A guide for Contractors and FHWA contract administration personnel on CFL Field Projects
To be used with CFL Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects

Last Updated: April 2012
Construction Paynote Examples

This book was developed to be used as a guideline for Central Federal Lands Highway Division staff, our partnering agencies, and the contractors we work with. The Construction Paynote Examples book gives examples of how a contractor should submit a request for payment (paynote), and examples of documentation that adequately support their request.

Contractors should refer to Section 109 of the FP03 for details of how particular items of work should be measured and paid. Examples in this book were created to demonstrate various methods of measurement and support documentation. This book shows examples of support documentation (certifications, calculations, tickets, etc.). These are solely examples and do not intend to summarize all support documentation needed prior to payment of any given pay item. The method or requirements prescribed in the FP03 or Special Contract Requirements supersedes any examples given in the Field Note Sample Book.

General Instructions

- Paynotes shall be completed in blue pen or typed on a computer
- White-out is not allowed.
- To correct an error, strike out the mistake, write the correction above or below, and initial next to the correction.
- Paynotes and any support documentation shall be organized and clearly legible.
- All sections of the paynote must be filled in.
- Paynotes shall be signed by an approved contractor representative. Paynotes will not be accepted for payment without the contractor’s signature.
- Paynotes will not be accepted without quality certifications, test results, and/or any other required documentation for materials used in the work.
- Certifications for any given item of work should include a statement from the Contractor that certifies that the material meets specifications and will be used on the project. All material placed for any given item of work should also be identifiable (i.e. roll numbers for silt fence, heat numbers for pipe, etc.).
- A single submittal of a certification is acceptable for multiple pay requests as long as the material for the item of work being performed is include within the certification.
- Paynotes shall be completed in a timely fashion per section 109.01 of the FP-03 or the Special Contract Requirements.
- For items with material incentive, QL-pay factors shall be computed and reported in a timely fashion per section 109.01 of the FP-03 or the Special Contract Requirements. Also, see section 106.05 of the FP-03 or the Special Contract Requirements.
EEBACS

The Engineer Estimating, Bidding, Award and Construction System (EEBACS) is an integrated system that provides for estimation, solicitation/award, and contract administration of FLH’s construction projects. EEBACS is a Web-based system that is maintainable and scalable. Portions of the Construction module will also be offered in an off-line version – Not currently available, under development. EEBACS consists of a series of components that tracks costs from a project’s inception through final acceptance.

The Construction module tracks information as the project progresses through construction. It provides for the development, approval, and tracking of payments for contract items. The Construction module also allow for tracking and management of other contract administration information including contract modifications, equipment, personnel, subcontractors, and contract status. In the Construction phase EEBACS provides the capability to:

- Create, track and approve Inspector Daily Reports (IDR);
- Create, track and approve Contractor Daily Reports (CDR);
- Create and track the Project Engineer’s Daily Dairy;
- Track onsite personnel and equipment;
- Track subcontractors and associated information;
- Create and track Contract Modifications;
- Document and track contract administration and status;
- Create, track and approve payments to the contractor; and
- Generate detailed reports of how the project was constructed, including cost, equipment, and personnel.

The format used for the paynotes displayed in this example book mimics the general format of the EEBACS paynote page. Central Federal Lands intends to implement EEBACS with a select number of projects in 2012. Eventually, EEBACS will be used on all projects advertised by CFL. A blank paynote is provided on the following page (if an electronic copy is desired, speak to the Project Engineer to obtain the file). To date, the FP-03 and our Special Contract requirements do not require the Contractor to use any specific form for paynotes. For non-EEBACS projects, the Contractor may use this form if desired. However, if the Contractor chooses to use another paynote format, the format must comply with section 109.01 of the FP-03 or the Special Contract Requirements.

NOTE: An EEBACS user manual is available for the Contractor if desired. Please talk to the Project Engineer to request access.
# Item Quantity Pay Note Sheet

**U.S. DEPARTMENT OF TRANSPORTATION**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**CENTRAL FEDERAL LANDS HIGHWAY DIVISION**  
**12300 W. DAKOTA AVE. LAKEMOOR, COLORADO 80228**

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**Account:**

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**Location/Description:**

### Remarks/Calculations:

### Support Documentation/References:

### Measured By:

Box: Interim Measurement  
Box: Final Measurement

**TOTAL QUANTITY:**

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*By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.*

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<th>Contractor Representative (Print):</th>
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TABLE OF CONTENTS (Arranged by Pay Unit)

Section 1: LUMP SUM Items
15101 Mobilization ................................................................. Page 1
15201 Construction Survey and Staking .................................. Page 9
15401 Contractor Testing ......................................................... Page 13

Section 2: STATION Items
15206 Slope, Reference & Clearing Stake ................................ Page 20

Section 3: EACH Items
15204 Drainage Structure Survey and Staking ....................... Page 22
25125 Boulder .................................................................. Page 25
63316 Remove and Reset Signs ............................................. Page 27

Section 4: HOUR/WEEK Items
62201 Motor Grader ............................................................... Page 29
63510 Temporary Traffic Control, Traffic and Safety Supervisor Page 30
63506 Temporary Traffic Control, Flagger ............................... Page 41

Section 5: ACRE Items
20101 Clearing and Grubbing ................................................. Page 44
62406 Placing Conserved Topsoil .......................................... Page 50
62510 Seeding, Hydraulic Method ........................................ Page 56

Section 6: LNFT/METER/MILE Items
15703 Soil Erosion Control, Silt Fence .................................. Page 64
41411 Crack Cleaning and Sealing ........................................ Page 67
55101 Driven Piles ................................................................ Page 71
60201 Culvert ...................................................................... Page 90
63401 Pavement Markings .................................................... Page 93

Section 7: SQUARE FEET/SQUARE YARD Items
20303 Removal of Pavement, Asphalt ................................. Page 96
20701 Earthwork Geotextile, Geogrid ................................. Page 99
25801 Reinforced Concrete Retaining Wall ......................... Page 103
30306 Pulverizing ............................................................... Page 107
63504 Temporary Traffic Control, Construction Sign .......... Page 112

Section 8: CUBIC YARD Items
20401 Roadway Excavation .................................................. Page 116
20420 Roadway Embankment .............................................. Page 120
Section 9: TON Items
40301 Hot Asphalt Concrete Pavement ............................................................... Page 139
41201 Tack Coat ................................................................................................. Page 149

Section 10: GALLON Items
15801 Watering for Dust Control ................................................................. Page 153
63404 Pavement Marking ................................................................................. Page 155

Appendix
A. Sample Haul Vehicle Volume Calculations ........................................ Page 158
B. Sample Water Truck Volume Calculations .............................................. Page 160
C. Volume Correction Factors for Asphalt .................................................... Page 161
D. Metric Conversion Factors ........................................................................ Page 162
E. Example of Contractor’s Invoice and Support Data ................................. Page 163
F. QL-Pay Example 30101 ............................................................................. Page 165
G. QC Plan Example......................................................................................... Page 168
# TABLE OF CONTENTS (Arranged by FP-03 Division)

## Division 150: Project Requirements
- 15101 Mobilization ................................................................................................ Page 1
- 15201 Construction Survey and Staking .............................................................. Page 9
- 15204 Drainage Structure Survey and Staking ................................................ Page 22
- 15206 Slope, Reference & Clearing Stake ........................................................ Page 20
- 15401 Contractor Testing .................................................................................. Page 13
- 15703 Soil Erosion Control, Silt Fence ............................................................. Page 64
- 15801 Watering for Dust Control ................................................................. Page 153

## Division 200: Earthwork
- 20101 Clearing and Grubbing ........................................................................ Page 44
- 20303 Removal of Pavement, Asphalt ............................................................... Page 96
- 20401 Roadway Excavation ........................................................................ Page 116
- 20420 Roadway Embankment ....................................................................... Page 120
- 20441 Waste ................................................................................................ Page 124
- 20701 Earthwork Geotextile, Geogrid ....................................................... Page 99

## Division 250: Slope Reinforcement and Retaining Walls
- 25101 Placed Riprap ....................................................................................... Page 129
- 25125 Boulder ............................................................................................... Page 25
- 25801 Reinforced Concrete Retaining Wall ........................................ Page 103

## Division 300: Aggregate Courses
- 30306 Pulverizing ........................................................................................ Page 107
- 30101 Aggregate QL-Pay Example ................................................................. Page 165

## Division 400: Asphalt Pavements and Surface Treatments
- 40301 Hot Asphalt Concrete Pavement ........................................................ Page 139
- 41201 Tack Coat ............................................................................................ Page 149
- 41411 Crack Cleaning and Sealing ............................................................... Page 67

## Division 550: Bridge Construction
- 55101 Driven Piles ....................................................................................... Page 71

## Division 600: Incidental Construction
- 60201 Culvert ............................................................................................... Page 90
- 62201 Motor Grader ..................................................................................... Page 29
- 62406 Placing Conserved Topsoil ............................................................... Page 50
- 62510 Seeding, Hydraulic Method ............................................................... Page 56
Appendix
A. Sample Haul Vehicle Volume Calculations .......................................................... Page 158
B. Sample Water Truck Volume Calculations ........................................................... Page 160
C. Volume Correction Factors for Asphalt ............................................................... Page 161
D. Metric Conversion Factors .................................................................................. Page 162
E. Example of Contractor’s Invoice and Support Data .............................................. Page 163
F. QL-Pay Example 30101 ...................................................................................... Page 165
G. QC Plan Example ............................................................................................... Page 168
SECTION 1: LUMP SUM ITEMS

15101 Mobilization ................................................................. Page 1
15201 Construction Survey and Staking .................................. Page 9
15401 Contractor Testing .......................................................... Page 13

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON LPSM ITEMS:
Items paid by Lump Sum typically have very specific directions for when and how they will be paid. Please refer to the FP, the Special Contract Requirements, and plans for your project for detailed instructions prior to submitting any pay notes. In almost all cases, lump sum items require specific documentation prior to any payment. Lump sum items are not directly measured for payment but general measurements may be made to verify or estimate progress.
**Project Number:** SD PRA BADL 10(5)  
**Project Name:** Badlands Loop Road

**Account:** Schedule A

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**Pay Note Information:**

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**Pay Note Entry:**

- **Work Start Date:** 06/01/11  
- **Work End Date:** 06/30/11

**Location/Description:**

- Notice to Proceed was issued on May 27, 2011.
- Bond premiums, SF 25 and 25A were submitted to FHWA on May 29, 2011.
- Began mobilizing construction equipment to the project on 06/01/11.
- Began construction activities on 06/05/11.

**Remarks/Calculations:**

- Refer to FP-03 151.03(b)
- Original contract amount ($12,000,000) minus mobilization ($1,000,000) = revised total ($11,000,000)
- Contract work complete to date (06/30/11) = $750,000 (which is greater than 5% contract amount via other bid items)

Pay lesser of the following two amounts

- (a) 50% of mobilization = $500,000
- (b) 5% of original contract = $600,000

**Support Documentation/References:**

- See attached SF25 (performance bond) and SF25A (payment bond)

---

**Measured By:** Joe the Inspector & Bob the Contractor  
**Interim Measurement**

**TOTAL QUANTITY:** $500,000 (LPSM)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 06/30/11

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 06/30/11

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 07/10/11
PERFORMANCE BOND
(See Instructions on reverse)  DATE BOND EXECUTED (Must be same or later than date of contract)  September 4, 2009
FORM APPROVED OMB NO. 9000-0045

Public reporting burden for this collection of information is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to the FAR Secretariat (FWS), Office of Federal Acquisition Policy, GSA, Washington, D.C. 20405: and to the Office of Management and Budget. Paperwork Reduction Project (9000-0045), Washington, D.C. 20503.

PRINCIPAL (Legal name and business address)
Duininck, Inc.
P.O. Box 208
Prinsburg, MN  56281

SURETY (IES) (Name(s) and business address(es))
Continental Casualty Company &
National Fire Insurance Company of Hartford
333 South Wabash Avenue
Chicago, IL 60604

TYPE OF ORGANIZATION ("X" one)

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STATE OF INCORPORATION
Minnesota

PENDAL SUM OF BOND
MILLION(S)  THOUSAND(S)  HUNDRED(S)  CENTS
11     222       386                 60

CONTRACT DATE  CONTRACT NO.
9/1/09  DTFH68-09-C-00037

OBLIGATION:
We, the Principal and Surety(ies), are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

CONDITIONS:
The principal has entered into the contract identified above.

THEREFORE:
The above obligation is void if the Principal:

(a)(1) Performs and fulfills all the undertakings, covenants, terms, conditions, and agreements of the contract during the original term of the contract and any extensions thereof that are granted by the Government, with or without notice to the Surety(ies), and during the life of any guaranty required under the contract, and (2) performs and fulfills all the undertakings, covenants, terms conditions, and agreements of any and all duly authorized modifications of the contract that hereafter are made. Notice of those modifications to the Surety(ies) are waived.

(b) Pays to the Government the full amount of the taxes imposed by the Government, if the said contract is subject to the Miller Act, (40 U.S.C. 270a-270a), which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished.

WITNESS:
The Principal and Surety(ies) executed this performance bond and affixed their seals on the above date.

SIGNATURE(S)  1.  (Seal)  2.  (Seal)

NAME(S) & TITLE(S) (Typed)
1. Chris G. Duininck  2.  Vice-President

SIGNATURE(S)  1.  (Seal)  2.  (Seal)

NAME(S) (Typed)
1.  2.

SIGNATURE(S)  1.  (Seal)  2.  (Seal)

NAME & ADDRESS
Continental Casualty Company
333 South Wabash Avenue
Chicago, IL 60604

STATE OF INC.
IL
LIABILITY LIMIT
$500,000.00

SIGNATURE(S)  1.  (Seal)  2.  (Seal)

SURETY A
Contingent Casualty Company
333 South Wabash Avenue
Chicago, IL 60604

COUNTRY
USA

NAME & TITLE(S) (Typed)
1. Linda K. Ryks  2. Attorney-in-Fact

PREVIOUS EDITION NOT USABLE

EXPRIATION DATE
25-107  SF25.wpf

STANDARD FORM 25
(REV. 1-95)

Prescribed by GSA-FAR (48CFR) 53.228 (b)
## CORPORATE SURETY(IES) (Continued)

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<td>2. Attorney-in-Fact</td>
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**INSTRUCTIONS**

1. This form is authorized for use in connection with Government contracts. Any deviation from this form will require the written approval of the Administrator of General Services.

2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.

3. (a) Corporations executing the bonds as sureties must appear on the Department of the Treasury's list of the approved sureties and must act within the limitation listed therein. Where more than one corporate surety is involved their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)." in the space designated "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 25), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal," and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.

5. Type the name and title of each person signing this bond in the space provided.
POWER OF ATTORNEY APPOINTING INDIVIDUAL AT ARM IN FACT

Know All Men By these Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

Wes G Wieberdink, Linda K Ryks, Roger Ahrenholz, Myron Mulder, Individually

of Prinsburg, MN, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Senior Vice President and their corporate seals to be hereto affixed on this 19th day of January, 2009.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Robert M. Mann Senior Vice President

State of Illinois, County of Cook, ss:

On this 19th day of January, 2009, before me personally came Robert M. Mann to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Chicago, State of Illinois; that he is a Senior Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.

CERTIFICATE

I, Mary A. Ribikawski, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance companies printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this 4th day of September, 2009.

Mary A. Ribikawski Assistant Secretary
## PAYMENT BOND

(See Instructions on reverse)

<table>
<thead>
<tr>
<th>Date Bond Executed (Must be same or later than date of contract)</th>
<th>September 4, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Approved OMB No.</td>
<td>9000-0045</td>
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PUBLIC REPORTING BURDEN FOR THIS COLLECTION OF INFORMATION IS ESTIMATED TO AVERAGE 25 MINUTES PER RESPONSE, INCLUDING THE TIME FOR REVIEWING INSTRUCTIONS, SEARCHING EXISTING DATA SOURCES, GATHERING AND MAINTAINING THE DATA NEEDED, AND COMPLETING AND REVIEWING THE COLLECTION OF INFORMATION. Send comments regarding the burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to the FAR Secretariat (VRSD), Office of Federal Acquisition Policy, GSA, Washington, D.C. 20405: and to the Office of Management and Budget. Paperwork Reduction Project (0605-0046), Washington, D.C. 20560.

### PRINCIPAL

**Legal name and business address**

Duininck, Inc.
P.O. Box 208
Prinsburg, MN 56281

SURETY (IES) (Name(s) and business address(es))

Continental Casualty Company &
National Fire Insurance Company of Hartford
333 South Wabash Avenue
Chicago, IL 60604

<table>
<thead>
<tr>
<th>TYPE OF ORGANIZATION (&quot;X&quot; one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIVIDUAL</td>
</tr>
<tr>
<td>JOINT VENTURE</td>
</tr>
<tr>
<td>CORPORATION</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>Minnesota</td>
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<table>
<thead>
<tr>
<th>PENAL SUM OF BOND</th>
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<tbody>
<tr>
<td>MILLION(S)</td>
</tr>
<tr>
<td>11</td>
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<table>
<thead>
<tr>
<th>CONTRACT NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTFH68-09-C-00037</td>
</tr>
</tbody>
</table>

OBLIGATION:

We, the Principal and Surety(ies), are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally. However, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us. For all other purposes, each Surety binds itself, jointly and severally with the Principal, for the payment of the sum shown opposite the name of the Surety. If no limit of liability is indicated, the limit of liability is the full amount of the penal sum.

CONDITIONS:

The above obligation is void if the Principal promptly makes a payment to all persons having a direct relationship with the Principal or a subcontractor of the Principal for furnishing labor, material or both in the prosecution of the work provided for in the contract identified above, and any authorized modifications of the contract that subsequently are made. Notice of those modifications to the Surety(ies) are waived.

WITNESS:

The Principal and Surety(ies) executed this performance bond and affixed their seals on the above date.

### PRINCIPAL

<table>
<thead>
<tr>
<th>SIGNATURE(S)</th>
<th>NAME(S) &amp; TITLE(S) (Typed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chris G. Duininck, Vice-President</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

### INDIVIDUAL SURETY(IES)

<table>
<thead>
<tr>
<th>SIGNATURE(S)</th>
<th>NAME(S) (Typed)</th>
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<thead>
<tr>
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<tr>
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</tbody>
</table>

### CORPORATE SURETY(IES)

<table>
<thead>
<tr>
<th>SIGNATURE(S)</th>
<th>NAME &amp; ADDRESS</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Continental Casualty Company 333 South Wabash Avenue, Chicago, IL 60604</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATE OF INC.</th>
<th>LIABILITY LIMIT</th>
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</thead>
<tbody>
<tr>
<td>IL</td>
<td>$569,497,000.00</td>
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<thead>
<tr>
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<tbody>
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NSN 7540-01-152-0060

EXPIRATION DATE 25-205

STANDARD FORM 25-A (REV. 1-90)

Previous edition not usable

---

[Stamp and Seals]
### CORPORATE SURETY(IES) (Continued)

<table>
<thead>
<tr>
<th>SURETY</th>
<th>NAME &amp; ADDRESS</th>
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<th>LIABILITY LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>National Fire Insurance Company of Hartford</td>
<td>IL</td>
<td>$11,139,000.00</td>
</tr>
<tr>
<td>B</td>
<td>333 South Wabash Avenue, Chicago, IL 60604</td>
<td>1122354464</td>
<td></td>
</tr>
</tbody>
</table>

#### SIGNATURE(S)

1. Linda K. Ryks  
   Attorney-in-Fact

#### INSTRUCTIONS

1. This form is authorized for use in connection with Government contracts. Any deviation from this form will require the written approval of the Administrator of General Services.

2. Insert the full legal name and business address of the Principal in the space designated "Principal" on the face of the form. An authorized person shall sign the bond. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.

3. (a) Corporations executing the bonds as sureties must appear on the Department of the Treasury's list of the approved sureties and must act within the limitations listed therein. Where more than one corporate surety is involved, their names and addresses shall appear in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)" in the space designated "SURETY(IES)" on the face of the form, insert only the letter identification of the sureties.

(b) Where individual sureties are involved, a completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. The Government may require the surety to furnish additional substantiating information concerning its financial capability.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Corporate Seal", and shall affix an adhesive seal if executed in Maine, New Hampshire, or any other jurisdiction requiring adhesive seals.

5. Type the name and title of each person signing this bond in the space provided.
POWER OF / ORNEY APPOINTING INDIVIDUAL AT ORNEY-IN-FACT

Know All Men By These Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

Wes G Wieberdink, Linda K Ryks, Roger Ahrenholz, Myron Mulder, Individually

of Prinsburg, MN, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Senior Vice President and their corporate seals to be hereto affixed on this 19th day of January, 2009.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Robert M. Mann Senior Vice President

State of Illinois, County of Cook, ss:

On this 19th day of January, 2009, before me personally came Robert M. Mann to me known, who, being by me duly sworn, did depose and say that he resides in the City of Chicago, State of Illinois; that he is a Senior Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.

Eliza Price Notary Public

CERTIFICATE

I, Mary A. Ribikawski, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance companies printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this _______ 4th day of September ______, 2009

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Mary A. Ribikawski Assistant Secretary
**Item Quantity Pay Note Sheet**

**Date:** 08/31/11

<table>
<thead>
<tr>
<th>Project Number:</th>
<th>SD PRA BADL 10(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>Badlands Loop Road</td>
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<tr>
<td>Account:</td>
<td>Schedule A</td>
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</table>

**Pay Note Information:**

<table>
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<tr>
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<th>15101-0000</th>
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</thead>
<tbody>
<tr>
<td>Item Description:</td>
<td>Mobilization</td>
</tr>
<tr>
<td>Pay Unit:</td>
<td>LPSM</td>
</tr>
<tr>
<td>Item Line #:</td>
<td>N/A (for EEBACS only)</td>
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<tr>
<td>Pay Note #:</td>
<td>32</td>
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<tr>
<td>Pay Period:</td>
<td>3</td>
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</table>

**Pay Note Entry:**

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<tr>
<th>Item Line #:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Item Description:</td>
<td>Mobilization</td>
</tr>
<tr>
<td>Pay Unit:</td>
<td>LPSM</td>
</tr>
<tr>
<td>Work Start Date:</td>
<td>08/01/11</td>
</tr>
<tr>
<td>Work End Date:</td>
<td>08/31/11</td>
</tr>
</tbody>
</table>

**Location/Description:**

Notice to Proceed was issued on May 27, 2011.

Bond premiums, SF 25 and 25A were submitted to FHWA on May 29, 2011.

Began mobilizing construction equipment to the project on 06/01/11.

Began construction activities on 06/05/11.

**Remarks/Calculations:**

- Refer to FP-03 151.03(b)
- Original contract amount ($12,000,000) minus mobilization ($1,000,000) = revised total ($11,000,000)
- Contract work complete to date (08/31/11) = $3,000,000 (which is greater than 10% contract amount via other bid items)

Previous Payment = $500,000 (Pay Period #1)

Remaining balance for payment: $1,000,000 - $500,000 = $500,000

Pay $500,000 in Pay Period 3

Mobilization is now 100% complete

**Support Documentation/References:**

N/A

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** $500,000 (LPSM)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

**Contractor Representative (Print):** Bob the Contractor

**Contractor Representative (Signature):**

**Date:** 08/31/11

**Approved by FHWA Representative (Print):** Joe the Inspector

**Approved by FHWA Representative (Signature):**

**Date:** 08/31/11

**Checked by FHWA Representative (Signature):** Jane the Project Engineer

**Date:** 09/09/11
Example #1 of 1 for this item

Project Number: WY ERFO 261(1)  Project Name: Cedar Pass Road

Account: Schedule A

Pay Note Information:

Pay Item #: 15201-0000  Item Description: Construction Survey and Staking  Pay Unit: LPSM

Item Line #: N/A (for EEBACS only)  Item Type: N/A (for EEBACS only)

Pay Note #: 15  Pay Period: 2

Pay Note Entry:

Work Start Date: 07/24/11  Work End Date: 07/31/11

Location/Description:

Construction Survey and Staking activities began on 07/01/10. Pipe plots (7/24 to 7/30): STA 100+56, 104+78, 106+67, 107+95 Pipe Staking (7/24, 7/27): STA 100+56, 104+78 Clearing Stakes RT and LT (7/24 to 7/28): STA 100+00 to 152+80 Reference Stakes RT and LT (7/26, 7/27): STA 100+00 to 152+80 Slope Stakes RT and LT (7/30, 7/31): STA 100+00 to 152+80

Remarks/Calculations:

Per agreement with FHWA CO and Contractor Owner, the breakdown of work for all LPSM survey work is as follows:

15% pipes, 5% curb/drainage, 60% clearing/ref/slope, 5% red tops, 7% blue tops, 3% parking and 5% misc. (signs/striping, etc.)

