | 52 | |
| | Sceening Analysis * | | | | 16 | |
| | Air Quality Modeling * | | | | 36 | optional |
| 3.21 | Construction Impact Analysis * | LS | 1 | 8 | 8 | |
| 3.22 | Contamination | LS | 1 | 0 | 120 | |
| | Field Data | | | | 40 | |
| | Analysis/Report * | | | | 80 | |
| | ENVIRONMENTAL REPORTS | | | | | |
| 3.23 | Class of Action Determination * | LS | 1 | 160 | 160 | assumes Type 2 CEX |
| 3.24 | Environmental Assessment * | LS | 1 | 0 | 0 | |
| 3.25 | FONSI * | LS | 1 | 0 | 0 | |
| 3.26 | Draft EIS * | LS | 1 | 0 | 0 | |
| 3.27 | Final EIS * | LS | 1 | 0 | 0 | |
| | | **Sub Total** | | | **887** | |
| | * Subject to QC | | **% QC** | | | |
| 3.28 | Quality Control | LS | 10 | | 76 | |
| | **ENVIRONMENTAL TOTAL HOURS** | | | | **963** | |

| Estimator: | Gene Keeler | | | | | Causeway Boulivard Interchange at US 41 PD&E Study |
|---|---|---|---|---|---|---|
| | | | | | | 0 |
| **Task No.** | **Task** | **Units** | **# of Units** | **Hours / Unit** | **HOURS** | **Comments** |
| | | | | | | |
| 4.0 | MISCELLANEOUS SERVICES | | | | | |
| 4.1 | Contract and Project Files | LS | 1 | 110 | 110 | |
| 4.2 | Project Management Meetings and Coordination | LS | 20 | 3 | 60 | 1pm* (2 hrs+1 hr travel) |
| 4.3 | ADDITIONAL SERVICES | | | | | |
| | Geotechnical | | | | 40 | office time |
| | Survey and mapping | | | | 100 | office time |
| | | | | | | |
| | | | | | | |
| | **MISC. TOTAL HOURS** | | | | **310** | |
| | | | | | | |
| | SUMMARY | | | | | |
| | PUBLIC INVOLVEMENT | | | | 1727 | |
| | ENGINEERING ANALYSIS AND REPORTS | | | | 4207 | |
| | ENVIRONMENTAL ANALYSIS AND REPORTS | | | | 963 | |
| | MISCELLANEOUS | | | | 310 | |
| | | | | | | |
| | **PROJECT TOTAL HOURS** | | | | **7207** | |

## ESTIMATE OF WORK EFFORT . COST - PRIME CONSULTANT

Name of Project: US 41/ Causeway Blvd. Interchange Design
County: Hillsborough
FPN:
FAP No.:

Consultant Name: Jacobs Civil Inc.
Consultant No.:
Date: 9/26/2004
Estimator: Dwayne Darbonne

| Staff Classification | Total Staff Hours From "SH Summary - | Chief Engineer | Senior Engineer | Project Manager | Project Engineer | Engineer | Engineering Intern | Designer | Senior Engineer Technician | 0 | 0 | 0 | 0 | SH By Activity | Salary Cost By Activity | Average Rate Per Task |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $57.59 | $42.69 | $56.18 | $41.09 | $34.87 | $26.04 | $29.35 | $22.29 | $0.00 | $0.00 | $0.00 | $0.00 | | | |
| 3. Project General Tasks | 700 | 35 | 105 | 70 | 70 | 210 | 105 | 105 | 0 | 0 | 0 | 0 | 0 | 700 | $26,446 | $37.78 |
| 4. Roadway Analysis | 2,877 | 144 | 432 | 288 | 288 | 863 | 432 | 432 | 0 | 0 | 0 | 0 | 0 | 2,879 | $108,770 | $37.78 |
| 5. Roadway Plans | 3,594 | 180 | 539 | 359 | 359 | 1,078 | 539 | 539 | 0 | 0 | 0 | 0 | 0 | 3,593 | $135,741 | $37.78 |
| 6. Drainage Analysis | 1,677 | 84 | 252 | 168 | 168 | 503 | 252 | 252 | 0 | 0 | 0 | 0 | 0 | 1,679 | $63,435 | $37.78 |
| 7. Utilities | 319 | 16 | 48 | 32 | 32 | 96 | 48 | 48 | 0 | 0 | 0 | 0 | 0 | 320 | $12,089 | $37.78 |
| 8. Environmental Permits | 571 | 29 | 86 | 57 | 57 | 171 | 86 | 86 | 0 | 0 | 0 | 0 | 0 | 572 | $21,612 | $37.78 |
| 9. Structure Summary | 1,365 | 68 | 205 | 137 | 137 | 410 | 205 | 205 | 0 | 0 | 0 | 0 | 0 | 1,367 | $51,645 | $37.78 |
| 10. Structures - BDR | 1,430 | 72 | 215 | 143 | 143 | 429 | 215 | 215 | 0 | 0 | 0 | 0 | 0 | 1,432 | $54,103 | $37.78 |
| 11. Structures - Temporary Bridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 12. Structures - Short Span Concrete | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 13. Structures - Medium Span Concrete | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 14. Structures - Structural Steel | 3,424 | 171 | 514 | 342 | 342 | 1,027 | 514 | 514 | 0 | 0 | 0 | 0 | 0 | 3,424 | $129,339 | $37.77 |
| 15. Structures - Segmental Concrete | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 16. Structures - Movable Span | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 17. Structures - Retaining Walls | 658 | 33 | 99 | 66 | 66 | 197 | 99 | 99 | 0 | 0 | 0 | 0 | 0 | 659 | $24,900 | $37.78 |
| 18. Structures - Miscellaneous | 304 | 15 | 46 | 30 | 30 | 91 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 304 | $11,467 | $37.72 |
| 19. Signing & Marking Analysis | 738 | 37 | 111 | 74 | 74 | 221 | 111 | 111 | 0 | 0 | 0 | 0 | 0 | 739 | $27,922 | $37.78 |
| 20. Signing & Marking Plans | 304 | 15 | 46 | 30 | 30 | 91 | 46 | 46 | 0 | 0 | 0 | 0 | 0 | 304 | $11,467 | $37.72 |
| 21. Signalization Analysis | 489 | 24 | 73 | 49 | 49 | 147 | 73 | 73 | 0 | 0 | 0 | 0 | 0 | 488 | $18,434 | $37.77 |
| 22. Signalization Plans | 266 | 13 | 40 | 27 | 27 | 80 | 40 | 40 | 0 | 0 | 0 | 0 | 0 | 267 | $10,088 | $37.78 |
| 23. Lighting Analysis | 950 | 48 | 143 | 95 | 95 | 285 | 143 | 143 | 0 | 0 | 0 | 0 | 0 | 952 | $35,968 | $37.78 |
| 24. Lighting Plans | 350 | 18 | 53 | 35 | 35 | 105 | 53 | 53 | 0 | 0 | 0 | 0 | 0 | 352 | $13,301 | $37.79 |
| 25. Landscape Architecture Analysis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 26. Landscape Architecture Plans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 27. Survey | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 28. Photogrammetry | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 29. Mapping | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 30. Geotechnical | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| 31. Architecture Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $0 | #DIV/0! |
| **Total Staff Hours** | 20,016 | 1002 | 3007 | 2002 | 2002 | 6004 | 3007 | 3007 | 0 | 0 | 0 | 0 | 0 | 20,031 | | |
| **Total Staff Cost** | | $57,705.18 | $128,368.83 | $112,472.36 | $82,262.18 | $209,359.48 | $78,302.28 | $88,255.45 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | | **$756,725.76** | **$37.78** |

Check = $756,725.76

Form Revised 11/18/02

| Survey Field Days by Subconsultant |
|---|
| 4 - Person Crew: |

Notes:
1. This sheet to be used by Prime Consultant to calculate the Grand Total fee.
2. Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.
3. Provide backup for the expense calculation in a format acceptable to the Department.

| | | | | |
|---|---|---|---|---|
| SALARY RELATED COSTS: | | | | $756,725.76 |
| OVERHEAD: | 167% | | | $1,263,732.02 |
| **SUBTOTAL:** | | | | **$2,020,457.78** |
| OPERATING MARGIN: | 15% | | | $303,068.67 |
| FCCM (Facilities Capital Cost Money): | 0.00% | | | $0.00 |
| **EXPENSES (Note 3):** | | | | $1,353.05 |
| Survey (Field - if by Prime) | 0.00 | 4-man crew days @ | $ - / day | $0.00 |
| **SUBTOTAL ESTIMATED FEE:** | | | | **$2,324,879.50** |
| Subconsultant: Surveying & Mapping | | | | $250,000.00 |
| Subconsultant: Geotechnical Services | | | | $200,000.00 |
| Subconsultant: Ecological Services | | | | $20,000.00 |
| Subconsultant: Hazmat | | | | $10,000.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| Subconsultant: 0 | | | | $0.00 |
| **SUBTOTAL ESTIMATED FEE:** | | | | **$2,804,879.50** |
| Geotechnical Field and Lab Testing | | | | $0.00 |
| **SUBTOTAL ESTIMATED FEE:** | | | | **$2,804,879.50** |
| Optional Services | | | | $0.00 |
| **GRAND TOTAL ESTIMATED FEE:** | | | | **$2,804,879.50** |

# Project Information Sheet

**Financial Project Identification Number:** _____ **Federal Aid Project Identification Number:** _____

**Name of Prime / Subconsultant:** Jacobs Civil Inc. **County:** Hillsborough

**Project Description:** US 41/ Causeway Blvd. Interchange Design

**Begin Milepost:** _____ **End Milepost:** _____ **Project Length:** _____ **Miles**

**Number of Lanes:** Six **Typical Section:** Urban (Urban / Rural / Int.:) **Lane Configuration:** Divided (Divided / Undivided)

**Project Type:** Major (Minor / Major) **Access Management Classification:** _____ **Roadway Classification:** _____ (NHS/FIHS/Off Sys.):

**CAP Level:** _____ **TCP Level:** N/A **Survey Level:** _____

**Variances:**

1. _____
2. _____
3. _____
4. _____
5. _____

**Exceptions:**

1. _____
2. _____
3. _____
4. _____
5. _____

**Proposed Design Contract Time:** _____ months

**Project Preliminary Design Specifics:**

| | | |
|---|---|---|
| **Roadway** | Y | **<===Roadway Plan Type (Plan/Profile, Plan Only, etc.)** |
| **Drainage** | Y | **<===Number of Drainage Structures** |
| **Utility coordination** | Y | **<===Number of Effected Utilities** |
| **Structures - Bridges** | 3 | **<=== Bridge Structures? (Y/N, number)** |
| **Structures - Retaining Walls** | Y | **<=== Retaining Walls? (Y/N, number)** |
| **Structures - Misc. Structures** | Y | **<=== Miscellaneous Structures? (Y/N, number)** |
| **Permits** | Y | **<===Permits Required (WMD, ACOE, Local Permits, etc.)** |
| **Signing and PM** | Y | **<===Signing & Pavement Marking Plans Required? (Y / N)** |
| **Signalization Intersections** | Y | **<===Number of Intersections Requiring Signals:** |
| **Non-Signalized Int.** | Y | **<===Number of Non-Signalized Intersections** |
| **Traffic Control** | 3 | **<===Number of phases requiring detailed phase drawings** |
| **Landscaping** | N | **<===Landscaping Plans Required? (Y / N)** |
| **Right of Way** | Y | **<===Right Of Way Plans Required? (Y / N)** |
| **Lighting** | Y | **<===Lighting Plans Required? (Y / N)** |
| **Architecture** | N | **<===Architectural Plans Required? (Y / N)** |
| **Geotech** | Y | **<===Geotechnical Consultant Services Required? (Y / N)** |
| **Survey** | Y | **<===Survey Consultant Services Required? (Y / N)** |
| **JPAs** | Y | **<===JPAs Prepared by Consultant? (Y / N, if so how many?)** |
| **Mitigation Plan** | N | **<===Mitigation Plans Required? (Y / N)** |
| **Specifications Package** | Y | **<===Specifications Package to be Prepared by Consultant? (Y / N)** |

revised 11/18/02

# Project Activity 3: General Tasks

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No of Units | Hours / Unit | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 3.1 | Public Involvement | LS | 1 | 240 | 240 | Level III 240 hrs. |
| 3.2 | Joint Project Agreements | EA | 2 | 24 | 48 | Assume JPA's for Water and Sewer Mains |
| 3.3 | Specifications Package Preparation | LS | 1 | 60 | 60 | |
| 3.4 | Contract Maintenance | LS | 1 | 216 | 216 | LS =24 hrs; 8 hrs./ month for 24 months |
| 3.5 | Value Engineering (Multi-discipline Team) Review | LS | 1 | 40 | 40 | VE by others, hours included for support during VE Study only |
| 3.6 | Prime Consultant Project Manager Meetings | LS | 1 | 96 | 96 | 1 PM x 4 hrs. x 1 meeting / month for 24 months |
| **3. General Tasks Total** | | | | | **700** | |

# Project Activity 4: Roadway Analysis

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No of Units | Hours / Unit | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 4.1 | Typical Section Package | LS | 1 | 58 | 58 | Data Sheet 18 hrs; 5 additional sections @ 8 hrs ea. |
| 4.2 | Pavement Design Package | LS | 1 | 56 | 56 | Setup 24 hrs; 2 additional pavement designs @ 16 hrs ea. |
| 4.3 | Access Management | LS | 1 | 32 | 32 | 2 miles @ 16 hrs./ mile |
| 4.4 | Horizontal /Vertical Master Design Files | LS | 1 | 424 | 424 | 2 miles @ 180 hrs./ mile; 1 additional intersection @ 32 hrs ea. |
| 4.5 | Cross Section Design Files | LS | 1 | 348 | 348 | 2 miles @ 150 hrs./ mile; 3 stormwater ponds @ 16 hrs ea. |
| 4.6 | Traffic Control Analysis | LS | 1 | 304 | 304 | Level III (120 hrs.); Temp. Signal (24 hrs.); Cross Sections 2 miles @ 80 hrs./mile |
| 4.7 | Master TCP Design Files | LS | 1 | 384 | 384 | 2 miles @ 64 hrs./ mile / phase of const.; Assume 3 phases. |
| 4.8 | Design Variations and Exceptions | LS | 1 | 48 | 48 | Assume 2 design variations @ 24 hrs. ea. |
| 4.9 | Design Report | LS | 1 | 80 | 80 | Design Report |
| 4.10 | Computation Book & Quantities | LS | 1 | 240 | 240 | Comp. Book Required |
| 4.11 | Cost Estimate | LS | 1 | 144 | 144 | 2 LRE's @ 12 hrs/update; 5 engr's estimate @ 24 hrs/update |
| 4.12 | Technical Special Provisions | LS | 1 | 16 | 16 | Assume 2 TSP's @ 8 hrs ea. |
| **Roadway Analysis Technical Subtotal** | | | | | **2134** | |
| 4.13 | Field Reviews | LS | 1 | 40 | 40 | 2 Engr's @ x 4 hrs. x (Initial, 30%, 60%, 90%, Plans Update) |
| 4.14 | Technical Meetings | LS | 1 | 192 | 192 | 2 Engr's @ x 4 hrs. x 24 meetings |
| 4.15 | Quality Assurance/Quality Control | LS | % | 8% | 171 | Upper Range Project |
| 4.16 | Independent Peer Review | LS | % | 4% | 85 | Upper Range Project |
| 4.17 | Supervision | LS | % | 8% | 171 | Upper Range Project |
| **Roadway Analysis Nontechnical Subtotal** | | | | | **659** | |
| 4.18 | Coordination | LS | % | 3% | 84 | Upper Range Project |
| **4. Roadway Analysis Total** | | | | | **2877** | |

## Project Activity 5. Roadway Plans

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Scale | Units | No. of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| 5.1 | Key Sheet | | Sheet | 1 | 12 | 1 | 12 | |
| 5.2 | Summary of Pay Items-including Quantity Input | | Sheet | 4 | 18 | 4 | 72 | |
| 5.3 | Drainage Map | | Sheet | 4 | 40 | 4 | 160 | Project Length = 2 miles; 1"=200' |
| 5.4 | Interchange Drainage Map | | Sheet | 1 | 40 | 1 | 40 | |
| 5.5 | Typical Section Sheets | | Sheet | 3 | 18 | 3 | 54 | 6 Typical Sections; 2 Sections/Sheet |
| 5.6 | General Notes/Pay Item notes | | Sheet | 2 | 16 | 2 | 32 | |
| 5.7 | Summary of Quantities | | Sheet | 2 | 24 | 2 | 48 | |
| 5.8 | Box Culvert Data Sheet | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.9 | Bridge Hydraulics Recommendation Sheets | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.10 | Summary of Drainage Structures | | Sheet | 3 | 24 | 3 | 72 | 2 miles; Strs @ 300' spacing |
| 5.11 | Optional Pipe/ Culvert Material | | Sheet | 2 | 8 | 2 | 16 | |
| 5.12 | Project Layout | | Sheet | 4 | 10 | 4 | 40 | Project Length = 2 miles; 1"=200' |
| 5.13 | Plan/Profile Sheet | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.14 | Profile Sheet | | Sheet | 18 | 12 | 18 | 216 | Project Length = 2 miles; 1"=40' |
| 5.15 | Plan Sheet | | Sheet | 18 | 16 | 18 | 288 | Project Length = 2 miles; 1"=40' |
| 5.16 | Special Profile | | Sheet | 11 | 12 | 11 | 132 | Ramps (4 profiles w/ 1 per sheet); D/W's (24 profiles w/ 8 per sheet); Intersections (3 profiles w/ 1 per sheet) |
| 5.17 | Back of Sidewalk Profile Sheet | | Sheet | 18 | 12 | 18 | 216 | Project Length = 2 miles; 1"=40' |
| 5.18 | Interchange Layout Sheet | | Sheet | 4 | 24 | 4 | 96 | Project Length = 2 miles; 1"=200' |
| 5.19 | Ramp Terminal Details (Plan View) | | Sheet | 4 | 10 | 4 | 40 | 4 Ramp Terminals |
| 5.20 | Intersection Layout Details | | Sheet | 2 | 12 | 2 | 24 | 2 Intersections |
| 5.21 | Miscellaneous Detail Sheets | | Sheet | 2 | 24 | 2 | 48 | Misc. Const. Details |
| 5.22 | Drainage Structure Sheet (per Structure) | | EA | 100 | 4 | 24 | 400 | 2 miles; Strs @ 300' spacing |

## Project Activity 5. Roadway Plans

| Task No. | Task | Scale | Units | No. of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| 5.23 | Miscellaneous Drainage Detail Sheets | | Sheet | 2 | 24 | 2 | 48 | Special Structures |
| 5.24 | Lateral Ditch Plan/Profile | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.25 | Lateral Ditch Cross sections | | EA | 0 | 0 | 0 | 0 | NIC |
| 5.26 | Retention/Detention Ponds Detail Sheet | | Sheet | 5 | 32 | 5 | 160 | 5 WRA's |
| 5.27 | Retention Pond Cross Sections | | EA | 24 | 0.5 | | 12 | |
| 5.28 | Cross-section Pattern Sheet | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.29 | Roadway Soil Survey Sheet | | Sheet | 0 | 0 | 0 | 0 | Shjeet provided by Geotech Firm |
| 5.30 | Cross Sections | | EA | 106 | 0.5 | 36 | 53 | Project Length = 2 miles |
| 5.31 | Traffic Control Plan Sheets | | Sheet | 54 | 10 | 54 | 540 | 3 Phases |
| 5.32 | Traffic Control Cross Section Sheets | | EA | 75 | 0.5 | 36 | 38 | 25 sections / phase |
| 5.33 | Traffic Control Detail Sheets | | Sheet | 2 | 10 | 2 | 20 | |
| 5.34 | Utility Adjustment Sheets | | Sheet | 18 | 4 | 18 | 72 | |
| 5.35 | Selective Clearing and Grubbing | | Sheet | 0 | 0 | 0 | 0 | NIC |
| 5.36 | Erosion Control Plan | | Sheet | 18 | 6 | 18 | 108 | |
| 5.37 | SWPPP | | Sheet | 4 | 6 | 4 | 24 | |
| 5.38 | Project Control Network Sheet | | Sheet | 1 | 1 | 1 | 1 | Furnished by Surveyor |
| 5.39 | Interim Standards | | LS | 1 | 4 | | 4 | |
| 5.40 | Utility Verification Sheet (SUE data) | | Sheet | 1 | 12 | 1 | 12 | |
| **Roadway Plans Technical Subtotal** | | | | | | **304** | **3098** | |
| 5.41 | Quality Assurance/Quality Control | | LS | % | 8% | | 248 | |
| 5.42 | Supervision | | LS | % | 8% | | 248 | |
| **5. Roadway Plans Total** | | | | | | **304** | **3594** | |

# Project Activity 6: Drainage Analysis

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No of Units | Hours / Unit | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 6.1 | Determine Base Clearance Water Elevation | Per Location | 1 | 12 | 12 | Low Range |
| 6.2 | Pond Siting Analysis and Report | Per Basin | 5 | 32 | 160 | Assume 5 Basins |
| 6.3 | Design of Cross Drains | EA | 6 | 6 | 36 | Assume 6 Culverts |
| 6.4 | Design of Roadway Ditches | Per Ditch Mile | 1.2 | 20 | 24 | Frontage & Auxilary Rds |
| 6.5 | Design of Outfalls | EA | 0 | 0 | 0 | Assume closed basins |
| 6.6 | Design of Stormwater Management Facility (Offsite Pond) | EA | 5 | 60 | 300 | Assume 5 WRA |
| 6.7 | Design of Stormwater Management Facility (Roadside Ditch as Linear Pond) | Per System | 0 | 0 | 0 | NIC |
| 6.8 | Design of Flood Plain Compensation Area | Per Encroachment | 4 | 40 | 160 | |
| 6.9 | Design of Storm Drains | EA | 100 | 4 | 400 | 70 inlets; 20 manholes; 10 misc. structures |
| 6.10 | Optional Culvert Material | LS | 1 | 16 | 16 | |
| 6.11 | French Drain Systems | Per 1000 Feet of French Drain | 0 | 0 | 0 | NIC |
| 6.12 | Drainage Wells | EA | 0 | 0 | 0 | NIC |
| 6.13 | Drainage Design Documentation Report | LS | 1 | 80 | 80 | High Range |
| 6.14 | Preparation of Bridge Hydraulic Report | EA | 0 | 0 | 0 | NIC |
| 6.15 | Cost Estimate | LS | 1 | 16 | 16 | |
| 6.16 | Technical Special Provisions | LS | 1 | 0 | 0 | See Roadway Analysis Estimate |
| **Drainage Analysis Technical Subtotal** | | | | | **1204** | |
| 6.17 | Field Reviews | LS | 1 | 40 | 40 | 2 Engr's @ x 4 hrs. x (Initial, 30%, 60%, 90%, Plans Update) |

## Project Activity 6: Drainage Analysis

| Task No. | Task | Units | No of Units | Hours / Unit | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 6.18 | Technical Meetings | LS | 1 | 144 | 144 | 2 Engr's @ x 4 hrs. x 18 meetings |
| 6.19 | Quality Assurance/Quality Control | LS | % | 8% | 96 | Upper Range Project |
| 6.20 | Independent Peer Review | LS | % | 4% | 48 | Upper Range Project |
| 6.21 | Supervision | LS | % | 8% | 96 | Upper Range Project |
| **Drainage Analysis Nontechnical Subtotal** | | | | | **424** | |
| 6.22 | Coordination | LS | % | 3% | 49 | |
| **6. Drainage Analysis Total** | | | | | **1677** | |

# Project Activity 7: Utilities

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | TASK | Units | No of Units | Hours / Unit | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 7.1 | Kickoff Meeting | LS | 1 | 8 | 8 | 1 Mtg. x 2 Engr. x 4 hrs. |
| 7.2 | Identify Existing UAOs | LS | 6 | 2 | 12 | Assume 6 Utilities |
| 7.3 | Make Utility Contacts | LS | 3 | 12 | 36 | 3 Contacts x 6 Utilities x 2 hrs./utility |
| 7.4 | Exception Coordination | LS | 3 | 3 | 9 | Assume 3 Exceptions |
| 7.5 | Preliminary Utility Meeting | LS | 1 | 8 | 8 | 1 Mtg. x 2 Engr. x 4 hrs. |
| 7.6 | Individual/Field Meetings | LS | 2 | 8 | 16 | 2 Field Mtgs w/ 6 Utility Companies |
| 7.7 | Collect and Review Plans and Data from UAO(s) | LS | 6 | 1 | 6 | Assume 6 Utilities |
| 7.8 | Subordination of Easements Coordination | LS | 6 | 1 | 6 | Assume 6 Easements |
| 7.9 | Utility Design Meeting | LS | 1 | 8 | 8 | 1 Mtg. x 2 Engr. x 4 hrs. |
| 7.10 | Review Utility Markups, Work Schedules, Processing of Schedules and Agreements | LS | 6 | 6 | 36 | 6 Utilities @ 2 hrs. x 3 documents/utility |
| 7.11 | Utility Coordination / Followup | LS | 6 | 20 | 120 | 6 utilities x 4 hrs. x 5 complex factor |
| 7.12 | Utility Constructability Review | LS | 6 | 4 | 24 | 6 Utilities @ 4 hrs. / utility |
| 7.13 | Additional Utility Services | LS | 1 | 0 | 0 | NIC |
| 7.14 | Processing Utility Work by Highway Contractor (UWHC) | LS | 1 | 0 | 0 | NIC |
| 7.15 | Contract Plans to UAO(s) | LS | 6 | 1 | 6 | Assume 6 Utilities |
| 7.16 | Certification/Close-out | LS | 6 | 4 | 24 | Assume 6 Utilities |
| | | | | **7. Utilities Total** | **319** | |

# Project Activity 8: Environmental Permits

Estimator: J. D. Darbonne

#REF!
0

| Task No. | Task | Units | No. of Units | Hours/ Units | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 8.1 | Preliminary Project Research | LS | 1 | 24 | 24 | Data gathering from relevant sources including PD&E studies, County, local agencies, WMD, ACOE, USCG, etc. First look at project during the initial plans review to check for permit involvement, and verify background data. Includes additional reviews for clarification and preliminary field review. |
| 8.2 | Complete Permit Involvement Form | LS | 1 | 8 | 8 | Completion of Permit Involvement Form in coordination with District Permit Coordinator and the Department's Project Manager. To be done after scope is well defined. |
| 8.3 | Establish Wetland Jurisdictional Lines | LS | 1 | 16 | 16 | Support of the Ecological Subconsultant - Includes determination of wetland lines. Includes completion of the involved agencie's wetland assessment program(s). |
| 8.4 | Agency Verification of Wetland Data | LS | 1 | 12 | 12 | Verification of wetland data identified in Task 3. Includes finalization of wetland assessment programs with applicable agencies. Includes any other meetings or field reviews necessary to finalize jurisdictional involvement regarding trees, bridges, coastal construction lines, etc. |
| 8.5 | Complete And Submit All Required Permit Applications | LS | 1 | 350 | 350 | |
| 8.6 | Prepare Dredge and Fill Sketches | LS | 1 | 24 | 24 | |
| 8.7 | Prepare USCG Permit Sketches | LS | 0 | 0 | 0 | Not Anticipated |
| 8.8 | Prepare Easement Sketches | LS | 0 | 0 | 0 | Not Anticipated |
| 8.9 | Prepare R/W Occupancy Sketches | LS | 0 | 0 | 0 | Not Anticipated |
| 8.10 | Prepare Coastal Construction Control Line (CCCL) Permit Sketches | LS | 0 | 0 | 0 | Not Anticipated |
| 8.11 | Prepare Tree Permit Information | LS | 0 | 0 | 0 | Not Anticipated |

## Project Activity 8: Environmental Permits

| Task No. | Task | Units | No. of Units | Hours/ Units | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 8.12 | Mitigation Coordination and Meetings | LS | 0 | 0 | 0 | Not Anticipated |
| 8.13 | Mitigation Design | LS | 0 | 0 | 0 | Not Anticipated |
| 8.14 | Environmental Clearances | LS | 0 | 0 | 0 | Not Anticipated |
| **Environmental Permits Technical Subtotal** | | | | | **434** | |
| 8.15 | Technical Meetings | LS | 4 | 10 | 40 | 2 Engr's @ x 5 hrs. x 4 meetings |
| 8.16 | Quality Assurance/Quality Control | LS | % | 8% | 35 | |
| 8.17 | Supervision | LS | % | 8% | 35 | |
| **Environmental Permits Nontechnical SubTotal** | | | | | **110** | |
| 8.18 | Coordination | LS | % | 5% | 27 | |
| **8. Environmental Permits Total** | | | | | **571** | |

# Project Activity 9: Structures Summary and Miscellaneous Tasks and Drawings

Estimator:G. Ghosh

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Units | Design and Production Staffhours | | | | Comments |
|---|---|---|---|---|---|---|---|
| | | | No. of Units | Hours per Unit | No. of Sheets | Total | |
| | **General Drawings** | | | | | | |
| 9.1 | Index of Drawings | sheet | 1 | 16 | 1 | 16 | |
| 9.2 | Project Layout | sheet | 2 | 16 | 2 | 32 | |
| 9.3 | General Notes and Bid Item Notes | sheet | 1 | 12 | 1 | 12 | |
| 9.4 | Incorporate FDOT Standards | sheet | 10 | 4 | 10 | 40 | |
| 9.5 | Incorporate Report of Core Borings | sheet | 4 | 8 | 4 | 32 | |
| 9.6 | Existing Bridge Plans | LS | 1 | 0 | | 0 | |
| 9.7 | Computation Book and Quantities | LS | 1 | 96 | | 96 | 3@8 + 18@4 |
| 9.8 | Cost Estimate | LS | 1 | 18 | | 18 | 3@6 |
| 9.9 | Technical Special Provisions | LS | 1 | 12 | | 12 | |
| **Structures - Miscellaneous Tasks & Drawings Subtotal** | | | | | 18 | 258 | |

| Task No. | Task | Total | Task 10 | Task 11 | Task 12 | Task 13 | Task 14 | Task 15 | Task 16 | Task 17 | Task 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-16 | Bridge 1 | 1698 | 514 | 0 | 0 | 0 | 1184 | 0 | 0 | | |
| 10-16 | Bridge 2 | 1636 | 472 | | | | 1164 | | | | |
| 10-16 | Bridge 3 | 1520 | 444 | | | | 1076 | | | | |
| 17 | Retaining Walls | 658 | | | | | | | | 658 | |
| 18 | Miscellaneous Structures | 304 | | | | | | | | | 304 |
| **Structures Technical Subtotals** | | 5816 | 1430 | 0 | 0 | 0 | 3424 | 0 | 0 | 658 | 304 |

| Task No. | Task | Units | No. of Units | Hours per Unit | Total | Comments |
|---|---|---|---|---|---|---|
| 9.10 | Field Reviews | LS | 1 | 24 | 24 | |
| 9.11 | Technical Meetings | LS | 1 | 24 | 24 | |
| 9.12 | Quality Assurance / Quality Control | LS | % | 6% | 364 | |
| 9.13 | Independent Peer Review | LS | % | 3% | 182 | |
| 9.14 | Supervison | LS | % | 5% | 304 | |
| **Structures Non-Technical Subtotal** | | | | | 898 | |
| 9.15 | Coordination | LS | % | 3% | 209 | |
| **9. Structures - Miscellaneous Tasks & Drawings, Non-Technical, & Coordination Total** | | | | | 1365 | |

# Project Activity 10: BDR

Estimator: G. Ghosh

US 41 / Causeway Interchange Project

Bridge Identfier (Number or Name): Bridge 1: Causeway Blvd. over CSX Railroad and Frontage Roads

255599-1-52-02

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Requirement** | | | | | | | |
| 10.1 | Bridge Geometry | LS | 1 | 60 | | 60 | 5 span continuous bridge on Vert and Horiz. Curve |
| 10.2 | Ship Impact Data Collection | LS | 1 | 0 | | 0 | |
| 10.3 | Ship Impact Criteria | EA | 0 | 0 | | 0 | |
| **Superstructure Alternatives** | | | | | | | |
| 10.4 | Short Span Concrete | EA | 0 | 0 | | 0 | |
| 10.5 | Medium Span Concrete | EA | 1 | 16 | | 16 | Type IV Girders |
| 10.6 | Long Span Concrete | EA | 0 | 0 | | 0 | |
| 10.7 | Structural Steel | EA | 2 | 24 | | 48 | Plate Girder and Rolled Sections |
| **Foundation & Substructure Alternatives** | | | | | | | |
| 10.8 | Pier/Bent Types | EA | 3 | 16 | | 48 | Hammer head and multi columns (circular) |
| 10.9 | Shallow Foundations | EA | 0 | 0 | | 0 | |
| 10.10 | Deep Foundations | EA | 3 | 10 | | 30 | Pile versus Caisson |
| **Movable Span** | | | | | | | |
| 10.11 | Data Collection & Design Criteria | LS | 1 | 0 | | 0 | |
| 10.12 | Movable Span Geometrics and Clearances | LS | 1 | 0 | | 0 | |
| 10.13 | Deck System Evaluation | LS | 1 | 0 | | 0 | |
| 10.14 | Framing Plan Development | LS | 1 | 0 | | 0 | |
| 10.15 | Main Girder Preliminary Design | LS | 1 | 0 | | 0 | |
| 10.16 | Conceptual Span Balance/Counterweight | LS | 1 | 0 | | 0 | |
| 10.17 | Support System Development | LS | 1 | 0 | | 0 | |
| 10.18 | Drive Power Calculations | LS | 1 | 0 | | 0 | |
| 10.19 | Drive System Development | LS | 1 | 0 | | 0 | |
| 10.20 | Power and Control Development | LS | 1 | 0 | | 0 | |
| 10.21 | Conceptual Pier Design | LS | 1 | 0 | | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.22 | Foundation Analysis (FL Pier) | LS | 1 | 0 | | 0 | |
| 10.23 | Tender Visibility Study | LS | 1 | 0 | | 0 | |
| **Other BDR Issues** | | | | | | | |
| 10.24 | Aesthetics | LS | 1 | 12 | | 12 | |
| 10.25 | TCP/Staged Construction Requirements | LS | 1 | 8 | | 8 | |
| 10.26 | Constructibility Requirements | LS | 1 | 8 | | 8 | |
| 10.27 | Abutment Slope/Wall Evaluation | LS | 1 | 4 | | 4 | |
| 10.28 | Quantity and Cost Estimates | EA | 3 | 16 | | 48 | |
| 10.29 | Quantity and Cost Estimates (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.30 | Wall Type Justification | LS | 1 | 16 | | 16 | |
| **Report Preparation** | | | | | | | |
| 10.31 | Exhibits | EA | 3 | 20 | | 60 | 3 Bridge Types |
| 10.32 | Exhibits (Movable Span) | EA | 0 | 0 | | 0 | |
| 10.33 | Report Preparation | LS | 1 | 40 | | 40 | |
| 10.34 | Report Preparation (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.35 | BDR Submittal Package | LS | 1 | 12 | | 12 | |
| **BDR Subtotal** | | | | | | **410** | |
| **Add the following hours if Plans are included with the BDR submittal** | | | | | | | |
| 10.36 | General Notes Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.37 | Plan and Elevation Sheets | Sheet | 1 | 48 | 1 | 48 | |
| 10.38 | Construction Staging | Sheet | 1 | 8 | 1 | 8 | |
| 10.39 | Superstructure Section Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.40 | Substructure Sections Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.41 | General Notes Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.42 | Plan and Elevation Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.43 | Clearance Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.44 | Bascule Pier Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.45 | Bascule Leaf Section (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.46 | Bascule Leaf Framing Plan (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.47 | Machinery Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.48 | Control Logic Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| **30% Plans Subtotal** | | | | | **5** | **104** | |
| **10. Structures-BDR Total** | | | | | **5** | **514** | |