See attached spreadsheets: 2.94% of 15% completed of pipe survey, 16.87% of 60% completed of clearing/ref/slope stakes

Pay 2.94% + 16.87% = 19.81% X ($15,000 LPSM) = $2,971.50

Support Documentation/References:

Pipe Culvert Survey Breakdown Spreadsheet, Clearing/Ref/Slope Staking Breakdown Spreadsheet

Note: Pipe plots have been submitted and approved prior to payment (see example of acceptable pipe plot)

Measured By: Joe the Inspector & Bob the Contractor

Interim Measurement  Final Measurement

TOTAL QUANTITY: $2,971.50 (LPSM)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 07/31/11

Contractor Representative (Signature):

Approved by FHWA Representative (Print): Joe the Inspector  Date: 07/31/11

Approved by FHWA Representative (Signature):

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 08/07/11
**Survey and Staking Support Documentation (Pipe Culvert Survey Breakdown Spreadsheet)**

**Wy ERFO 261(1), Cedar Pass Road**  
Survey and Staking (LPSM)

<table>
<thead>
<tr>
<th>#</th>
<th>Date Complete</th>
<th>Pipe Plots (10%)</th>
<th>Pay Percentage*</th>
<th>Date Completed</th>
<th>Staking (5%)</th>
<th>Pay Percentage**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7/24/2011</td>
<td>100+56</td>
<td>0.59</td>
<td>7/24/2011</td>
<td>100+56</td>
<td>0.29</td>
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<tr>
<td>2</td>
<td>7/24/2011</td>
<td>104+78</td>
<td>0.59</td>
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<tr>
<td>3</td>
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<td>106+67</td>
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<td>0.29</td>
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<tr>
<td>4</td>
<td>7/30/2011</td>
<td>107+95</td>
<td>0.59</td>
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<td>107+95</td>
<td>0.29</td>
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<tr>
<td>5</td>
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<tr>
<td>6</td>
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<tr>
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<tr>
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</tr>
</tbody>
</table>

\[
(0.59\% \times 4) + (0.29\% \times 2) = 2.94\%
\]

*Pipe Plot Pay Percentage = ((1/17)\times0.1)\times100*

**Staking Pay Percentage = ((1/17)\times0.05)\times100***
Survey and staking support documentation (clearing/ref/slope staking breakdown spreadsheet)

**WY ERFO 261(1), Cedar Pass Road**

**Survey and Staking (LPSM)**

<table>
<thead>
<tr>
<th>Clearing (18%)</th>
<th>Reference (18%)</th>
<th>Slope (18%)</th>
<th>Restake as Needed (6%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td><strong>Station</strong></td>
<td>-</td>
<td><strong>Station</strong></td>
</tr>
<tr>
<td>07/24/11</td>
<td>100+00</td>
<td>-</td>
<td>116+00</td>
</tr>
<tr>
<td>07/25/11</td>
<td>116+00</td>
<td>-</td>
<td>128+00</td>
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<tr>
<td>07/27/11</td>
<td>128+00</td>
<td>-</td>
<td>143+00</td>
</tr>
<tr>
<td>07/28/11</td>
<td>143+00</td>
<td>-</td>
<td>152+80</td>
</tr>
</tbody>
</table>

Total Length in feet = 5280  
Total Length in feet = 5280  
Total Length in feet = 5280

**Calculations:**

**Total Clearing % for Payment** = \((5,280'/16,900') \times 18\% \) = 5.623%

**Total Reference % for Payment** = \((5,280'/16,900') \times 18\% \) = 5.623%

**Total Slope % for Payment** = \((5,280'/16,900') \times 18\% \) = 5.623%

**Total** = 16.869%

Pay at the end of project once all necessary restaking is completed.
**Project Number:** WY ERFO 261(1)  
**Project Name:** Cedar Pass Road

**Account:** Schedule A

### Pay Note Information:

<table>
<thead>
<tr>
<th>Pay Item #</th>
<th>Item Description</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>15401-0000</td>
<td>Contractor Testing</td>
<td>LPSM</td>
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<table>
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<tr>
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<th>Item Type</th>
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<th>Pay Period</th>
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### Pay Note Entry:

<table>
<thead>
<tr>
<th>Work Start Date</th>
<th>Work End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/12/10</td>
<td>8/31/10</td>
</tr>
</tbody>
</table>

**Location/Description:**

On 8/12/10 testing facilities were established and approved by FHWA, qualified testing personnel were identified and approved by FHWA, and SF-1413's for the subcontractor performing this work were submitted and later approved by FHWA. On 8/24/11, testing began for site 6 embankment work.

### Remarks/Calculations:

Per 154.07(a), 25% of the item amount, not to exceed 0.5 percent of the original contract amount, will be paid after all the testing facilities are in place, qualified sampling and testing personnel are identified, and the work being tested has started.

- Original Contract Amount = $1,000,000
- Contractor Testing Amount = $10,000

Pay lesser of the following two amounts:

a) $1,000,000 x %0.5 = $5,000
b) $10,000 x %25 = $2,500

Note: To date, a low % of total testing has been completed...per Contractor and FHWA, prorated payment will be begin on PP 2.

### Support Documentation/References:

1. QC Plan (Appendix G)
2. Material Testing Lab Accreditation
3. Site 6 embankment testing reports 8/24/11 - 8/31/11
4. Material Tester Certificates (NOT SHOWN)

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** $2,500 (LPSM)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 08/31/10

- **Contractor Representative (Signature):**

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 08/31/10

- **Approved by FHWA Representative (Signature):**

- **Checked by FHWA Representative (Signature):** Jane the Engineer  
  **Date:** 09/05/10
support documentation for contractor testing (material testing/lab accreditation)
REPORT OF FIELD DENSITY TEST RESULTS

Client: [blank]  Date: August 24, 2011

Project: WY ERFO 261
Cedar Pass Road, WY  Project No: 11-1490-T

Item Tested: Street  Report No: 03

Test No’s.: 1 through 2

<table>
<thead>
<tr>
<th>Test</th>
<th>Location:</th>
<th>Depth</th>
<th>MDD</th>
<th>OMC</th>
<th>Dry Dens.</th>
<th>Moist</th>
<th>% Comp.</th>
<th>Soil Type</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>676 + 10 South Side</td>
<td>1st Lift</td>
<td>130.3</td>
<td>6.7</td>
<td>127.0</td>
<td>6.4</td>
<td>97.5</td>
<td>Silty SAND with Gravel</td>
</tr>
<tr>
<td>2</td>
<td>676 + 10 South Side</td>
<td>1st Lift</td>
<td>130.3</td>
<td>6.7</td>
<td>125.5</td>
<td>9.6</td>
<td>96.3</td>
<td>Silty SAND with Gravel</td>
</tr>
</tbody>
</table>

COMPACTION SPECIFICATIONS

Area: Street  Compaction: ≥ 95% of ASHTO T-99  Moisture: +/-2 pts OMC

INDICATION OF DENSITY TEST PASS OR FAILURE

This report presents opinions as a result of our observation of fill placement. We have relied on the contractor to continue applying the recommended compactive effort and moisture to the fill during times when our observer is not observing operations. Tests are made of the fill only as believed necessary to calibrate our observer's judgment. Test data are not the sole basis for opinions on whether the fill meets specifications. Our tests indicate only the field dry density and moisture content of the material sampled. The quality and swell potential of the material is not considered herein.

Periodic Observation of fill placement being continued unless otherwise advised.

☐ Pass  In our opinion the fill has been compacted to the spec. requirements as indicated by test number 1 through 2.

☐ Failure  In our opinion fill does not meet specified requirements as indicated by Test No. (s) and should be removed or reworked. Contractor has been advised.

☐ Remarks:

Field Observer: DH  Reviewed By: DP
### Item Quantity Pay Note Sheet

**Project Number:** WY ERFO 261(1)  
**Project Name:** Cedar Pass Road

**Account:** Schedule A

### Pay Note Information:

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<thead>
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<th>Pay Period</th>
<th>Item Type</th>
<th>Pay Item #</th>
<th>Pay Unit</th>
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### Pay Note Entry:

- **Work Start Date:** 9/1/10  
- **Work End Date:** 9/30/10

### Location/Description:

From 9/1/10 to 9/30/10 Embankment (for RSS embankment construction) and Aggregate Base Testing (see attached test results)

### Remarks/Calculations:

Per 154.07(b), payment for the remaining portion of the item amount will be prorated based on the total work complete. Testing facilities/personnel in place and item begin = 25%  (75% remaining)  Paid Estimate 1 on 8/31/10

Original contract amount ($1,000,000) minus contractor testing ($10,000) = revised total ($990,000)

Contract work complete to date (09/30/10) = $300,000 ($300,000/$990,000 X %100 = %30.3)

%30.3 (contract work complete to date) X 75% (remaining testing work to be paid) = %22.72

%22.72 X $10,000 = $2,272.72

### Support Documentation/References:

1. Site 5 Embankment Testing Summary  
2. Site 5 embankment testing reports  
3. Site 5 aggregate testing reports 10/30/11

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** $2,272.72 (LPSM)

*By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.*

- **Contractor Representative (Print):** Bob the Contractor  
- **Contractor Representative (Signature):**  
  **Date:** 9/30/10

- **Approved by FHWA Representative (Print):** Joe the Inspector  
- **Approved by FHWA Representative (Signature):**  
  **Date:** 9/30/10

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 10/02/10
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<th>Proctor</th>
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<th>Moisture (%)</th>
<th>% Compaction</th>
<th>(+/-) Moisture</th>
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See example of Contractor Daily Test Report (submitted to FHWA each day)
REPORT OF FIELD DENSITY T

<table>
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<tr>
<th>Test</th>
<th>Location: Site 5</th>
<th>Elevation</th>
<th>MDD</th>
<th>OMC</th>
<th>Dry Dens.</th>
<th>Moist % Comp.</th>
<th>Soil Type</th>
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</table>

COMPACTION SPECIFICATIONS

| Area: Street Subgrade | Compaction: > 95% of ASHTO T-99 | Moisture: +/- 2 pts OMC |

INDICATION OF DENSITY TEST PASS OR FAILURE

This report presents opinions as a result of our observation of fill placement. We have relied on the contractor to continue applying the recommended compactive effort and moisture to the fill during times when our observer is not observing operations. Tests are made of the fill only as believed necessary to calibrate our observer's judgment. Test data are not the sole basis for opinions on whether the fill meets specifications. Our tests indicate only the field dry density and moisture content of the material sampled. The quality and swell potential of the material is not considered herein.

Periodic Observation of fill placement being continued unless otherwise advised.

- **Pass**: in our opinion the fill has been compacted to the spec. requirements as indicated by test number 1 through 2.
- **Failure**: in our opinion fill does not meet specified requirements as indicated by Test No. (s) and should be removed or reworked. Contractor has been advised.

Field Observer: BA
Reviewed By: DP
# REPORT OF FIELD DENSITY TEST RESULTS

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<th>Test</th>
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<th>OMC</th>
<th>Dry Dens.</th>
<th>Moist</th>
<th>% Comp.</th>
<th>Soil Type</th>
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<tbody>
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<td>Gravel with Silt and Sand</td>
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## COMPACTATION SPECIFICATIONS

<table>
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<th>Area: Street Subgrade</th>
<th>Compaction: ≥ 95% of ASHTO T-69</th>
<th>Moisture: ±2 pts OMC</th>
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### INDICATION OF DENSITY TEST PASS OR FAILURE

This report presents opinions as a result of our observation of fill placement. We have relied on the contractor to continue applying the recommended compactive effort and moisture to the fill during times when our observer is not observing operations. Tests are made of the fill only as believed necessary to calibrate our observer’s judgment. Test data are not the sole basis for opinions on whether the fill meets specifications. Our tests indicate only the field dry density and moisture content of the material sampled. The quality and swell potential of the material is not considered herein.

- **Periodic Observation of fill placement being continued unless otherwise advised.**

- **Pass**
  - In our opinion the fill has been compacted to the spec. requirements as indicated by test number 1 through 4.

- **Failure**
  - In our opinion fill does not meet specified requirements as indicated by Test No. (s) and should be removed or reworked. Contractor has been advised.

- **Remarks:**

Field Observer: BA
Reviewed By: DP
SECTION 2: STATION ITEMS

15206 Slope, Reference & Clearing Stake .......................................................... Page 20

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON STA ITEMS:
Items paid by the STA are generally items that include many miles of continuous work (i.e. Staking, Ditch Reconditioning, Pulverizing, and Rumble Strip). A Station is generally paid once every 50’ or 100’ (i.e. for intervals of 50’, work from station 100+00 to 200+00 = 2 stations). Please review the plans and specifications for payment intervals on your specific project. Payment by station is determined from the approved centerline referencing stakes. Station quantities shown in the Plans are estimates and are generally very accurate, but only actually ordered and performed quantities are paid. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes.
**Item Quantity Pay Note Sheet**

**Project Number:** SD PFH 17-1(8)  
**Project Name:** Hill City to Lead

**Pay Note Information:**

- **Pay Item #:** 15206-0000  
- **Item Description:** Slope, Reference, & Clearing Stake  
- **Pay Unit:** STA
- **Item Line #:** N/A (for EEBACS only)  
- **Item Type:** N/A (for EEBACS only)

- **Pay Note #:** 22  
- **Pay Period:** 2

**Pay Note Entry:**

- **Work Start Date:** 10/24/10  
- **Work End Date:** 10/28/10

**Location/Description:**

Clearing and Grubbing Staking: 10/24/10 & 10/28/10, STATION 85+80 to 126+00 (50’ intervals)*

*See Slope, Reference, and Clearing & Grubbing Stake Daily Totals Spreadsheet

**Remarks/Calculations:**

19.00 STA + 7.67 STA = 26.67 STA

Pay 26.67 STA

**Support Documentation/References:**

1) Slope, Reference, and Clearing & Grubbing Stake Daily Totals Spreadsheet

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 26.67 (STA)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 10/28/10

- **Contractor Representative (Signature):**

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 10/28/10

- **Approved by FHWA Representative (Signature):**

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 11/04/10

- **Interim Measurement**  
- **Final Measurement**
slope, reference, and clearing & grubbing support documentation

SD PFH 17-1(6) Hill City to Lead

15206-0000: Slope, Reference, and Clearing & Grubbing Stake Daily Totals
Pay Period 3 (10-1-2010 to 10-31-2010)
Pay Unit: STA

<table>
<thead>
<tr>
<th>DATE</th>
<th>STA START</th>
<th>STA END</th>
<th>INTERVAL STAKED (FEET)</th>
<th>TOTAL STA STAKED</th>
<th>1/3 OF TOTAL STA STAKED (PAY AMOUNT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/1/2010</td>
<td>11+00</td>
<td>21+50</td>
<td>50</td>
<td>21</td>
<td>7.00</td>
</tr>
<tr>
<td>10/2/2010</td>
<td>22+00</td>
<td>34+00</td>
<td>50</td>
<td>24</td>
<td>8.00</td>
</tr>
<tr>
<td>10/3/2010</td>
<td>34+50</td>
<td>52+00</td>
<td>50</td>
<td>35</td>
<td>11.67</td>
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<tr>
<td>10/4/2010</td>
<td>52+50</td>
<td>74+00</td>
<td>50</td>
<td>43</td>
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<tr>
<td>10/7/2010</td>
<td>74+50</td>
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<td>47</td>
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<tr>
<td>10/8/2010</td>
<td>98+50</td>
<td>114+00</td>
<td>50</td>
<td>31</td>
<td>10.33</td>
</tr>
<tr>
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<td>114+50</td>
<td>120+00</td>
<td>50</td>
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TOTALS = 212 70.67

<table>
<thead>
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<th>DATE</th>
<th>STA START</th>
<th>STA END</th>
<th>INTERVAL STAKED (FEET)</th>
<th>TOTAL STA STAKED</th>
<th>1/3 OF TOTAL STA STAKED (PAY AMOUNT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/11/2010</td>
<td>11+00</td>
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<td>10/14/2010</td>
<td>34+00</td>
<td>57+00</td>
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<tr>
<td>10/15/2010</td>
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<td>87+00</td>
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<td>59</td>
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</tr>
<tr>
<td>10/16/2010</td>
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<td>25</td>
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<tr>
<td>10/17/2010</td>
<td>100+50</td>
<td>114+00</td>
<td>50</td>
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<td>9.00</td>
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TOTALS = 202 67.33

<table>
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<th>STA START</th>
<th>STA END</th>
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<th>TOTAL STA STAKED</th>
<th>1/3 OF TOTAL STA STAKED (PAY AMOUNT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/20/2010</td>
<td>11+00</td>
<td>55+00</td>
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<td>29.33</td>
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<td>10/21/2010</td>
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<td>85+00</td>
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<td>59</td>
<td>19.67</td>
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<tr>
<td>10/24/2010</td>
<td>85+50</td>
<td>114+00</td>
<td>50</td>
<td>57</td>
<td>19.00</td>
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<tr>
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<td>114+50</td>
<td>126+00</td>
<td>50</td>
<td>23</td>
<td>7.67</td>
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TOTALS = 227 75.67
Section 3: EACH ITEMS

15215 Survey and Staking, Drainage Structure ..................................................... Page 22
25125 Boulder ...................................................................................................... Page 25
63316 Remove and Reset Signs ........................................................................ Page 27

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON EACH ITEMS:
Items paid by the EACH are generally items that are appropriate to track on an individual basis (i.e. placing boulders, placing a gate, culvert end sections, traffic control cones, etc.). Payment by each is the actual number of units completed and accepted. Quantities shown in the Plans are estimates; only actually ordered and performed quantities are paid. Generally, when submitting for payment on items paid by the EACH, it is required to show on the paynote when the item was completed, where the item was placed (stationing/offset/sketch on the plans) and how many items were placed. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes.
### Item Quantity Pay Note Sheet

**Project Number:** UT PFH 39-1(2)  
**Project Name:** 7 Mile Gooseberry Road  
**Account:** Option X

**Pay Note Information:**

- **Pay Item #:** 15215-3000  
  - **Item Description:** Survey & Staking, Drainage Structure  
  - **Pay Unit:** EACH
- **Item Line #:** N/A (for EEBACS only)  
  - **Item Type:** N/A (for EEBACS only)
- **Pay Note #:** 34  
  - **Pay Period:** 2

**Pay Note Entry:**

- **Work Start Date:** 09/15/08  
  - **Work End Date:** 9/17/08

**Location/Description:**

Pipe location:
9/15/08: 18+855
9/17/08: 17+520, 17+697, 17+832, 18+050

**Remarks/Calculations:**

Each culvert above has been plotted and staked per contract requirements.
Total = 5 EACH

**Support Documentation/References:**

Approved pipe calculations/plots for each pipe being paid for (only 18+855 shown in this example)

---

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 5 (EACH)

---

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

**Contractor Representative (Print):** Bob the Contractor  
**Date:** 9/17/08

**Contractor Representative (Signature):**

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Date:** 9/17/08

**Approved by FHWA Representative (Signature):**

**Checked by FHWA Representative (Signature):** Jane the Project Engineer  
**Date:** 10/01/08
drainage structure survey & staking support documentation
Drain = 3.59 m
Pipe HR L = 3.82 m
Pipe Length = 39.014 m (128.0')
Slope = 10.02%
PE shall be metal

Approved A1

W.M. 09/15/08

Outlet SWV
3649.50
17.97

Proj. EBL: 3044.53

Proj. EBL: 3044.53

PEP G ENGINEERING, L.L.C.

SEVENMILE-GOOSEBERRY ROAD PHASE II
UTAH FOREST HIGHWAY PROJECT P.F.H. 39-1(2)
SEVER COUNTY—FISH LAKE NATIONAL FOREST
CULVERT CROSSING 18+055

DESIGN STA.: 18+055
ACTUAL STA.: 18+055.00
PIPE HORIZONTAL LENGTH: 39.014 M
PIPE LENGTH: 39.014 M
INLET ELEV.: 3044.39
OUTLET ELEV.: 3044.53
STAKED BY: PEP G ENGINEERING
## Item Quantity Pay Note Sheet

### Project Information:
- **Project Number:** NM PRA CAVE 10(1)
- **Project Name:** Carlsbad Caverns
- **Account:** Schedule B

### Pay Note Information:
- **Pay Item #:** 25125-0000
- **Item Description:** Boulders
- **Pay Unit:** EACH
- **Item Type:** N/A (for EEBACS only)
- **Item Line #:** N/A (for EEBACS only)
- **Pay Note #:** 65
- **Pay Period:** 2

### Pay Note Entry:
- **Work Start Date:** 06/11/11
- **Work End Date:** 06/12/11

### Location/Description:
- **6/11/11:** 10 boulders placed every 15 feet from Station 29+80 to 31+30 (as approved by the CO)
- **6/12/11:** 14 boulders placed every 15 feet from Station 31+45 to 33+55 (as approved by the CO)

### Remarks/Calculations:
- \((10 \text{ boulders placed on 6/11/11}) + (14 \text{ boulders placed on 6/12/11}) = 24 \text{ BOULDERS TOTAL}\)
- Pay 24 boulders EACH

### Support Documentation/References:
- See attached plan sheet, D14 for placement details

### Measurements:
- **Measured By:** Joe the Inspector & Bob the Contractor
- **Interim Measurement:** Yes
- **Final Measurement:** No

### Total Quantity:
- **24 (EACH)**

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

<table>
<thead>
<tr>
<th>Contractor Representative (Print):</th>
<th>Bob the Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Representative (Signature):</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td>06/12/11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved by FHWA Representative (Print):</th>
<th>Joe the Inspector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by FHWA Representative (Signature):</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td>06/12/11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Checked by FHWA Representative (Signature):</th>
<th>Jane the Project Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>07/13/11</td>
</tr>
</tbody>
</table>
06/11/11: 10 boulders placed every 15 feet from STA 29+80 to 31+30

06/12/11: 14 boulders placed every 15 feet from STA 31+45 to 33+55
Project Number: UT PFH 39-1(2)  Project Name: 7 Mile Gooseberry Road

Account: Schedule C

Pay Note Information:
Pay Item #: 63316-1000  Item Description: Remove and Reset Sign  Pay Unit: EACH
Item Line #: N/A (for EEBACS only)  Item Type: N/A (for EEBACS only)
Pay Note #: 112  Pay Period: 4

Pay Note Entry:
Work Start Date: 05/07/09  Work End Date: 5/27/09

Location/Description:
See attached remove and reset sign support documentation spreadsheet for location and description of work.

Remarks/Calculations:
-Pay 20 EACH

Support Documentation/References:
Remove and reset sign support documentation spreadsheet

Measured By: Joe the Inspector & Bob the Contractor

TOTAL QUANTITY: 20 (EACH)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 05/27/09
Contractor Representative (Signature): 

Approved by FHWA Representative (Print): Joe the Inspector  Date: 5/27/09
Approved by FHWA Representative (Signature):

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 6/05/09
### 63316 Remove and Reset Signs

<table>
<thead>
<tr>
<th>Removed/Reset</th>
<th>Work Completed</th>
<th>Station</th>
<th>Side</th>
<th>Sign</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5+75</td>
<td>RT</td>
<td>Reverse turn sigh right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11+75</td>
<td>RT</td>
<td>Pavement Ends</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14+50</td>
<td>LT</td>
<td>Reverse turn sigh right</td>
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<tr>
<td>x/x</td>
<td>5/27/2009</td>
<td>25+68</td>
<td>Rt</td>
<td>Lights on for safety</td>
</tr>
<tr>
<td>x/x</td>
<td>5/27/2009</td>
<td>54+95</td>
<td>RT</td>
<td>MP 1</td>
</tr>
<tr>
<td>x/x</td>
<td>5/27/2009</td>
<td>107+75</td>
<td>RT</td>
<td>MP 2</td>
</tr>
<tr>
<td>x/x</td>
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<td>160+55</td>
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<tr>
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<td>213+35</td>
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<td>5/24/2009</td>
<td>266+15</td>
<td>RT</td>
<td>MP 5</td>
</tr>
<tr>
<td>x/x</td>
<td>5/24/2009</td>
<td>318+95</td>
<td>RT</td>
<td>MP 6</td>
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<td>371+75</td>
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<td>5/19/2009</td>
<td>424+55</td>
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<td>MP 8</td>
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<td>Rd #7830</td>
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<td>x/x</td>
<td>5/12/2009</td>
<td>450+34</td>
<td>LT</td>
<td>22 National Forest</td>
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<tr>
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<td>5/12/2009</td>
<td>478+69</td>
<td>RT</td>
<td>MP 9</td>
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<tr>
<td>x/x</td>
<td>5/12/2009</td>
<td>530+15</td>
<td>RT</td>
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<tr>
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<td>5/12/2009</td>
<td>563+50</td>
<td>LT</td>
<td>Rd #7860</td>
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<td>5/7/2009</td>
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<td>RT</td>
<td>MP 11</td>
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<td>RT</td>
<td>Intersection Ahead</td>
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<td>607+80</td>
<td>RT</td>
<td>Satsop Center 7/Wynoochee Lake 6</td>
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<td>Montesano 30</td>
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<td>x/x</td>
<td>5/7/2009</td>
<td>614+83</td>
<td>RT</td>
<td>Lights on for safety</td>
</tr>
</tbody>
</table>

Note: Paid per post. A post with multiple signs attached is paid as 1 EACH.
Section 4: HOUR/WEEK ITEMS

62201 Motor Grader ...........................................................................................................Page 29
63510 Temporary Traffic Control, Traffic and Safety Supervisor .........................Page 30
63506 Temporary Traffic Control, Flagger .................................................................Page 41

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will
conform to the project contract requirements regardless of what is shown here. Included here
are examples of some of the many documentation types that may be required. Often
documentation such as certifications and qualifications may be submitted and accepted once
and then referenced accordingly instead of attaching additional copies for each pay note or
payment period. Many documentation items are required prior to production, delivery, or
placement; required documentation should be provided at the appropriate time and not
necessarily at time of payment.