# Project Activity 10: BDR

Estimator: G. Ghosh
Bridge Identfier (Number or Name): Bridge 2: US 41 over CSX Railroad and Frontage Roads

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Requirement** | | | | | | | |
| 10.1 | Bridge Geometry | LS | 1 | 72 | | 72 | 3 span continuous flared Bridge on Vert and Horiz. Curve |
| 10.2 | Ship Impact Data Collection | LS | 1 | 0 | | 0 | |
| 10.3 | Ship Impact Criteria | EA | 0 | 0 | | 0 | |
| **Superstructure Alternatives** | | | | | | | |
| 10.4 | Short Span Concrete | EA | 0 | 0 | | 0 | |
| 10.5 | Medium Span Concrete | EA | 1 | 16 | | 16 | Type V |
| 10.6 | Long Span Concrete | EA | 0 | 0 | | 0 | |
| 10.7 | Structural Steel | EA | 2 | 28 | | 56 | Plate Girder and Box Girder Alternatives |
| **Foundation & Substructure Alternatives** | | | | | | | |
| 10.8 | Pier/Bent Types | EA | 3 | 12 | | 36 | Hammer head and multi columns (circular) |
| 10.9 | Shallow Foundations | EA | 0 | 0 | | 0 | |
| 10.10 | Deep Foundations | EA | 3 | 8 | | 24 | Pile versus Caisson |
| **Movable Span** | | | | | | | |
| 10.11 | Data Collection & Design Criteria | LS | 1 | 0 | | 0 | |
| 10.12 | Movable Span Geometrics and Clearances | LS | 1 | 0 | | 0 | |
| 10.13 | Deck System Evaluation | LS | 1 | 0 | | 0 | |
| 10.14 | Framing Plan Development | LS | 1 | 0 | | 0 | |
| 10.15 | Main Girder Preliminary Design | LS | 1 | 0 | | 0 | |
| 10.16 | Conceptual Span Balance/Counterweight | LS | 1 | 0 | | 0 | |
| 10.17 | Support System Development | LS | 1 | 0 | | 0 | |
| 10.18 | Drive Power Calculations | LS | 1 | 0 | | 0 | |
| 10.19 | Drive System Development | LS | 1 | 0 | | 0 | |
| 10.20 | Power and Control Development | LS | 1 | 0 | | 0 | |
| 10.21 | Conceptual Pier Design | LS | 1 | 0 | | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.22 | Foundation Analysis (FL Pier) | LS | 1 | 0 | | 0 | |
| 10.23 | Tender Visibility Study | LS | 1 | 0 | | 0 | |
| | **Other BDR Issues** | | | | | | |
| 10.24 | Aesthetics | LS | 1 | 12 | | 12 | |
| 10.25 | TCP/Staged Construction Requirements | LS | 1 | 8 | | 8 | |
| 10.26 | Constructibility Requirements | LS | 1 | 8 | | 8 | |
| 10.27 | Abutment Slope/Wall Evaluation | LS | 1 | 4 | | 4 | |
| 10.28 | Quantity and Cost Estimates | EA | 3 | 16 | | 48 | |
| 10.29 | Quantity and Cost Estimates (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.30 | Wall Type Justification | LS | 1 | 12 | | 12 | |
| | **Report Preparation** | | | | | | |
| 10.31 | Exhibits | EA | 3 | 12 | | 36 | 3 Bridge Types |
| 10.32 | Exhibits (Movable Span) | EA | 0 | 0 | | 0 | |
| 10.33 | Report Preparation | LS | 1 | 40 | | 40 | |
| 10.34 | Report Preparation (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.35 | BDR Submittal Package | LS | 1 | 12 | | 12 | |
| | **BDR Subtotal** | | | | | **384** | |
| | **Add the following hours if Plans are included with the BDR submittal** | | | | | | |
| 10.36 | General Notes Sheets | Sheet | 0 | 0 | 0 | 0 | |
| 10.37 | Plan and Elevation Sheets | Sheet | 1 | 48 | 1 | 48 | |
| 10.38 | Construction Staging | Sheet | 1 | 8 | 1 | 8 | |
| 10.39 | Superstructure Section Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.40 | Substructure Sections Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.41 | General Notes Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.42 | Plan and Elevation Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.43 | Clearance Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.44 | Bascule Pier Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.45 | Bascule Leaf Section (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.46 | Bascule Leaf Framing Plan (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.47 | Machinery Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.48 | Control Logic Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| **30% Plans Subtotal** | | | | | **4** | **88** | |
| **10. Structures-BDR Total** | | | | | **4** | **472** | |

# Project Activity 10: BDR

Estimator: G. Ghosh
Bridge Identfier (Number or Name): Bridge 3: US 41 over Causeway Blvd and Frontage Roads

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Requirement** | | | | | | | |
| 10.1 | Bridge Geometry | LS | 1 | 60 | | 60 | 3 span continuous bridge on Vert and Horiz. Curve |
| 10.2 | Ship Impact Data Collection | LS | 1 | 0 | | 0 | |
| 10.3 | Ship Impact Criteria | EA | 0 | 0 | | 0 | |
| **Superstructure Alternatives** | | | | | | | |
| 10.4 | Short Span Concrete | EA | 0 | 0 | | 0 | |
| 10.5 | Medium Span Concrete | EA | 1 | 16 | | 16 | Type V girders |
| 10.6 | Long Span Concrete | EA | 0 | 0 | | 0 | |
| 10.7 | Structural Steel | EA | 2 | 24 | | 48 | Plate Girder and Box Girder Alternatives |
| **Foundation & Substructure Alternatives** | | | | | | | |
| 10.8 | Pier/Bent Types | EA | 3 | 12 | | 36 | Hammer head and multi columns (circular) |
| 10.9 | Shallow Foundations | EA | 0 | 0 | | 0 | |
| 10.10 | Deep Foundations | EA | 3 | 8 | | 24 | Pile versus Caisson |
| **Movable Span** | | | | | | | |
| 10.11 | Data Collection & Design Criteria | LS | 1 | 0 | | 0 | |
| 10.12 | Movable Span Geometrics and Clearances | LS | 1 | 0 | | 0 | |
| 10.13 | Deck System Evaluation | LS | 1 | 0 | | 0 | |
| 10.14 | Framing Plan Development | LS | 1 | 0 | | 0 | |
| 10.15 | Main Girder Preliminary Design | LS | 1 | 0 | | 0 | |
| 10.16 | Conceptual Span Balance/Counterweight | LS | 1 | 0 | | 0 | |
| 10.17 | Support System Development | LS | 1 | 0 | | 0 | |
| 10.18 | Drive Power Calculations | LS | 1 | 0 | | 0 | |
| 10.19 | Drive System Development | LS | 1 | 0 | | 0 | |
| 10.20 | Power and Control Development | LS | 1 | 0 | | 0 | |
| 10.21 | Conceptual Pier Design | LS | 1 | 0 | | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.22 | Foundation Analysis (FL Pier) | LS | 1 | 0 | | 0 | |
| 10.23 | Tender Visibility Study | LS | 1 | 0 | | 0 | |
| **Other BDR Issues** | | | | | | | |
| 10.24 | Aesthetics | LS | 1 | 12 | | 12 | |
| 10.25 | TCP/Staged Construction Requirements | LS | 1 | 8 | | 8 | |
| 10.26 | Constructibility Requirements | LS | 1 | 8 | | 8 | |
| 10.27 | Abutment Slope/Wall Evaluation | LS | 1 | 4 | | 4 | |
| 10.28 | Quantity and Cost Estimates | EA | 3 | 12 | | 36 | |
| 10.29 | Quantity and Cost Estimates (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.30 | Wall Type Justification | LS | 1 | 16 | | 16 | |
| **Report Preparation** | | | | | | | |
| 10.31 | Exhibits | EA | 3 | 12 | | 36 | 3 Bridge Types |
| 10.32 | Exhibits (Movable Span) | EA | 0 | 0 | | 0 | |
| 10.33 | Report Preparation | LS | 1 | 40 | | 40 | |
| 10.34 | Report Preparation (Movable Span) | LS | 1 | 0 | | 0 | |
| 10.35 | BDR Submittal Package | LS | 1 | 12 | | 12 | |
| **BDR Subtotal** | | | | | | **356** | |
| **Add the following hours if Plans are included with the BDR submittal** | | | | | | | |
| 10.36 | General Notes Sheets | Sheet | 0 | 0 | 0 | 0 | |
| 10.37 | Plan and Elevation Sheets | Sheet | 1 | 48 | 1 | 48 | |
| 10.38 | Construction Staging | Sheet | 1 | 8 | 1 | 8 | |
| 10.39 | Superstructure Section Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.40 | Substructure Sections Sheets | Sheet | 1 | 16 | 1 | 16 | |
| 10.41 | General Notes Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.42 | Plan and Elevation Sheets (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.43 | Clearance Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 10: BDR

| Task No. | Task | Units | No of Units | Hours / Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| 10.44 | Bascule Pier Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.45 | Bascule Leaf Section (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.46 | Bascule Leaf Framing Plan (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.47 | Machinery Layouts (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| 10.48 | Control Logic Diagram (Movable Span) | Sheet | 0 | 0 | 0 | 0 | |
| **30% Plans Subtotal** | | | | | 4 | **88** | |
| **10. Structures-BDR Total** | | | | | **4** | **444** | |

# Project Activity 14: Structures -Structural Steel

Estimator: G. Ghosh
Bridge Identfier (Number or Name): Bridge 1: Causeway Blvd over CSX Railroad and Frontage Roads

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Layout Design and Plans** | | | | | | | |
| 14.1 | Overall Bridge Final Geometry | LS | 1 | 40 | | 40 | |
| 14.2 | Expansion/Contraction Analysis | EA Unit | 1 | 16 | | 16 | 5 span continuous superstructure |
| 14.3 | General Plan and Elevation | Sheet | 1 | 16 | 1 | 16 | Revise 30% Plans |
| 14.4 | Construction Staging | Sheet | 1 | 0 | 0 | 0 | |
| 14.5 | Approach Slab Plan and Details | Sheet | 1 | 8 | 1 | 8 | |
| 14.6 | Miscellaneous Details | Sheet | 1 | 24 | 1 | 24 | Special Utility support details will be required |
| **End Bent Design and Plans** | | | | | | | |
| 14.7 | End Bent Geometry | EA | 2 | 16 | | 32 | |
| 14.8 | Wingwall Design and Geometry | EA Bent | 2 | 8 | | 16 | |
| 14.9 | End Bent Structural Design | EA | 1 | 32 | | 32 | |
| 14.10 | End Bent Plan and Elevation | Sheet | 2 | 20 | 2 | 40 | |
| 14.11 | End Bent Details | Sheet | 1 | 24 | 1 | 24 | |
| **Intermediate Bent Design and Plans** | | | | | | | |
| 14.12 | Bent Geometry | EA bent | 0 | 0 | | 0 | |
| 14.13 | Bent Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.14 | Bent Structural Design | EA design | 0 | 0 | | 0 | |
| 14.15 | Bent Plan and Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.16 | Bent Details | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Pier Design and Plans** | | | | | | | |
| 14.17 | Pier Geometry | EA pier | 4 | 16 | | 64 | 4 Intermediate Pier type substructure |
| 14.18 | Pier Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.19 | Pier Structural Design | EA design | 2 | 40 | | 80 | |
| 14.20 | Pier Plan and Elevation | Sheet | 2 | 30 | 2 | 60 | |
| 14.21 | Pier Details | Sheet | 2 | 24 | 2 | 48 | |
| **Misc. Substructure Design and Plans** | | | | | | | |
| 14.22 | Foundation Layout | Sheet | 1 | 24 | 1 | 24 | |
| 14.23 | Fender System | LS | 1 | 0 | | 0 | |
| **Superstructure Deck Design and Plans** | | | | | | | |
| 14.24 | Finish Grade Elevation (FGE) Calculation | LS | 1 | 32 | | 32 | |
| 14.25 | Finish Grade Elevations | Sheet | 1 | 16 | 1 | 16 | |
| 14.26 | Bridge Deck Design | EA section | 1 | 8 | | 8 | Empirical Method |
| 14.27 | Bridge Deck Reinforcing and Concrete Quantities | EA Unit | 2 | 16 | | 32 | |
| 14.28 | Superstructure Plan | Sheet | 2 | 24 | 2 | 48 | |
| 14.29 | Superstructure Section | Sheet | 2 | 16 | 2 | 32 | |
| 14.30 | Miscellaneous Bridge Deck Details | Sheet | 2 | 20 | 2 | 40 | |
| **Reinforcing Bar Lists** | | | | | | | |
| 14.31 | Reinforcing Bar List | Sheet | 2 | 10 | 2 | 20 | |

# Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Plate Girder Design** | | | | | | | |
| 14.32 | Unit Modeling | EA Unit | 2 | 40 | | 80 | Interior and Exterior Girders with less than 15 deg skew |
| 14.33 | Section Design | EA Unit | 2 | 20 | | 40 | |
| 14.34 | Stiffener Design and Locations | EA Unit | 2 | 8 | | 16 | |
| 14.35 | Cross-frame Design | EA Unit | 1 | 8 | | 8 | |
| 14.36 | Connections | EA Unit | 1 | 16 | | 16 | |
| 14.37 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 2 | 12 | | 24 | |
| 14.38 | Splice Design | EA Unit | 4 | 10 | | 40 | 2 splices for Interior and Exterior Girders |
| 14.39 | Shear Stud Connectors | EA Unit | 2 | 8 | | 16 | |
| 14.40 | Deflection Analysis | EA Unit | 2 | 16 | | 32 | |
| 14.41 | Framing Plan | Sheet | 2 | 16 | 2 | 32 | |
| 14.42 | Girder Elevation | Sheet | 2 | 12 | 2 | 24 | |
| 14.43 | Structural Steel Details | Sheet | 2 | 16 | 2 | 32 | |
| 14.44 | Splice Details | Sheet | 2 | 8 | 2 | 16 | |
| 14.45 | Girder Deflections and Camber | Sheet | 2 | 8 | 2 | 16 | |

# Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Box Girder Design** | | | | | | | |
| 14.46 | Unit Modeling | EA Unit | 0 | 0 | | 0 | |
| 14.47 | Section Design | EA Unit | 0 | 0 | | 0 | |
| 14.48 | Stiffener Design and Locations | EA Unit | 0 | 0 | | 0 | |
| 14.49 | Interior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.50 | Exterior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.51 | Connections | EA Unit | 0 | 0 | | 0 | |
| 14.52 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 0 | 0 | | 0 | |
| 14.53 | Splice Design | EA Unit | 0 | 0 | | 0 | |
| 14.54 | Shear Stud Connectors | EA Unit | 0 | 0 | | 0 | |
| 14.55 | Deflection Analysis | EA Unit | 0 | 0 | | 0 | |
| 14.56 | Framing Plan | Sheet | 0 | 0 | 0 | 0 | |
| 14.57 | Girder Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.58 | Structural Steel Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.59 | Splice Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.60 | Girder Deflections and Camber | Sheet | 0 | 0 | 0 | 0 | |
| **Load Rating** | | | | | | | |
| 14.61 | Load Rating | EA Unit | 1 | 40 | | 40 | |
| **14. Structures-Structural Steel Total** | | | | | **30** | **1184** | |

# Project Activity 14: Structures -Structural Steel

Estimator: G. Ghosh
Bridge Identfier (Number or Name): Bridge 2: US 41 over CSX Railroad and Frontage Roads

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Layout Design and Plans** | | | | | | | |
| 14.1 | Overall Bridge Final Geometry | LS | 1 | 48 | | 48 | |
| 14.2 | Expansion/Contraction Analysis | EA Unit | 1 | 16 | | 16 | 3 span continuous superstructure with splaying |
| 14.3 | General Plan and Elevation | Sheet | 1 | 16 | 1 | 16 | Revise 30% Plans |
| 14.4 | Construction Staging | Sheet | 0 | 0 | 0 | 0 | |
| 14.5 | Approach Slab Plan and Details | Sheet | 1 | 8 | 1 | 8 | |
| 14.6 | Miscellaneous Details | Sheet | 1 | 16 | 1 | 16 | Special Utility support details will be required |
| **End Bent Design and Plans** | | | | | | | |
| 14.7 | End Bent Geometry | EA | 2 | 20 | | 40 | |
| 14.8 | Wingwall Design and Geometry | EA Bent | 2 | 8 | | 16 | |
| 14.9 | End Bent Structural Design | EA | 2 | 20 | | 40 | |
| 14.10 | End Bent Plan and Elevation | Sheet | 2 | 20 | 2 | 40 | |
| 14.11 | End Bent Details | Sheet | 1 | 24 | 1 | 24 | |
| **Intermediate Bent Design and Plans** | | | | | | | |
| 14.12 | Bent Geometry | EA bent | 0 | 0 | | 0 | |
| 14.13 | Bent Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.14 | Bent Structural Design | EA design | 0 | 0 | | 0 | |
| 14.15 | Bent Plan and Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.16 | Bent Details | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Pier Design and Plans** | | | | | | | |
| 14.17 | Pier Geometry | EA pier | 2 | 16 | | 32 | |
| 14.18 | Pier Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.19 | Pier Structural Design | EA design | 1 | 48 | | 48 | |
| 14.20 | Pier Plan and Elevation | Sheet | 2 | 24 | 2 | 48 | |
| 14.21 | Pier Details | Sheet | 2 | 16 | 2 | 32 | |
| **Misc. Substructure Design and Plans** | | | | | | | |
| 14.22 | Foundation Layout | Sheet | 1 | 24 | 1 | 24 | |
| 14.23 | Fender System | LS | 1 | 0 | | 0 | |
| **Superstructure Deck Design and Plans** | | | | | | | |
| 14.24 | Finish Grade Elevation (FGE) Calculation | LS | 1 | 32 | | 32 | Flared Deck Section on Curve |
| 14.25 | Finish Grade Elevations | Sheet | 1 | 16 | 1 | 16 | |
| 14.26 | Bridge Deck Design | EA section | 1 | 24 | | 24 | |
| 14.27 | Bridge Deck Reinforcing and Concrete Quantities | EA Unit | 1 | 16 | | 16 | |
| 14.28 | Superstructure Plan | Sheet | 3 | 16 | 3 | 48 | |
| 14.29 | Superstructure Section | Sheet | 3 | 12 | 3 | 36 | |
| 14.30 | Miscellaneous Bridge Deck Details | Sheet | 2 | 20 | 2 | 40 | |
| **Reinforcing Bar Lists** | | | | | | | |
| 14.31 | Reinforcing Bar List | Sheet | 2 | 10 | 2 | 20 | |

## Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Plate Girder Design** | | | | | | | |
| 14.32 | Unit Modeling | EA Unit | 2 | 40 | | 80 | Interior and Exterior Girders with less than 15 deg skew |
| 14.33 | Section Design | EA Unit | 2 | 16 | | 32 | |
| 14.34 | Stiffener Design and Locations | EA Unit | 2 | 8 | | 16 | |
| 14.35 | Cross-frame Design | EA Unit | 2 | 16 | | 32 | |
| 14.36 | Connections | EA Unit | 1 | 16 | | 16 | |
| 14.37 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 2 | 16 | | 32 | |
| 14.38 | Splice Design | EA Unit | 2 | 16 | | 32 | |
| 14.39 | Shear Stud Connectors | EA Unit | 2 | 12 | | 24 | |
| 14.40 | Deflection Analysis | EA Unit | 2 | 16 | | 32 | |
| 14.41 | Framing Plan | Sheet | 2 | 12 | 2 | 24 | |
| 14.42 | Girder Elevation | Sheet | 2 | 16 | 2 | 32 | |
| 14.43 | Structural Steel Details | Sheet | 2 | 20 | 2 | 40 | |
| 14.44 | Splice Details | Sheet | 2 | 8 | 2 | 16 | |
| 14.45 | Girder Deflections and Camber | Sheet | 2 | 8 | 2 | 16 | |

# Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Box Girder Design** | | | | | | | |
| 14.46 | Unit Modeling | EA Unit | 0 | 0 | | 0 | |
| 14.47 | Section Design | EA Unit | 0 | 0 | | 0 | |
| 14.48 | Stiffener Design and Locations | EA Unit | 0 | 0 | | 0 | |
| 14.49 | Interior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.50 | Exterior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.51 | Connections | EA Unit | 0 | 0 | | 0 | |
| 14.52 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 0 | 0 | | 0 | |
| 14.53 | Splice Design | EA Unit | 0 | 0 | | 0 | |
| 14.54 | Shear Stud Connectors | EA Unit | 0 | 0 | | 0 | |
| 14.55 | Deflection Analysis | EA Unit | 0 | 0 | | 0 | |
| 14.56 | Framing Plan | Sheet | 0 | 0 | 0 | 0 | |
| 14.57 | Girder Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.58 | Structural Steel Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.59 | Splice Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.60 | Girder Deflections and Camber | Sheet | 0 | 0 | 0 | 0 | |
| **Load Rating** | | | | | | | |
| 14.61 | Load Rating | EA Unit | 1 | 60 | | 60 | **Flared Deck Section on Curve** |
| **14. Structures-Structural Steel Total** | | | | | **32** | **1164** | |

# Project Activity 14: Structures -Structural Steel

Estimator: G. Ghosh
Bridge Identfier (Number or Name): Bridge 3: US 41 over Causeway Blvd and Frontage Roads

US 41 / Causeway Interchange Project
255599-1-52-02

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Layout Design and Plans** | | | | | | | |
| 14.1 | Overall Bridge Final Geometry | LS | 1 | 48 | | 48 | |
| 14.2 | Expansion/Contraction Analysis | EA Unit | 1 | 16 | | 16 | 3 span continuous superstructure over SPDI |
| 14.3 | General Plan and Elevation | Sheet | 1 | 16 | 1 | 16 | Revise 30% Plans |
| 14.4 | Construction Staging | Sheet | 0 | 0 | 0 | 0 | |
| 14.5 | Approach Slab Plan and Details | Sheet | 1 | 8 | 1 | 8 | |
| 14.6 | Miscellaneous Details | Sheet | 1 | 24 | 1 | 24 | Special Utility support details will be required |
| **End Bent Design and Plans** | | | | | | | |
| 14.7 | End Bent Geometry | EA | 2 | 16 | | 32 | |
| 14.8 | Wingwall Design and Geometry | EA Bent | 2 | 8 | | 16 | |
| 14.9 | End Bent Structural Design | EA | 1 | 32 | | 32 | |
| 14.10 | End Bent Plan and Elevation | Sheet | 2 | 20 | 2 | 40 | |
| 14.11 | End Bent Details | Sheet | 1 | 24 | 1 | 24 | |
| **Intermediate Bent Design and Plans** | | | | | | | |
| 14.12 | Bent Geometry | EA bent | 0 | 0 | | 0 | |
| 14.13 | Bent Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.14 | Bent Structural Design | EA design | 0 | 0 | | 0 | |
| 14.15 | Bent Plan and Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.16 | Bent Details | Sheet | 0 | 0 | 0 | 0 | |

# Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Pier Design and Plans** | | | | | | | |
| 14.17 | Pier Geometry | EA pier | 2 | 16 | | 32 | |
| 14.18 | Pier Stability Analysis | EA design | 0 | 0 | | 0 | |
| 14.19 | Pier Structural Design | EA design | 1 | 48 | | 48 | |
| 14.20 | Pier Plan and Elevation | Sheet | 2 | 30 | 2 | 60 | |
| 14.21 | Pier Details | Sheet | 2 | 24 | 2 | 48 | |
| **Misc. Substructure Design and Plans** | | | | | | | |
| 14.22 | Foundation Layout | Sheet | 1 | 24 | 1 | 24 | |
| 14.23 | Fender System | LS | 1 | 0 | | 0 | |
| **Superstructure Deck Design and Plans** | | | | | | | |
| 14.24 | Finish Grade Elevation (FGE) Calculation | LS | 1 | 32 | | 32 | |
| 14.25 | Finish Grade Elevations | Sheet | 1 | 16 | 1 | 16 | |
| 14.26 | Bridge Deck Design | EA section | 1 | 16 | | 16 | Empirical method |
| 14.27 | Bridge Deck Reinforcing and Concrete Quantities | EA Unit | 1 | 16 | | 16 | |
| 14.28 | Superstructure Plan | Sheet | 2 | 24 | 2 | 48 | |
| 14.29 | Superstructure Section | Sheet | 2 | 16 | 2 | 32 | |
| 14.30 | Miscellaneous Bridge Deck Details | Sheet | 2 | 20 | 2 | 40 | |
| **Reinforcing Bar Lists** | | | | | | | |
| 14.31 | Reinforcing Bar List | Sheet | 2 | 8 | 2 | 16 | |

## Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Plate Girder Design** | | | | | | | |
| 14.32 | Unit Modeling | EA Unit | 2 | 32 | | 64 | Interior and Exterior Girders with less than 15 deg skew |
| 14.33 | Section Design | EA Unit | 2 | 16 | | 32 | |
| 14.34 | Stiffener Design and Locations | EA Unit | 2 | 8 | | 16 | |
| 14.35 | Cross-frame Design | EA Unit | 2 | 8 | | 16 | |
| 14.36 | Connections | EA Unit | 1 | 16 | | 16 | |
| 14.37 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 2 | 12 | | 24 | |
| 14.38 | Splice Design | EA Unit | 2 | 16 | | 32 | |
| 14.39 | Shear Stud Connectors | EA Unit | 2 | 8 | | 16 | |
| 14.40 | Deflection Analysis | EA Unit | 2 | 16 | | 32 | |
| 14.41 | Framing Plan | Sheet | 2 | 12 | 2 | 24 | |
| 14.42 | Girder Elevation | Sheet | 2 | 12 | 2 | 24 | |
| 14.43 | Structural Steel Details | Sheet | 2 | 16 | 2 | 32 | |
| 14.44 | Splice Details | Sheet | 1 | 8 | 1 | 8 | |
| 14.45 | Girder Deflections and Camber | Sheet | 2 | 8 | 2 | 16 | |

# Project Activity 14: Structures -Structural Steel

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Structural Steel Box Girder Design** | | | | | | | |
| 14.46 | Unit Modeling | EA Unit | 0 | 0 | | 0 | |
| 14.47 | Section Design | EA Unit | 0 | 0 | | 0 | |
| 14.48 | Stiffener Design and Locations | EA Unit | 0 | 0 | | 0 | |
| 14.49 | Interior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.50 | Exterior Cross-frame Design | EA Unit | 0 | 0 | | 0 | |
| 14.51 | Connections | EA Unit | 0 | 0 | | 0 | |
| 14.52 | Bearing Assembly Design and Detailing (with Jacking Analysis) | EA Unit | 0 | 0 | | 0 | |
| 14.53 | Splice Design | EA Unit | 0 | 0 | | 0 | |
| 14.54 | Shear Stud Connectors | EA Unit | 0 | 0 | | 0 | |
| 14.55 | Deflection Analysis | EA Unit | 0 | 0 | | 0 | |
| 14.56 | Framing Plan | Sheet | 0 | 0 | 0 | 0 | |
| 14.57 | Girder Elevation | Sheet | 0 | 0 | 0 | 0 | |
| 14.58 | Structural Steel Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.59 | Splice Details | Sheet | 0 | 0 | 0 | 0 | |
| 14.60 | Girder Deflections and Camber | Sheet | 0 | 0 | 0 | 0 | |
| **Load Rating** | | | | | | | |
| 14.61 | Load Rating | EA Unit | 1 | 40 | | 40 | |
| **14. Structures-Structural Steel Total** | | | | | **29** | **1076** | |

# Project Activity 17 : Retaining Walls

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **General Requirements** | | | | | | | |
| 17.1 | Key Sheet | Sheet | 2 | 16 | 2 | 32 | |
| 17.2 | Horizontal Wall Geometry | Per Wall | 18 | 6 | | 108 | 11 curved and 7 straight |
| **Permanent Proprietary Walls** | | | | | | | |
| 17.3 | Vertical Wall Geometry | Per Wall | 18 | 11 | | 198 | |
| 17.4 | Semi-Standard Drawings | Sheet | 1 | 16 | 1 | 16 | |
| 17.5 | Wall Plan and Elevations (Control Drawings) | Sheet | 16 | 16 | 16 | 256 | over 7500 lf of MSE wall |
| 17.6 | Details | Sheet | 2 | 24 | 2 | 48 | |
| **Temporary Proprietary Walls** | | | | | | | |
| 17.7 | Vertical Wall Geometry | Per Wall | 0 | 0 | | 0 | |
| 17.8 | Semi-Standard Drawings | Sheet | 0 | 0 | 0 | 0 | |
| 17.9 | Wall Plan and Elevations (Control Drawings) | Sheet | 0 | 0 | 0 | 0 | |
| 17.10 | Details | Sheet | 0 | 0 | 0 | 0 | |
| **Cast in Place Retaining Walls** | | | | | | | |
| 17.11 | Design | EA Design | 0 | 0 | | 0 | |
| 17.12 | Vertical Wall Geometry | EA Wall | 0 | 0 | | 0 | |
| 17.13 | General Notes | Sheet | 0 | 0 | 0 | 0 | |
| 17.14 | Wall Plan and Elevations (Control Drawings) | Sheet | 0 | 0 | 0 | 0 | |
| 17.15 | Sections and Details | Sheet | 0 | 0 | 0 | 0 | |
| 17.16 | Reinforcing Bar List | Sheet | 0 | 0 | 0 | 0 | |

## Project Activity 17: Retaining Walls

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Other Retaining Walls** | | | | | | | |
| 17.17 | Design | EA Design | 0 | 0 | | 0 | |
| 17.18 | Vertical Wall Geometry | EA Wall | 0 | 0 | | 0 | |
| 17.19 | General Notes, Tables & Misc. Details | Sheet | 0 | 0 | 0 | 0 | |
| 17.20 | Wall Plan and Elevations | Sheet | 0 | 0 | 0 | 0 | |
| 17.21 | Details | Sheet | 0 | 0 | 0 | 0 | |
| **17. Retaining Walls Total** | | | | | **21** | **658** | |

# Project Activity 18: Miscellaneous Structures

Estimator: G. Ghosh

#REF!
#REF!

| Task No. | Task | Unit | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|
| **Concrete Box Culvert** | | | | | | | |
| 18.1 | Concrete Box Culverts | EA | 0 | 0 | | 0 | |
| 18.2 | Concrete Box Culverts Extensions | EA | 0 | 0 | | 0 | |
| **Strain Poles** | | | | | | | |
| 18.3 | Steel Strain Poles | Initial Config | 0 | 0 | | 0 | |
| | | EA Add'l Config | 0 | 0 | | 0 | |
| 18.4 | Concrete Strain Poles | Initial Config | 0 | 0 | | 0 | |
| | | EA Add'l Config | 0 | 0 | | 0 | |
| **Mast Arms** | | | | | | | |
| 18.5 | Mast Arms | EA Pole | 4 | 12 | | 48 | |
| **Overhead & Cantilever Sign Structures** | | | | | | | |
| 18.6 | Cantilever Sign Structures | EA | 4 | 12 | | 48 | |
| 18.7 | Overhead Span Sign Structures | EA | 4 | 20 | | 80 | |
| 18.8 | Special (longspan) Overhead Span Sign Structures | EA | 0 | 0 | | 0 | |
| 18.9 | Monotube Overhead Sign Structure | EA | 0 | 0 | | 0 | |
| 18.10 | Bridge Mounted Signs (Attached to Superstr.) | EA | 2 | 64 | | 128 | |
| **High Mast Lighting Fixtures** | | | | | | | |
| 18.11 | High Mast Lighting Structures | EA | 0 | 0 | | 0 | |
| **Sound Barrier Walls (Ground Mount)** | | | | | | | |
| 18.12 | Horizontal Wall Geometry | EA Wall | 0 | 0 | | 0 | |
| 18.13 | Vertical Wall Geometry | EA 500 feet of Wall | 0 | 0 | | 0 | |
| 18.14 | Semi-Standard Drawings | Sheet | 0 | 0 | | 0 | |
| 18.15 | Control Drawings | Sheet | 0 | 0 | | 0 | |
| 18.16 | Design for Wall Height Covered by Standards | EA Design | 0 | 0 | | 0 | |

## Project Activity 18: Miscellaneous Structures

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18.17 | Design for Wall Height Not Covered by Standards | EA Design | 0 | 0 | | 0 | |
| 18.18 | Aesthetic Details | EA | 0 | 0 | | 0 | |
| **Special Structures** | | | | | | | |
| 18.19 | Special Structures | LS | 1 | 0 | | 0 | |
| **18. Miscellaneous Structures Total** | | | | | **0** | **304** | |