NOTE ON HOUR ITEMS:
Items paid by the Hour are only paid when ordered by the CO. Hour quantities shown in the
Plans are estimates; only actually ordered and performed quantities are paid. Please refer to the
FP, the Special Contract Requirements, and plans for your project for detailed instructions prior
to submitting any pay notes. In order to fully provide documentation for measurement and
payment, advance consideration should be given to tracking the individual persons or
equipment that are used and the specific start and stop times. For clarity, hourly ordered work
should be completed separately from other items when possible.
### Pay Note Information:

- **Pay Item #:** 62201-0900
- **Item Description:** Wheel Loader, 2 Cubic Yard Capacity
- **Pay Unit:** Hours
- **Item Line #:** N/A (for EEBACS only)
- **Item Type:** N/A (for EEBACS only)
- **Pay Note #:** 123
- **Pay Period:** 5

### Pay Note Entry:

- **Work Start Date:** 10/08/2009
- **Work End Date:** 10/11/2009

### Location/Description:

1. Station 385+00 to 395+00 LT on 10/11/09: Move boulders from 1200 to 1730 = 5.5 hours*
2. Station 385+00 to 410+10 RT on 10/10/09: Move NPS stockpile from 0700 to 1530 (1/2 hr lunch) = 8 hours*
3. Station 227+00 parking lot entrance on 10/09/09: Move NPS stockpile from 0700 to 1530 (1/2 hr lunch) = 8 hours*
4. Station 87+50 cross road pipe RT on 10/08/09 from 0700 to 1030 = 3.5 hours*

   *Extra work directed by CFL project engineer and performed by Tom the Operator on the CAT 950H

### Remarks/Calculations:

From Location/Description:

Total quantity (Hours) = 5.5 + 8 + 8 + 3.5 = 25 Hours

### Support Documentation/References:

N/A

### Measured By:

Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 25.0 (Hours)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

**Contractor Representative (Print):** Bob the Contractor  
**Contractor Representative (Signature):**

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Approved by FHWA Representative (Signature):**

**Checked by FHWA Representative (Signature):** Jane and the Project Engineer  

**Date:** 10/11/09
<table>
<thead>
<tr>
<th>Pay Note Information:</th>
<th></th>
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<tbody>
<tr>
<td>Pay Item #: 63510-0100</td>
<td>Item Description: Traffic Control Supervisor</td>
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<tr>
<td>Item Line #: N/A (for EEBACS only)</td>
<td>Item Type: N/A (for EEBACS only)</td>
</tr>
<tr>
<td>Pay Note #: 67</td>
<td>Pay Period: 3</td>
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<table>
<thead>
<tr>
<th>Pay Note Entry:</th>
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</thead>
<tbody>
<tr>
<td>Work Start Date: 8/15/10</td>
<td>Work End Date: 8/21/10</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Location/Description:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Traffic Control Supervisor, Cassie Fitzhugh worked 7 consecutive days from 08/15/10 to 08/21/10. See attached Daily Traffic Control Reports</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks/Calculations:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Per SCR 635.26, measure Traffic and Safety Supervisor by the week (7 consecutive days, beginning and ending at midnight on the same day of the week) for the work described in Subsection 156.08. Payment will be full compensation for the work prescribed. 08/15/10 to 08/21/10 = 1 week</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Documentation/References:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanned T.C.S Certifications, Daily Traffic Control Reports</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measured By: Joe the Inspector &amp; Bob the Contractor</th>
<th>TOTAL QUANTITY: 1 (WEEK)</th>
</tr>
</thead>
</table>

Interim Measurement ✔

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

<table>
<thead>
<tr>
<th>Contractor Representative (Print): Bob the Contractor</th>
<th>Date: 8/21/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Representative (Signature):</td>
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<table>
<thead>
<tr>
<th>Approved by FHWA Representative (Print): Joe the Inspector</th>
<th>Date: 8/21/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by FHWA Representative (Signature):</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Checked by FHWA Representative (Signature): Jane the Inspector</th>
<th>Date: 9/5/10</th>
</tr>
</thead>
</table>
ATTACH TO ON THIS THE 13TH DAY OF

Affixed to on this the
13TH day of

OFRICHE CONTROL SUPERVISOR

Class: FitzHugh
SUPERVISOR

Traffic Control
Certification for
Oregon Department of Transportation

COPY
March 5, 2009

Re: CA PFH 112-1(1) Traffic Control Supervisor and Traffic Control Plan

Tidewater Contractors, Inc. Traffic Control Supervisor will be Cassie Fitzhugh. Cassie started out as a Traffic Control Flagger and Pilot Car Driver over 11 years ago. For the past 7 years she has set-up and maintained most of Tidewaters Traffic Control operations for ODOT and Cal Trans. In July of 2004 Cassie passed her Traffic Control Supervisor course for ODOT.

In the event that Cassie is unavailable Elaine Davis will be her replacement. Elaine set-up and maintained the Traffic Control operations for Tidewater when Cassie was unavailable. In March of 2008 Elaine passed her Traffic Control Supervisor course for ODOT.

Tidewater will comply with Standard Drawings 635-5 thru 635-9 and 635-13 and the site specific Traffic Control Drawings on pages T30, T31 and T32 when applicable. Tidewater will also comply with Section 108 and 156 regarding Traffic Control.

Thank you,

George Fitzhugh
Tidewater Contractors, Inc.
This certifies that the person identified on this card has successfully met the training requirements to be awarded Oregon Traffic Control Supervisor (TCS) status.

Training presented by:
Evergreen Safety Council

Instructor's name (print): Dave White

Training Location: Salem, OR

Training is MUTCD Compliant.
To verify information on this card contact Evergreen Safety Council at 1-800-521-0778.
Federal Highway Administration
Central Federal Lands Highway Division

DAILY TRAFFIC CONTROL REPORT

PROJECT NAME & NUMBER
South Fork Smith River Road / CA PFH 112-1 (1)

Pay Item: 63510-0100 Traffic and Safety Supervisor

TECHNICIAN
Cassie Fitzhugh

DATE
8-21-10

CONTRACT NO.
DTFH68-09-C-00010

TEMPERATURE
HIGH  33°  LOW  30°

WEATHER
N CLEAR  PT. CLOUDY  F CLOUDY  RAIN  SNOW

WIND CONDITIONS
C CALM  L LIGHT  S STRONG

ARRIVAL TIME
DEPARTURE TIME

Today's Operations:
Schroeder - shoring to both walls

Evidence of an Accident

Damaged Traffic Control Devices

Adequate Buffer Space

Is the Work Area Protected

Materials Properly Stored

Are Lane Closures in Accord with Allowed Hours

Traffic Delays Meet Contract Specifications

<table>
<thead>
<tr>
<th>PILOT VEHICLE</th>
<th>FLAGGERS</th>
<th>CONSTRUCTION SIGNS</th>
<th>BARRICADES</th>
<th>DRUMS</th>
<th>WARNING LIGHTS</th>
<th>TUBULAR TRAFFIC MARKERS</th>
<th>PAVEMENT MARKINGS</th>
<th>ARROW BOARD</th>
<th>VARIABLE MESSAGE BOARD</th>
<th>TEMPORARY CONCRETE BARRIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: RCK:</td>
<td>B: BLDR:</td>
<td>C:</td>
<td>D:</td>
<td></td>
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</tr>
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<td>1</td>
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</table>

Other

Location (Station #) of Missing or Damaged Devices

Date Last Cleaned:

TSS Signature: [Signature]

FHWA Signature: [Signature]

Date: 8/21/10
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

DAILY TRAFFIC CONTROL REPORT

PROJECT NAME & NUMBER
South Fork Smith River Road / CA PFH 112-1 (1)

PAY ITEM: 63510-0100 Traffic and Safety Supervisor

TECHNICIAN
Cassie Fitzhugh

DATE
8-20-10

CONTRACT NO.
DTFH68-09-C-00010

WEATHER

<table>
<thead>
<tr>
<th>DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>T</td>
</tr>
<tr>
<td>W</td>
</tr>
<tr>
<td>T</td>
</tr>
<tr>
<td>W</td>
</tr>
<tr>
<td>S</td>
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</table>

TEMPERATURE

<table>
<thead>
<tr>
<th>TCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
</tr>
<tr>
<td>LOW</td>
</tr>
</tbody>
</table>

TODAY'S OPERATIONS:
A. Still building MSE wall!!
B. Dust control
C. Shoring

EVIDENCE OF AN ACCIDENT

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
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DAMAGED TRAFFIC CONTROL DEVICES

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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ADEQUATE BUFFER SPACE

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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IS THE WORK AREA PROTECTED

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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MATERIALS PROPERLY STORED

<table>
<thead>
<tr>
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ARE LANE CLOSURES IN ACCORD WITH ALLOWED HOURS

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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TRAFFIC DELAYS MEET CONTRACT SPECIFICATIONS

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
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PILOT VEHICLE

<table>
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<tr>
<th>RCK</th>
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FLAGGERS

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CONSTRUCTION SIGNS

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BARRIENCES

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DRUMS

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WARNING LIGHTS

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TUBULAR TRAFFIC MARKERS

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PAVEMENT MARKINGS

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ARROW BOARD

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VARIABLE MESSAGE BOARD

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<th>RCK</th>
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</thead>
</table>

TEMPORARY CONCRETE BARRIER

<table>
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LOCATION (STATION #) OF MISSING OR DAMAGED DEVICES

<table>
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<tr>
<th>RCK</th>
<th>N/A</th>
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</table>

DATE LAST CLEANED:

<table>
<thead>
<tr>
<th>CONES</th>
<th>LIGHTS</th>
<th>SIGNS</th>
<th>BARRIENCES</th>
</tr>
</thead>
</table>

OTHER

TSS SIGNATURE

FHWA SIGNATURE

DATE
8-20-10
DAILY TRAFFIC CONTROL REPORT

PROJECT NAME & NUMBER
South Fork Smith River Road / CA PFH 112-1 (1)

Pay Item: 63510-0100 Traffic and Safety Supervisor

TECHNICIAN

TEMPERATURE
HIGH
LOW

WEATHER
CLEAR
PT. CLOUDY
CLOUDY
RAIN
SNOW

WIND CONDITIONS
CALM
LIGHT
STRONG

ARRIVAL TIME

DEPARTURE TIME

TODAY'S OPERATIONS:
A) Tie - Build m/e wall
   (Rock Crk)
B) Blndr Crk
C) Tie - Wall Ex
D)

EVIDENCE OF AN ACCIDENT

DAMAGED TRAFFIC CONTROL DEVICES

ADEQUATE BUFFER SPACE

IS THE WORK AREA PROTECTED

MATERIALS PROPERLY STORED

ARE LANE CLOSURES IN ACCORD WITH ALLOWED HOURS

TRAFFIC DELAYS MEET CONTRACT SPECIFICATIONS

---

PILOT VEHICLE
FLAGGERS
CONSTRUCTION SIGNS
BARRICADES
DRUMS
WARNING LIGHTS
TUBULAR TRAFFIC MARKERS
PAVEMENT MARKINGS
ARROW BOARD
VARIOUS MESSAGE BOARD
TEMPORARY CONCRETE BARRIER

OTHER

LOCATION (STATION #) OF MISSING OR DAMAGED DEVICES

---

DATE LAST CLEANED:

CONES
LIGHTS
SIGNS
BARRICADES

---

TSS SIGNATURE

FHWA SIGNATURE

DATE 8/19/10
Federal Highway Administration
Central Federal Lands Highway Division

DAILY TRAFFIC CONTROL REPORT

PROJECT NAME & NUMBER
South Fork Smith River Road / CA PFH 112-1 (1)

Pay Item: 63510-0100 Traffic and Safety Supervisor

DATE
8-18-10

CONTRACT NO.
DTFH68-09-C-00010

TECHNICIAN

WEATHER

TEMPERATURE

HIGH

LOW

TCS:
Cassie Fitzhugh

WIND CONDITIONS

ARRIVAL TIME

DEPARTURE TIME

TODAY'S OPERATIONS:
A) TD - Build MSE Wall
   Rock Crk)
B) Bldr Crk)
C) TD - Talk Ex for Shoring - Schneekel - shoring: shotcrete
D) Dust Control

EVIDENCE OF AN ACCIDENT

DAMAGED TRAFFIC CONTROL DEVICES

ADEQUATE BUFFER SPACE

IS THE WORK AREA PROTECTED

MATERIALS PROPERLY STORED

ARE LANE CLOSURES IN ACCORD WITH ALLOWED HOURS

TRAFFIC DELAYS MEET CONTRACT SPECIFICATIONS

PILOT VEHICLE

FLAGGERS

CONSTRUCTION SIGNS

BARRICADES

DRUMS

WARNING LIGHTS

TUBULAR TRAFFIC MARKERS

PAVEMENT MARKINGS

ARROW BOARD

VARIABLE MESSAGE BOARD

TEMPORARY CONCRETE BARRIER

NUMBER USED

A: RCK:

B: BLDR:

C: D:

2 1

4 12 6

96 18

231 47 10 37 84

117 10 2

57/3

OTHER

LOCATION (STATION #) OF MISSING OR DAMAGED DEVICES

*Weekly Meeting*

DATE LAST CLEANED:

CONES LIGHTS SIGNS BARRICADES

TSS SIGNATURE

FHWA SIGNATURE

DATE
8-18-10
**Federal Highway Administration**
**Central Federal Lands Highway Division**

**DAILY TRAFFIC CONTROL REPORT**

<table>
<thead>
<tr>
<th>PROJECT NAME &amp; NUMBER</th>
<th>DATE</th>
<th>CONTRACT NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Fork Smith River Road / CA PFH 112-1 (1)</td>
<td>8/17/10</td>
<td>DTFH65-09-C-00010</td>
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**Pay Item:** 63510-0100 Traffic and Safety Supervisor

<table>
<thead>
<tr>
<th>TECHNICIAN</th>
<th>DAY</th>
<th>TEMPERATURE</th>
<th>TCS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HIGH</td>
<td>LOW</td>
</tr>
</tbody>
</table>

**WEATHER**
- ☀ Clear
- ☁ PT. Cloudy
- ☁ Cloudy
- ⚠️ Rain
- ❄️ Snow

**WIND CONDITIONS**
- ⚛ Calm
- ⚛ Light
- ⚛ Strong

**ARRIVAL TIME**
- 8:00 AM

**DEPARTURE TIME**
- 5:00 PM

**TODAY'S OPERATIONS:**
- A) Build MSE wall
- Rock Crk
- B) Build Crk
- C) Excavate wall for sharing
- D) Schnabel sharing 6 CA

**EVIDENCE OF AN ACCIDENT**
- ☐ Yes
- ☑ No

**DAMAGED TRAFFIC CONTROL DEVICES**
- ☐ Yes
- ☑ No

**ADEQUATE BUFFER SPACE**
- ☐ Yes
- ☑ No

**IS THE WORK AREA PROTECTED**
- ☐ Yes
- ☑ No

**MATERIALS PROPERLY STORED**
- ☐ Yes
- ☑ No

**ARE LANE CLOSURES IN ACCORD WITH ALLOWED HOURS**
- ☐ Yes
- ☑ No

**TRAFFIC DELAYS MEET CONTRACT SPECIFICATIONS**
- ☐ Yes
- ☑ No

<table>
<thead>
<tr>
<th>PILOT VEHICLE</th>
<th>NUMBER USED</th>
<th>A</th>
<th>RCK:</th>
<th>B</th>
<th>BLDR:</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAGS</td>
<td>8</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>DRUMS</td>
<td>12</td>
<td>6</td>
<td></td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>23</td>
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<tr>
<td>TUBULAR MARKER</td>
<td>96</td>
<td>18</td>
<td></td>
<td>10</td>
<td>37</td>
<td>8</td>
<td>17</td>
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<tr>
<td>TOTAL:</td>
<td>117</td>
<td>32</td>
<td>47</td>
<td>37</td>
<td>88</td>
<td>17</td>
<td>52</td>
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</tbody>
</table>

**LOCATION (STATION #) OF MISSING OR DAMAGED DEVICES**

**DATE LAST CLEANED:**

**TSS SIGNATURE:**

**FHWA SIGNATURE:**

**DATE:** 8/17/10
Federal Highway Administration
Central Federal Lands Highway Division

WEEKLY TRAFFIC CONTROL REPORT

PROJECT NAME & NUMBER
South Fork Smith River Road / CA PFH 112-1 (1)

Pay Item: 63510-0100 Traffic and Safety Supervisor

DATE
8-16-10

TECHNICIAN

DAY

TEMPERATURE

HIGH

LOW

TCS:
Cassie Fitzhugh

WEATHER
CLEAR
PT. CLOUDY
CLOUDY
RAIN
SNOW

WIND CONDITIONS
CALM
LIGHT
STRONG

ARRIVAL TIME

DEPARTURE TIME

TODAY'S OPERATIONS:
A) No - Build MSE wall (Rock Crk)
B) Bldr Crk
C) Sheared - Shoring
D) To - Wall Excavation & Haulaway

Evidence of an Accident

Yes
No

DAMAGED TRAFFIC CONTROL DEVICES

Yes
No

Adequate Buffer Space

Yes
No

Is the Work Area Protected

Yes
No

Materials Properly Stored

Yes
No

Are Lane Closures in Accord with Allowed Hours

Yes
No

Traffic Delays Meet Contract Specifications

Yes
No

PILOT VEHICLE

FLAGGERS

CONSTRUCTION SIGNS

BARRICADES

DRUMS

WARNING LIGHTS

TUBULAR TRAFFIC MARKERS

PAVEMENT MARKINGS

ARROW BOARD

VARIABLE MESSAGE BOARD

TEMPORARY CONCRETE BARRIER

NUMBER USED

A: RCK: B: BLDR:

1 2

3 18

1

23 1 32 47 10 37 88 17

117 60

57/3

LOCATION (STATION #) OF MISSING OR DAMAGED DEVICES:

Weekly Drive Thru - All looked well, nothing new to report.

DATE LAST CLEANED:

CONES

LIGHTS

SIGNS

BARRICADES

TSS SIGNATURE
Cassie A. Fitzhugh

FHWA SIGNATURE

DATE
8-16-10
**Daily Traffic Control Report**

**Project Name & Number:** South Fork Smith River Road / CA PGH 112-1 (1)

**Pay Item:** 63510-0100 Traffic and Safety Supervisor

**Date:** 8-15-10

**Contract No.:** DTFH68-09-C-00010

**Technician:** Cassie Fitzhugh

**Weather:**
- **Day:**
  - S: Sunny
  - M: Mostly Sunny
  - T: Partly Sunny
  - W: Cloudy
  - T: Overcast
  - F: Rain
  - S: Snow

**Wind Conditions:**
- Calm
- Light
- Strong

**Evidence of an Accident:**
- Yes
- No

**Damaged Traffic Control Devices:**
- Yes
- No

**Adequate Buffer Space:**
- Yes
- No

**Is the Work Area Protected:**
- Yes
- No

**Materials Properly Stored:**
- Yes
- No

**Are Lane Closures in Accord with Allowed Hours:**
- Yes
- No

**Traffic Delays Meet Contract Specifications:**
- Yes
- No

**Pilot Vehicle**

- Flaggers
- Construction Signs
- Barricades
- Drums
- Warning Lights
- Tubular Traffic Markers
- Pavement Markings
- Arrow Board
- Variable Message Board
- Temporary Concrete Barrier

**Other**

**Location (Station #) of Missing or Damaged Devices:**

<table>
<thead>
<tr>
<th>Number Used</th>
<th>A: Rock</th>
<th>B:</th>
<th>BLDR:</th>
<th>C:</th>
<th>D:</th>
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</thead>
</table>

**Date Last Cleaned:**

**Date:** 8/15/10

**TSS Signature:**

**FHWA Signature:**

**TSS Date:** 8/15/10
Project Number: ND PRA THRO 10(3)  Project Name: North Unit Scenic Drive

Account: Schedule A

**Pay Note Information:**

<table>
<thead>
<tr>
<th>Pay Item #</th>
<th>Item Description</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>63506-0500</td>
<td>Flagger</td>
<td>HOUR</td>
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<table>
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<tr>
<th>Item Line #</th>
<th>Item Type</th>
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<td>Example: A1040</td>
<td>Example: NM</td>
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<table>
<thead>
<tr>
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<th>Pay Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>6</td>
</tr>
</tbody>
</table>

**Pay Note Entry:**

Work Start Date: 10/29/09  Work End Date: 10/29/09

Location/Description:

10/29/2009 = 24.0 hours*

*See supporting documentation

**Remarks/Calculations:**

Per SCR 635.26, payment will be full compensation for the work prescribed.

Sum of hours from Location/Description = 24.0 hours

Pay 24.0 hours

**Support Documentation/References:**

Daily Record of Flagger Hours, Flagger Certification

Measured By: Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 24 (HOURS)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 10/29/09

Contractor Representative (Signature):  

Approved by FHWA Representative (Print): Joe the Inspector  Date: 10/29/09

Approved by FHWA Representative (Signature):  

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 11/12/09
**U.S. DEPARTMENT OF TRANSPORTATION**  
Federal Highways Administration  
Central Federal Lands Highway Division  
Lakewood, CO 80228

**DAILY RECORD OF MISCELLANEOUS ITEMS**

<table>
<thead>
<tr>
<th>Project Number: ND PRA THRO 10(3)</th>
<th>Date: 10-29-2009</th>
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<tbody>
<tr>
<td>Project Name: North Unit Scenic Drive</td>
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<tr>
<td>Bid Item Number/Description: 63506-0500, FLAGGERS</td>
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<table>
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<tr>
<th>LOCATION</th>
<th>DESCRIPTION OF WORK</th>
<th>UNIT</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>150+00 TO 10+00</td>
<td>PAT SWOPE 10:30 AM TO 2:30 PM</td>
<td>HOUR</td>
<td>4.0</td>
</tr>
<tr>
<td>BEHIND BLADE</td>
<td>TOM KILISHEK 10:30 AM TO 11:30 AM</td>
<td>HOUR</td>
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<tr>
<td>TRAFFIC CNTRL</td>
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<td>HOUR</td>
<td>3.0</td>
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<tr>
<td>2000+00 Y</td>
<td>PAT SWOPE 2:30 PM TO 10:30 PM</td>
<td>HOUR</td>
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<td>2000+00 Y</td>
<td>TOM KILISHEK 2:30 PM TO 10:30 PM</td>
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**TOTAL**

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<th>QUANTITY</th>
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<tr>
<td>HOUR</td>
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</table>

This form is not a standard form or a paynote. It is an example of a form that the contractor chose to use for line items with multiple daily activities that are difficult to track. It is acceptable to attach other forms with paynotes as long as the date, location, description and quantity of work is clearly noted.
Traffic Control Flagger

Oregan Work Zone Traffic Control
Certification of Completion

NAME: Ochoa Lizeth A.
I.D. NUMBER: 51627
EXPIRATION DATE: 4/9/2013

Card Holder Must Provide Government Photo I.D.

The person named on this card has met the Industry Standard Requirements of Traffic Control/Work Zone Safety by completing this Oregan Department of Transportation approved course offered through:

Chemeketa Community College

Instructor's Name: Paul West
Instructor's ID #: 390
Section 5: ACRE Items

20101 Clearing and Grubbing .................................................................Page 44
62406 Placing Conserved Topsoil ..........................................................Page 50
62510 Seeding, Hydraulic Method .........................................................Page 56

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON ACRE ITEMS:
Items paid by the ACRE are generally items that include large areas of work (i.e. Seeding, Clearing, Topsoil, Rolled Erosion Control Product, etc.). ACRE quantities shown in the Plans are estimates; only actually ordered and performed quantities are paid. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes. Make longitudinal and traverse measurement by the foot or meter and then use appropriate conversion factors to convert to an ACRE or HECTARE, respectively. It is not okay to determine longitudinal lengths based off of station ranges; the length must be physically measured or surveyed. Generally, when submitting for payment on items paid by the ACRE, it is required to show on the paynote when the work was performed, where the work was performed (station ranges and offsets), measurement sketches, measurement calculations, survey reports if performed, and necessary conversion calculations.
### Item Quantity Pay Note Sheet

**Project Number:** OR PFH 244-1(1)  
**Project Name:** Sunriver to Mt. Bachelor  
**Account:** OPTION Y

#### Pay Note Information:

- **Pay Item #:** 20101-0000  
- **Item Description:** Clearing and Grubbing  
- **Pay Unit:** ha  
- **Item Line #:** N/A (for EEBACS only)  
- **Item Type:** N/A (for EEBACS only)

- **Pay Note #:** 27  
- **Pay Period:** 2

#### Pay Note Entry:

- **Work Start Date:** 12/29/2005  
- **Work End Date:** 01/03/2006

**Location/Description:**

From 12/29/2005 to 1/03/2006, workers cleared and grubbed both sides of the roadway from Station 13+320 to Station 14+500.

#### Remarks/Calculations:

Per attached clearing report, Station 13+320 to Station 14+500 = 28,628 square meters = 2.863 ha

Pay 2.863 ha

#### Support Documentation/References:

- (1) Clearing Report for plan quantities

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 2.863 ha

- **(X) Interim Measurement**  
- **( ) Final Measurement**

---

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Contractor Representative (Signature):**  
  **Date:** 01/03/2006

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Approved by FHWA Representative (Signature):**  
  **Date:** 01/03/2006

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 01/07/2006
### Clearing and grubbing support

**01/03/2006**  
**SUNRIVER TO MT. BACHELOR**  
**PROJ OR PFH 244-1(1)**  
**MAINLINE**  
**CLEARING REPORT**

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12928  1.2928  (ACCUM m² 319290.0000 )
Clearing and grubbing support

OR PFH 244-1(1) Clearing and Grubbing Summary (December 2005 to January 2006)

\[ \text{TOTAL} = 28628 \text{ meters squared} \]
**Item Quantity Pay Note Sheet**

**Project Number:** SD PFH 17-1(6)  
**Project Name:** Hill City to Lead  
**Account:** Schedule A  

**Pay Note Information:**

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**Pay Note Entry:**

**Work Start Date:** 8/17/2010  
**Work End Date:** 8/21/2010  

**Location/Description:**

1. **8/17/2010:** Placed Conserved Topsoil at Deerfield STA 31+00 to 35+15 RT  
2. **8/18/2010:** Placed Conserved Topsoil at Deerfield STA 35+15 to 41+20 RT  
3. **8/19/2010:** Placed Conserved Topsoil at Deerfield and Newton Trail Slope STA 38+50 to 41+50 LT  
4. **8/20/2010:** Placed Conserved Topsoil at the slope of Newton Fork Ranch  
5. **8/21/2010:** Placed Conserved Topsoil at Deerfield STA 49+00 to 41+50 LT  

Note: Topsoil placed by Tim the Operator with a Hitachi EX230 Excavator.

**Remarks/Calculations:**

Per FP-03 624.07, payment will be full compensation for the work prescribed in this section.

From Location/Description:

(a) 4,162.5 SF*  
(b) 14,970.0 SF*  
(c) 4,861 SF*  
(d) 3,317 SF*  
(e) 22,086 SF  

\[
(49,396.5 \text{ SF}) / (43,560 \text{ SF/ACRE}) = 1.134 \text{ ACRE}
\]

*See attached Placing Conserved Topsoil Sketches and Calculations

**Support Documentation/References:**

1. Placing Conserved Topsoil Sketches and Calculations

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 1.134 (ACRE)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Contractor Representative (Signature):**  
  **Date:** 8/22/10

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Approved by FHWA Representative (Signature):**  
  **Date:** 8/22/10

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 8/25/10
Example Calculation 1:
\[
\text{AREA} = (13+4)/2 \times 12 = 242 \text{ SQUARE FEET}
\]

Example Calculation 2:
\[
\text{AREA} = (13-4)/2 \times 12 = 42 \text{ SQUARE FEET}
\]

TOTAL 1134 SF
462.5 SF

4102.5 SF

Hill City to Lead
Seedling Mulching Topsoil
SD FH 17-1(6)
Ex. Calculation 3:
AREA = 29' x 15' = 435 SQUARE FEET

Ex. Calculation 4:
Area (triangle) = \((30' - 29') \times 15')/2 = 7.5 SQUARE FEET
Deerfield LT & Newton Fork

Bottom of Slope
38+50 - 41+50

SD PFH 17-1 (6)

Hill Cut to Lead Seeding
Mulching
Top Soil

Total 4801 SF
540 SY
placing conserved topsoil support documentation

DM

3317 SF
308.5 SF

Slope Newton
Park Road to Creek

To Creek

DEER FIELD

Hill Seed to Lead
Mulching Schedule A

Newton Trail Creek
**Project Number:** SD PFH 17-1(6)  
**Project Name:** Hill City to Lead

**Account:** Option W

**Pay Note Information:**

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**Location/Description:**

(A) 8/1/2010: Hydraulic Seeding at Burnt Fork, top of bench*
(B) 8/2/2010: Hydraulic Seeding at Burnt Fork, slope*
(C) 8/3/2010: Hydraulic Seeding at Burnt Fork, ditch*

*See attached sketch

**Remarks/Calculations:**

From Location/Description:

(A) 7,626 SF* + (B) 12,780.5 SF* + (C) 8,000 SF* = 28,406.5 SF

(28,406.5 SF) / (43,560 SF/ACRE) = 0.652 ACRE

*See attached Hydraulic Seeding Sketches and Calculations

**Support Documentation/References:**

(1) Hydraulic Seeding Sketches and Calculations  
(2) Hydraulic Seeding Certification

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 0.652 (ACRE)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

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<td>Jane the Project Engineer</td>
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Example Calculation 1:
AREA = 31' X 31' = 961 SQUARE FEET

Example Calculation 2:
AREA = (31' X 10') / 2 = 155 SQUARE FEET
seeding support documentation
Re: Certificate of Compliance, Terra-Blend™ with UltraGro™

To Whom It May Concern:

This letter is to certify that Profile Products, LLC manufactures the product marketed as Terra-Blend™ with UltraGro™. Each bale of Terra-Blend™ with UltraGro™ has been subjected to Profile Products Quality Assurance and Quality Control program and is manufactured to meet or exceed all physical property, endurance, performance and packaging requirements listed in the data specification. A copy of the data specification along with other product information for Terra-Blend™ with UltraGro™ can be located on the Terra-Mulch® website at www.terra-mulch.com. Should you have any questions regarding this product please contact Profile Products.

Cordially,

Michael D. Robeson, PE, CPESC
Technical Services Manager
Profile Products
Section 32 92 16.16 – Hydraulic Seeding: Hydraulic Mulch – Blend with Biostimulant

GENERAL

1.01 SUMMARY

A. This section specifies a hydraulically-applied Hydraulic Mulch (HM) – Blend with biostimulant composed of long strand, thermally refined (within a pressure vessel) wood fibers that have been pressure treated to 80 – 85 psi (552 – 586 kPa) with steam and heat treated for 15 minutes at 380 – 440 degrees Fahrenheit (193 – 226 degrees Celsius); cellulose fibers and a biostimulant. The HM creates a porous and absorbent erosion layer that enhances germination and plant growth.

B. Related Sections: Other Specification Sections, which directly relate to the work of this Section include, but are not limited to the following:

1. Section 01 57 00 – Temporary Erosion and Sediment Control
2. Section 31 00 00 – Earthwork
3. Section 31 91 00 – Planting Preparation
4. Section 32 92 00 – Turf and Grasses

1.02 SUBMITTALS

A. Product Data: Submit manufacturer’s product data and installation instructions. Include required substrate preparation, list of materials and application rate.

B. Certifications: Manufacturer shall submit a letter of certification that the product meets or exceeds all physical property, endurance, performance and packaging requirements.

1.03 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in UV and weather-resistant factory labeled packages. Store and handle in strict compliance with manufacturer’s instructions and recommendations. Protect from damage, weather, excessive temperatures and construction operations.

PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. PROFILE Products LLC
   750 Lake Cook Road – Suite 440
   Buffalo Grove, IL 60089
   800-366-1180 (Fax 847-215-0577)
   www.profileproducts.com

2.02 MATERIALS

A. The Hydraulic Mulch – Blend with Biostimulant shall be Terra-Blend™ with UltraGro™ and conform to the following property values.

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Req. Value (English)</th>
<th>Req. Value (SI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Holding</td>
<td>ASTM D7367</td>
<td>1000% minimum</td>
<td>1000% minimum</td>
</tr>
<tr>
<td>Capacity</td>
<td>Observed</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional Longevity</td>
<td>Observed</td>
<td>Up to 3 months</td>
<td>Up to 3 months</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover Factor</td>
<td>Large Scale Testing²</td>
<td>0.65 maximum</td>
<td>0.65 maximum</td>
</tr>
<tr>
<td>% Effectiveness</td>
<td>Large Scale Testing³</td>
<td>35% minimum</td>
<td>35% minimum</td>
</tr>
</tbody>
</table>
1. Functional Longevity is the estimated time period, based upon field observations, that a material can be anticipated to provide erosion control and agronomic benefits as influenced by composition, as well as site-specific conditions, including; but not limited to - temperature, moisture, light conditions, soils, biological activity, vegetative establishment and other environmental factors.
2. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface.
3. % Effectiveness = One minus Cover Factor multiplied by 100%.
4. Large scale testing conducted at Utah Water Research Laboratory. For specific testing information please contact a Profile technical service representative at 866-325-6262.

### 2.03 COMPOSITION

A. All components of the HM shall be pre-packaged by the Manufacturer to assure both material performance and compliance with the following values. No chemical additives with the exception of fertilizer and liming materials should be added to this product.

1. Thermally Processed (within a pressure vessel) Wood Fiber (minimum) – 60% ± 3%
   a) Heated to a temperature greater than 380 degrees Fahrenheit (193 degrees Celsius) for 15 minutes at a pressure greater than 80 psi (552 kPa)
   Cellulose Fibers (maximum) – 27% ± 3%
   UltraGro™ Biostimulant – 1% ± 0.5%
   Moisture Content – 12% ± 3%

### 2.04 PACKAGING

A. Bags: Net Weight – 50 lb, UV and weather-resistant plastic film
   Pallets: Weather-proof, stretch-wrapped with UV resistant pallet cover
   Pallet Quantity: 40 bags/pallet or 1 ton/pallet

### EXECUTION

### 3.01 SUBSTRATE AND SEEDBED PREPARATION

A. Examine substrates and conditions where materials will be applied. Apply product to geotechnically stable slopes that have been designed and constructed to divert runoff away from the face of the slope. Do not proceed with installation until satisfactory conditions are established.

B. Depending upon project sequencing and intended application, prepare seedbed in compliance with other specifications under Section 1.01 B

### 3.02 INSTALLATION

A. Strictly comply with equipment manufacturer’s installation instructions and recommendations. Use approved hydro-spraying machines with fan-type nozzle (50-degree tip). To achieve optimum soil surface coverage, apply HM from opposing directions to soil surface. Rough surfaces (rocky terrain, cat tracks and ripped soils) may require higher application rates to achieve 75% cover. Slope interruption devices or water diversion techniques are recommended when slope lengths exceed 23 feet (7 m). Maximum slope length is for product applications on a 4H:1V slope. For application on steeper slopes, slope interruption lengths may need to be decreased based on actual site conditions. Not recommended for channels or areas with concentrated water flow. No chemical additives with the exception of fertilizer and liming materials should be added to this product.

B. For Erosion Control and Revegetation: To ensure proper application rates, measure and stake area.

   1. Apply fertilizer with specified prescriptive agronomic formulations, seed and HM at a rate of 50 lb per 100 gallons (23 kg / 380 liters) of water over properly prepared surfaces. Confirm loading rates with equipment manufacturer.

   Do not apply on saturated soils or substrates. Do not apply if precipitation is anticipated within 24-48 hours.

C. Mixing: A mechanically agitated hydraulic-application machine is recommended:
   1. Fill 1/3 of mechanically agitated hydroseeder with water. Turn pump on for 15 seconds and purge and pre-wet lines. Turn pump off.
   2. Turn agitator on and load low density materials first (i.e. seed).

2
3. Continue slowly tilting tank with water while loading fiber matrix into tank.
4. Consult application and loading charts to determine number of bags to be added for desired area
   and application rate. Mix at a rate of 50 lb of HM per 100 gallons (23 kg/360 liters). Contact
   Equipment manufacturer to confirm optimum mixing rates.
5. All HM should be completely loaded before water level reaches 75% of the top of tank.
6. Top off with water and mix until all fiber is fully broken apart and hydrated (minimum of 10 minutes).
7. Add fertilizer
8. Shut off recirculation valve to minimize potential for air entrainment within the slurry.
9. Slow down agitator and start applying with a 50-degree fan tip nozzle.
10. Spray in opposing directions for maximum soil coverage.

D. Application Rates: These application rates are for standard conditions. Designers may wish to reduce rates to
    encourage faster vegetation establishment or may need to increase application rates on rough surfaces.

<table>
<thead>
<tr>
<th>Slope Gradient / Condition</th>
<th>English</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 4H to 1V</td>
<td>2000 lb/ac</td>
<td>2250 kg/ha</td>
</tr>
<tr>
<td>&gt; 4H to 1V and ≤ 3H to 1V</td>
<td>2500 lb/ac</td>
<td>2800 kg/ha</td>
</tr>
</tbody>
</table>

3.03 CLEANING AND PROTECTION

A. After application, thoroughly flush the tank, pumps and hoses to remove all material. Wash all material from the
   exterior of the machine and remove any slurry spills.

B. Clean spills promptly. Advise owner of methods for protection of treated areas. Do not allow treated areas to be
   trafficked or subjected to grazing.

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manufacturing landscape architects, specification writers and designers.
Section 6: LNFT/METER/MILE ITEMS

15705 Soil Erosion Control, Silt Fence ................................................................. Page 64
41411 Crack Cleaning and Sealing ..................................................................... Page 67
55101 Driven Piles ............................................................................................... Page 71
60201 Culvert ....................................................................................................... Page 90
63401 Pavement Markings .................................................................................. Page 93

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON LNFT/METER/MILE ITEMS:
Items paid by length are generally items that are appropriate to measure from end-to-end. Length quantities shown in the Plans are estimates; only actually ordered and performed quantities are paid. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes. Generally, items paid by length are measured with approved devices along the length of the item from end-to-end; parallel to the base or foundation; along the top; along the front face; or along the invert. Do not measure overlaps. It is necessary to measure lengths as specified within the contract for that specific item. Items measured by length often have differing measurement methods based on the item. When submitting for payment on items paid by length, it is required to show on the paynote when the work was performed, where the work was performed (station ranges, offsets, depths, sketches), measurement calculations, who measured the work, survey reports if performed, and necessary conversion calculations (i.e. feet to mile).
**Project Number:** AZ PFH 43-1(4)  
**Project Name:** Sunrise Park- Big Lake Road

### Pay Note Information:

<table>
<thead>
<tr>
<th>Pay Item #</th>
<th>Item Description</th>
<th>Pay Unit</th>
<th>Item Line #</th>
<th>Item Type</th>
<th>Pay Note #</th>
<th>Pay Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>15705-0100</td>
<td>Soil Erosion Control, Silt Fence</td>
<td>LNFT</td>
<td>N/A (for EEBACS only)</td>
<td>N/A (for EEBACS only)</td>
<td>71</td>
<td>3</td>
</tr>
</tbody>
</table>

### Pay Note Entry:

**Work Start Date:** 07/02/2011  
**Work End Date:** 07/02/2011

**Location/Description:**
1) 7/02/11: 123+46 to 124+60 RT, 116' measured  
2) 7/02/11: 124+77 to 125+75 RT, 100' measured  
3) 7/02/11: 127+00 to 128+97 RT, 195' measured

**Remarks/Calculations:**
Sum of silt fence from Location/Description = 116' + 100' + 195' = 408'  
Pay 408 LNFT of Silt Fence

Per FP-03, section 157.16 (a), 50% of the unit bid price will be paid upon installation. See attached Silt Fence Payment Summary Sheet for retention information.  
**NOTE:** Do not show retention information on any paynotes.

### Support Documentation/References:

- Silt Fence Certification, Silt Fence Payment Summary Sheet

---

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 408 (LNFT)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 08/31/11
- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 08/31/11
- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 09/05/11
### Silt Fence Payment Summary Sheet

**Per section 157.16 of the FP-03**

<table>
<thead>
<tr>
<th>Paynote #</th>
<th>Paynote Date</th>
<th>Total Quantity (feet)</th>
<th>Quantity</th>
<th>Date</th>
<th>PP</th>
<th>Quantity</th>
<th>Date</th>
<th>PP</th>
<th>Quantity</th>
<th>Date</th>
<th>PP</th>
<th>Percentage of total qty paid to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>6/29/11</td>
<td>233</td>
<td>116.5</td>
<td>29-Jun</td>
<td>2</td>
<td>58.25</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>66</td>
<td>6/30/11</td>
<td>124</td>
<td>62</td>
<td>29-Jun</td>
<td>2</td>
<td>31</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>69</td>
<td>7/1/11</td>
<td>156</td>
<td>78</td>
<td>1-Jul</td>
<td>3</td>
<td>39</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>71</td>
<td>7/2/11</td>
<td>408</td>
<td>204</td>
<td>2-Jul</td>
<td>3</td>
<td>102</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>76</td>
<td>7/3/11</td>
<td>321</td>
<td>160.5</td>
<td>29-Jun</td>
<td>3</td>
<td>80.25</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>80</td>
<td>7/6/11</td>
<td>231</td>
<td>115.5</td>
<td>29-Jun</td>
<td>3</td>
<td>57.75</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>82</td>
<td>7/7/11</td>
<td>345</td>
<td>172.5</td>
<td>29-Jun</td>
<td>3</td>
<td>86.25</td>
<td>31-Aug</td>
<td>4</td>
<td>TBD</td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>1818</strong></td>
<td><strong>909</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>454.5</strong></td>
<td></td>
<td></td>
<td><strong>0.75</strong></td>
</tr>
</tbody>
</table>

**NOTE TO PROJECT ENGINEERS:** This is only an example of a tracking method for silt fence quantities. Other formats should be used given project conditions. DO NOT LET CONTRACTORS SHOW RETENT OF QUANTITIES ON PAYNOTES. IT SHOULD BE DEDUCTED AND SHOWN ONLY ON A MONTHLY SUMMARY SHEET OR ITEM SUMMARY SHEET, SUCH AS THIS.
Silt Fence Fabric TerraTex SF-D
w 28” 2x4 12.5ga welded wire

Silt Fence Fabric TerraTex SF-D with 28” 2x4 12.5ga welded wire is a preassembled silt fence fabric with 36” TerraTex SF-D woven geotextile attached to 28” 12.5 gauge 2x4 welded wire. The TerraTex SF-D is made up of polypropylene filaments. These filaments are woven to form a stable and durable network such that the filaments retain their relative position. It is non-biodegradable and resistant to most soil chemicals, acids, and alkali with a pH range of 3 to 12. TerraTex SF-D is manufactured to meet or exceed the following minimum average roll values:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Minimum Average Roll Value</th>
<th>English</th>
<th>Minimum Average Roll Value</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grab Tensile</td>
<td>ASTM D-4632</td>
<td>124 x 124 lb</td>
<td>0.550 x 0.550 kN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM D-4632</td>
<td>15% x 15%</td>
<td>15% x 15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mullen Burst</td>
<td>ASTM D-3786</td>
<td>300 psi</td>
<td>2067 kPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puncture</td>
<td>ASTM D-4833</td>
<td>65 lb</td>
<td>0.289 kN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trap Tear</td>
<td>ASTM D-4533</td>
<td>65 lb</td>
<td>0.289 kN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UV Resistance</td>
<td>ASTM D-4355</td>
<td>80% @ 500 hr</td>
<td>80% @ 500 hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOS</td>
<td>ASTM D-4751</td>
<td>30 US Sieve</td>
<td>0.600 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permittivity</td>
<td>ASTM D-4491</td>
<td>0.05 sec-1</td>
<td>0.05 sec-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow Rate</td>
<td>ASTM D-4491</td>
<td>8 gal/min/ft²</td>
<td>325.6 l/min/m²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1/2010

Contractor Certification: By signing below, I certify that the above submitted item(s) have been reviewed in detail and are correct, are in the proper units, and are in strict conformance with the contract drawings and specifications except as otherwise stated. The above submitted item(s) will be used on project AZ PFH 43-1(4) for pay item 15705-0100, Silt Fence

Bob The Contractor 05/12/11

315 Buxton Street  Winston Salem, NC 27101
888 - 239 - 4539  •  Fax: 336 - 747 - 1652
www.hanesgeo.com  info@hanesgeo.com
Pavement Preservation

Deerlodge Entrance Road, Deerlodge pullouts/aprons/ditches, and Deerlodge Information Kiosk Parking Area have all been cracked sealed per contract specification on 08/31/11. See attached support documentation for exact locations of work.

Per SCR 414.06, measure crack cleaning and sealing by the mile of one lane of roadway measured along the centerline denoting total length in miles. For parking areas or other locations quantified by areas in square feet, measure miles based on an 11 foot lane width.

Pay 6.68 miles (see attached support documentation for calculations)

Support Calculations and Certifications

TOTAL QUANTITY: 6.68 (MILE)
Deerlodge Information Parking:
(MP 3.01) 231'L x 20'W: (4620 SQFT) / (11' lane miles x 5280 feet/mile) = 0.08 miles

SCHEDULE A

<table>
<thead>
<tr>
<th>Area</th>
<th>Route #</th>
<th>Length (Mile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deerlodge Entrance Road</td>
<td>101</td>
<td>6.52</td>
</tr>
<tr>
<td>Deerlodge Pullouts, Aprons and Ditches</td>
<td>101</td>
<td>0.08</td>
</tr>
<tr>
<td>Deerlodge Information Kiosk Parking Area</td>
<td>913</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6.68</td>
</tr>
</tbody>
</table>

MP 0.00 TO MP 6.52 = 6.52 miles

Deerlodge Pullouts, Aprons Ditches:
Pullout A (MP 1.01) 80'L X 15'W: (1200 SQFT) / (11' lane miles x 5280 feet/mile) = 0.02 miles
Pullout B (MP 4.56) 200'L X12'W: (2400 SQFT) / (11' lane miles x 5280 feet/mile) = 0.01 miles
Apron A (MP 2.33) 50'L X 12'W: (600 SQFT) / (11' lane miles x 5280 feet/mile) = 0.04 miles
Pullout C (MP 5.01) 25'L x 24'W: (600 SQFT) / (11' lane miles x 5280 feet/mile) = 0.01 miles
Total = 0.08 miles

TOTAL This Sheet 6.68 Mile
Total Previous Sheet 0.00 Mile
Total Previous Date 0.00 Mile
Total This Estimate 6.68 Mile
Total Previous Estimate 39.02 Mile
Total to Date 45.70 Mile

95.2% Complete
Elastoflex 65
is a hot applied polymer modified asphalt crack sealant for concrete and asphalt pavements. It is a self-leveling material that melts easily in the kettle yet sets up quickly upon cooling. ElastoFlex 65 is formulated with a low viscosity, producing a material that will readily penetrate the crack, filling it from the bottom up. This material has a low flexibility, which enables it to perform extremely well in cold weather, yet also has a high softening point so it will not track. This material is well suited for either pour pots or pressure feed application systems.

### Specification

<table>
<thead>
<tr>
<th>Test</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone Penetration: @ 77°F (25°C), ASTM D 5329</td>
<td>70 max.</td>
</tr>
<tr>
<td>Flexibility: 2 Sec. 1&quot; Mandrel</td>
<td>0°F min. (-18°C)</td>
</tr>
<tr>
<td>Softening Point: ASTM D 36</td>
<td>205°F min. (96°C)</td>
</tr>
<tr>
<td>Resilience: @ 77°F (25°C), ASTM D 5329</td>
<td>35% min.</td>
</tr>
<tr>
<td>Ductility: @ 77°F (25°C), 5 cm/min.</td>
<td>40 cm min.</td>
</tr>
<tr>
<td>Flow: @ 140°F (60°C), ASTM D 5329</td>
<td>3 mm max.</td>
</tr>
<tr>
<td>Asphalt Compatibility: ASTM D 5329</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**Applicable Specs:** ASTM D 5078

**Application:** Before use, the user must read and follow the Application Instructions for the above referenced sealant. This product must be heated using indirect heating methods, either a double boiler or hot oil circulating kettle. Equipment must have means of maintaining constant agitation to the material. Recommended application temperature: 380°F (193°C). Maximum safe heating temperature: 400°F (204°C).

**Packaging:** This product is packaged in approximately 30 lb. (13.6 kg) blocks with a dissolvable plastic liner that is capable of becoming part of the mixture.

**Warranty:** Maxwell Products, Inc. warrants that Elastoflex Sealants meet the applicable specifications at the time of shipment. Due to the many differing procedures used in preparing and installing sealants, Maxwell Products assumes no liability for sealant failure due to improper installation, equipment failure or operator errors. Any remedies are limited, at Maxwell Products’ option, to replacement of materials or refund (full or partial) of the purchase price from Maxwell Products. Claims must be made within three (3) months of the date of purchase. There is no other warranty either expressed or implied.

Contractor Certification: By signing below, I certify that the above submitted item(s) have been reviewed in detail and are correct, are in the proper units, and are in strict conformance with the contract drawings and specifications except as otherwise stated. The above submitted item(s) will be used on project PRA DINQ PRES 1(11) for pay item 41411-0000. Crack Cleaning and Sealing

**Bob the Contractor** 07/01/2011

*Maxwell Products Incorporated*

650 South Delong Street • Salt Lake City, UT 84104

*Revised 07/2010*
Project Number: PFF OR 127-1(1)  
Project Name: Boulder Creek Bridge

Pay Note Information:

Pay Item #: 55101-1300  
Item Description: Steel H-piles 250 x 85, in place  
Pay Unit: METER

Item Line #: N/A (for EEBACS only)  
Item Type: N/A (for EEBACS only)

Pay Note #: 214  
Pay Period: 5

Pay Note Entry:

Work Start Date: 01/01/08  
Work End Date: 01/10/08

Location/Description:

Centerline Abutment STA 8+143.037*:
- Pile 1: Driven 01/01/08 and 01/02/08
- Pile 2: Driven 01/02/08
- Pile 3: Driven 01/03/08
- Pile 4: Driven 01/04/08
- Pile 5: Driven 01/04/08
- Pile 6: Driven 01/05/08
- Pile 7: Driven 01/05/08 and 01/08/08
- Pile 8: Driven 01/08/08
- Pile 9: Driven 01/09/08
- Pile 10: Driven 01/10/08

*See attached Pile Layout

Remarks/Calculations:

Piles 1 through 10 were each driven 15.24 meters

(15.24 meters/pile) X (10 piles) = 152.4 meters

Support Documentation/References:

Pile Layout. Example for an acceptable Micro-pile submittal, capacity computation, and certification.

Measured By: Joe the Inspector & Bob the Contractor  
TOTAL QUANTITY: 152.4 (meters)

Interim Measurement  
Final Measurement

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  
Date: 01/10/08

Contractor Representative (Signature):

Approved by FHWA Representative (Print): Joe the Inspector  
Date: 01/10/08

Approved by FHWA Representative (Signature):

Checked by FHWA Representative (Signature): Jane the Project Engineer  
Date: 01/17/08
Pile Driving Record
1/10/1998
Bolder Creek Bridge
Abutment #2

<table>
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<th>Tip Elev. (m)</th>
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|                  | 125.0          | 2          |            |
CERTIFICATE OF COMPLIANCE

PROJECT: Beartooth Hwy. (U.S. 212)

DATE: 4-16-09

CONTRACT NO.: HPP 4-1 (S)

ITEM: 56901-0000

DESCRIPTION: Neat Cement Grout

QUANTITY: Per Plans

CONTRACTOR: HK Contractors

I certify that the materials covered by invoice no. 00012 comply with AASHTO, ASTM, or other contract requirements as follows: FP-03 Sec.725.22 (f)

Test results on samples of the materials can be reviewed at (address): See attached

I also certify that all materials and components directly incorporated into these construction materials, if applicable, comply with the requirements of the "BUY AMERICAN ACT".

COMPANY: CE&MT

ADDRESS: 3677 N. Hwy, 126 Suite A
Farr West, Utah 84404

BY: [Signature]

TITLE: Quality Control Supervisor
INTRODUCTION

HBI understands that during the ongoing mitigation of the Bear Tooth Highway, a bridge over Little Bear Creek will be replaced. Micro-piling has been selected as a noninvasive means of supporting the structure. Due to the sensitivity of the area, extra precautions will be taken to insure the well being of the surrounding areas.

MICRO PILES METHODS

Micro piles are small diameter piles that can be installed in almost any type of ground where piles are required, with design loads as small as 2,700 kg and as high as 362,000 kg. Also known as minipiles, pin piles, needle piles or root piles, micropiles can offer a viable alternative to conventional piling techniques, particularly in restricted access or low headroom situations.

Initially, a steel pipe or casing is generally drilled or driven to the required bearing stratum or depth. The bearing element of the pile is then constructed. This may consist of simply socketing the pile tip into a rock formation or it may include various other drilling and grouting techniques within the bearing stratum. A center steel bar is typically inserted into the hole. The steel pipe/casing is then filled with grout and may be partially or fully extracted. The grout can be pressurized to increase pile/soil bond. The connection to the foundation is then constructed by tying into the micropile.
driven pile support documentation

MICROPILE INSTALLATION

Micropiles will be installed with a KLEMM 806-2 drill weighing approximately 17,237 kg and a KLEMM KR 803-2 weighing approximately 11,521 kg.

Micro pile drilling will be conducted utilizing a duplex drilling system where-by the casing is installed to the depth of bedrock with an inner string and air hammer. The drill cuttings will be forced through the casing and out a flushing bell near the head of the drill. The casing will be advanced into the bedrock to insure a secure “seat”. The inner string is then advanced to the depth specified in the provided plans. Generally this depth is 2.9 meters into the bedrock creating a bond zone. The inner string and air hammer are then removed from the casing. High strength thread bar is installed into the casing with centralizers to provide adequate grout cover. The hole will then be tremie grouted from the bottom, up with 28 MPa neat cement grout.

Neat cement grout for the micropiles will be mixed on-site using a high-shear colloidal mixer.
driven pile support documentation

MICROPILE QA/QC

HBI will utilize a variety of QA/QC methods during this project. One micropile per cap will be proof tested in tension, for a total of 2. One additional sacrificial pile will be installed and performance tested in tension. The tension test will verify the soil to grout bond capacity. Load verification will not include a pile compression test.