# Project Activity 19: Signing and Pavement Marking Analysis

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No. of Units | Hours/ Units | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 19.1 | Traffic Data Analysis | LS | 1 | 4 | 4 | |
| 19.2 | No Passing Zone Study | LS | 1 | 0 | 0 | Not Applicable |
| 19.3 | Reference and Master Design File | LS | 1 | 256 | 256 | Setup 40 hrs., 2 miles x 90 hrs./mile; 3 intersections @ 12 hrs./ intersection |
| 19.4 | Multi Post Sign Support Calculations | EA | 4 | 3 | 12 | Assume 4 signs |
| 19.5 | Sign Panel Design Analysis | EA | 12 | 3 | 36 | 8 Advance OH Guide Signs + 4 Ground Mtd. Information Signs |
| 19.6 | Sign Lighting/Electrical Calculations | EA | 12 | 2 | 24 | |
| 19.7 | Quantities | LS | 1 | 108 | 108 | 36 sheets @ 3 hrs./ sheet |
| 19.8 | Computation Book | LS | 1 | 80 | 80 | |
| 19.9 | Cost Estimate | LS | 1 | 34 | 34 | 2 LRE's @ 2 hrs/update; 5 engr's estimate @ 6 hrs/update |
| 19.10 | Technical Special Provisions | LS | 1 | 8 | 8 | Assume 1 TSP's @ 8 hrs ea. |
| **Signing & Pavement Marking Analysis Technical Subtotal** | | | | | **562** | |
| 19.11 | Field Reviews | LS | 3 | 4 | 12 | 1 Engr's @ x 4 hrs. x (60%, 90%, Plans Update) |
| 19.12 | Technical Meetings | LS | 1 | 24 | 24 | 1 Engr's @ x 4 hrs. x 6 meetings |
| 19.13 | Quality Assurance/Quality Control | LS | % | 8% | 45 | |
| 19.14 | Independent Peer Review | LS | % | 4% | 22 | |
| 19.15 | Supervision | LS | % | 8% | 45 | |
| **Signing & Pavement Marking Analysis Nontechnical Subtotal** | | | | | **148** | |
| 19.16 | Coordination | LS | % | 4% | 28 | |
| **19. Signing & Pavement Marking Analysis Total** | | | | | **738** | |

# Project Activity 20: Signing and Pavement Marking Plans

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Scale | Units | No of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| 20.1 | Key Sheet | | Sheet | 1 | 6 | 1 | 6 | |
| 20.2 | Summary of Pay Items-including CES Input | | LS | 1 | 8 | 1 | 8 | |
| 20.3 | Tabulation of Quantities | | Sheet | 4 | 10 | 4 | 40 | |
| 20.4 | General Notes / Pay Item Notes | | Sheet | 1 | 8 | 1 | 8 | |
| 20.5 | Project Layout | | Sheet | 0 | 0 | 0 | 0 | Not Applicable |
| 20.6 | Plan Sheet | | Sheet | 18 | 4 | 18 | 72 | |
| 20.7 | Typical Details | | EA | 1 | 10 | 1 | 10 | |
| 20.8 | Guide Sign Work Sheet (s) | | EA | 14 | 2 | 8 | 28 | |
| 20.9 | Traffic Monitoring Site | | EA | 0 | 0 | | 0 | NIC |
| 20.10 | Cross Sections | | EA | 14 | 6 | 5 | 84 | 10 OH signs @ 8 hrs/sign; 4 grd mnt.@ 3 hrs./sign |
| 20.11 | Special Service Point Detail | | EA | 1 | 6 | 1 | 6 | |
| 20.12 | Special Details | | LS | 1 | 10 | 1 | 10 | |
| 20.13 | Interim Standards | | LS | 1 | 4 | 1 | 4 | |
| **Signing & Pavement Marking Plans Technical Subtotal** | | | | | | **42** | **276** | |
| 20.14 | Quality Assurance/Quality Control | | LS | % | 5% | | 14 | |
| 20.15 | Supervision | | LS | % | 5% | | 14 | |
| **20. Signing & Pavement Marking Plans Total** | | | | | | **42** | **304** | |

# Project Activity 21: Signalization Analysis

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No. of | Hours/ Units | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 21.1 | Traffic Data Collection | LS | 1 | 72 | 72 | crash reports:6 hrs, 8hr TMC: 16 hrs, 7da machine counts: 20 hrs (2 approaches), speed and delay studies:30 hrs |
| 21.2 | Traffic Data Analysis | PI | 1 | 10 | 10 | Data Analysis for Causeway Blvd / US 41 |
| 21.3 | Signal Warrant Study | LS | 1 | 0 | 0 | Existing signal in place at Causeway Blvd/US 41. No other locations will need to be studied. |
| 21.4 | System Timings | LS | 1 | 6 | 6 | |
| 21.5 | Reference and Master Signalization Design File | PI | 1 | 54 | 54 | |
| 21.6 | Reference and Master Interconnect Communication Design File | LS | 1 | 40 | 40 | 8 hours for set-up and 32 hours per mile for Causeway Blvd |
| 21.7 | Overhead Street Name Sign Design | EA | 4 | 3 | 12 | Estimated 2 mast arms for Causeway Blvd/US 41 ramps intersection with 2 signs located on each arm. |
| 21.8 | Pole Elevation Analysis | LS | 1 | 2 | 2 | |
| 21.9 | Traffic Signal Operation Report | LS | 1 | 40 | 40 | |
| 21.10 | Quantities | LS | 1 | 10 | 10 | |
| 21.11 | Cost Estimate | LS | 1 | 11 | 11 | 3 hrs for LRE review and 8 hrs for engineer's estimate. |
| 21.12 | Technical Special Provisions | LS | 2 | 12 | 24 | Estimated 2 modified TSP. |
| **Signalization Analysis Technical Subtotal** | | | | | **281** | |
| 21.13 | Field Reviews | LS | 1 | 40 | 40 | 2 Engr's @ x 4 hrs. x (Initial, 30%, 60%, 90%, Plans Update) |
| 21.14 | Technical Meetings | LS | 1 | 96 | 96 | 2 Engr's @ x 4 hrs. x 12 meetings |
| 21.15 | Quality Assurance/Quality Control | LS | 1 | 8% | 22 | |
| 21.16 | Independent Peer Review | LS | 1 | 5% | 14 | |
| 21.17 | Supervision | LS | 1 | 8% | 22 | |
| **Signalization Analysis Nontechnical Subtotal** | | | | | **194** | |
| 21.18 | Coordination | LS | 1 | 3% | 14 | |
| **19. Signalization Analysis Total** | | | | | **489** | |

# Project Activity 22: Signalization Plans

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Scale | Units | No of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| 22.1 | Key Sheet | | Sheet | 1 | 8 | 1 | 8 | |
| 22.2 | Summary of Pay Items-including CES Input | | Sheet | 1 | 8 | 1 | 8 | |
| 22.3 | Tabulation of Quantities | | Sheet | 1 | 8 | 1 | 8 | |
| 22.4 | General Notes/Pay Item notes | | Sheet | 1 | 16 | 1 | 16 | |
| 22.5 | Plan Sheet | | Sheet | 3 | 6 | 3 | 18 | 2 railroad crossings and 1 for Causeway Blvd / US 41 Ramps |
| 22.6 | Interconnect Plans | | Sheet | 4 | 4 | 4 | 16 | |
| 22.7 | Traffic Monitoring Site | | EA | 2 | 12 | 2 | 24 | 1 traffic monitoring site for each road |
| 22.8 | Guide Sign Work Sheet | | EA | 2 | 2 | 2 | 4 | |
| 22.9 | Special Details | | Sheet | 1 | 12 | 1 | 12 | |
| 22.10 | Special Service Point Details | | EA | 1 | 8 | 1 | 8 | |
| 22.11 | Mast Arm / Monotube Tabulation Sheet | | PI | 1 | 4 | 1 | 4 | |
| 22.12 | Strain Pole Schedule | | PI | 0 | 0 | 0 | 0 | Using mast arms |
| 22.13 | TCP Signal (Temporary) | | EA | 2 | 40 | 2 | 80 | Need to signalize ramp intersections while constructing bridge and wall. |
| 22.14 | Temporary Detection Sheet | | PI | 2 | 4 | 2 | 8 | |
| 22.15 | Utility Conflict Sheet | | Sheet | 1 | 12 | 1 | 12 | |
| 22.16 | Interim Standards | | LS | 1 | 4 | 1 | 4 | |
| **Signalization Plans Technical Subtotal** | | | | | | **24** | **230** | |
| 22.17 | Quality Assurance/Quality Control | | LS | 1 | 8% | 1 | 18 | |
| 22.18 | Supervision | | LS | 1 | 8% | 1 | 18 | |
| **22. Signalization Plans Total** | | | | | | **24** | **266** | |

# Project Activity 23: Lighting Analysis

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Units | No. of Units | Hours/ Units | Total Hours | Comments |
|---|---|---|---|---|---|---|
| 23.1 | Lighting Justification Report | LS | 1 | 60 | 60 | |
| 23.2 | Lighting Analysis Report | LS | 1 | 120 | 120 | |
| 23.3 | Aeronautical Evaluation | LS | 1 | 0 | 0 | NEAREST AIRPORT GREATER THAN 3 MILES |
| 23.4 | Voltage Drop Calculations | LS | 1 | 40 | 40 | |
| 23.5 | FDEP Coordination & Report | LS | 1 | 0 | 0 | ASSUMED SEA TURTLE COORDINATION NOT REQUIRED |
| 23.6 | Reference and Master Design Files | LS | 1 | 340 | 340 | 60HR+(140HR/MILE X 2 MILES) = 340 HRS |
| 23.7 | Temporary Lighting | LS | 1 | 80 | 80 | |
| 23.8 | Design Documentation | LS | 1 | 24 | 24 | |
| 23.9 | Quantities | LS | 1 | 60 | 60 | Comp. Book Required |
| 23.10 | Cost Estimate | LS | 1 | 18 | 18 | 2 LRE's @ 2 hrs/update; 4 engr's estimate @ 4 hrs/update |
| 23.11 | Technical Special Provisions | LS | 1 | 0 | 0 | ASSUMED TSP NOT REQUIRED |
| **Lighting Analysis Technical Subtotal** | | | | | **742** | |
| 23.12 | Field Reviews | LS | 1 | 16 | 16 | 2 TRIPS X 1 PERSON X 8 HRS |
| 23.13 | Technical Meetings | LS | 1 | 24 | 24 | |
| 23.14 | Quality Assurance/Quality Control | LS | % | 8% | 59 | |
| 23.15 | Independent Peer Review | LS | % | 3% | 22 | |
| 23.16 | Supervision | LS | % | 8% | 59 | |
| **Lighting Analysis Nontechnical Subtotal** | | | | | **180** | |
| 23.17 | Coordination | LS | % | 3% | 28 | |
| **23. Lighting Analysis Total** | | | | | **950** | |

# Project Activity 24: Lighting Plans

Estimator:

US 41 / Causeway Interchange Project
411561-1

| Task No. | Task | Scale | Units | No. of Units | Hours/ Unit | No. of Sheets | Total Hours | Comments |
|---|---|---|---|---|---|---|---|---|
| 24.1 | Key Sheet | | Sheet | 1 | 8 | 1 | 8 | |
| 24.2 | Summary of Pay Items - including CES Input | | Sheet | 1 | 8 | 1 | 8 | |
| 24.3 | Tabulation of Quantities | | Sheet | 2 | 9 | 2 | 18 | |
| 24.4 | General Notes/Pay Item notes | | Sheet | 1 | 8 | 1 | 8 | |
| 24.5 | Pole Data, Legend & Criteria | | Sheet | 2 | 20 | 2 | 40 | |
| 24.6 | Service Point Details | | Sheet | 1 | 16 | 1 | 16 | |
| 24.7 | Project Layout | | Sheet | 0 | 0 | 0 | 0 | |
| 24.8 | Plan Sheet | | Sheet | 16 | 4 | 16 | 64 | |
| 24.9 | Special Details | | Sheet | 4 | 24 | 4 | 96 | 3-UNDER DECK SHEETS AND 1-LUMINARE DETAILS |
| 24.10 | Temporary Lighting Data & Details | | Sheet | 2 | 20 | 2 | 40 | |
| 24.11 | Traffic Control Plan Sheets | | Sheet | 0 | 0 | 0 | 0 | |
| 24.12 | Interim Standards | | LS | 1 | 4 | 0 | 4 | |
| **Lighting Plans Technical Subtotal** | | | | | | **30** | **302** | |
| 24.13 | Quality Assurance/Quality Control | | LS | % | 8% | | 24 | |
| 24.14 | Supervision | | LS | % | 8% | | 24 | |
| **24. Lighting Plans Total** | | | | | | **30** | **350** | |

Date: 9/29/2004 3:56:29 PM

# FDOT Long Range Estimating System

## R1: Project Summary without Components Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH

**Project Manager:** Linda Crescentini

| | | | |
|---|---|---|---|
| **Version 1-P Project Grand Total** | | | **$52,049,823.02** |
| **Description:** | U.S. 41 - Causeway Blvd. Intersection | | |
| | **Sequence 1 NDU Total** | | $25,852,271.06 |
| | **Sequence 2 NDU Total** | | $17,040,144.66 |
| **Project Sequences Subtotal** | | | **$42,892,415.72** |
| | **Maintenance of Traffic** | 10.00 % | $4,289,241.57 |
| | **Mobilization** | 10.00 % | $4,718,165.73 |
| **Project Sequences Total** | | | **$51,899,823.02** |
| | **Scope Creep** | 0.00 % | $0.00 |
| | **Project Non-Bid Subtotal** | | $150,000.00 |
| **Version 1-P Project Grand Total** | | | **$52,049,823.02** |

Date: 9/29/2004 3:57:15 PM

# FDOT Long Range Estimating System

## R2: Project Summary with Components Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH

**Project Manager:** Linda Crescentini

**Version 1-P Project Grand Total** **$52,049,823.02**

**Description:** U.S. 41 - Causeway Blvd. Intersection

| | | | |
|---|---|---|---|
| **Sequence 1 NDU** | | | **Component Subtotals:** |
| | Earthwork | | $7,589,824.37 |
| | Roadway | | $2,262,675.73 |
| | Shoulder | | $404,788.37 |
| | Median | | $194,935.84 |
| | Drainage | | $1,700,138.49 |
| | Intersections | | $250,063.84 |
| | Signing | | $156,510.13 |
| | Lighting | | $169,488.17 |
| | Bridges | | $4,992,346.12 |
| | Retaining Walls | | $8,131,500.00 |
| **Sequence 1 Total** | | | **$25,852,271.06** |
| **Sequence 2 NDU** | | | **Component Subtotals:** |
| | Earthwork | | $6,860,390.40 |
| | Roadway | | $1,642,649.69 |
| | Shoulder | | $404,788.37 |
| | Median | | $194,935.84 |
| | Drainage | | $786,951.94 |
| | Intersections | | $606,150.38 |
| | Signing | | $156,510.13 |
| | Lighting | | $169,488.17 |
| | Signalizations | | $153,779.74 |
| | Bridges | | $1,852,500.00 |
| | Retaining Walls | | $4,212,000.00 |
| **Sequence 2 Total** | | | **$17,040,144.66** |
| **Project Sequences Subtotal** | | | **$42,892,415.72** |
| | **Maintenance of Traffic** | 10.00 % | $4,289,241.57 |
| | **Mobilization** | 10.00 % | $4,718,165.73 |
| **Project Sequences Total** | | | **$51,899,823.02** |
| | **Scope Creep** | 0.00 % | $0.00 |
| | **Project Non-Bid Subtotal** | | $150,000.00 |
| **Version 1-P Project Grand Total** | | | **$52,049,823.02** |

Date: 9/29/2004 3:58:46 PM

# FDOT Long Range Estimating System

## R3: Project Details by Sequence Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH **Market Area:** 08 **Units:** English
**Contract Class:** **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.000 MI

**Project Manager:** Linda Crescentini

**Version 1-P Project Grand Total** **$52,049,823.02**
**Description:** U.S. 41 - Causeway Blvd. Intersection

**Sequence:** 1 NDU - New Construction, Divided, Urban **Net Length:** 1.000 MI
**Description:** U.S. 41
**Special Conditions:** U.S. 41 is elevated over CSX Railroad Crossing and Causeway Blvd.