HBI’s QA/QC program will consist of preconstruction submittals, design, and field documentation. The field documentation will include drilling logs filled out by HBI’s driller describing in general terms the conditions encountered during drilling. The grouting operations will also be documented on forms by HBI personnel to describe the grout volume experienced during construction of each micropile.

Material certifications will be submitted when they become available from the manufacturer.

Micro pile Testing

Proof Tests

HBI will proof test two micro piles in tension during the project. The load will be applied using a calibrated jack as outlined in the attached schematic. Load on the pile will be measured by hydraulic pressure as read on a pressure gauge. Calibration factors will be used for this and obtained from the calibration of the gauge/jack system. Two displacement gauges accurate to .025 mm will be used for these measurements.

A calibration chart for the hydraulic ram showing the gauge pressure to force relationship will be submitted when available. The ram is currently being calibrated.

Loading of the pile will be conducted in steps of 25% of the design load. The load will be held long enough to get a displacement reading and then increased to the next step. Loading in steps assists in determining micropile performance and safety during the test. Displacements will be noted at each increment as outlined in the loading sequence.

Micropile failure will be evaluated using the following general criteria:

1) More than 13 mm total vertical movement at 100% of design load as measured relative to the pile prior to the start of testing.
2) Movement during the creep test exceeding 1 mm / log cycle time (1 to 10 minutes) or 2 mm / log cycle time (6 to 60 minutes) and has a linear or decreasing creep rate.
3) Slope of the load vs. deflection curve should be less than .635mm per kip at 1.33DL.

After the test is completed the setup will be removed and the pile will be prepared as the rest of production piles. A copy of the report to be submitted following the proof test is attached below. Our ram calibration curve will be provided in English units, however we
will convert all results to SI prior to submittal.

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<th>Pile</th>
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Performance / Load Verification Test
One pre-production pile load test to verify the design of the pile system and the construction methods proposed prior to installing any production piles. This pre-production pile will require a 89 bar in order to pull the anchor to failure. The sacrificial pile load test results will be submitted for review or acceptance.

The attached diagram shows the initial setup for a pile tension test. The cribbing on the reaction beam will be a minimum of 2.2 m from the test pile. A pressure gauge will be used to measure the load on the pile. Dial gauges accurate to 0.025 mm will be used to measure the deflection and thus the load on the pile. The testing ram, jack and gauge setup is being calibrated together to ensure accuracy. The pressure gauge is accurate to 50 PSI or .35 MPa.

Also attached is a copy of the report that will be submitted after the performance test. The report includes times, loads and elongations at each increment.  . Our ram calibration curve is provided in English units, however we will convert all results to SI units prior to submittal.
# MOROPILE

## TENSION STATIC PILE LOAD TEST

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<th>DIA. LOADING (in)</th>
<th>JACK LOAD (kip)</th>
<th>DIA. LOADING (in)</th>
<th>JACK LOAD (kip)</th>
<th>AVG TOTAL LOAD (kip)</th>
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## Notes
- The table above represents the results of a tension static pile load test.
- The test was conducted using a pile with a diameter of 8.65 inches (Dia).
- The load was applied in increments of 0.25, 0.50, and 0.75 additional loads over time.
- The jack load and d'ia. loading were recorded at each increment.
- The average total load was calculated for each increment.
- The test was conducted at a site designated as MOROPILE.
Micro Pile Test Setup

Production QA/QC Methods

HBI will employ a full time qualified Superintendent for the duration of the work. Daily site reports will also be completed by the Superintendent and submitted to the Contractor.
driven pile support documentation

MICROPILE DESIGN CALCULATIONS
Project: Little Bear Creek Bridge #1
Location: Shoshone National Forest
Job #: 46905
By: TSP
Checked By: TMS
Date: 03/13/09

Introduction: A new bridge is being constructed along the Beartooth Highway. Abutments on either end of the bridge will bear on a deep foundation system consisting of micropiles.

Hayward Baker will install 9.625 inch diameter cased micropiles as summarized below. A working load of 170 kips in axial compression and 8.3 kips in lateral per micropile has been specified. Soil borings from FHWA, page number RG2711-D, Project Number WY HPP 4-1(4). Borings THB-8, THB-24, THB-26 were assumed as the closest boring to the work and reflects an overburden (which will be cased) soil then a bedrock consisting of Gneiss or Medium Strong to Strong Sandstone. All bedrock has been assumed as Sandstone for design. Bond values used in Sandstone are from: Rock Anchors, State of the Art, by Littlejohn and Bruce, 1977, Table III.

Design Load: 
Casing Diameter: 

10/14
Introduction: A new bridge is being constructed along the Beartooth Highway. Abutments on either end of the bridge will bear on a deep foundation system consisting of micropiles.

Hayward Baker will install 245 mm diameter cased micropiles as summarized below. A working load of 758 kN in axial compression and 37 kN in lateral per micropile has been specified. Soil borings from FHWA, page number RG2711-D, Project Number WY HPP 4-1(4). Borings THB-8, THB-24, THB-25 were assumed as the closet boring to the work and reflects an overburden (which will be cased) soil then a bedrock consisting of Gneiss or Medium Strong to Strong Sandstone. All bedrock has been assumed as Sandstone for design. Bond values used in Sandstone are from: Rock Anchors, State of the Art, by Littlejohn and Bruce, 1977, Table III.

Design Load: Pdes := 758 kN
Casing Diameter: ODCasing := 245 mm
driven pile support documentation

MICROPILE DESIGN CALCULATIONS
Project: Little Bear Creek Bridge #1
Location: Shoshone National Forest
Job #: 48905
By: TSP
Checked By: TMS
Date: 03/13/09

Casing Wall Thickness

\[
\text{WallCasing} = 14 \text{ mm}
\]

\[
\text{IDCasing} = \text{ODCasing} - 2 \cdot \text{WallCasing}
\]

\[
\text{AreaCasing} = \left( \frac{\pi}{4} \right) \left( \text{ODCasing}^2 - \text{IDCasing}^2 \right)
\]

Area of Threadbar

\[
\text{AREA}\text{Bar} = 1452 \text{ mm}^2
\]

\[
\delta \text{Threadbar} = 43 \text{ mm}
\]

Grout Area In Casing

\[
\text{AREA}\text{GroutCasing} = \left( \frac{\pi}{4} \right) \cdot \text{IDCasing}^2 - \text{AREA}\text{Bar}
\]

\[
\text{AREA}\text{GroutCasing} = 0.036 \text{ m}^2
\]

Grout Strength

\[
\text{F}_{\text{grout}} = 28 \text{ MPa}
\]

Casing Strength

\[
\text{F}_{\text{casing}} = 552 \text{ MPa}
\]

Bar Strength

\[
\text{F}_{\text{ybar}} = 517 \text{ MPa}
\]

Allowable Grout Stress

\[
\sigma_{\text{allowgrout}} = 0.33 \cdot \text{F}_{\text{grout}} \quad \sigma_{\text{allowgrout}} = 9.24 \text{ MPa}
\]

Allowable Casing Stress

\[
\sigma_{\text{allowcasing}} = 0.4 \cdot \text{F}_{\text{casing}} \quad \sigma_{\text{allowcasing}} = 220.8 \text{ MPa}
\]

Allowable Bar Stress

\[
\sigma_{\text{allowbar}} = 0.4 \cdot \text{F}_{\text{ybar}} \quad \sigma_{\text{allowbar}} = 206.8 \text{ MPa}
\]

Allowable Load In Upper Pile Zone
driven pile support documentation

MICROPILE DESIGN CALCULATIONS
Project: Little Bear Creek Bridge #1
Location: Shoshone National Forest
Job #: 48905
By: TSP
Checked By: TMS
Date: 03/13/09

\[ P_{\text{allowableupper}} = \text{AreaCasing} \cdot \sigma_{\text{allowcasing}} + \text{AREAGroutCasing} \cdot \sigma_{\text{allowgrout}} \]

\[ P_{\text{allowableupper}} = 578.123 \text{ kip} \]

Allowable Load in Bond Zone

\[ \phi_{\text{bond}} = 20.32 \text{ cm} \]

**Bond Zone Diameter**

Area of Grout in Bond Zone

\[ \text{AREAGroutBondZone} := \left( \frac{\pi}{4} \right) \cdot \phi_{\text{bond}}^2 - \text{AREABar} \]

\[ \text{AREAGroutBondZone} = 0.031 \text{ m}^2 \]

Load Carried By Grout

\[ P_{\text{grout}} := \text{AREAGroutBondZone} \cdot \sigma_{\text{allowgrout}} \]

\[ P_{\text{grout}} = 286.23 \text{ kN} \]

Load Carried by Threadbar

\[ P_r := P_{\text{des}} - P_{\text{grout}} \quad P_r = 471.77 \text{ kN} \]

Required Threadbar Area

\[ \frac{P_r}{\sigma_{\text{allowbar}}} \]

\[ \text{Athreadbarrequired} = 22.813 \text{ cm}^2 \]

\[ \text{AREABar} = 14.52 \text{ cm}^2 \]

**Bond Length Of Micropile**

Factor of Safety

\[ FOS := 2.0 \]

Ultimate Bond

\[ \Sigma_{\text{ult}} := 827.371 \text{kPa} \]
Ultimate Bond Stress in Bond Zone

Allowable Bond Stress in Bond Zone

Allowable Load Per Foot

Required Bond Length

\[ \sigma_{ult} := \Sigma_{ult} \]

\[ \sigma_{allow} := \frac{\sigma_{ult}}{FOS} \]

\[ \sigma_{allow} = 4.137 \times 10^5 \text{ Pa} \]

\[ \text{Fallow} := \sigma_{allow} \cdot \phi_{bond} \cdot \pi \]

\[ L_{bond} := \frac{P_{des}}{\text{Fallow}} \]

\[ \text{Fallow} = 59.369 \text{ m}^{-1} \text{kip} \]

\[ L_{bond} = 2.87 \text{ m} \]

**USE LBOND=2.9m**

**Summary:** Drilling duplex with casing and down-hole-hammer through overburden soils and into the bedrock. Once bedrock is contacted, a 2.9 m bond zone will be drilled. Drill tooling will be pulled out, a #43, grade 520 threadbar will be installed into the hole, and the hole will be tremie grouted with a 28 MPa neat cement grout mixed to a water/cement ratio by weight of 0.43 - 0.50. A water reducer (Glenium 3030NS) may be added to grout during mixing at the rate of 4.0 oz per 100 lbs of cement.
Soil Type: Sand

Bulk Volume:

Input Parameters

Instructions and Definitions

Calculated P-Parameters

Characteristics Load and Moment

Calculated P-Multipliers

Minimum Required Load for Clay

Loading Condition: Load Only

Free Head

Single Pile

Group

Fixed Head

Single Pile

Group

Loading Condition: Moment Only

Free Head

Loading Condition: Combined Load and Moment

Free Head

Page 1
# Micro-Pile Installation Log

<table>
<thead>
<tr>
<th>Date Drilled</th>
<th>Casing Size =</th>
<th>7 5/8 in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bar Size =</td>
<td>#18</td>
</tr>
<tr>
<td></td>
<td>Drill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driller</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Grouted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total gals</td>
</tr>
<tr>
<td>Max pressure = NA</td>
</tr>
</tbody>
</table>

Grout mix:
- 420 gal / 1000 lb cement (Type 1)
- Admixture: 40 OZ Glenium

**Geometry**
- **CL** Casing length =
- **PL** Pile length =
- **BL** Bar length =

**Drilling Details**
- Angle =

**Surface Elevation** = 3264

**Tip Elevation** =

**Comments:**

---

---

---

---

---
## Driven Pile Support Documentation

<table>
<thead>
<tr>
<th>Step</th>
<th>Load (lbs)</th>
<th>Gauge Pressure (psi)</th>
<th>Actual Load (lbs)</th>
<th>Dial Indicator Movement (in)</th>
<th>Average Movement (in)</th>
<th>Total Movement (in)</th>
<th>Elongation Movement (in)</th>
<th>Movement at DL &lt; 0.125 in (in)</th>
<th>Creep &lt; 0.04 (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11500</td>
<td>538</td>
<td>638</td>
<td>755</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
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<tr>
<td>2</td>
<td>12000</td>
<td>960</td>
<td>1026</td>
<td>1074</td>
<td>0.000</td>
<td>0.000</td>
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<td>Yes</td>
<td>0.000</td>
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<tr>
<td>3</td>
<td>12500</td>
<td>1268</td>
<td>1250</td>
<td>23732</td>
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<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
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<tr>
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<td>13000</td>
<td>1968</td>
<td>19250</td>
<td>48707</td>
<td>0.000</td>
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<td>Yes</td>
<td>0.000</td>
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<td>2051</td>
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<td>71884</td>
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<td>Yes</td>
<td>0.000</td>
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<tr>
<td>6</td>
<td>14000</td>
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<td>9493</td>
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<tr>
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<td>Yes</td>
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<td>11500</td>
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<td>Yes</td>
<td>0.000</td>
</tr>
<tr>
<td>10</td>
<td>16000</td>
<td>6838</td>
<td>6838</td>
<td>142613</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
</tr>
<tr>
<td>11</td>
<td>16500</td>
<td>6838</td>
<td>6838</td>
<td>142613</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
</tr>
<tr>
<td>12</td>
<td>17000</td>
<td>6838</td>
<td>6838</td>
<td>142613</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
</tr>
<tr>
<td>13</td>
<td>17500</td>
<td>6838</td>
<td>6838</td>
<td>142613</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>Yes</td>
<td>0.000</td>
</tr>
</tbody>
</table>

| Rock Socket Length (ft) | 10 | 0.000 | 0.000 | 0.000 | 0.000 | Yes |

**Hayward Baker**

**Date:**

**Design Load (lbs):** 77000

**Total Length:**

**Angle:** 10
# Hayward Baker Inc. Selected Projects: Large Micropile Jobs within the past 5 years

<table>
<thead>
<tr>
<th>Job Info</th>
<th>Year</th>
<th>Amount</th>
<th>Owner</th>
<th>Engineer</th>
<th>Contractor</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCoy Springs Edwards, CO</td>
<td>2008</td>
<td>$250,000</td>
<td>Rich Seth Warner Developments, CO</td>
<td>Kevin Cramer Terra Tech EC, Morris Plains, NJ</td>
<td>Micropiles to stabilize structure on slope</td>
<td></td>
</tr>
<tr>
<td>Rolling Hills Wind Farm (Micropiles) Glenrock, WY</td>
<td>2008</td>
<td>$2,505,725</td>
<td>Raeburn Roger PacifiCorp Energy, Portland, OR</td>
<td>Kevin Cramer Terra Tech EC, Morris Plains, NJ</td>
<td>Micropile portion of Rolling Hills wind farm ground improvement and construction of new foundation for new wind farm</td>
<td></td>
</tr>
<tr>
<td>Wheeler Switchback #1 Parachute, CO</td>
<td>2009</td>
<td>$607,683</td>
<td>Blake Roush Williams Parachute, CO</td>
<td>Tom McCormick Techni's USA Houston, TX</td>
<td>Slope stabilization to protect oil and gas access roadway. Emergency job to support ~450 LF of roadway</td>
<td></td>
</tr>
<tr>
<td>Exxon Mobil Refinery-Construction Billings, MT</td>
<td>2008</td>
<td>$590,013</td>
<td>Gary Krieger Exxon Mobil Refinery Billings, MT</td>
<td>Chad Peterson CCP Construction Company Billings, MT</td>
<td>Micropiles for new foundation at Exxon Mobil refinery</td>
<td></td>
</tr>
<tr>
<td>Lutheran Medical Center Wheat Ridge, CO</td>
<td>2007</td>
<td>$159,000</td>
<td>Tom Willson Exempla Lutheran Medical Center Wheat Ridge, CO</td>
<td>David Bezrukalo Mortenson Construction Denver, CO</td>
<td>40 micropiles inside a hospital</td>
<td></td>
</tr>
<tr>
<td>Sweetwater Lodge Teton Village, WY</td>
<td>2007</td>
<td>$412,335</td>
<td>unknown unknown Sweetwater Lodge LLC, Boise, ID</td>
<td>Karl Kostelic Shaw Builders LLC Jackson, WY</td>
<td>Micropile wall for construction of new hotel</td>
<td></td>
</tr>
<tr>
<td>705 Whiskey Ridge Edwards, CO</td>
<td>2007</td>
<td>$293,700</td>
<td>Mr Kerzner Walden CC LLC Nessyuk, 87063-6656</td>
<td>Bill Orell George Shaffer Construction Co., Rapid City, SD</td>
<td>Micropiles for expansive soils for new home construction</td>
<td></td>
</tr>
<tr>
<td>Rapid City Regional Hospital Tunnel Rapid City, SD</td>
<td>2007</td>
<td>$320,000</td>
<td>Vern Osterhage Rapid City Regional Hospital Rapid City, SD</td>
<td>Mike Albertson J Chytka J Scull Construction Service Inc., Rapid City, SD</td>
<td>3,000 SF micropile shoring for open-cut tunnel under existing hospital central utility plant.</td>
<td></td>
</tr>
</tbody>
</table>

---

Proprietary Information. Not to be released without consent.
<table>
<thead>
<tr>
<th>Job Info</th>
<th>Year</th>
<th>Amount</th>
<th>Owner</th>
<th>Engineer</th>
<th>Contractor</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontier Refinery Cheyenne, WY</td>
<td>2006</td>
<td>$259,878</td>
<td>Jim Castile Frontier Oil Corporation Houston, TX (713) 658-9600</td>
<td>Jim Castile</td>
<td>D-Cok, LLC Houston, TX (713) 699-9050</td>
<td>40 Microplates to 23 FT deep 9 5/8 casing.</td>
</tr>
<tr>
<td>Essex Snow Shed Essex, MT</td>
<td>2005</td>
<td>$392,800</td>
<td>Clyde Lobb BNSF Railway Ft. Worth, TX (817) 352-4114</td>
<td>Ron Berry BNSF Railway Co. Kansas City, KS (913) 551-4163</td>
<td>Microplate installation for snowshed re-support. 1 test pile, 25 microplates</td>
<td></td>
</tr>
<tr>
<td>Rose Medical Center Denver, CO</td>
<td>2005</td>
<td>$237,750</td>
<td>Mark Peterman Rose Medical Center Denver, CO (303) 235-8412</td>
<td>Mark Peterman L.A. Fuss Partners, Inc. Dallas, TX (214) 871-7040</td>
<td>Walter Jones Revs Land Lease, Inc. Nashville, TN (615) 742-2600</td>
<td>Microplates and structure jacking of 6 story parking garage column.</td>
</tr>
</tbody>
</table>
### Pay Note Information:

- **Project Number:** UT PFH 39-1(2)
- **Project Name:** Sevenmile Gooseberry
- **Account:** Schedule A
- **Pay Note #:** 132
- **Pay Period:** 3

### Pay Note Entry:

- **Work Start Date:** 08/12/09
- **Work End Date:** 08/13/09

#### Location/Description:

- Culvert Crossing at Station 19+930
- (1) Culvert pipe plot submitted on 7/31/09
- (2) Culvert pipe plot approved by FHWA on 8/04/09 (see attached)
- (3) Culvert pipe staked and excavated on 08/12/09
- (4) Culvert pipe installed (Heat # 052637) and backfilled on 08/13/09

#### Remarks/Calculations:

Per approved pipe plot and from field measurement verification, the length of the culvert installed at STA 19+930 = 26.50 meters

Pay 26.50 meters

### Support Documentation/References:

- Pipe Plot STA 19+930, Pipe Certifications

### Measured By:

Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 26.50 (meters)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

- **Contractor Representative (Print):** Bob the Contractor
- **Contractor Representative (Signature):**
- **Date:** 08/13/09

- **Approved by FHWA Representative (Print):** Joe the Inspector
- **Approved by FHWA Representative (Signature):**
- **Date:** 08/13/09

- **Checked by FHWA Representative (Signature):** Jane the Contractor
- **Date:** 08/31/09
Fabricator's Certificate of Compliance

TO: DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Date: 6/16/2009
Contract No: 112-1(1)

This is to certify all materials supplied by us in this lot, as indicated by test in the flat galvanized coil stock, comply in all requests with specifications, including mechanical property requirements, for this contract. We further certify that all manufacturing processes for steel material furnished for incorporation into the work on this project, has occurred in the United States. All material listed below meets the requirements of Section 66 in the CALTRANS standard specifications.

HUGGER joints furnished on this contract are in full compliance to CALTRANS "Performance Requirements", when specified, for standard, positive, and down drain categories, and water-tightness.

Copies of certified mill test reports showing the mechanical analysis and weight of coating for each heat used to fabricate this lot of material are available in our office. The quantities of fabricated material in this lot are listed below or on an attached sheet.

All bituminous coated material shall conform to Section 66-1.03 in the CALTRANS standard specifications.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Description of material</th>
<th>Bit Cld</th>
<th>Cut &amp; Pkg</th>
<th>Paved</th>
</tr>
</thead>
<tbody>
<tr>
<td>296</td>
<td>16ga 24&quot; galv cmp (600 mm)</td>
<td></td>
<td></td>
<td>052637, 052643, 052643</td>
</tr>
<tr>
<td>20 ea</td>
<td>18ga 24&quot; H-12 bands (600 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 ea</td>
<td>24&quot; end sections (600 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 ea</td>
<td>12&quot; end sections (300 mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plant Order No. 73-3390
Consigenee: Johnson Ind.

Fabricator - CONTECH C.P.I.
Redding, CA

By: [Signature]
Authorized Representative
Example 1 of 1 for this item

On 08/30/10: A continuous, Type-A, double-yellow, 4-inch permanent pavement marking line was painted per contract requirements from STATION 21+00 to 148+00

Per FP-03 634.13, measure solid pavement lines from end to end of each continuous line.

STATION 21+00 to 148+00 = 12,700 LNFT (STA to STA). Measurement by walking the line from end to end with a measurement wheel = 12,716.10 LNFT.

(12,716.10 LNFT per line) X (2 lines) = 25,432.20 LNFT

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 3/30/11
Contractor Representative (Signature):

Approved by FHWA Representative (Print): Joe the Inspector  Date: 3/30/11
Approved by FHWA Representative (Signature):

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 4/2/11
TRANSMITTAL FORM FOR SUBMITTALS & CERTIFICATIONS
(attach additional sheets as necessary)

PROJECT NUMBER: CA PFH 112-1(1)  
PROJECT NAME: South Fork Smith River Road  
PAY ITEM NUMBER & DESCRIPTION: 63404 - 0400  
DESCRIPTION OF INFORMATION SUBMITTED: MATERIAL SPEC'S; PAINT STRIPING  
NUMBER OF COPIES FURNISHED: 1  
TYPE OF SUBMITTAL:  
VARIANCE OR SUBSTITUTION REQUESTED?  
  ___ New Submittal  
  ___ Resubmittal  
  ___ Yes  
  ___ No  
APPLICABLE CONTRACT REFERENCES (LIST) AND CONTRACT COMPLIANCE (INDICATE):
  PLAN SHEET(S)  
  FP SUBSECTION(S): 718  
  SCR SUBSECTION(S): 718  
  ACCEPTED DRAWINGS  
  OTHER  

DESCRIBE ANY PROPOSED VARIATION OR SUBSTITUTION (include the reason for the requested change, a detailed comparison of the specified and proposed item, manufacturer's or other relevant supporting data, and any proposed cost savings to the Government. Attach additional pages as necessary. Note: the applicable specification compliance type listed above that relies on the variation or substitution should be marked "Var/Sub."

MATERIAL SPECIFICATIONS FOR PAVEMENT MARKINGS

I certify that the above submitted item(s) have been reviewed in detail and are correct, are in the proper units (metric or English as required by the contract), and are in strict conformance with the contract drawings and specifications except as otherwise stated.

[Signature and printed name of knowledgeable person]  [Title and Company Name]  11/9/10

(REVIEW BY QUALITY CONTROL MANAGER (return unacceptable submittals to submitter):
RECOMMENDED ACTION ON VARIANCE/SUBSTITUTION REQUEST:  
  ___ Approve  
  ___ Reject  
  ___ Resubmit  
RECOMMENDED ACTION ON OVERALL SUBMITTAL:  
  ___ Accept  
  ___ Accept Except as Noted  
  ___ Reject/Resubmit  
  ___ More Info Req'd on Var/Sub, Resubmit

Remarks:

I certify that I have reviewed the attached submittal or certification for apparent compliance with the contract requirements. Any deviations are identified above.

Signed by [Signature and printed name]  11/9/10

GOVERNMENT RESPONSE:
VARIANCE/SUBSTITUTION REQUEST:  
OVERALL SUBMITTAL:  
  ___ Accepted  
  ___ Accepted Except as Noted  
  ___ Rejected/Resubmit  
  ___ More Info Req'd on Var/Sub, Resubmit

Remarks:

Signed by [Signature and printed name and title]  11/15/10
CERTIFICATE OF COMPLIANCE

This is to certify that:

The following lots have been manufactured to meet all requirements of HPS-4 two component modified Urethane traffic marking system.

<table>
<thead>
<tr>
<th>Product</th>
<th>Lot No.</th>
<th>MFG</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPS-4 White</td>
<td>Enter Batch # TE007W137</td>
<td>7-14-2010</td>
</tr>
</tbody>
</table>

To obtain the desired qualities, parts A and B must be mixed in a two-to-one ratio (two parts of component A (resin) with one part of component B (catalyst)).

I. Part A consists of the following composition:

<table>
<thead>
<tr>
<th>White System</th>
<th>Yellow System</th>
<th>Black System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
<td>Component</td>
<td>Component</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>21-27% ✓</td>
<td>Total Pigments</td>
</tr>
<tr>
<td>Modified Urethane Resin</td>
<td>73-79%</td>
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<tr>
<td></td>
<td></td>
<td>Modified Urethane Resin</td>
</tr>
</tbody>
</table>

II. Part B (catalyst) has an amine value of 330 +/- 30 (ASTM D2074)

III. When Parts A and B are properly and thoroughly mixed (two Parts A to one Part B) the following properties will result:

<table>
<thead>
<tr>
<th>Property</th>
<th>Result</th>
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I certify that the above information is true and correct to the best of my knowledge.