---

### EARTHWORK COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Standard Clearing and Grubbing Limits L/R | 160.00 / 180.00 |
| Incidental Clearing and Grubbing Area | 2.00 |
| | |
| Alignment Number | 1 |
| Distance | 1.000 |
| Top of Structural Course For Begin Section | 112.00 |
| Top of Structural Course For End Section | 112.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 4.00 % / 4.00 % |
| Outside Shoulder Cross Slope L/R | 2.00 % / 2.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 41.21 AC | $7,115.26 | $293,219.86 |
| 110-1-1 | CLEARING & GRUBBING | 2.00 AC | $7,115.26 | $14,230.52 |
| 120-6 | EMBANKMENT | 465,922.84 CY | $15.63 | $7,282,373.99 |
| | **Earthwork Component Total** | | | $7,589,824.37 |

---

### ROADWAY COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Number of Lanes | 6 |
| Roadway Pavement Width L/R | 48.00 / 48.00 |
| Structural Spread Rate | 300 |
| Friction Course Spread Rate | 160 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 160-4 | STABILIZATION TYPE B | 62,374.40 | SY | $7.90 | $492,757.76 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 56,320.00 | SY | $9.64 | $542,924.80 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 8,448.00 | TN | $55.70 | $470,553.60 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 4,505.60 | TN | $82.08 | $369,819.65 |

**Turnouts/Crossovers Subcomponent**

| Description | Value |
|---|---|
| Asphalt Adjustment | 5.00 |
| Stabilization Code | Y |
| Base Code | Y |
| Friction Course Code | Y |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 160-4 | STABILIZATION TYPE B | 3,118.72 | SY | $7.90 | $24,637.89 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 2,816.00 | SY | $9.64 | $27,146.24 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 422.40 | TN | $55.70 | $23,527.68 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 225.28 | TN | $82.08 | $18,490.98 |

**Pavement Marking Subcomponent**

| Description | Value |
|---|---|
| Solid Stripe No. of Stripes | 4 |
| Solid Stripe No. of Applications | 2 |
| Skip Stripe No. of Stripes | 4 |
| Skip Stripe No. of Applications | 2 |
| Top Layer Thermoplastic | Y |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 706-3 | RETRO-REFLECTIVE PAVEMENT MARKERS | 675.00 | EA | $4.75 | $3,206.25 |
| 710-21 | TRAFFIC STRIPE SKIP (WHITE/BLACK) | 4.00 | GM | $361.06 | $1,444.24 |
| 710-23-61 | TRAFFIC STRIPE SOLID (WHITE/BLACK) ( 6") | 4.00 | NM | $663.47 | $2,653.88 |
| 711-31 | TRAFFIC STRIPE SKIP (THERMO) (WH) | 4.00 | GM | $7,825.72 | $31,302.88 |
| 711-37-61 | TRAF STRIPE SOLID (THERMO) (WH)( 6") | 4.00 | NM | $2,322.15 | $9,288.60 |

**Peripherals Subcomponent**

| Description | Value |
|---|---|
| Off Road Bike Path(s) | 0 |
| Off Road Bike Path Width L/R | 0.00 / 0.00 |
| Bike Path Structural Spread Rate | 0 |
| Noise Barrier Wall Length | 0.00 |

| | |
|---|---|
| Noise Barrier Wall Begin Height | 0.00 |
| Noise Barrier Wall End Height | 0.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 339-1 | ASPHALT PAVEMENT MISCELLANEOUS | 136.00 | TN | $113.98 | $15,501.28 |
| 536-1-1 | GUARDRAIL (ROADWAY) | 4,000.00 | LF | $11.06 | $44,240.00 |
| 536-82 | GUARDRAIL END ANCH (CONC BARRIER WALL) | 8.00 | EA | $1,200.00 | $9,600.00 |
| 544-75-14 | IMPACT ATTENUATOR VEHICULAR (QUADGURD) | 8.00 | EA | $21,947.50 | $175,580.00 |
| | **Roadway Component Total** | | | | $2,262,675.73 |

## SHOULDER COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Total Outside Shoulder Width L/R | 12.25 / 12.25 |
| Total Outside Shoulder Sod Width L/R | 5.00 / 5.00 |
| Sidewalk Width L/R | 5.00 / 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 5,280.00 | LF | $22.16 | $117,004.80 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 5,280.00 | LF | $22.16 | $117,004.80 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 5,866.67 | SY | $27.56 | $161,685.43 |
| 575-1 | SODDING | 5,866.67 | SY | $1.55 | $9,093.34 |
| | **Shoulder Component Total** | | | | $404,788.37 |

## MEDIAN COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Total Median Width | 22.00 |
| Sod Width | 5.34 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 10,560.00 | LF | $18.00 | $190,080.00 |
| 575-1 | SODDING | 3,132.80 | SY | $1.55 | $4,855.84 |
| | **Median Component Total** | | | | $194,935.84 |

## DRAINAGE COMPONENT

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-351 | INLETS (CURB) (TYPE P-5) (<10') | 36.00 | EA | $3,284.26 | $118,233.36 |

| | | | | |
|---|---|---|---|---|
| 425-1-451 | INLETS (CURB) (TYPE J-5) (<10') | 10.00 EA | $4,000.00 | $40,000.00 |
| 425-1-521 | INLETS (DT BOT) (TYPE C) (<10') | 5.00 EA | $1,679.18 | $8,395.90 |
| 425-2-41 | MANHOLES (P-7) (<10') | 5.00 EA | $2,787.50 | $13,937.50 |
| 430-171-125 | PIPE CULV(OPT MATL)(ROUND) ( 18"SS) | 2,646.00 LF | $39.27 | $103,908.42 |
| 430-171-141 | PIPE CULV(OPT MATL)(ROUND) ( 48"SS) | 5,000.00 LF | $87.67 | $438,350.00 |
| 430-172-138 | PIPE CULV(OPT MATL)(ROUND) ( 36"CD) | 236.00 LF | $93.33 | $22,025.88 |
| 575-1 | SODDING | 304.00 SY | $1.55 | $471.20 |

**Retention Basin 1**

| Description | Value |
|---|---|
| Size | 1 AC |
| Multiplier | 1 |
| Depth | 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.00 | AC | $7,115.26 | $7,115.26 |
| 120-1 | EXCAVATION REGULAR | 8,066.67 | CY | $10.86 | $87,604.04 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 1.00 | EA | $2,550.00 | $2,550.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 1.00 | EA | $3,887.50 | $3,887.50 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 50.00 | LF | $73.00 | $3,650.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 200.00 | LF | $105.67 | $21,134.00 |
| 550-2 | FENCING TYPE B | 840.00 | LF | $6.48 | $5,443.20 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 6.00 | EA | $98.96 | $593.76 |
| 550-79-20 | FENCE GATE (SLIDING) (CANTILEVER 20') | 1.00 | EA | $1,527.87 | $1,527.87 |
| 575-1 | SODDING | 4,840.00 | SY | $1.55 | $7,502.00 |

**Retention Basin 2**

| Description | Value |
|---|---|
| Size | 1 AC |
| Multiplier | 1 |
| Depth | 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.00 | AC | $7,115.26 | $7,115.26 |
| 120-1 | EXCAVATION REGULAR | 8,066.67 | CY | $10.86 | $87,604.04 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 1.00 | EA | $2,550.00 | $2,550.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 1.00 | EA | $3,887.50 | $3,887.50 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 50.00 | LF | $73.00 | $3,650.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 200.00 | LF | $105.67 | $21,134.00 |
| 550-2 | FENCING TYPE B | 840.00 | LF | $6.48 | $5,443.20 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 6.00 | EA | $98.96 | $593.76 |
| 550-79-20 | FENCE GATE (SLIDING) | 1.00 | EA | $1,527.87 | $1,527.87 |

| | | | | |
|---|---|---|---|---|
| | (CANTILEVER 20') | | | |
| 575-1 | SODDING | 4,840.00 SY | $1.55 | $7,502.00 |

**Retention Basin 3**

| Description | Value |
|---|---|
| Size | 1 AC |
| Multiplier | 1 |
| Depth | 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.00 | AC | $7,115.26 | $7,115.26 |
| 120-1 | EXCAVATION REGULAR | 8,066.67 | CY | $10.86 | $87,604.04 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 1.00 | EA | $2,550.00 | $2,550.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 1.00 | EA | $3,887.50 | $3,887.50 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 50.00 | LF | $73.00 | $3,650.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 200.00 | LF | $105.67 | $21,134.00 |
| 550-2 | FENCING TYPE B | 840.00 | LF | $6.48 | $5,443.20 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 6.00 | EA | $98.96 | $593.76 |
| 550-79-20 | FENCE GATE (SLIDING) (CANTILEVER 20') | 1.00 | EA | $1,527.87 | $1,527.87 |
| 575-1 | SODDING | 4,840.00 | SY | $1.55 | $7,502.00 |

**Retention Basin 4**

| Description | Value |
|---|---|
| Size | 1 AC |
| Multiplier | 1 |
| Depth | 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.00 | AC | $7,115.26 | $7,115.26 |
| 120-1 | EXCAVATION REGULAR | 8,066.67 | CY | $10.86 | $87,604.04 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 1.00 | EA | $2,550.00 | $2,550.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 1.00 | EA | $3,887.50 | $3,887.50 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 50.00 | LF | $73.00 | $3,650.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 200.00 | LF | $105.67 | $21,134.00 |
| 550-2 | FENCING TYPE B | 840.00 | LF | $6.48 | $5,443.20 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 6.00 | EA | $98.96 | $593.76 |
| 550-79-20 | FENCE GATE (SLIDING) (CANTILEVER 20') | 1.00 | EA | $1,527.87 | $1,527.87 |
| 575-1 | SODDING | 4,840.00 | SY | $1.55 | $7,502.00 |

**Retention Basin 5**

| Description | Value |
|---|---|
| Size | 1 AC |
| Multiplier | 1 |

Depth 5.00

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.00 | AC | $7,115.26 | $7,115.26 |
| 120-1 | EXCAVATION REGULAR | 8,066.67 | CY | $10.86 | $87,604.04 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 1.00 | EA | $2,550.00 | $2,550.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 1.00 | EA | $3,887.50 | $3,887.50 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 50.00 | LF | $73.00 | $3,650.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 200.00 | LF | $105.67 | $21,134.00 |
| 550-2 | FENCING TYPE B | 840.00 | LF | $6.48 | $5,443.20 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 6.00 | EA | $98.96 | $593.76 |
| 550-79-20 | FENCE GATE (SLIDING) (CANTILEVER 20') | 1.00 | EA | $1,527.87 | $1,527.87 |
| 575-1 | SODDING | 4,840.00 | SY | $1.55 | $7,502.00 |
| | **Drainage Component Total** | | | | $1,700,138.49 |

## INTERSECTIONS COMPONENT

**Intersection 1**

| Description | Value |
|---|---|
| Mainline No. of Left Turn Lanes | 0 |
| Mainline No. of Right Turn Lanes | 0 |
| Mainline Design Speed | 45 |
| Cross Street Thru Lanes | 2 |
| Cross Street No. of Left Turn Lanes | 0 |
| Cross Street No. of Right Turn Lanes | 0 |
| Cross Street Design Speed | 45 |
| T-Intersection? | N |
| Multiplier | 1 |
| Description | |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.78 | AC | $7,115.26 | $12,665.16 |
| 120-1 | EXCAVATION REGULAR | 732.06 | CY | $10.86 | $7,950.17 |
| 160-4 | STABILIZATION TYPE B | 353.22 | SY | $7.90 | $2,790.44 |
| 160-4 | STABILIZATION TYPE B | 1,810.03 | SY | $7.90 | $14,299.24 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 353.22 | SY | $9.64 | $3,405.04 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 1,810.03 | SY | $9.64 | $17,448.69 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 52.98 | TN | $55.70 | $2,950.99 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 271.50 | TN | $55.70 | $15,122.55 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 28.26 | TN | $82.08 | $2,319.58 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) | 144.80 | TN | $82.08 | $11,885.18 |

| | | | | |
|---|---|---|---|---|
| | FC12.5(FC-6) | | | |
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 202.84 LF | $18.00 | $3,651.12 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 658.00 LF | $22.16 | $14,581.28 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 365.56 SY | $27.56 | $10,074.83 |
| 522-2 | SIDEWALK CONCRETE (6" THICK) | 173.89 SY | $30.60 | $5,321.03 |
| 575-1 | SODDING | 365.56 SY | $1.55 | $566.62 |

**Intersection 2**

| Description | Value |
|---|---|
| Mainline No. of Left Turn Lanes | 0 |
| Mainline No. of Right Turn Lanes | 0 |
| Mainline Design Speed | 45 |
| Cross Street Thru Lanes | 2 |
| Cross Street No. of Left Turn Lanes | 0 |
| Cross Street No. of Right Turn Lanes | 0 |
| Cross Street Design Speed | 45 |
| T-Intersection? | N |
| Multiplier | 1 |
| Description | |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 1.78 | AC | $7,115.26 | $12,665.16 |
| 120-1 | EXCAVATION REGULAR | 732.06 | CY | $10.86 | $7,950.17 |
| 160-4 | STABILIZATION TYPE B | 353.22 | SY | $7.90 | $2,790.44 |
| 160-4 | STABILIZATION TYPE B | 1,810.03 | SY | $7.90 | $14,299.24 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 353.22 | SY | $9.64 | $3,405.04 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 1,810.03 | SY | $9.64 | $17,448.69 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 52.98 | TN | $55.70 | $2,950.99 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 271.50 | TN | $55.70 | $15,122.55 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 28.26 | TN | $82.08 | $2,319.58 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 144.80 | TN | $82.08 | $11,885.18 |
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 202.84 | LF | $18.00 | $3,651.12 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 658.00 | LF | $22.16 | $14,581.28 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 365.56 | SY | $27.56 | $10,074.83 |
| 522-2 | SIDEWALK CONCRETE (6" THICK) | 173.89 | SY | $30.60 | $5,321.03 |
| 575-1 | SODDING | 365.56 | SY | $1.55 | $566.62 |
| | **Intersections Component Total** | | | | $250,063.84 |

---

## SIGNING COMPONENT

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 700-40-1 | SIGN SINGLE POST (LESS THAN 12) | 24.00 | AS | $234.46 | $5,627.04 |
| 700-40-2 | SIGN SINGLE POST (12 - 25) | 2.00 | AS | $632.52 | $1,265.04 |
| 700-41-10 | SIGN MULTI POST (50 OR LESS) | 2.00 | AS | $2,580.73 | $5,161.46 |

| | | | | |
|---|---|---|---|---|
| 700-41-11 | SIGN MULTI-POST ( 51-100) | 2.00 AS | $3,128.67 | $6,257.34 |
| 700-44-066 | SGN LT'D OH TR (T 101-120, S 501-600) | 1.00 AS | $76,954.91 | $76,954.91 |
| 700-45-32 | SGN LT'D OH CTLVR(C 31-40, S 51-100) | 2.00 AS | $25,000.00 | $50,000.00 |
| 700-83 | SIGN OVHD (BRIDGE MOUNTED) | 2.00 AS | $5,622.17 | $11,244.34 |
| | **Signing Component Total** | | | $156,510.13 |

## LIGHTING COMPONENT

**Conventional Lighting Subcomponent**

| Description | Value |
|---|---|
| Spacing | MIN |

**High Mast Lighting Subcomponent**

| Description | Value |
|---|---|
| Cost per Pole | 18,000.00 |
| Number of Poles | 0 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 715-1-113 | CONDUCTORS (F&I)(INSULATED) (NO 6) | 19,284.00 | LF | $1.40 | $26,997.60 |
| 715-2-115 | CONDUIT UNDERGROUND, SCH 40 | 5,280.00 | LF | $4.03 | $21,278.40 |
| 715-2-215 | CONDUIT UNDERPAVEMENT SCH 40 | 1,048.00 | LF | $16.19 | $16,967.12 |
| 715-14-11 | PULL BOX (F&I) (ROADSIDE) | 35.00 | EA | $211.75 | $7,411.25 |
| 715-500-1 | POLE CABLE DIST SYS (CONVENTIONAL) | 35.00 | EA | $1,025.00 | $35,875.00 |
| 715-511-140 | LIGHT POLE COMPLETE (40 FT) | 35.00 | EA | $1,741.68 | $60,958.80 |
| | **Lighting Component Total** | | | | $169,488.17 |

## BRIDGES COMPONENT

Bridge 1

| Description | Value |
|---|---|
| Length | 324.00 |
| Width | 128.00 |
| Type | Overpass Bridge |
| Substructure Type | PreCast |
| Superstructure Type | Steel Box AASHTO Girder |
| Cost Factor | 1.00 |
| Removal of existing structures area | 0.00 |
| Default Cost per SF | $65.00 |
| Factored Cost per SF | $65.00 |
| Final Cost per SF | $68.34 |
| Basic Bridge Cost | $2,695,680.00 |
| Description | U.S. 41 OVER CSX RAILROAD |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 400-2-10 | CONC CLASS II (APPROACH SLABS) | 284.44 CY | $400.00 | $113,776.00 |
| 415-1-9 | REINF STEEL (APPROACH SLABS) | 49,777.00 LB | $0.50 | $24,888.50 |
| | **Bridge 1 Total** | | | $2,834,344.50 |

**Bridge 2**

| Description | Value |
|---|---|
| Length | 260.00 |
| Width | 120.00 |
| Type | Overpass Bridge |
| Substructure Type | PreCast |
| Superstructure Type | Steel Box AASHTO Girder |
| Cost Factor | 1.00 |
| Removal of existing structures area | 0.00 |
| Default Cost per SF | $65.00 |
| Factored Cost per SF | $65.00 |
| Final Cost per SF | $69.17 |
| Basic Bridge Cost | $2,028,000.00 |
| Description | U.S. 41 OVER CAUSEWAY BLVD. |

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|
| 400-2-10 | CONC CLASS II (APPROACH SLABS) | 266.67 CY | $400.00 | $106,668.00 |
| 415-1-9 | REINF STEEL (APPROACH SLABS) | 46,667.25 LB | $0.50 | $23,333.62 |
| | **Bridge 2 Total** | | | $2,158,001.62 |
| | **Bridges Component Total** | | | $4,992,346.12 |

## RETAINING WALLS COMPONENT

**Retainig Wall 1**

| Description | Value |
|---|---|
| Length | 1,650.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 49,500.00 SF | $39.00 | $1,930,500.00 |

**Retainig Wall 2**

| Description | Value |
|---|---|
| Length | 2,000.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 60,000.00 SF | $39.00 | $2,340,000.00 |

**Retainig Wall 3**

| Description | Value |
|---|---|
| Length | 1,700.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 51,000.00 | SF | $39.00 | $1,989,000.00 |

**Retainig Wall 4**

| Description | Value |
|---|---|
| Length | 1,600.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 48,000.00 | SF | $39.00 | $1,872,000.00 |

**Retaining Walls Component Total** $8,131,500.00

---

**Sequence 1 Total** $25,852,271.06

---

**Sequence:** 2 NDU - New Construction, Divided, Urban **Net Length:** 1.000 MI
**Description:** Causeway Blvd.
**Special Conditions:** Causeway Blvd. is elevated over CSX Railroad.

---

## EARTHWORK COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Standard Clearing and Grubbing Limits L/R | 105.00 / 105.00 |
| Incidental Clearing and Grubbing Area | 2.00 |
| | |
| Alignment Number | 1 |
| Distance | 1.000 |
| Top of Structural Course For Begin Section | 112.00 |
| Top of Structural Course For End Section | 112.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 4.00 % / 4.00 % |
| Outside Shoulder Cross Slope L/R | 2.00 % / 2.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 25.45 | AC | $7,115.26 | $181,083.37 |
| 110-1-1 | CLEARING & GRUBBING | 2.00 | AC | $7,115.26 | $14,230.52 |
| 120-6 | EMBANKMENT | 426,428.44 | CY | $15.63 | $6,665,076.52 |
| | **Earthwork Component Total** | | | | $6,860,390.40 |

---

## ROADWAY COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 36.00 / 36.00 |
| Structural Spread Rate | 300 |
| Friction Course Spread Rate | 160 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 160-4 | STABILIZATION TYPE B | 48,294.40 | SY | $7.90 | $381,525.76 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 42,240.00 | SY | $9.64 | $407,193.60 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 6,336.00 | TN | $55.70 | $352,915.20 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 3,379.20 | TN | $82.08 | $277,364.74 |

**Turnouts/Crossovers Subcomponent**

| Description | Value |
|---|---|
| Asphalt Adjustment | 5.00 |
| Stabilization Code | Y |
| Base Code | Y |

| | |
|---|---|
| Friction Course Code | Y |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 160-4 | STABILIZATION TYPE B | 2,414.72 | SY | $7.90 | $19,076.29 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 2,112.00 | SY | $9.64 | $20,359.68 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 316.80 | TN | $55.70 | $17,645.76 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 168.96 | TN | $82.08 | $13,868.24 |

**Pavement Marking Subcomponent**

| Description | Value |
|---|---|
| Solid Stripe No. of Stripes | 4 |
| Solid Stripe No. of Applications | 2 |
| Skip Stripe No. of Stripes | 2 |
| Skip Stripe No. of Applications | 2 |
| Top Layer Thermoplastic | Y |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 706-3 | RETRO-REFLECTIVE PAVEMENT MARKERS | 405.00 | EA | $4.75 | $1,923.75 |
| 710-21 | TRAFFIC STRIPE SKIP (WHITE/BLACK) | 2.00 | GM | $361.06 | $722.12 |
| 710-23-61 | TRAFFIC STRIPE SOLID (WHITE/BLACK) ( 6") | 4.00 | NM | $663.47 | $2,653.88 |
| 711-31 | TRAFFIC STRIPE SKIP (THERMO) (WH) | 2.00 | GM | $7,825.72 | $15,651.44 |
| 711-37-61 | TRAF STRIPE SOLID (THERMO) (WH)( 6") | 4.00 | NM | $2,322.15 | $9,288.60 |

**Peripherals Subcomponent**

| Description | Value |
|---|---|
| Off Road Bike Path(s) | 0 |
| Off Road Bike Path Width L/R | 0.00 / 0.00 |
| Bike Path Structural Spread Rate | 0 |
| Noise Barrier Wall Length | 0.00 |
| Noise Barrier Wall Begin Height | 0.00 |
| Noise Barrier Wall End Height | 0.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 339-1 | ASPHALT PAVEMENT MISCELLANEOUS | 68.00 | TN | $113.98 | $7,750.64 |
| 536-1-1 | GUARDRAIL (ROADWAY) | 2,000.00 | LF | $11.06 | $22,120.00 |
| 536-82 | GUARDRAIL END ANCH (CONC BARRIER WALL) | 4.00 | EA | $1,200.00 | $4,800.00 |
| 544-75-14 | IMPACT ATTENUATOR VEHICULAR (QUADGURD) | 4.00 | EA | $21,947.50 | $87,790.00 |
| | **Roadway Component Total** | | | | $1,642,649.69 |

## SHOULDER COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Total Outside Shoulder Width L/R | 12.25 / 12.25 |
| Total Outside Shoulder Sod Width L/R | 5.00 / 5.00 |
| Sidewalk Width L/R | 5.00 / 5.00 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 5,280.00 | LF | $22.16 | $117,004.80 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 5,280.00 | LF | $22.16 | $117,004.80 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 5,866.67 | SY | $27.56 | $161,685.43 |
| 575-1 | SODDING | 5,866.67 | SY | $1.55 | $9,093.34 |
| | **Shoulder Component Total** | | | | $404,788.37 |

## MEDIAN COMPONENT

**User Input Data**

| Description | Value |
|---|---|
| Total Median Width | 22.00 |
| Sod Width | 5.34 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 10,560.00 | LF | $18.00 | $190,080.00 |
| 575-1 | SODDING | 3,132.80 | SY | $1.55 | $4,855.84 |
| | **Median Component Total** | | | | $194,935.84 |

## DRAINAGE COMPONENT

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 400-2-2 | CONC CLASS II (ENDWALLS) | 18.00 | CY | $2,312.76 | $41,629.68 |
| 425-1-351 | INLETS (CURB) (TYPE P-5) (<10') | 36.00 | EA | $3,284.26 | $118,233.36 |
| 425-1-451 | INLETS (CURB) (TYPE J-5) (<10') | 10.00 | EA | $4,000.00 | $40,000.00 |
| 425-1-521 | INLETS (DT BOT) (TYPE C) (<10') | 5.00 | EA | $1,679.18 | $8,395.90 |
| 425-2-41 | MANHOLES (P-7) (<10') | 5.00 | EA | $2,787.50 | $13,937.50 |
| 430-171-125 | PIPE CULV(OPT MATL)(ROUND) ( 18"SS) | 2,646.00 | LF | $39.27 | $103,908.42 |
| 430-171-141 | PIPE CULV(OPT MATL)(ROUND) ( 48"SS) | 5,000.00 | LF | $87.67 | $438,350.00 |
| 430-172-138 | PIPE CULV(OPT MATL)(ROUND) ( 36"CD) | 236.00 | LF | $93.33 | $22,025.88 |
| 575-1 | SODDING | 304.00 | SY | $1.55 | $471.20 |
| | **Drainage Component Total** | | | | $786,951.94 |

## INTERSECTIONS COMPONENT

**Intersection 1**

| Description | Value |
|---|---|
| Mainline No. of Left Turn Lanes | 2 |
| Mainline No. of Right Turn Lanes | 2 |
| Mainline Design Speed | 45 |
| Cross Street Thru Lanes | 4 |
| Cross Street No. of Left Turn Lanes | 2 |
| Cross Street No. of Right Turn Lanes | 2 |
| Cross Street Design Speed | 45 |
| T-Intersection? | N |
| Multiplier | 1 |
| Description | |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 2.75 | AC | $7,115.26 | $19,566.96 |
| 120-1 | EXCAVATION REGULAR | 2,360.80 | CY | $10.86 | $25,638.29 |
| 160-4 | STABILIZATION TYPE B | 2,035.89 | SY | $7.90 | $16,083.53 |
| 160-4 | STABILIZATION TYPE B | 5,837.14 | SY | $7.90 | $46,113.41 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 2,035.89 | SY | $9.64 | $19,625.98 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 5,837.14 | SY | $9.64 | $56,270.03 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 305.38 | TN | $55.70 | $17,009.67 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 875.57 | TN | $55.70 | $48,769.25 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 162.87 | TN | $82.08 | $13,368.37 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 466.97 | TN | $82.08 | $38,328.90 |
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 202.84 | LF | $18.00 | $3,651.12 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 1,106.00 | LF | $22.16 | $24,508.96 |
| 520-5-11 | TRAF SEP CONC (TYPE I) (4' WIDE) | 670.00 | LF | $34.88 | $23,369.60 |
| 520-5-11 | TRAF SEP CONC (TYPE I) (4' WIDE) | 470.00 | LF | $34.88 | $16,393.60 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 614.44 | SY | $27.56 | $16,933.97 |
| 522-2 | SIDEWALK CONCRETE (6" THICK) | 173.89 | SY | $30.60 | $5,321.03 |
| 575-1 | SODDING | 614.44 | SY | $1.55 | $952.38 |

**Intersection 2**

| Description | Value |
|---|---|
| Mainline No. of Left Turn Lanes | 0 |
| Mainline No. of Right Turn Lanes | 0 |
| Mainline Design Speed | 45 |
| Cross Street Thru Lanes | 2 |
| Cross Street No. of Left Turn Lanes | 1 |
| Cross Street No. of Right Turn Lanes | 0 |
| Cross Street Design Speed | 45 |
| T-Intersection? | N |
| Multiplier | 1 |
| Description | |

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 2.75 AC | $7,115.26 | $19,566.96 |
| 120-1 | EXCAVATION REGULAR | 1,245.07 CY | $10.86 | $13,521.46 |
| 160-4 | STABILIZATION TYPE B | 382.56 SY | $7.90 | $3,022.22 |
| 160-4 | STABILIZATION TYPE B | 3,078.47 SY | $7.90 | $24,319.91 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 382.56 SY | $9.64 | $3,687.88 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 3,078.47 SY | $9.64 | $29,676.45 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 57.38 TN | $55.70 | $3,196.07 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 461.77 TN | $55.70 | $25,720.59 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 30.60 TN | $82.08 | $2,511.65 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 246.28 TN | $82.08 | $20,214.66 |
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 202.84 LF | $18.00 | $3,651.12 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 1,106.00 LF | $22.16 | $24,508.96 |
| 520-5-11 | TRAF SEP CONC (TYPE I) (4' WIDE) | 500.00 LF | $34.88 | $17,440.00 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 614.44 SY | $27.56 | $16,933.97 |
| 522-2 | SIDEWALK CONCRETE (6" THICK) | 173.89 SY | $30.60 | $5,321.03 |
| 575-1 | SODDING | 614.44 SY | $1.55 | $952.38 |
| | **Intersections Component Total** | | | $606,150.38 |

## SIGNING COMPONENT

**Pay Items**

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|---|---|---|---|---|
| 700-40-1 | SIGN SINGLE POST (LESS THAN 12) | 24.00 AS | $234.46 | $5,627.04 |
| 700-40-2 | SIGN SINGLE POST (12 - 25) | 2.00 AS | $632.52 | $1,265.04 |
| 700-41-10 | SIGN MULTI POST (50 OR LESS) | 2.00 AS | $2,580.73 | $5,161.46 |
| 700-41-11 | SIGN MULTI-POST ( 51-100) | 2.00 AS | $3,128.67 | $6,257.34 |
| 700-44-066 | SGN LT'D OH TR (T 101-120, S 501-600) | 1.00 AS | $76,954.91 | $76,954.91 |
| 700-45-32 | SGN LT'D OH CTLVR(C 31-40, S 51-100) | 2.00 AS | $25,000.00 | $50,000.00 |
| 700-83 | SIGN OVHD (BRIDGE MOUNTED) | 2.00 AS | $5,622.17 | $11,244.34 |
| | **Signing Component Total** | | | $156,510.13 |

## LIGHTING COMPONENT

**Conventional Lighting Subcomponent**

| Description | Value |
|---|---|
| Spacing | MIN |

**High Mast Lighting Subcomponent**

| Description | Value |
|---|---|
| Cost per Pole | 18,000.00 |
| Number of Poles | 0 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 715-1-113 | CONDUCTORS (F&I)(INSULATED) (NO 6) | 19,284.00 | LF | $1.40 | $26,997.60 |
| 715-2-115 | CONDUIT UNDERGROUND, SCH 40 | 5,280.00 | LF | $4.03 | $21,278.40 |
| 715-2-215 | CONDUIT UNDERPAVEMENT SCH 40 | 1,048.00 | LF | $16.19 | $16,967.12 |
| 715-14-11 | PULL BOX (F&I) (ROADSIDE) | 35.00 | EA | $211.75 | $7,411.25 |
| 715-500-1 | POLE CABLE DIST SYS (CONVENTIONAL) | 35.00 | EA | $1,025.00 | $35,875.00 |
| 715-511-140 | LIGHT POLE COMPLETE (40 FT) | 35.00 | EA | $1,741.68 | $60,958.80 |
| | **Lighting Component Total** | | | | $169,488.17 |

---

**SIGNALIZATIONS COMPONENT**

**Signalization 1**

| Description | Value |
|---|---|
| Type | 4 Lane Mast Arm |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 630-1-12 | CONDUIT (F&I) (UNDERGROUND) | 750.00 | LF | $4.56 | $3,420.00 |
| 630-1-14 | CONDUIT (F&I) (UG - JACKED) | 250.00 | LF | $12.65 | $3,162.50 |
| 632-7-1 | CABLE (SIGNAL) (F&I) | 1.00 | PI | $2,058.97 | $2,058.97 |
| 635-1-11 | PULL & JUNC BOX (F&I) (PULL BOX) | 16.00 | EA | $215.97 | $3,455.52 |
| 639-1-22 | ELECTRIC POWER SVC (UNDERGROUND) | 1.00 | AS | $486.67 | $486.67 |
| 639-2-1 | ELECTRICAL SERVICE WIRE | 60.00 | LF | $1.19 | $71.40 |
| 649-415-003 | M/ARM(F&I/HL)(1ST(B5)2ND(0) POLE(Q3) | 4.00 | EA | $17,000.00 | $68,000.00 |
| 650-51-311 | SIGNAL TRAFFIC(F&I)(3 SECT 1 WAY)(STD) | 12.00 | AS | $589.00 | $7,068.00 |
| 653-111 | SIGNAL PEDESTRIAN (12" INCANDESCENT) | 8.00 | AS | $353.33 | $2,826.64 |
| 659-101 | SIGNAL HEAD AUX (BACK PLT 3 SECT) | 8.00 | EA | $82.10 | $656.80 |
| 659-109 | SGNL HEAD AUX (CONC PED TYPE II) | 1.00 | EA | $521.82 | $521.82 |
| 660-1-102 | LOOP DETECT INDUC (TYPE 2) (F&I) | 14.00 | EA | $197.18 | $2,760.52 |
| 660-2-106 | LOOP ASSEMBLY (F&I) (TYPE F) | 14.00 | AS | $732.25 | $10,251.50 |
| 665-11 | DET PED(F&I)(DET STA POLE OR CAB MTD) | 8.00 | EA | $114.90 | $919.20 |
| 670-5-111 | CNTL ASSEM ACT SS F&I NEMA PRE(ONE) | 1.00 | AS | $14,000.00 | $14,000.00 |
| 700-48-19 | SIGN PANEL (F & I) ( 16 - 100) | 4.00 | EA | $1,080.00 | $4,320.00 |

**Traffic Monitoring 1**

| Description | Value |
|---|---|
| Lanes | 4 |

| | |
|---|---|
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 555-1-1 | DIRECTIONAL BORE (> THAN 6") | 40.00 | LF | $15.50 | $620.00 |
| 630-1-12 | CONDUIT (F&I) (UNDERGROUND) | 150.00 | LF | $4.56 | $684.00 |
| 635-1-11 | PULL & JUNC BOX (F&I) (PULL BOX) | 3.00 | EA | $215.97 | $647.91 |
| 743-70-11 | TMS VEH S/CLS. UNIT(F&I) (ELECTRON. CBL) | 1.00 | AS | $4,974.07 | $4,974.07 |
| 744-70-11 | TMS SOLAR POWER UNIT(F&I) (NEW POLE) | 1.00 | EA | $1,800.00 | $1,800.00 |
| 745-70-12 | TMS INDUCTIVE LOOP ASM(F&I)(2 LOOPS/LN) | 4.00 | AS | $834.78 | $3,339.12 |
| 746-71-221 | TMS CAB(F&I,TYP IV,POLE MNT,1 BACKPLANE) | 1.00 | EA | $2,250.00 | $2,250.00 |
| 747-70-11 | TMS MODEM (F&I) | 1.00 | EA | $585.00 | $585.00 |

**Traffic Monitoring 2**

| Description | Value |
|---|---|
| Lanes | 4 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 555-1-1 | DIRECTIONAL BORE (> THAN 6") | 40.00 | LF | $15.50 | $620.00 |
| 630-1-12 | CONDUIT (F&I) (UNDERGROUND) | 150.00 | LF | $4.56 | $684.00 |
| 635-1-11 | PULL & JUNC BOX (F&I) (PULL BOX) | 3.00 | EA | $215.97 | $647.91 |
| 743-70-11 | TMS VEH S/CLS. UNIT(F&I) (ELECTRON. CBL) | 1.00 | AS | $4,974.07 | $4,974.07 |
| 744-70-11 | TMS SOLAR POWER UNIT(F&I) (NEW POLE) | 1.00 | EA | $1,800.00 | $1,800.00 |
| 745-70-12 | TMS INDUCTIVE LOOP ASM(F&I)(2 LOOPS/LN) | 4.00 | AS | $834.78 | $3,339.12 |
| 746-71-221 | TMS CAB(F&I,TYP IV,POLE MNT,1 BACKPLANE) | 1.00 | EA | $2,250.00 | $2,250.00 |
| 747-70-11 | TMS MODEM (F&I) | 1.00 | EA | $585.00 | $585.00 |
| | **Signalizations Component Total** | | | | $153,779.74 |