JOHNNY LAMBERT
Ennis Traffic Safety Solutions
EPOXY LAB. Manager
Date 7-15-2010
Section 7: SQUARE FEET/SQUARE YARD Items

20303 Removal of Pavement, Asphalt ................................................................. Page 96
20703 Earthwork Geotextile, Geogrid ................................................................. Page 99
25801 Reinforced Concrete Retaining Wall ......................................................... Page 103
30306 Pulverizing ............................................................................................... Page 107
63504 Temporary Traffic Control, Construction Sign ....................................... Page 112

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON SQUARE FEET/ SQUARE YARD ITEMS:
Area quantities shown in the Plans are estimates; only actually ordered and performed quantities are paid. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes. Typically, area items are measured on a plane parallel to the surface being measured. Items paid by area are sometimes irregularly shaped items. It is generally acceptable to simplify irregularly shaped items by breaking down areas into shapes with easily calculated areas such as squares, rectangles, circles, semi circles, trapezoids, triangles, etc. When breaking down areas into simpler shapes, the process should be mutually agreed upon by the Contractor and a FHWA representative. It is also acceptable to measure the area of items from an approved survey method. When submitting for payment on items paid by area, it is required to show on the paynote when the work was performed, where the work was performed (station ranges, offsets, sketches), measurement and calculations with area formulas clearly noted, who measured the work, survey reports if performed, and necessary conversion calculations (i.e. square yard to square feet).
## Item Quantity Pay Note Sheet

**Date:** 10/29/10

**Project Number:** CA PRA SEK1 10(8)  
**Project Name:** Generals Highway

**Account:** OPTION X

### Pay Note Information:

- **Pay Item #:** 20303-1600  
- **Item Description:** Removal of Pavement  
- **Pay Unit:** SQYD

- **Item Line #:** N/A (for EEBACS only)  
- **Item Type:** N/A (for EEBACS only)

- **Pay Note #:** 52  
- **Pay Period:** 2

### Pay Note Entry:

- **Work Start Date:** 10/22/10  
- **Work End Date:** 10/29/10

### Location/Description:

1. Station 663+00 to 660+75 on 10/22/10 = 688.89 SQYD*
2. Station 660+75 to 657+75 on 10/23/10 = 897.06 SQYD*
3. Station 657+75 to 655+50 on 10/24/10 = 625.00 SQYD*
4. Station 655+50 to 653+00 on 10/25/10 = 643.33 SQYD*
5. Station 653+00 to 650+75 on 10/26/10 = 562.22 SQYD*
6. Station 650+75 to 647+25 on 10/27/10 = 995.83 SQYD*  

*See removal of pavement quantity spreadsheet.

### Remarks/Calculations:

- Per FP-03 203.08, payment will be full compensation for the work prescribed.

From Location/Description:

\[
\text{Total quantity (SQYD) = 688.89 + 897.06 + 625.00 + 643.33 + 562.22 + 995.83 + 427.28 + 481.94} = 5321.56 \text{ SQYD}
\]

***

Round the total to the zero decimal place... Pay 5322 SQYD

### Support Documentation/References:

- Removal of pavement quantity spreadsheet

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 5322 (SQYD)

**Interim Measurement **

**Final Measurement**

*By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.*

**Contractor Representative (Print):** Bob the Contractor  
**Contractor Representative (Signature):**  
**Date:** 10/29/10

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Approved by FHWA Representative (Signature):**  
**Date:** 10/29/10

**Checked by FHWA Representative (Signature):** Jane the Project Engineer  
**Date:** 11/5/10
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## CA PRA SEKI 10 (8) GENERALs HIGHWAY

Option X Item 20303-1600 Removal of Pavement (SQYD)

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**TOTAL (this estimate)** = 5321.56
On 10/26/2009: Approved biaxial geogrid was placed at the following locations:

Hole 1: 33+00 to 33+14 = 16.33 SQYD*
Hole 2: 33+60 to 33+75 = 9.17 SQYD*
Hole 3: 34+20 to 34+36 = 23.27 SQYD*

*See attached Geogrid sketch/calculation sheet

Remarks/Calculations:

16.33 SQYD + 9.17 SQYD + 23.27 SQYD = 48.77 SQYD
PAY 48.77 SQYD TOTAL

Support Documentation/References:

Geogrid sketch/calculation sheet and biaxial geogrid certification.

Measured By: Joe the Inspector & Bob the Contractor

Interim Measurement

TOTAL QUANTITY: 48.77 (SQYD)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor
Contractor Representative (Signature): Date: 10/27/09

Approved by FHWA Representative (Print): Joe the Inspector
Approved by FHWA Representative (Signature): Date: 10/27/09

Checked by FHWA Representative (Signature): Jane the Project Engineer
Date: 11/5/09
Hole #1: 10.5' W x 14' L x 1.17' D  10/26/09

Area of Geogrid = 14' x 10.5' = 147 sqft ÷ 9 = 16.33 sqyd

Hole #2: 5.5' W x 15' L x 1.13' D  10/26/09

Area of Geogrid = 15' x 5.5' = 82.5 sqft ÷ 9 = 9.17 sqyd

Hole #3: 13.09' W x 16' L x 1.15' D  10/26/09

Area of Geogrid = 16' x 13.09' = 209.44 sqft ÷ 9 = 23.27 sqyd
June 29, 2011

Hanes Components
Denver, Co

This letter is to certify that B 100 Geogrids as manufactured by Synteen Technical Fabrics for Hanes Geo meets or exceeds the standards for Geogrids as set by FHWA, NCMA and other industry groups.

All Geogrids use 100% virgin resin with NO regrind material. The polyester yarns have a minimum molecular weight of 25,000 g/mol and a CEQ of less than 30.

B 100is composed of high molecular weight, high-tenacity multifilament polyester yarns that are woven into a stable network placed under tension. The yarns used by STF meet the requirements for molecular weight and CEQ's as established by US Department of Transportation. The high strength polyester yarns are coated with a PVC material. SF. Series Geogrids are inert to biological degradation and are resistant to naturally encountered chemicals, alkalis and acids. SF. Series Geogrids are typically used for soil reinforcement applications such as retaining walls, steep slopes, embankments, sub-grade stabilization, and embankments over soft soils and waste containment applications.

<table>
<thead>
<tr>
<th>TENSILE PROPERTIES</th>
<th>TEST METHOD</th>
<th>MARV VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LBS/FT</td>
</tr>
<tr>
<td>Ultimate Strength</td>
<td>MD</td>
<td>2388</td>
</tr>
<tr>
<td></td>
<td>XMD</td>
<td>3870</td>
</tr>
<tr>
<td>LTDS</td>
<td>FHWA</td>
<td>1341</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3350</td>
</tr>
</tbody>
</table>

RF Creep -1.54 RF Durability - 1.10 RF Installation Damage 1.05 Type 3 Synteen Technical Fabrics has tested our geogrids in accordance with FHWA, NCMA and Geosynthetic Research 10, 000 hour creep testing, GRI GQ2 junction testing. Coefficient of interaction and geogrid pull out testing in accordance with GRI GQ5 and installation damages testing WSDOT Method 925. In addition, STF has performed NCMA connection testing with several segmental wall systems. Reduction factors listed above are all based on specific testing. All VG Series geogrids are delivered in UV protected wrap. Labels are attached to the grid rolls indicating geogrid style, roll number. The roll number is recorded in our QC lab. All physical test data is filed according to roll numbers.

Don D Show
Vice President of Sales & Marketing
**SYNTEEN SF12 BIAXIAL GEOGRID**

**BASE COURSE REINFORCEMENT AND SUBGRADE IMPROVEMENT**

SF12 is composed of high molecular weight, high tenacity multifilament polyester yarns, woven into a stable network placed under tension. The high strength polyester yarns are PVC coated and are inert to biological degradation and are resistant to naturally encountered chemicals, alkalis and acids.

<table>
<thead>
<tr>
<th>REINFORCEMENT PROPERTIES</th>
<th>TEST METHOD</th>
<th>MARV VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lbs/ft</td>
</tr>
<tr>
<td>Ultimate Strength</td>
<td>MD</td>
<td>2,388</td>
</tr>
<tr>
<td></td>
<td>XMD</td>
<td>5,268</td>
</tr>
<tr>
<td>Initial Modulus</td>
<td>MD</td>
<td>178,000</td>
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<tr>
<td></td>
<td>XMD</td>
<td>235,000</td>
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<tr>
<td>Tensile Strength at 2% Strain</td>
<td>MD</td>
<td>526</td>
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<tr>
<td></td>
<td>XMD</td>
<td>797</td>
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<tr>
<td>Tensile Strength at 5% Strain</td>
<td>MD</td>
<td>1,042</td>
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<tr>
<td></td>
<td>XMD</td>
<td>1,367</td>
</tr>
</tbody>
</table>

**True in place strength after site damage testing based on TRI method of “installation” damage testing with poorly graded gravel (GP) and well groomed gravel (SW).**

<table>
<thead>
<tr>
<th></th>
<th>TEST METHOD</th>
<th>MARV VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>True Tensile Strength at 2% Strain</td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td></td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td>True Tensile Strength at 2% Strain</td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td></td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td>True Tensile Strength at 5% Strain</td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td></td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td>True Tensile Strength at 5% Strain</td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td></td>
<td>MD (GP) MD (SW)</td>
<td>ASTM 6637 &amp; ASTM 5818</td>
</tr>
<tr>
<td>Junction Strength (B/Junction)</td>
<td>MD XMD</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td></td>
<td>MD XMD</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td>FHWA Sum of Junctions – Strength (81 total junctions)</td>
<td>MD XMD</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td></td>
<td>MD XMD</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td>FHWA Sum of Junctions – Efficiency</td>
<td>MD XMD</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td>Coefficient of Pullout Interaction</td>
<td>ASTM 6706 Sand</td>
<td>GRI-GG2</td>
</tr>
<tr>
<td>Aperture Size</td>
<td>MD XMD</td>
<td>Measured</td>
</tr>
<tr>
<td>Roll Dimensions</td>
<td>12' x 150'</td>
<td>Measured</td>
</tr>
<tr>
<td>15' x 150'</td>
<td>Measured</td>
<td>250 square yards per roll</td>
</tr>
<tr>
<td>17' x 150'</td>
<td>Measured</td>
<td>283 square yards per roll</td>
</tr>
</tbody>
</table>

Synteen can produce custom widths, apertures and master roll lengths.

**PLEASE NOTE:** Flexural Stiffness based on ASTM D 5732 was withdrawn by ASTM in 2008, and is no longer recognized by ASTM D-35 as an acceptable geosynthetic test method.

*Attestation:)* by Synteen Technical Fabrics, Inc.
1950 West Meeting Street, Lancaster, SC 29720
980.796.8336

*Manufactured in the USA* by Synteen Technical Fabrics, Inc.
**Project Number:** CA PRA SEKI 10(8)  
**Project Name:** General's Highway  
**Account:** Schedule A

### Pay Note Information:

- **Pay Item #:** 25801-0300
- **Item Description:** RC Retaining Wall, 8’ Type-1 Granite
- **Pay Unit:** SQFT
- **Item Line #:** N/A (for EEBACS only)
- **Item Type:** N/A (for EEBACS only)
- **Pay Note #:** 341
- **Pay Period:** 6

### Pay Note Entry:

- **Work Start Date:** 10/10/10  
- **Work End Date:** 10/28/10

**Location/Description:**

10/10/2010: Excavation for Footing (F-3), Excavation for Footing (F-7)  
10/11/2010: Excavation for Footing (F-12)  
10/20/2010, 10/21/2010: Footing Concrete Pour, 55201-L02-0007, 55201-L02-0008 (F-12)  
10/26/2010: Footing Concrete Pour, 55201-L02-0010 (F-7)  
10/28/2010: Footing Concrete Pour, 55201-L02-0012 (F-3)

**Remarks/Calculations:**

Per agreement with FHWA CO and Contractor Owner, the following breakdown of work for all retaining wall work is as follows: 28% excavation, 30% footing (concrete), 30% stem (concrete) and 12% backfill.

Per approved wall profile: (F-3) 77.29 SQFT + (F-7) 82.88 SQFT + (F-12) 86.05 SQFT = 246.22 SQFT  
28% excavation + 30% footing (concrete) = 58%  
246.22 SQFT X 58% = 142.81 SQFT

**Support Documentation/References:**

1. Approved Wall 3B Profile  
2. 25801-0300 Work Breakdown Spreadsheet  
3. Wall 3B Quantity Spreadsheet  

**NOTE:** This item has a separate pay factor adjustment for 552 concrete (see appendix for an example)

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 142.81 (SQFT)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 10/30/10
- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 10/30/10
- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 11/5/10

**NOTE 2:** Prior to payment being made, certifications for reinforcing steel, cement and concrete test results need to be submitted by the Contractor.
25801-0300B Reinforced Concrete Retaining Wall 8' Type 1 Granite

<table>
<thead>
<tr>
<th>Wall</th>
<th>Footing</th>
<th>Excavation (28)</th>
<th>Footing (30)</th>
<th>Stem (30)</th>
<th>Backfill (12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>###</td>
<td>F-###</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>F-###</td>
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<td></td>
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<tr>
<td></td>
<td>F-###</td>
<td></td>
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<td></td>
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</tbody>
</table>

3B
<table>
<thead>
<tr>
<th></th>
<th>Footing</th>
<th>Excavation (28)</th>
<th>Footing (30)</th>
<th>Stem (30)</th>
<th>Backfill (12)</th>
</tr>
</thead>
</table>
### 8' reinforced concrete retaining wall support documentation

**Wall 3B - Sta. 629+75 to Sta. 631+26.01**

| Wall Section | Mainline Station to | Mainline Station to | Baseline Sta. to | Baseline Sta. to | Granite - Guardwall (Type 1) (o.f. formlined) | Granite - Parapet, Type 1 (o.f. formlined) | Granite - Parapet, Type 2 (all faces formlined) | Granite - Wall Height (Type 1) 8 ft | Granite - Wall Height (Type 1) 10 ft | Granite - Wall Height (Type 1) 12 ft | Granite - Wall Height (Type 1) 14 ft | Granite - Wall Height (Type 1) 16 ft | Granite - Wall Height (Type 1) 18 ft |
|---------------|---------------------|---------------------|------------------|------------------|-----------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| GW3           | 629+75.00           | 629+98.45           | 00+00.00         | 00+12.00         | 6.00                                          | 6.00                                        | 6.00                                          | 40.007                                    | 112.971                                  | 59.834                                   | 100.052                                  | 41.670                                   | 44.384                                   | 63.343                                   |
| GW3           | 629+98.45           | 630+16.19           | 00+00.00         | 00+30.00         | 6.00                                          | 6.00                                        | 6.00                                          | 22.800                                    | 34.577                                   | 51.258                                   | 58.001                                   | 37.284                                   | 59.572                                   | 12.00                                    |
| Wall 3        | 629+16.19           | 630+34.19           | 00+00.00         | 00+48.00         | 6.00                                          | 6.00                                        | 6.00                                          | 37.284                                    | 112.971                                  | 59.572                                   | 100.052                                  | 41.670                                   | 44.384                                   | 63.343                                   |
| Wall 3        | 630+34.19           | 630+65.47           | 00+00.00         | 00+90.00         | 6.00                                          | 6.00                                        | 6.00                                          | 82.877                                    | 58.834                                   | 58.001                                   | 100.052                                  | 41.670                                   | 44.384                                   | 63.343                                   |
| Wall 3        | 630+65.47           | 630+96.01           | 00+00.00         | 01+02.00         | 6.00                                          | 6.00                                        | 6.00                                          | 82.877                                    | 58.834                                   | 58.001                                   | 100.052                                  | 41.670                                   | 44.384                                   | 63.343                                   |
| Wall 3        | 630+96.01           | 631+26.01           | 01+00.00         | 01+08.00         | 6.00                                          | 6.00                                        | 6.00                                          | 82.877                                    | 58.834                                   | 58.001                                   | 100.052                                  | 41.670                                   | 44.384                                   | 63.343                                   |
| Total Area for Retaining Wall | | | | | | | | | | | | | | | | |
| Total Length for Guardwall | 6.00 | 24.00 | | | | | | | | | | | | | |
| Total Length for Parapet | | 36.00 | 90.00 | | | | | | | | | | | | | |
| Total Length of Site 3 | 42 | | | | | | | | | | | | | | | |

**Wall Unit Price**

<table>
<thead>
<tr>
<th>Wall</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>GW3</td>
<td>$1,800</td>
</tr>
<tr>
<td>Wall 3</td>
<td>$1,400</td>
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<tr>
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<td>$1,100</td>
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<tr>
<td>Wall 3</td>
<td>$500</td>
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<tr>
<td>Wall 3</td>
<td>$250</td>
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<tr>
<td>Wall 3</td>
<td>$260</td>
</tr>
<tr>
<td>Wall 3</td>
<td>$270</td>
</tr>
<tr>
<td>Wall 3</td>
<td>$280</td>
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<td>Wall 3</td>
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<td>Wall 3</td>
<td>$300</td>
</tr>
<tr>
<td>Wall 3</td>
<td>$340</td>
</tr>
<tr>
<td>Wall 3</td>
<td>$360</td>
</tr>
</tbody>
</table>

**Wall Costs**

| Wall Costs | $10,800 | $33,600 | $39,600 | $45,000 | $10,492 | $34,207 | $66,480 | $105,139 | $34,628 | $0 | $0 | $0 |

- **Guardwall**
  - 6.00 24.00 36.00 41.967 131.566 246.222 375.496 119.406 0.00 0.00 0.00 0.00
- **Wall 3**
  - 19.167

**Total Costs**

**$379,945**
## Item Quantity Pay Note Sheet

**Project Number:** ND PRA THRO 10(3)  
**Project Name:** North Unit Scenic Drive  
**Account:** Schedule A

### Pay Note Information:

- **Pay Item #:** 30306-3500  
- **Item Description:** Pulverizing, 7-inch depth  
- **Pay Unit:** SQYD

- **Item Line #:** N/A (for EEBACS only)  
- **Item Type:** N/A (for EEBACS only)

- **Pay Note #:** 312  
- **Pay Period:** 5

### Pay Note Entry:

- **Work Start Date:** 9/28/09  
- **Work End Date:** 9/29/09

#### Location/Description:

1. Pulverize station 232+00 to 249+00 = 6,284 SQYD*  
2. Pulverize station 43+00 to 81+36 = 13,069 SQYD*  
3. Pulverize station 10+00 to 43+00 = 6,039 SQYD*  
4. Pulverize Cannon Ball Parking Area = 1,505 SQYD*

* See attached pulverization sketches and calculations

### Remarks/Calculations:

- **Per FP-03 303.11, payment will be full compensation for the work prescribed.**

- From Location/Description:
  - Total quantity (SQYD) = 6,284 + 13,069 + 6,039 + 1,505 = 26,897 SQYD

  **PAY 26,897 SQYD**

### Support Documentation/References:

1. Pulverization sketches and calculations.

Note: Pulverization grading analysis and Compaction results examples are not shown, but are required prior to payment

**Measured By:** Joe the Inspector & Bob the Contractor

<table>
<thead>
<tr>
<th>Interim Measurement</th>
<th>Final Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>[x]</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL QUANTITY:** 26,897 (SQYD)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 9/29/09

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 9/29/09

- **Checked by FHWA Representative (Signature):** Jane the Engineer  
  **Date:** 10/5/09
pulverizing support documentation

30306-3500 PULVERIZING 7-INCH DEPTH @ STATIONS 43+00 TO 10+00

<table>
<thead>
<tr>
<th>AREA</th>
<th>SOFT</th>
<th>850+29/9</th>
<th>600+28/9</th>
<th>300+10/9</th>
<th>150+5/9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2738.89</td>
<td>1866.67</td>
<td>144.44</td>
<td>50</td>
<td>6038.89</td>
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<tr>
<td>2</td>
<td>277.78</td>
<td>711.11</td>
<td>300</td>
<td>150</td>
<td>100</td>
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<tr>
<td>3</td>
<td>277.78</td>
<td>711.11</td>
<td>300</td>
<td>150</td>
<td>100</td>
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<td>4</td>
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<tr>
<td>5</td>
<td>300</td>
<td>711.11</td>
<td>300</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>300</td>
<td>711.11</td>
<td>300</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6038.89</td>
<td>711.11</td>
<td>300</td>
<td>150</td>
<td>100</td>
</tr>
</tbody>
</table>
Area = \left( \frac{(107' + 280')}{2} \right) \times 70' = 13,545 \text{ SQFT} \\
13,545 \text{ SQFT} / (9 \text{ SQFT/SQYD}) = 1505 \text{ SQYD}
**Project Number:** CA PFH 112-1(1)  
**Project Name:** South Fork Smith River Road

**Account:** Schedule A

### Pay Note Information:

<table>
<thead>
<tr>
<th>Pay Item #</th>
<th>Item Description</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>63504-1000</td>
<td>TTC, construction sign</td>
<td>SQFT</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Item Line #</th>
<th>Item Type</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Pay Note #</th>
<th>Pay Period</th>
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<tbody>
<tr>
<td>12</td>
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<table>
<thead>
<tr>
<th>Pay Note Entry:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Start Date: 06/09/09</td>
</tr>
</tbody>
</table>

### Location/Description:

- Site D / Option X for Clark Road intersection on 6/09/09 = 68.5 SQFT*
- Site D / Option X for Bishop Visitor Center Parking on 6/09/09 = 33.5 SQFT*
- Site C for Boulder Creek Bridge on 06/09/09 = 13.5 SQFT*

*See attached TTC Construction Sign Support Calculations

### Remarks/Calculations:

Per FP-03 635.27, 50% of the unit bid price will be paid upon installation. See attached TTC Construction Sign Payment Summary Sheet for retention information.

**NOTE:** Do not show retention information on any paynotes.

From TTC Construction Sign Support Calculations, total area of signs installed = 115.5 SQFT

### Support Documentation/References:

- TTC Construction Sign Certification
- TTC Construction Sign Support Calculation
- TTC Construction Sign Payment Summary Sheet

**Measured By:** Joe the Inspector & Bob the Contractor

**Interim Measurement**

**TOTAL QUANTITY:** 115.5 (SQFT)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

**Contractor Representative (Print):** Bob the Contractor  
**Contractor Representative (Signature):**  
**Date:** 06/09/09

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Approved by FHWA Representative (Signature):**  
**Date:** 06/09/09

**Checked by FHWA Representative (Signature):** Jane the Project Engineer  
**Date:** 07/01/09
April 6, 2009

Tidewater Contractors, Inc.
PO Box 1956
Brookings, OR 97415-0156

Attn: Susan/George

Re: FHA project So. Fork Smith River Rd, CA PFH 112-1(1)

Certification

We certify that the construction signs produced on our invoices 913392 dated 3-27-09 and 913927 dated 4-03-09 meet or exceed specifications for this project. The signs were produced with 5052-H38 aluminum with Type IV reflective sheeting.

The type III barricades meet NCHRP-350 requirements, and the reflective sheeting is Type III

Please contact the undersigned if you need further information.

Thank you

Tom Loun
Quality Assurance
CONSTRUCTION SIGNS

SITE D / OPTION X

- ONE LANE ROAD AHEAD 1 EA 4' 4" = 16'
- ONE LANE ROAD AHEAD 1 EA 4' 4" = 16'
- 25 MPH 1 EA 18" 18" = 2.25'
- 25 MPH 1 EA 18" 18" = 2.25'
- 68.5 SQFT

- 68.5 SQFT

- 33.5 SQFT

- ROAD WORK AHEAD 1 EA 4' 4" = 16'
- ROADWAY IMPROVEMENT 1 EA 18" 36" = 4.5'

- 13.5 SQFT

BOULDER Ck BRIDGE

- 1 EACH 18" 18" = 2.25'
- 1 EA 18" 18" = 2.25'

SITE B

- 25 MPH 1 EA 18" 18" = 2.25'
- 25 MPH 1 EA 18" 18" = 2.25'

- 13.5
### TTC Construction Sign Payment Summary Sheet 63504-1000

#### CA PFH 112-1(1), South Fork Smith River Road

**Schedule A**

<table>
<thead>
<tr>
<th>Paynote #</th>
<th>Paynote Date</th>
<th>Total Quantity (SQFT)</th>
<th>Per section 635.27 of the FP-03</th>
<th>Percentage of total qnty paid to date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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**NOTE TO PROJECT ENGINEERS:** This is only an example of a tracking method for TTC quantities. Other formats should be used given project conditions. **DO NOT LET CONTRACTORS SHOW RETENT OF QUANTITIES ON PAYNOTES. IT SHOULD BE DEDUCTED AND SHOWN ONLY ON A MONTHLY SUMMARY SHEET OR ITEM SUMMARY SHEET, SUCH AS THIS.**
Section 8: CUBIC YARD ITEMS

20401 Roadway Excavation .................................................................Page 116
20420 Roadway Embankment .............................................................Page 120
20441 Waste ..................................................................................Page 124
25101 Placed Riprap ........................................................................Page 129
60101 Concrete ................................................................................Page 133

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON VOLUME ITEMS:
Volume quantities shown in the Plans are estimates; only actually ordered and performed quantities are paid. Please refer to the FP, the Special Contract Requirements, and plans of your project for detailed instructions prior to submitting any pay notes. Depending on the specific item, volume items are measured by the following methods;

   (1) Cubic yard in place
   (2) Cubic yard in the hauling vehicle
   (3) Cubic yard in the structure.
   (4) Cubic yard by metering

Please see section 109.02 (b) and the section of the specific pay item within the contract for detailed measurement requirements. When submitting for payment on items paid by volume, it is required to show on the paynote when the work was performed, where the work was performed (station ranges, offsets, sketches), measurement and calculations with volume formulas clearly noted, who measured the work, survey reports if performed, and necessary conversion calculations (i.e. cubic foot to cubic yard).
Example 1 of 1 for this item

Project Number: CA PFH 112-1(1)  
Account: Schedule A

Pay Item #: 20401-0000  
Item Description: Roadway excavation  
Pay Unit: CUYD

Pay Note Information:

Item Line #: N/A (for EEBACS only)  
Item Type: N/A (for EEBACS only)

Pay Note #: 126  
Pay Period: 3

Pay Note Entry:

Work Start Date: 07/03/09  
Work End Date: 07/04/09

Location/Description:

Rock Creek Site Roadway Excavation from Station 206+00 to 207+60 RT (inboard) side rock slope cuts (~1.5H:1.0V)

Remarks/Calculations:

Per end area calculations from before & after surveyed cross sections, the total excavated area at Rock Creek = 2714.59 CUYD
Pay 2714.59 CUYD

Support Documentation/References:

Rock Creek As-Built Volumes, Rock Creek As-Built Cross Sections, Rock Creek Survey Data

Measured By: Joe the Inspector & Bob the Contractor  
TOTAL QUANTITY: 2714.59 (CUYD)

Interim Measurement □  Final Measurement

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  
Contractor Representative (Signature):  
Date: 07/08/09

Approved by FHWA Representative (Print): Joe the Inspector  
Approved by FHWA Representative (Signature):  
Date: 07/08/09

Checked by FHWA Representative (Signature): Jane the Project Engineer  
Date: 07/31/09
### Excavation Support Documentation

#### Rock Creek Site

**As Built Volumes**

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Total: 29428.49 CU. FT. 73293.95 CU. YD.

*Actual excavation work at this station range was approved by the CO.*
SOUTH FORK SMITH RIVER
CA PFH 112-1(1)
ROCK CREEK SITE
AS-BUILT
CROSS SECTION

excavation support documentation
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**Item Quantity Pay Note Sheet**

**Project Number:** WY ERFO 261(1)  
**Project Name:** Cedar Pass Road

**Account:** Schedule A

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**Location/Description:**

Reinforced Embankment Construction on 1.5H:1V Reinforced Soil Slope: 1.5' lift (el. 8975.5 - el. 8977), STATION 276+25 to 277+85.

**Remarks/Calculations:**

Per Embankment Calculation (el. 8975.5 -8977), the volume on this lift = 453.33 CUYD

Pay 453.33 CUYD

**Support Documentation/References:**

Embankment Calculation (el. 8975.5 -8977), Site 5 Embankment Tracking by Lift, Site 5 Testing Summary

**Measured By:** Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 453.33 (CUYD)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 10/22/11

- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 10/22/11

- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 11/01/11
Plan View (el. 8977):

Cross Section View:

Calculation (CUYD):

\[
\text{Volume} = \frac{(1.5' D \times 160' W \times 51' L)}{27 \text{ ft}^3/\text{yd}^3} = 453.33 \text{ CUYD}
\]
### Site 5 EMBANKMENT TRACKING BY LIFT

**WY ERFO 261(1), Cedar Pass Road**

**CONTRACTOR:** Rocky Mountain Excavating

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**RUNNING TOTAL = 8232.54 CUYD**
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<tr>
<th>Date</th>
<th>Station</th>
<th>Elev. (ft.)</th>
<th>Proctor</th>
<th>Density (PCF)</th>
<th>Moisture (%)</th>
<th>% Compaction</th>
<th>(+/-) Moisture</th>
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Project Number: SD PFH 17-1(6)  
Project Name: Hill City to Lead

Account: Schedule A

**Pay Note Information:**

Pay Item #: 20441-0000  
Item Description: Waste  
Pay Unit: CUYD

Item Line #: N/A (for EEBACS only)  
Item Type: N/A (for EEBACS only)

Pay Note #: 176  
Pay Period: 4

**Pay Note Entry:**

Work Start Date: 01/10/2012  
Work End Date: 01/19/2012

Location/Description:

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<th>Waste Pile #1</th>
<th>Total 531 CUYD</th>
<th>Waste Pile #2</th>
<th>Total 495 CUYD</th>
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<td>(1) Station 23+60 to 24+25 = 117 CUYD*</td>
<td>(6) Station 41+68 to 45+42 = 198 CUYD*</td>
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<td>(2) Station 24+25 to 26+14 = 99 CUYD*</td>
<td>(7) Station 51+98 to 52+74 = 108 CUYD*</td>
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<td>(3) Station 31+17 to 32+09 = 135 CUYD*</td>
<td>(8) Station 55+67 to 56+12 = 63 CUYD*</td>
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<td>(4) Station 34+68 to 35+12 = 72 CUYD*</td>
<td>(9) Station 56+12 to 57+64 = 90 CUYD*</td>
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<td>(5) Station 40+97 to 41+68 = 108 CUYD*</td>
<td>(10) Station 57+64 to 58+02 = 36 CUYD*</td>
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*See spreadsheet for estimate calculations (based on load counts)

Remarks/Calculations:

Per FP-03 204.16.e, measure waste by the cubic yard in its final position. Take cross sections before and after to determine final quantity. Payment will be full compensation for the work prescribed in this section.

From Location/Description: ***This quantity is an interim estimated quantity based on load counts prior to final survey***

Total estimated quantity Waste pile #1 (CUYD) = 117 + 99 + 135 + 72 + 108 = 531 CUYD

Total estimated quantity Waste pile #2 (CUYD) = 198 + 108 + 63 + 90 + 36 = 495 CUYD

Total paid = 531 + 495 = 1026 (CUYD)

Support Documentation/References:

Spreadsheet computations based on load counts

Measured By: Joe the Inspector & Bob the Contractor

**TOTAL QUANTITY:** 1026 (CUYD)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  
Contractor Representative (Signature):  
Date: 01/19/2012

Approved by FHWA Representative (Print): Joe the Inspector  
Approved by FHWA Representative (Signature):  
Date: 01/20/2012

Checked by FHWA Representative (Signature): Jane the Project Engineer  
Date: 01/20/2012
## Waste Support Documentation

**SD PFH 17-1(6) Hill City to Lead**  
**20441-0000 Waste (CUYD) Tracking**

<table>
<thead>
<tr>
<th>Date</th>
<th>Station to Station</th>
<th>Truck Loads</th>
<th>Approximate Volume (CUYD) from Truck Loads*</th>
<th>Description of Work</th>
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<tbody>
<tr>
<td>1/10/2012</td>
<td>23+60 - 24+25</td>
<td>13</td>
<td>117</td>
<td>Slope Cuts on inboard side. Laid back to 1V:1.5H. <strong>Waste Pile 1.</strong></td>
</tr>
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<td>24+25 - 26+14</td>
<td>11</td>
<td>99</td>
<td>Slope Cuts on inboard side. Laid back to 1V:1.5H. <strong>Waste Pile 1.</strong></td>
</tr>
<tr>
<td>1/12/2012</td>
<td>31+17 - 32+09</td>
<td>15</td>
<td>135</td>
<td>Slope Cuts on outboard side. Laid back to 1V:2.0H <strong>Waste Pile 1.</strong></td>
</tr>
<tr>
<td>1/12/2012</td>
<td>34+68 - 35+12</td>
<td>8</td>
<td>72</td>
<td>Slope Cuts on outboard side. Laid back to 1V:2.0H <strong>Waste Pile 1.</strong></td>
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<tr>
<td>1/13/2012</td>
<td>40+97 - 41+68</td>
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<tr>
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<td>55+67 - 56+12</td>
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Project Number: SD PFH 17-1(6)  Project Name: Hill City to Lead

Account: Schedule A

Pay Note Information:

Pay Item #: 20441-0000  Item Description: Waste  Pay Unit: CUYD

Item Line #: N/A (for EEBACS only)  Item Type: N/A (for EEBACS only)

Pay Note #: 180  Pay Period: 5

Pay Note Entry:

Work Start Date: 01/10/2012  Work End Date: 01/19/2012

Location/Description:

Quantity based on cross section survey data

Waste Pile #1 Total 517.86 CUYD  *See TIN to TIN volume report
Waste Pile #2 Total 514.10 CUYD

NOTE: This item was previously paid on paynote #176 based on estimated interim values. This measurement indicates the final measurement per FP-03.

Remarks/Calculations:

Per FP-03 204.16.e, measure waste by the cubic yard in its final position. Take cross sections before and after to determine final quantity. ***This quantity is the final quantity based on final survey***

Total quantity Waste pile #1 (CUYD) = 517.86(actual) - 531(interim paid paynote #176) = -13.14 CUYD
Total quantity Waste pile #2 (CUYD) = 514.10(actual) - 495 (interim paid paynote #176) = 19.10 CUYD

Net pay for estimate = -13.14 + 19.10 = 5.96 CUYD

Support Documentation/References:

Computation checks and TIN to TIN reports

Measured By: Joe the Inspector & Bob the Contractor  TOTAL QUANTITY: 5.96 (CUYD)

Interim Measurement  Final Measurement

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 01/26/2012

Contractor Representative (Signature):  

Approved by FHWA Representative (Print): Joe the Inspector  Date: 01/27/2012

Approved by FHWA Representative (Signature):  

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 01/27/2012
Waste pile 1

- Total Cut = 4,441 Cubic Yards
- Total Fill = 522.299 Cubic Yards
- Area = 605.302 Sq Yards
- Balance = -517.858 Cubic Yards

Paid Surveyed amount of 517.86 CU YD

\[ V = \left[ \frac{\left( \frac{12' + 6'}{2} \right) \times 8' \times 220'}{27 \text{ CUFPT}} \right] = 521 \text{ CUF} \]
Waste Pile 2
site 15b.vol

SD PFH 17-1(6)

************************************************
** TIN to TIN Volume Report -- Thu Jan 26 09:55:21 2012  
** From TIN <Green Line.tin> to TIN <Red Line.tin>  
** Prismoidal Volume  
**  
**  
************************************************
**  
** Total Cut = 2.620 Cubic Yards  
** Total Fill = 516.720 Cubic Yards  
** Area = 603.939 Sq Yards  
** Balance = -514.100 Cubic Yards  
**  
************************************************

Measured by Joe the inspector and Bob the Contractor on 1/21/12  
Calculations by Jim the Contractor on 1/23/12

Waste pile is ~170' long as measured

V = \left[ \frac{\left(11'+5\right)}{2} \right] \times 10' \times 170' \] \div 27 \text{CUYD} = 504 \text{CUYD}

Pay surveyed amount of 514.10 CUYD
**Item Quantity Pay Note Sheet**

**Project Number:** ND PRA THRO 10(3)  
**Project Name:** North Unit Scenic Drive

**Account:** Option Y

**Pay Note Information:**

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<thead>
<tr>
<th>Work Start Date</th>
<th>Work End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/08/2009</td>
<td>11/08/2009</td>
</tr>
</tbody>
</table>

**Location/Description:**

1. Station 385+00 on 11/08/09 = 6.85 CUYD*
2. Station 105+50 on 10/21/09 = 8.15 CUYD*
3. Station 227+00 on 10/08/09 = 8.94 CUYD*
4. Station 87+50 on 10/08/09 = 4.28 CUYD*

*See computations.

**Remarks/Calculations:**

Total quantity (CUYD) = 6.85 + 8.15 + 8.94 + 4.28 = 28.22 CUYD

**Support Documentation/References:**

riprap sketches and computations

**Measured By:** Joe the Inspector & Bob the Contractor

**Total Quantity:** 28.22 (CUYD)

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

**Contractor Representative (Print):** Bob the Contractor  
**Contractor Representative (Signature):**

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Approved by FHWA Representative (Signature):**

**Checked by FHWA Representative (Signature):** Jane the Project Engineer
AREA OF ELLIPSE = \pi a b \text{ where } a \text{ & } b \text{ are equal to 4' & 6' as seen in drawing}

\[
\frac{\left( (4'\times 6' \times 3.14) + (8'\times 6') \right) \times 1.5'}{27} = \frac{\sqrt{6.85}}{\text{CUYD}}
\]
25101-2000 PLACED RIPRAP, CLASS 2 @ 227+00 & 87+50

EDGE OF CULVERT @ 227+00
10.5
(1 FT * 23 FT * (13 FT + 8 FT))/2)/27
8.94 CUYD

GULLY @ 87+50
5.5
(14 FT * 1.5 FT * (4 FT + 7 FT))/2)/27
4.28 CUYD
Item Quantity Pay Note Sheet

Date: 8/10/11

Project Number: ND PRA THRO 10(3)  Project Name: North Unit Scenic Drive

Account: Option X

Pay Note Information:

Pay Item #: 60101-0000  Item Description: Concrete  Pay Unit: CUYD

Item Line #: N/A (for EEBACS only)  Item Type: N/A (for EEBACS only)

Pay Note #: 132  Pay Period: 4

Pay Note Entry:

Work Start Date: 8/08/11  Work End Date: 8/10/11

Location/Description:

8/08/11: 1210+76 Footings = 14.75 CUYD*
8/10/11: 1210+76 Wingwalls and Headwalls = 15.64 CUYD*

*See Concrete Pour Sketches and Calculations

Remarks/Calculations:

Total quantity (CUYD) = 14.75 + 15.64 = 30.39 CUYD

Support Documentation/References:

Concrete Pour Sketches and Calculations, 601minor concrete certification example

Measured By: Joe the Inspector & Bob the Contractor

X Interim Measurement  ☐ Final Measurement

TOTAL QUANTITY: 30.39 (CUYD)

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  Date: 8/10/11

Contractor Representative (Signature):

Approved by FHWA Representative (Print): Joe the Inspector  Date: 8/10/11

Approved by FHWA Representative (Signature):

Checked by FHWA Representative (Signature): Jane the Project Engineer  Date: 9/01/11
Concrete Quantities

August

1248 + 1305 - Footings (08/08/11)

\[
\left( \frac{3^2 + 6^2}{2} \right) \times \left( \frac{18 + 15}{2} \right) \times 1.5 = 119.14 \text{ ft}^3
\]

\[
\left( \frac{3^2 + 6^2}{2} \right) \times \left( \frac{12 + 13.5}{2} \right) \times 1.5 = 88.32 \text{ ft}^3
\]

\[
\left( \frac{3^2 + 6^2}{2} \right) \times \left( \frac{16.41 + 14.41}{2} \right) \times 1.5 = 102.94 \text{ ft}^3
\]

\[
\left( \frac{3^2 + 6^2}{2} \right) \times \left( \frac{12.41 + 18.61}{2} \right) \times 1.5 = 87.75 \text{ ft}^3
\]

All footings are 15' dense

\[
\text{Total} = 398.15 \text{ ft}^3
\]

\[
= 14.75 \text{ CU YD}
\]

Measured by Joe the Inspector and Bob the Contractor on 8/10/11
minor concrete support documentation

(08/10/11)

\[
2 \left(5 \times 6.92\right) \times 1' = 6.92
\]

\[
\left(\frac{1.5 + 6.92}{2}\right) \times 12.5 \times 1' = 52.63
\]

\[
\left(\frac{1.5 + 6.92}{2}\right) \times 15.92 \times 1' = 67.03
\]

\[
2 \left(5' x 7.08'\right) x 1' = 7.08
\]

\[
\left(\frac{1.5 + 7.08}{2}\right) \times 12.1' \times 1' = 51.09
\]

\[
\left(\frac{1.5 + 7.08}{2}\right) \times 13.92' \times 1' = 59.72
\]

1' thick for all walls

\[
210 + 76 = \text{total walls}
\]

\[
F = 2.35
\]

\[
\left(8.33' \times 14.2\right) - 2\left(10.25'\right) = 86.48
\]

\[
\left(8.6' \times 14.05\right) - 2\left(10.25'\right) = 90.74
\]

Total = 422.99 ft³

\[
\approx 15.64 \text{ CUYD}
\]

Measured by Joe the Inspector and Bob the Contractor on 8/10/11
TRANSMITTED FORM FOR SUBMITTALS & CERTIFICATIONS

PROJECT NUMBER: CA PFH 112-1(1)  TRANSMITTAL NO: 2
PROJECT NAME: South Fork Smith River Road  DATE: 7/20/09
PAY ITEM NUMBER & DESCRIPTION: 60103-0080, 60103-0140
DESCRIPTION OF INFORMATION SUBMITTED: Concrete Mix Designs for Headwalls
NUMBER OF COPIES FURNISHED: 4

TYPE OF SUBMITTAL:  New Submittal  Resubmittal

APPLICABLE CONTRACT REFERENCES (LIST) AND CONTRACT COMPLIANCE (INDICATE):

PLAN SHEET(S)  PLAN COMPLIANCE?  Yes  No  Var/Sub  N/A
FP SUBSECTION(S)  FP COMPLIANCE?  Yes  No  Var/Sub  N/A
SCR SUBSECTION(S)  SCR COMPLIANCE?  Yes  No  Var/Sub  N/A
ACCEPTED DRAWINGS  DRWG COMPLIANCE?  Yes  No  Var/Sub  N/A
OTHER

DESCRIBE ANY PROPOSED VARIATION OR SUBSTITUTION (include the reason for the requested change, a detailed comparison of the specified and proposed item, manufacturer's or other relevant supporting data, and any proposed cost savings to the Government. Attach additional pages as necessary. Note: the applicable specification compliance type listed above that relies on the variation or substitution should be marked "Var/Sub."

Attached are 2 concrete mix designs for culvert headwalls.

I certify that the above submitted item(s) have been reviewed in detail and are correct, are in the proper units (metric or english as required by the contract), and are in strict conformance with the contract drawings and specifications except as otherwise stated.

Mike Blvdener Mike Boothe  Tidewater
(Signature and printed name of knowledgeable person)  (Title and Company Name)  7/20/09
(Date)

REVIEW BY QUALITY CONTROL MANAGER (return unacceptable submittals to submitter):
RECOMMENDED ACTION ON VARIANCE/SUBSTITUTION REQUEST:  Approve  Reject  Resubmit
RECOMMENDED ACTION ON OVERALL SUBMITTAL:  Accept  Accept Except as Noted
Accept Except as Noted/Resubmit  Reject/Resubmit  More Info Req'd on Var/Sub, Resubmit

Remarks:

I certify that I have reviewed the attached submittal or certification for apparent compliance with the contract requirements. Any deviations are identified above.

Signed by  Date 7/21/09
(signature and printed name)

GOVERNMENT RESPONSE:
VARIANCE/SUBSTITUTION REQUEST:
OVERALL SUBMITTAL:  Approved  Rejected  Resubmit
Accepted  Accepted Except as Noted  Accepted Except as
Noted/Resubmit  Rejected/Resubmit  More Info Req'd on Var/Sub, Resubmit

Remarks:

Signed by  Date 8/17/09
(signature and printed name and title)

60103-0080
MINOR PORTLAND CEMENT CONCRETE MIX DESIGN
TRIAL BATCH SUMMARY

Project: South Fork Smith River
Date: 7/10/09
Contractor: Tidewater
Concrete for: Calvert Headwalls
Concrete producer: Eureka Ready Mix Concrete Co.
Mix designation: F-255-A

English  Metric

MIX PROPERTIES

Compressive strength (28 day)  4500
Slump  4"
Air content  4%  percent
Water/cement ratio  .49

PROPORTIONS

<table>
<thead>
<tr>
<th>Material</th>
<th>Specific Gravity (SSD)</th>
<th>SSD Mass</th>
<th>Absolute Volume</th>
<th>Admixtures</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>3.15</td>
<td>198</td>
<td>2.33</td>
<td>Air entrainment</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>1.00</td>
<td>299</td>
<td>4.79</td>
<td>Water reducer</td>
<td></td>
</tr>
<tr>
<td>Coarse aggregate</td>
<td>5.32</td>
<td>1534</td>
<td>9.34</td>
<td>Retarder</td>
<td></td>
</tr>
<tr>
<td>Fine aggregate</td>
<td>5.02</td>
<td>1558</td>
<td>9.56</td>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>Total air</td>
<td></td>
<td></td>
<td>1.08</td>
<td>Accelerator</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>3849</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 The ratio of the mass of water, exclusive only of that absorbed by the aggregate, to the combined mass of cementitious material (i.e. cement, fly ash, silica fume, and ground granulated blast furnace slag (GGBFS)).

Form FHWA 1606 (Rev 02-07)
EUREKA READY MIX CONCRETE CO, INC.

EUREKA SAND & GRAVEL

Concrete Mix Design

Contractor: Johnson Industries
Project: CAPFH 112-11(1)
Plant: Eureka Ready Mix
Aggregate Source: Arcata

Mechanical analyses percent passing U.S. standard sieves

<table>
<thead>
<tr>
<th>Sieve</th>
<th>2&quot;</th>
<th>1 1/2&quot;</th>
<th>1&quot;</th>
<th>3/4&quot;</th>
<th>3/8&quot;</th>
<th>#4</th>
<th>#6</th>
<th>#16</th>
<th>#30</th>
<th>#50</th>
<th>#100</th>
<th>#200</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; x #4</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>90%</td>
<td>18%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>3/8 Rock</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Concrete Sand</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>82%</td>
<td>65%</td>
<td>45%</td>
<td>19%</td>
<td>4%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>97%</td>
<td>78%</td>
<td>53%</td>
<td>40%</td>
<td>31%</td>
<td>22%</td>
<td>9%</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

X Values

<table>
<thead>
<tr>
<th>Specified Strength: 4500 psi</th>
<th>Sack Content: 6.50 sk</th>
<th>Slump: 4.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrained Air: 4.0%</td>
<td>W/Cm Ratio: 0.49</td>
<td>Cement Type: Type II</td>
</tr>
<tr>
<td>WRDA 64</td>
<td>0 oz</td>
<td>Adva 100</td>
</tr>
<tr>
<td>Air Entrainment</td>
<td>6 oz</td>
<td>Recover</td>
</tr>
<tr>
<td>Daraset</td>
<td>0 oz</td>
<td></td>
</tr>
</tbody>
</table>

Material

| 1" x #4 | 25% | 2.66 | 155.98 | 767 lb | 4.62 |
| 3/8 Rock | 25% | 2.66 | 155.98 | 767 lb | 4.62 |
| Concrete Sand | 45% | 2.64 | 164.74 | 1405 lb | 8.53 |
| Cement | 75% | 5.15 | 196.56 | 456 lb | 2.33 |
| Fly Ash | 25% | 2.38 | 149.51 | 153 lb | 1.03 |
| Water | 1.00 | 62.40 | 299 lb | 4.79 |
| Total Air: | 4.0% |

| 1 Bg Fibers |

Total

| Unit Weight = 3849 lb | 142.5 pcft | 27.00 |

Note: Based upon aggregate in saturated surface dry conditions. Correction necessary for free moisture on aggregates.

The above mix is based on the consideration that the compressive strengths will equal or exceed the strength shown above when cylinders are taken, handled and cured in accordance with ASTM (C-31). If the correct procedures for testing are not followed if the water/cementitious materials ratio is exceeded, this mix as shown above cannot be expected to produce the desired properties.

Submitted by

Date: 7/20/09
GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON TON ITEMS:
Items paid by the Ton are typically required to conform to both specific weighing and receiving procedures so that they can be measured, documented, accepted, and paid. Please refer to the FP, the Special Contract Requirements, and plans for your project for detailed instructions prior to submitting any pay notes. In almost all cases, items by the ton require scale certification along with specific weight and receiving documentation. It is best to discuss and review sample documentation and procedures for acceptance prior to any production or delivery of material. Special care should also be taken to verify and calculate material documentation using the correct units and conversions for either Metric tons (“t”) and English tons (Ton, “T”) as the case may require.
Example 1 of 1 for this item

Project Number: CA PFH 112-1(1)  
Project Name: South Fork Smith River Road

Pay Note Information:

Pay Item #: 40301-0000  
Item Description: Hot asphalt concrete pavement  
Pay Unit: TON

Item Line #: N/A (for EEBACS only)  
Item Type: N/A (for EEBACS only)

Pay Note #: 210  
Pay Period: 6

Pay Note Entry:

Work Start Date: 11/11/10  
Work End Date: 11/11/10

Location/Description:
Mainline paving from Station 101+60 to 113+00: RT(11.5') and LT(10.5' wide), 1.5" lift height per side.

Weigh Tickets* 198399, 198401, 198402, 198404, 198405, 198406, 198407, 198408, 198409, 198410

*11/11/10 Weigh Tickets attached

Remarks/Calculations:

Per attached 11/11/10 paving weigh tickets, pay 223.73 TONS

Support Documentation/References:

11/11/10 Weigh Tickets, Spread Report, Daily Record of Platform Scale Weights, Daily Yield Calculation
Note: All required asphalt test results per the contract are also needed prior to payment.

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

Contractor Representative (Print): Bob the Contractor  
Contractor Representative (Signature):  
Date: 11/11/10

Approved by FHWA Representative (Print): Joe the Inspector  
Approved by FHWA Representative (Signature):  
Date: 11/11/10

Checked by FHWA Representative (Signature): Jane the Project  
Date: 11/13/10

TOTAL QUANTITY: 223.73 (TONS)
<table>
<thead>
<tr>
<th>Customer Name</th>
<th>Date</th>
<th>Time</th>
<th>Gross</th>
<th>Tare</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTH-H-68-09-C-00010</td>
<td>11/11/10</td>
<td>9:51</td>
<td>76300 lb</td>
<td>35000 lb</td>
<td>41300 lb</td>
</tr>
<tr>
<td>DTH-H-67-09-C-00010</td>
<td>11/11/10</td>
<td>10:24</td>
<td>76180 lb</td>
<td>32780 lb</td>
<td>43400 lb</td>
</tr>
</tbody>
</table>

**Notes:**
- Weighted by Deputy Weighmaster Marilynda Chapin.
WEIGHMASTER CERTIFICATE

11-11-2010

TIDEWATER CONTRACTORS INC. (Weightmaster)

P.O. Box 1956 - Bookings, OR 97415
(541) 469-5341
CCB #29995
CA. #456666

GROSS: LBS.
TARE: LBS.
NET: 22.98 TONS

Time Posted: 10:23

+ STA. 105+10 - 107+80 NT

ID 4

GROSS: 78940 lb
TARE: 32980 lb RECALLED
NET: 45960 lb

11/11/2010 10:50 AM

Weight X Price =
Sales Tax =
Total =

35.32

BY: Marilind Chapin
Deputy Weighmaster

CUSTOMER'S NAME:
DITTA-6X-09-C-00010 # 1382

DELIVER TO:
Stock Smith River Rd., Site-A

TRUCK CO.:
G. ALLEN TRUCK NO. 71 DRIVER: MIKE

DRIVER: X ON OFF

PRODUCT:
HOT A/C # 4081000

SUPPLY SOURCE (check one):
X Crockett Bar Hole Pit #1 Stany Pit #1 Scheve

WEIGHING LOCATION (check one):
X Crockett Bar: 1760 S. Fred Hight Drive, Smith River, CA
Stany Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elk Valley Road
Scheve Pit: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT: 11:10 AM

WEIGHMASTER CERTIFICATE

11-11-2010

TIDEWATER CONTRACTORS INC. (Weightmaster)

P.O. Box 1956 - Bookings, OR 97415
(541) 469-5341
CCB #29995
CA. #456666

GROSS: LBS.
TARE: LBS.
NET: 22.24 TONS

Time Posted: 10:41

+ STA. 107+80 - 110+75 NT

ID 69

GROSS: 78600 lb
TARE: 34120 lb RECALLED
NET: 44480 lb

11/11/2010 11:03 AM

Weight X Price =
Sales Tax =
Total =

87.5

BY: Marilind Chapin
Deputy Weighmaster

CUSTOMER'S NAME:
DITTA-6X-09-C-00010 # 1382

DELIVER TO:
Stock Smith River Rd., Site-A

TRUCK CO.:
G. ALLEN TRUCK NO. 69 DRIVER: P. ON

DRIVER: X ON OFF

PRODUCT:
HOT A/C # 4081000

SUPPLY SOURCE (check one):
X Crockett Bar Hole Pit #1 Stany Pit #1 Scheve

WEIGHING LOCATION (check one):
X Crockett Bar: 1760 S. Fred Hight Drive, Smith River, CA
Stany Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elk Valley Road
Scheve Pit: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT: 11:03 AM
WEIGHTMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 13700) of Division 8 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

TIDEWATER CONTRACTORS INC. (Weighmaster)

P.O. Box 1556 - Bookings, OR 97415
(541) 489-5341
CCB #239995
CA. #456696

198405

11-11 2010

CUSTOMER'S NAME:

DTTH-0X-09-C-40010 # 1382

DELIVER TO:

STARK SMITH RIVER RD. SITE-A

TRUCK CO: TWC TRUCK NO: 54 DRIVER: BOBBY

DRIVER X ON OFF

PRODUCT:

HOT ALC # 40301000

SUPPLY SOURCE (check one)

Crockett Bar Hole Pit Stary Pit #1 Scheve

WEIGHING LOCATION (check one)

Crockett Bar; 1760 S. Fred Haight Drive, Smith River, CA.
Stary Pit #1: Approx. 3 ml. N., or Crescent City, CA., on Elk Valley Road.
Scheve Pit: Approx. 1.5 ml. up French Hill Rd., Gasquet, CA.