---

**BRIDGES COMPONENT**

**Bridge 3**

| Description | Value |
|---|---|
| Length | 300.00 |
| Width | 90.00 |
| Type | Overpass Bridge |
| Substructure Type | PreCast |
| Superstructure Type | Steel Box AASHTO Girder |
| Cost Factor | 1.00 |
| Removal of existing structures area | 0.00 |
| Default Cost per SF | $65.00 |
| Factored Cost per SF | $65.00 |

| | |
|---|---|
| Final Cost per SF | $68.61 |
| Basic Bridge Cost | $1,755,000.00 |
| Description | CAUSEWAY BLVD. OVER CSX RAILROAD |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 400-2-10 | CONC CLASS II (APPROACH SLABS) | 200.00 | CY | $400.00 | $80,000.00 |
| 415-1-9 | REINF STEEL (APPROACH SLABS) | 35,000.00 | LB | $0.50 | $17,500.00 |
| | **Bridge 3 Total** | | | | $1,852,500.00 |
| | **Bridges Component Total** | | | | $1,852,500.00 |

## RETAINING WALLS COMPONENT

**Retainig Wall 1**

| Description | Value |
|---|---|
| Length | 1,800.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 54,000.00 | SF | $39.00 | $2,106,000.00 |

**Retainig Wall 2**

| Description | Value |
|---|---|
| Length | 1,800.00 |
| Begin height | 30.00 |
| End Height | 30.00 |
| Multiplier | 1 |

**Pay Items**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 54,000.00 | SF | $39.00 | $2,106,000.00 |
| | **Retaining Walls Component Total** | | | | $4,212,000.00 |

**Sequence 2 Total** $17,040,144.66

Date: 9/29/2004 3:58:47 PM

# FDOT Long Range Estimating System

## R3: Project Details by Sequence Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH **Market Area:** 08 **Units:** English

**Contract Class:** **Lump Sum Project:** N **Design/Build:** N **Project Length:** 2.000 MI

**Project Manager:** Linda Crescentini

**Version 1-P Project Grand Total** **$52,049,823.02**

**Description:** U.S. 41 - Causeway Blvd. Intersection

---

| | | | |
|---|---|---|---|
| **Project Sequences Subtotal** | | | **$42,892,415.72** |
| 102-1 | Maintenance of Traffic | 10.00 % | $4,289,241.57 |
| 101-1 | Mobilization | 10.00 % | $4,718,165.73 |
| **Project Sequences Total** | | | **$51,899,823.02** |
| Scope Creep | | 0.00 % | $0.00 |

**Non-Bid Components:**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 999-25 | INITIAL CONTINGENCY (DO NOT BID) | | LS | $150,000.00 | $150,000.00 |
| **Project Non-Bid Subtotal** | | | | | $150,000.00 |
| **Version 1-P Project Grand Total** | | | | | **$52,049,823.02** |

Date: 9/29/2004 3:59:22 PM

# FDOT Long Range Estimating System

## R4: Project Details Composite Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH

**Project Manager:** Linda Crescentini

**Version 1-P Project Grand Total** **$52,049,823.02**
**Description:** U.S. 41 - Causeway Blvd. Intersection

---

### EARTHWORK COMPONENT

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 70.66 AC | $7,115.26 | $502,764.27 |
| 120-6 | EMBANKMENT | 892,351.28 CY | $15.63 | $13,947,450.51 |
| | **Earthwork Component Total** | | | $14,450,214.77 |

---

### ROADWAY COMPONENT

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 160-4 | STABILIZATION TYPE B | 116,202.24 SY | $7.90 | $917,997.70 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 103,488.00 SY | $9.64 | $997,624.32 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 15,523.20 TN | $55.70 | $864,642.24 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 8,279.04 TN | $82.08 | $679,543.61 |
| 339-1 | ASPHALT PAVEMENT MISCELLANEOUS | 204.00 TN | $113.98 | $23,251.92 |
| 536-1-1 | GUARDRAIL (ROADWAY) | 6,000.00 LF | $11.06 | $66,360.00 |
| 536-82 | GUARDRAIL END ANCH (CONC BARRIER WALL) | 12.00 EA | $1,200.00 | $14,400.00 |
| 544-75-14 | IMPACT ATTENUATOR VEHICULAR (QUADGURD) | 12.00 EA | $21,947.50 | $263,370.00 |
| 706-3 | RETRO-REFLECTIVE PAVEMENT MARKERS | 1,080.00 EA | $4.75 | $5,130.00 |
| 710-21 | TRAFFIC STRIPE SKIP (WHITE/BLACK) | 6.00 GM | $361.06 | $2,166.36 |
| 710-23-61 | TRAFFIC STRIPE SOLID (WHITE/BLACK) ( 6") | 8.00 NM | $663.47 | $5,307.76 |
| 711-31 | TRAFFIC STRIPE SKIP (THERMO) (WH) | 6.00 GM | $7,825.72 | $46,954.32 |
| 711-37-61 | TRAF STRIPE SOLID (THERMO) (WH)( 6") | 8.00 NM | $2,322.15 | $18,577.20 |

| | | |
|---|---|---|
| | **Roadway Component Total** | $3,905,325.42 |

**SHOULDER COMPONENT**

Pay Items

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 21,120.00 LF | $22.16 | $468,019.20 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 11,733.34 SY | $27.56 | $323,370.86 |
| 575-1 | SODDING | 11,733.34 SY | $1.55 | $18,186.68 |
| | **Shoulder Component Total** | | | $809,576.74 |

**MEDIAN COMPONENT**

Pay Items

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 21,120.00 LF | $18.00 | $380,160.00 |
| 575-1 | SODDING | 6,265.60 SY | $1.55 | $9,711.68 |
| | **Median Component Total** | | | $389,871.68 |

**DRAINAGE COMPONENT**

Pay Items

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 5.00 AC | $7,115.26 | $35,576.30 |
| 120-1 | EXCAVATION REGULAR | 40,333.35 CY | $10.86 | $438,020.20 |
| 400-2-2 | CONC CLASS II (ENDWALLS) | 126.00 CY | $2,312.76 | $291,407.76 |
| 425-1-351 | INLETS (CURB) (TYPE P-5) (<10') | 72.00 EA | $3,284.26 | $236,466.72 |
| 425-1-451 | INLETS (CURB) (TYPE J-5) (<10') | 20.00 EA | $4,000.00 | $80,000.00 |
| 425-1-521 | INLETS (DT BOT) (TYPE C) (<10') | 10.00 EA | $1,679.18 | $16,791.80 |
| 425-1-541 | INLETS (DT BOT) (TYPE D) (<10') | 5.00 EA | $2,550.00 | $12,750.00 |
| 425-2-41 | MANHOLES (P-7) (<10') | 10.00 EA | $2,787.50 | $27,875.00 |
| 425-2-71 | MANHOLES (J-7) (<10') | 5.00 EA | $3,887.50 | $19,437.50 |
| 430-171-125 | PIPE CULV(OPT MATL)(ROUND) ( 18"SS) | 5,292.00 LF | $39.27 | $207,816.84 |
| 430-171-140 | PIPE CULV(OPT MATL)(ROUND) ( 42"SS) | 250.00 LF | $73.00 | $18,250.00 |
| 430-171-141 | PIPE CULV(OPT MATL)(ROUND) ( 48"SS) | 10,000.00 LF | $87.67 | $876,700.00 |
| 430-171-142 | PIPE CULV(OPT MATL)(ROUND) ( 54"SS) | 1,000.00 LF | $105.67 | $105,670.00 |
| 430-172-138 | PIPE CULV(OPT MATL)(ROUND) ( 36"CD) | 472.00 LF | $93.33 | $44,051.76 |
| 550-2 | FENCING TYPE B | 4,200.00 LF | $6.48 | $27,216.00 |
| 550-3-2 | FENCE CORNER POST (TYPE B) | 30.00 EA | $98.96 | $2,968.80 |
| 550-79-20 | FENCE GATE (SLIDING) | 5.00 EA | $1,527.87 | $7,639.35 |

| | | | | |
|---|---|---|---|---|
| | (CANTILEVER 20') | | | |
| 575-1 | SODDING | 24,808.00 SY | $1.55 | $38,452.40 |
| | **Drainage Component Total** | | | $2,487,090.43 |

**INTERSECTIONS COMPONENT**

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 110-1-1 | CLEARING & GRUBBING | 9.06 AC | $7,115.26 | $64,464.26 |
| 120-1 | EXCAVATION REGULAR | 5,069.99 CY | $10.86 | $55,060.09 |
| 160-4 | STABILIZATION TYPE B | 15,660.56 SY | $7.90 | $123,718.43 |
| 285-709 | BASE OPTIONAL (BASE GROUP 09) | 15,660.56 SY | $9.64 | $150,967.80 |
| 334-1-13 | SUPERPAVE ASPH CONC (TRAFFIC C) | 2,349.06 TN | $55.70 | $130,842.66 |
| 337-7-6 | ASPH CONC FC(INC BIT/RUB) FC12.5(FC-6) | 1,252.84 TN | $82.08 | $102,833.10 |
| 520-1-7 | CURB & GUTTER CONC (TYPE E) | 811.36 LF | $18.00 | $14,604.48 |
| 520-1-10 | CURB & GUTTER CONC (TYPE F) | 3,528.00 LF | $22.16 | $78,180.48 |
| 520-5-11 | TRAF SEP CONC (TYPE I) (4' WIDE) | 1,640.00 LF | $34.88 | $57,203.20 |
| 522-1 | SIDEWALK CONCRETE (4" THICK) | 1,960.00 SY | $27.56 | $54,017.60 |
| 522-2 | SIDEWALK CONCRETE (6" THICK) | 695.56 SY | $30.60 | $21,284.12 |
| 575-1 | SODDING | 1,960.00 SY | $1.55 | $3,038.00 |
| | **Intersections Component Total** | | | $856,214.22 |

**SIGNING COMPONENT**

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 700-40-1 | SIGN SINGLE POST (LESS THAN 12) | 48.00 AS | $234.46 | $11,254.08 |
| 700-40-2 | SIGN SINGLE POST (12 - 25) | 4.00 AS | $632.52 | $2,530.08 |
| 700-41-10 | SIGN MULTI POST (50 OR LESS) | 4.00 AS | $2,580.73 | $10,322.92 |
| 700-41-11 | SIGN MULTI-POST ( 51-100) | 4.00 AS | $3,128.67 | $12,514.68 |
| 700-44-066 | SGN LT'D OH TR (T 101-120, S 501-600) | 2.00 AS | $76,954.91 | $153,909.82 |
| 700-45-32 | SGN LT'D OH CTLVR(C 31-40, S 51-100) | 4.00 AS | $25,000.00 | $100,000.00 |
| 700-83 | SIGN OVHD (BRIDGE MOUNTED) | 4.00 AS | $5,622.17 | $22,488.68 |
| | **Signing Component Total** | | | $313,020.26 |

**LIGHTING COMPONENT**

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit | Total Amount |
|---|---|---|---|---|

| | | | Price | |
|---|---|---|---|---|
| 715-1-113 | CONDUCTORS (F&I)(INSULATED) (NO 6) | 38,568.00 LF | $1.40 | $53,995.20 |
| 715-2-115 | CONDUIT UNDERGROUND, SCH 40 | 10,560.00 LF | $4.03 | $42,556.80 |
| 715-2-215 | CONDUIT UNDERPAVEMENT SCH 40 | 2,096.00 LF | $16.19 | $33,934.24 |
| 715-14-11 | PULL BOX (F&I) (ROADSIDE) | 70.00 EA | $211.75 | $14,822.50 |
| 715-500-1 | POLE CABLE DIST SYS (CONVENTIONAL) | 70.00 EA | $1,025.00 | $71,750.00 |
| 715-511-140 | LIGHT POLE COMPLETE (40 FT) | 70.00 EA | $1,741.68 | $121,917.60 |
| | **Lighting Component Total** | | | $338,976.34 |

## SIGNALIZATIONS COMPONENT

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 555-1-1 | DIRECTIONAL BORE (> THAN 6") | 80.00 LF | $15.50 | $1,240.00 |
| 630-1-12 | CONDUIT (F&I) (UNDERGROUND) | 1,050.00 LF | $4.56 | $4,788.00 |
| 630-1-14 | CONDUIT (F&I) (UG - JACKED) | 250.00 LF | $12.65 | $3,162.50 |
| 632-7-1 | CABLE (SIGNAL) (F&I) | 1.00 PI | $2,058.97 | $2,058.97 |
| 635-1-11 | PULL & JUNC BOX (F&I) (PULL BOX) | 22.00 EA | $215.97 | $4,751.34 |
| 639-1-22 | ELECTRIC POWER SVC (UNDERGROUND) | 1.00 AS | $486.67 | $486.67 |
| 639-2-1 | ELECTRICAL SERVICE WIRE | 60.00 LF | $1.19 | $71.40 |
| 649-415-003 | M/ARM(F&I/HL)(1ST(B5)2ND(0) POLE(Q3) | 4.00 EA | $17,000.00 | $68,000.00 |
| 650-51-311 | SIGNAL TRAFFIC(F&I)(3 SECT 1 WAY)(STD) | 12.00 AS | $589.00 | $7,068.00 |
| 653-111 | SIGNAL PEDESTRIAN (12" INCANDESCENT) | 8.00 AS | $353.33 | $2,826.64 |
| 659-101 | SIGNAL HEAD AUX (BACK PLT 3 SECT) | 8.00 EA | $82.10 | $656.80 |
| 659-109 | SGNL HEAD AUX (CONC PED TYPE II) | 1.00 EA | $521.82 | $521.82 |
| 660-1-102 | LOOP DETECT INDUC (TYPE 2) (F&I) | 14.00 EA | $197.18 | $2,760.52 |
| 660-2-106 | LOOP ASSEMBLY (F&I) (TYPE F) | 14.00 AS | $732.25 | $10,251.50 |
| 665-11 | DET PED(F&I)(DET STA POLE OR CAB MTD) | 8.00 EA | $114.90 | $919.20 |
| 670-5-111 | CNTL ASSEM ACT SS F&I NEMA PRE(ONE) | 1.00 AS | $14,000.00 | $14,000.00 |
| 700-48-19 | SIGN PANEL (F & I) ( 16 - 100) | 4.00 EA | $1,080.00 | $4,320.00 |
| 743-70-11 | TMS VEH S/CLS. UNIT(F&I) (ELECTRON. CBL) | 2.00 AS | $4,974.07 | $9,948.14 |
| 744-70-11 | TMS SOLAR POWER UNIT(F&I) (NEW POLE) | 2.00 EA | $1,800.00 | $3,600.00 |
| 745-70-12 | TMS INDUCTIVE LOOP ASM(F&I) (2 LOOPS/LN) | 8.00 AS | $834.78 | $6,678.24 |
| 746-71-221 | TMS CAB(F&I,TYP IV,POLE MNT,1 BACKPLANE) | 2.00 EA | $2,250.00 | $4,500.00 |
| 747-70-11 | TMS MODEM (F&I) | 2.00 EA | $585.00 | $1,170.00 |

| | | |
|---|---|---|
| | **Signalizations Component Total** | $153,779.74 |

## BRIDGES COMPONENT

**Bridge Type:** Overpass Bridge

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 400-2-10 | CONC CLASS II (APPROACH SLABS) | 751.11 CY | $400.00 | $300,444.00 |
| 415-1-9 | REINF STEEL (APPROACH SLABS) | 131,444.25 LB | $0.50 | $65,722.13 |

**Bridge No. 1 Type=OPB Length=324 LF Width=128 LF**
**Bridge Basic Cost based on Factored Cost $65.00 SF** $2,695,680.00
**Bridge Final Cost Per SF $68.34**

**Bridge No. 2 Type=OPB Length=260 LF Width=120 LF**
**Bridge Basic Cost based on Factored Cost $65.00 SF** $2,028,000.00
**Bridge Final Cost Per SF $69.17**

**Bridge No. 3 Type=OPB Length=300 LF Width=90 LF**
**Bridge Basic Cost based on Factored Cost $65.00 SF** $1,755,000.00
**Bridge Final Cost Per SF $68.61**

| | | |
|---|---|---|
| | **Bridges Component Total** | $6,844,846.12 |

## RETAINING WALLS COMPONENT

**Pay Items**

| Pay Item | Description | Total Unit Quantity | Weighted Avg. Unit Price | Total Amount |
|---|---|---|---|---|
| 548-12 | RETAINING WALL (PERMANENT) | 316,500.00 SF | $39.00 | $12,343,500.00 |

| | | |
|---|---|---|
| | **Retaining Walls Component Total** | $12,343,500.00 |

Date: 9/29/2004 3:59:22 PM

# FDOT Long Range Estimating System

## R4: Project Details Composite Report

**Project:** 255599-1-52-02 **Letting Date:** 09/2007

**Description:** U.S. 41 - Causeway Blvd. Intersection

**District:** 07 **County:** 10 HILLSBOROUGH

**Project Manager:** Linda Crescentini

**Version 1-P Project Grand Total** **$52,049,823.02**
**Description:** U.S. 41 - Causeway Blvd. Intersection

---

**Project Sequences Subtotal** **$42,892,415.72**

| | | | |
|---|---|---|---|
| 102-1 | MAINTENANCE OF TRAFFIC | 10.00 % | $4,289,241.57 |
| 101-1 | MOBILIZATION | 10.00 % | $4,718,165.73 |

**Project Sequences Total** **$51,899,823.02**

| | | |
|---|---|---|
| Scope Creep | 0.00 % | $0.00 |

**Non-Bid Components:**

| Pay item | Description | Quantity | Unit | Unit Price | Extended Amount |
|---|---|---|---|---|---|
| 999-25 | INITIAL CONTINGENCY (DO NOT BID) | 1.00 | LS | $150,000.00 | $150,000.00 |

**Project Non-Bid Subtotal** $150,000.00

**Version 1-P Project Grand Total** **$52,049,823.02**