TIME OUT

BY

Deputy Weighmaster

\[\text{ID}: 54\]
\[\text{GROSS}: 81940 \text{ lb} \]
\[\text{TARE}: 37600 \text{ lb RECALLED} \]
\[\text{NET}: 44340 \text{ lb} \]

\[\text{11/11/2010} 12:14 \text{PM} \]

\[\text{Weight X Price} = \]
\[\text{Sales Tax} = \]
\[\text{Total} = \]

109.7

---

WEIGHTMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 13700) of Division 8 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

TIDEWATER CONTRACTORS INC. (Weighmaster)

P.O. Box 1556 - Bookings, OR 97415
(541) 489-5341
CCB #239995
CA. #456696

198406

11-11 2010

CUSTOMER'S NAME:

DTTH-0X-09-C-40010 # 1382

DELIVER TO:

STARK SMITH RIVER RD. SITE-A

TRUCK CO: TWC TRUCK NO: 10 DRIVER: BOBBY

DRIVER X ON OFF

PRODUCT:

HOT ALC # 40301000

SUPPLY SOURCE (check one)

Crockett Bar Hole Pit Stary Pit #1 Scheve

WEIGHING LOCATION (check one)

Crockett Bar; 1760 S. Fred Haight Drive, Smith River, CA.
Stary Pit #1: Approx. 3 ml. N., or Crescent City, CA., on Elk Valley Road.
Scheve Pit: Approx. 1.5 ml. up French Hill Rd., Gasquet, CA.

TIME OUT

BY

Deputy Weighmaster

\[\text{ID}: 10\]
\[\text{GROSS}: 79240 \text{ lb} \]
\[\text{TARE}: 35000 \text{ lb RECALLED} \]
\[\text{NET}: 44240 \text{ lb} \]

\[\text{11/11/2010} 12:14 \text{PM} \]

\[\text{Weight X Price} = \]
\[\text{Sales Tax} = \]
\[\text{Total} = \]

131.86
WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 2 (commencing with Section 12700) of Division 6 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

TIDEWATER CONTRACTORS INC. (Weighmaster)

P.O. Box 1956 - Bookings, OR 97415
(541) 469-5341
CCS #220061
CA. #456696

198407

11/11 20 10

CUSTOMER'S NAME: DTFA-6X-09-C:00010 #1382

DELIVER TO: S.Fork Smith River Rd, Site A

TRUCK CO: Co-Allen

TRUCK NO: 9

DRIVER: X ON __ OFF __

PRODUCT: Hot A/C # H0301090

SUPPLY SOURCE (check one):

Crockett Bar Hole Pit Stany Pit #1 Scheve

WEIGHING LOCATION (check one):

Crockett Bar 1790 S. Fred Haight Drive, Smith River, CA
Stany Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elk Valley Road
Scheve Pit: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT BY: Maryland Chapin

Deputy Weighmaster

154.84

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 2 (commencing with Section 12700) of Division 6 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

TIDEWATER CONTRACTORS INC. (Weighmaster)

P.O. Box 1956 - Bookings, OR 97415
(541) 469-5341
CCS #220061
CA. #456696

198408

11/11 20 10

CUSTOMER'S NAME: DTFA-48-09-C:00010 #1382

DELIVER TO: S.Fork Smith River Rd, Site A

TRUCK CO: Co-Allen

TRUCK NO: 4

DRIVER: X ON __ OFF __

PRODUCT: Hot A/C # H0301090

SUPPLY SOURCE (check one):

Crockett Bar Hole Pit Stany Pit #1 Scheve

WEIGHING LOCATION (check one):

Crockett Bar 1790 S. Fred Haight Drive, Smith River, CA
Stany Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elk Valley Road
Scheve Pit: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT BY: Maryland Chapin

Deputy Weighmaster

174.47
WEIGHTMASTER CERTIFICATE

TIDEWATER CONTRACTORS INC. (Weighmaster) P.O. Box 1856 - Bookings, OR 97415 (541) 469-5341 CCB #299956 CA. #456696 198409

11/11/2010

CUSTOMER'S NAME DTH-6X-09-C-00010 # 1382
DELIVER TO S. Fork Smith River Rd., Site A
TRUCK CO. SUNRISE TRUCK NO. 69 DRIVER: DON
DRIVER: X ON OFF
PRODUCT: Hot A/C # 40361000

SUPPLY SOURCE (check one)
X Crockett Bar Hole Pit

WEIGHING LOCATION (check one)
X Crockett Bar: 1750 S. Fred Haight Drive, Smith River, CA

Stony Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elkh River

 Scheve: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT BY Marilyn Chapin

Deputy Weighmaster

GROSS 79040 lb
TARE 34120 lb RECALLED
NET 44920 lb

ID 69

11/11/2010 01:25PM

Weight X Price =
Sales Tax =
Total =

200.75

WEIGHTMASTER CERTIFICATE

TIDEWATER CONTRACTORS INC. (Weighmaster) P.O. Box 1856 - Bookings, OR 97415 (541) 469-5341 CCB #299956 CA. #456696 198410

11/11/2010

CUSTOMER'S NAME DTH-6X-09-C-00010 # 1382
DELIVER TO S. Fork Smith River Rd., Site A
TRUCK CO. TWC TRUCK NO. 54 DRIVER: DAN
DRIVER: X ON OFF
PRODUCT: Hot A/C # 40361000

SUPPLY SOURCE (check one)
X Crockett Bar Hole Pit

WEIGHING LOCATION (check one)
X Crockett Bar: 1750 S. Fred Haight Drive, Smith River, CA

Stony Pit #1: Approx. 3 mi. N. of Crescent City, CA, on Elkh River

 Scheve: Approx. 1.5 mi. up French Hill Rd., Gasquet, CA

TIME OUT BY Marilyn Chapin

Deputy Weighmaster

GROSS 83180 lb
TARE 37600 lb RECALLED
NET 45580 lb

11/11/2010 01:39PM

Weight X Price =
Sales Tax =
Total =

223.72
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**CERTIFICATION**

I CERTIFY THAT THE ABOVE LOADS WERE PLACED AS SHOWN AND ARE THE SOLE BASIS FOR PAYMENT.

Contractor signature: [Signature]

Received by: [Signature]

Date: 11/11/10
# Daily Record of Platform Scale Weights

**TIDEWATER CONTRACTORS, INC.**

P.O. Box 1956 • Brookings, OR 97415 • 541-469-5341

**CCB #29995**

**CUSTOMERS NAME**: DTH-68-09-C-00010

**JOB or PROJECT**: # 1382 # 40301000

**SUPPLY SOURCE**: CROCKETT BAR

**CONTACT**: S. FORK SMITH RIVER RD. SITE: A

**MATERIAL WEIGHED**: HOT ASPHALT

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**FORWARD**

**DEPUTY PUBLIC WEIGHMASTER**
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FINAL LOAD COUNT  

223.72  

SIGNATURE  

Marlind Chapin
### CA PFH 112-1(1) South Fork Smith River Road

**MARSHALL DAILY YIELD (11/11/10)**

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- **Length paved (ft)**: 1,140
- **Avg Width (ft)**: 10.50
- **Depth (ft)**: 0.125
- **CuFt**: 1,496.3
- **Total CuFt**: 3,135.0
- **Compacted wt, Tons**: 229.25
- **Ticket tons**: 223.72

**Yield**: 0.98

**CUMULATIVE TO DATE**: 2,624.95 TONS

- **Plan Qty**: 10,890.0 TONS
- **% Complete**: 24.10
Example 1 of 1 for this item

---

**Project Number:** SD PFH 17-1(6)  
**Project Name:** Hill City to Lead

---

**Pay Note Information:**

- **Pay Item #:** 41201-0000  
- **Item Description:** Tack Coat  
- **Pay Unit:** TON

---

**Pay Note Entry:**

- **Work Start Date:** 10/25/2010  
- **Work End Date:** 10/25/2010

---

**Location/Description:**

On 10/25/10 Tack Coat was applied from Station 10+00 to Station 12+50 RT (11’ wide).

---

**Remarks/Calculations:**

Per FP-03 412.08, measure tack coat including water added for dilution.

Weigh Out = 6.28 TONS on 10/22/10, Weigh Back = 6.03 TONS on 10/25/10*

6.28 TONS - 6.03 TONS = 0.25 TONS

*See supporting weigh tickets

---

**Support Documentation/References:**

Weigh Tickets with SS-1H certification, Tack Coat Application Calculation,

---

**Measured By:** Joe the Inspector & Bob the Contractor  
**TOTAL QUANTITY:** 0.25 (TONS)

---

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

---

**Contractor Representative (Print):** Bob the Contractor  
**Contractor Representative (Signature):**  
**Date:** 10/25/10

---

**Approved by FHWA Representative (Print):** Joe the Inspector  
**Approved by FHWA Representative (Signature):**  
**Date:** 10/26/10

---

**Checked by FHWA Representative (Signature):** Jane the Project Engineer  
**Date:** 10/30/10
## Delivery Ticket

**HILLS MATERIALS COMPANY**  
P.O. Box 2320 • Rapid City, SD 57709  
Phone: (605) 394-3300 • Fax: (605) 341-3446

### Details
- **Date:** 10/22/2010  -  **Time:** 10:10:44  -  **P.O. No.:** 50,482,1301  -  **Location:** LORIE  -  **Ticket No.:** 017503
- **Customer:** 670703 RED WILK  
  DEERFIELD RD  
  HILL CITY SD 57769
- **Code** | **Description** | **Qty.** | **Unit** | **Price** | **Amount**
--- | --- | --- | --- | --- | ---
104 | HOT WATER | 3.03 | TONS | 727.25 | 2,183.72
235 | SS-1H | 3.25 | TONS | 762.91 | 2,522.73
- **Order:** 
  - **Lds Rec'd:** 1
  - **Qty Rec'd:** 4.10
- **Tank:** 
  - **Res. Asph. Wt./Gal.:** 8,333
- **Notes:**
  - THIS SHIPMENT OF ASPHALTIC MATERIAL COMPLIES WITH SD DOT/FHWA SPECIFICATIONS.  
  - Emergency contact phone #: (605) 394-5220 or (605) 341-1139
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LOADING TEMP 180 F  
SPEC. GRAV. 102 
VISCOSITY 35 SSF @ 77 F

**Notes:**

THIS SHIPMENT OF ASPHALTIC MATERIAL COMPLIES WITH SD DOT/FHWA SPECIFICATIONS.

Emergency contact phone #: (605) 394-6220 or (605) 394-4139
Per FP-03, section 4/2.06, apply the asphalt according to Subsection 409.08 at a rate of 0.03 to 0.15 gallons per square yard.

Check Application Rate

- Tack Coat applied from STA 10+00 to 12+50 ON RT side of roadway, width= 11 feet.

- Tack Coat = 233 Gal/ton

- Weigh Out = 3.25 tons, Weigh Back = 3.12 tons

3.25 tons - 3.12 tons = 0.13 tons

0.13 tons x 233 Gal/ton = 30.29 GAL

250' x 11' = 2,750 SQFT = 305.56 SQYD

Application Rate = \( \frac{30.29 \text{ GAL}}{305.56 \text{ SQYD}} = 0.099 \text{ GAL/SQYD} \)

0.03 gal/sqyd < 0.099 gal/sqyd < 0.15 gal/sqyd

MEETS SPECIFICATION
Section 10: GALLON ITEMS

15801 Watering for Dust Control ...............................................................Page 153
63404 Pavement Marking .................................................................Page 155

GENERAL NOTE:
The items shown here are examples only - all measurement, documentation, and payment will conform to the project contract requirements regardless of what is shown here. Included here are examples of some of the many documentation types that may be required. Often documentation such as certifications and qualifications may be submitted and accepted once and then referenced accordingly instead of attaching additional copies for each pay note or payment period. Many documentation items are required prior to production, delivery, or placement; required documentation should be provided at the appropriate time and not necessarily at time of payment.

NOTE ON TON ITEMS:
Items paid by the gallon are either measured, metered, or commercial volumes. Please refer to the FP, the Special Contract Requirements, and plans for your project for detailed instructions prior to submitting any pay notes. If gallons will be measured or metered onsite, advance consideration and discussion should occur to ensure that the methods, equipment, and documentation will be acceptable.
### Project Number: HI SR 200(2)  
### Project Name: Saddle Road  
### Account: Schedule A

#### Pay Note Information:

- **Pay Item #:** 15801-0000  
- **Item Description:** Watering for dust control  
- **Pay Unit:** Mgal

#### Pay Note Entry:

- **Work Start Date:** 09/01/10  
- **Work End Date:** 09/23/11

#### Location/Description:

9/1/2011 to 9/23/2011: Watering Saddle Road during aggregate placement work performed between Station 125+00 to 165+00

#### Remarks/Calculations:

Pay 25.04 Mgal (see attached water log)

#### Support Documentation/References:

- Water log  
  Note: Volume Certification was provided to the CO on 8/01/11

---

**TOTAL QUANTITY:** 25.04 (Mgal)

---

By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 09/24/11
- **Contractor Representative (Signature):**
- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 09/25/11
- **Approved by FHWA Representative (Signature):**
- **Checked by FHWA Representative (Signature):** Jane the Inspector  
  **Date:** 10/07/11

---
## 200(2) WATER LOG

**JULY 2011**

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<th>Tank Size</th>
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NOTE: Water placed at the quarry was not paid for per direction of the CO. Watering of the quarry was done per the Contractor.
Project Number: SD PRA BADL 10(5)  
Account: Schedule B

Pay Note Information:

Pay Item #: 63404-0200  
Item Description: Pavement markings, Type B (white)  
Pay Unit: GAL

Pay Note #: 174  
Pay Period: 3

Pay Note Entry:

Work Start Date: 08/02/10  
Work End Date: 08/06/10

Location/Description:

(1) Prairie Winds on 08-02-2010 - 3.0 GAL*  
(2) Burns Basin on 08-02-2010 - 3.5 GAL*  
(3) Doors and Windows on 08-03-2010 - 1.0 GAL  
(4) Homestead on 08-04-2010 - 3.0 GAL*  
(5) Conata on 08-04-2010 - 2.5 GAL*  
(6) Pinnacles on 08-04-2010 - 2.5 GAL*  
*See pavement marking computations

Remarks/Calculations:

Total quantity (GAL) = 3.0 + 3.5 + 1.0 + 3.0 + 2.5 + 2.5 = 15.5GAL

Support Documentation/References:

Pavement marking computations, Paint certification (see page 94)

Measured By: Joe the Inspector & Bob the Contractor  
TOTAL QUANTITY: 15.5 (GAL)
PRARIE WINDS

935 LF \times \left[ 4" \times \frac{1 \text{ ft}}{12"} \right] = 308 \text{ ft}^2

+ Spray Rate = 103 \text{ ft}^2/\text{gal}

308 \text{ ft}^2 \times \frac{1 \text{ gal}}{103 \text{ ft}^2} = 3.0 \text{ gallons}

TOTAL GALLONS = 3.0 \text{ gallons}

BURNS BASIN

1090 LF \times \left[ 4" \times \frac{1 \text{ ft}}{12"} \right] = 360 \text{ ft}^2

+ Spray Rate = 103 \text{ ft}^2/\text{gal}

360 \text{ ft}^2 \times \frac{1 \text{ gal}}{103 \text{ ft}^2} = 3.5 \text{ gallons}

TOTAL GALLONS = 3.5 \text{ gallons}

DOORS AND WINDOWS

64 LF \times \left[ 4.5" \times \frac{1 \text{ ft}}{12 \text{ inch}} \right] = 24 \text{ ft}^2

* Cross Lines

10 Lines \times 7.5' (each) \times 1' (width) = 75 \text{ ft}^2

TOTAL COVERAGE = 99 \text{ ft}^2

+ Spray Rate = 103 \text{ ft}^2/\text{gal}

99 \text{ ft}^2 \times \frac{1 \text{ gal}}{103 \text{ ft}^2} = 1.0 \text{ gal}
**HOMESTEAD**

\[
929 \text{ LF (PER PLAN)} \times \left[ 4'' \times \frac{1 \text{ FT}}{12''} \right] = 309.7 \text{ FT}^2
\]

\[+ \text{ SPRAY RATE } = 103 \frac{\text{ FT}^2}{\text{ GAL}} \]

\[
309.7 \text{ FT}^2 \times \frac{1 \text{ GAL}}{103 \text{ FT}^2} = 3.0 \text{ GALLONS}
\]

---

**CONATA**

* NOT INCLUDING RV LINE

\[
780 \text{ LF} \times \left[ 4'' \times \frac{1 \text{ FT}}{12''} \right] = 257.5 \text{ FT}^2
\]

\[+ \text{ SPRAY RATE } = 103 \frac{\text{ FT}^2}{\text{ GAL}} \]

\[
257.5 \text{ FT}^2 \times \frac{1 \text{ GAL}}{103 \text{ FT}^2} = 2.5 \text{ GALLONS}
\]

---

**PINNACLES**

* NOT INCLUDING HANDICAP AREA W/ CROSS HATCH AND A FEW SMALL LINES

\[
790 \text{ LF} \times \left[ 4'' \times \frac{1 \text{ FT}}{12''} \right] = 263.33 \text{ FT}^2
\]

\[+ \text{ SPRAY RATE } = 103 \frac{\text{ FT}^2}{\text{ GAL}} \]

\[
263.33 \text{ FT}^2 \times \frac{1 \text{ GAL}}{103 \text{ FT}^2} = 2.5 \text{ GALLONS}
\]
Appendix

A. Sample Haul Vehicle Volume Calculations .................................................... Page 158
B. Sample Water Truck Volume Calculations ..................................................... Page 160
C. Volume Correction Factors for Asphalt .......................................................... Page 161
D. Metric Conversion Factors .............................................................................. Page 162
E. Example of Contractor’s Invoice and Support Data ......................................... Page 163
F. QL-Pay Example 30101 ................................................................................. Page 165
G. QC Plan Example ........................................................................................... Page 168
Truck Measurement Example
Truck No. ? (tractor)
Trailer No. ? (belly dump)
License No. XXX:XXX

Volume

\[
\frac{4.115 + 4.267 \times 2.185 \times 1.067}{2} = 9.771
\]

Less Hoist Well

\[
\frac{0.686 + 0.329 \times 0.253 \times 1.067}{2} = -0.137 \text{ (minus)}
\]

Less Fillets

\[
\frac{0.101 \times 0.101 \times 4.252 + 4.267 \times 2}{2} = -0.043 \text{ (minus)}
\]

Total Volume = 9.591 m³

NOTE
The above computations are for illustration only, and not necessarily part of survey notes. However, to ensure measurements are adequate, the surveyor might make at least rough computations for complicated shapes.
**Truck Measurement Example**

Truck No. ? (tractor)
Trailer No. ? (belly dump)

![Diagram of truck measurement](image)

(dimensions are meters unless otherwise noted)

**Volume (A)** (Use prismoidal formula, \( V = \frac{h}{b} (A_1 + (4A_m + A_2)) \))

\[
A_1 = 4.94 \times 2.44 = 12.05 \\
A_2 = 2.19 \times 1.52 = 3.33 \\
A_m = \frac{(4.94 + 2.19) \times (2.44 + 1.52)}{2} = 7.07
\]

\[
V = \frac{1.89 (12.05 + (4 \times 7.07) + 3.33)}{2} = 13.753
\]

**Volume (B)**

\[
V = 2.19 \times 1.52 \times 0.30 = 0.999
\]

**Volume (C)**

\[
V = 2.19 \times 1.52 + 0.92 \times 0.244 = 0.652
\]

**Volume (D)**

\[
V = 2.19 \times 0.92 \times 0.091 = 0.092
\]

**Total Volume** = 15,496 m³

Composed By: ___________________  Checked By: ___________________
Water Truck Dimensions

# 142  

\[ a_1 = 1.46' \]

\[ b_1 = 7.83' \]

\[ A_1 = \pi \cdot a_1 \cdot b_1 \]
\[ = \pi \cdot (1.46) \cdot (7.83/2) \]
\[ = 17.98 \text{ SF} \]

\[ A_2 = a_2 \cdot b_1 \]
\[ = (2.08) \cdot (7.83) \]
\[ = 16.29 \text{ SF} \]

\[ A_1 + A_2 = 34.27 \text{ SF} \]

Volume = Area x Length
\[ = (34.27) \cdot (17.25) \]
\[ = 591.16 \text{ FT}^3 \]

1 ft\(^3\) = 7.48 Gallons

Total Volume = 4421.9 gal

Total Volume = 4.4 MGAL

Truck Measure Agreement
Dated________

FHWA Representative
Contractor Representative

Length = 17.25'
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**TEMPERATURE-VOLUME CORRECTIONS FOR ASPHALTIC MATERIALS (CUSTOMARY UNITS)**

GROUP 0 – SPECIFIC GRAVITY AT 60°F OF 0.850 TO 0.966

LEGEND:  
- t = Observed Temperature in Degrees Fahrenheit
- M = Multiplier for Correcting Oil Volumes to the Basis of 60°F
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<th>Multiply By</th>
<th>To Find</th>
<th>Symbol</th>
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<td>(or &quot;metric ton&quot;)</td>
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(1) SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E 380.
Project No.: ID PFH CDP 67(2)  Project Name: GRANGEMONT ROAD

Contract No.: DTFH 70-10-C-0009  Award date: APRIL 28, 2010

The certification, Subcontractor listing, and attached itemized request for payment of $326,286.11 serves as the contractor's invoice for work performed during the period indicated below, and under the contract cited.

**CONTRACTOR CERTIFICATION**

[FAR Clause 52.232-5 & FAR 52.232-27]

I hereby certify, to the best of my knowledge and belief, that:

1. The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
2. Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and
3. This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

Pave Earth First, Inc.  
Contractor Company Name  

A. Lincoln  
Date Signed  

Submitted by: Name A. Lincoln  
Print Name and Title  

Submitted by: A. Lincoln  
Signature  

Estimate Number  

Dates for Progress Payment Period:

<table>
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<tr>
<th>Subcontractor</th>
<th>SF1413 &amp; WFLHD 130 Submitted Y/N</th>
<th>Total Amount of Subcontract</th>
<th>Previous Payments</th>
<th>Amount Included in this Estimate*</th>
<th>Cumulative Retain through this Estimate</th>
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* Excludes any retain included in the right-most column.  

Check if continued on additional page  

WFLHD 500 Rev. 12/09
# Pave Earth First

**Grangemont Road, ID PFH 67(2)**

**DTFH70-10-C-00009**

**Estimate Number 2**

---

### Paynote Information:

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### Percent Retainage:

- **0.9%**
  - **Totals:** $4,895,746.91
  - **Retainage:** $32,823.19
  - **Minus Retainage:** $4,862,923.72

---

**P.O. Box 5**

**Somewhere, ID 53852**

**Office: (208) 555-5552**
**Project Number:** SD PFH 17-1(6)  
**Project Name:** Hill City to Lead  
**Account:** Schedule A

### Pay Note Information:

- **Pay Item #:** 30101-0000  
- **Item Description:** Agg. Base Lot 1 Material Incentive  
- **Pay Unit:** TON

- **Item Line #:** N/A (for EEBACS only)  
- **Item Type:** QM

- **Pay Note #:** 142  
- **Pay Period:** 5

### Pay Note Entry:

- **Work Start Date:** 9/02/10  
- **Work End Date:** 10/02/10

**Location/Description:**

Material placed under 30101-0000 from 9/2/10 to 10/2/10. See Item for locations

### Remarks/Calculations:

From Location/Description:

Total quantity (TONS) = 250.84 + 240.03 + 230.64 + 250.68 + 250.92 + 210.99 + 250.08 = 1,720.18 TONS = Lot 1

1,720.18 TONS WERE PAID ON ESTIMATE 4, 10/02/10. PER ATTACHED QL-PAY REPORT DATED 10/10/10, THE CONTRACTOR IS SUBMITTING FOR ADDITIONAL COMPENSATION FOR THIS LOT DUE TO A CALCULATED 1.03 PAY FACTOR.

(1.03 x $22.45) = $23.12 (new unit bid price for Lot 1)  
1720.18 TONS x ($23.12 new unit bid price - $22.45 previously paid) = 1720.18 TONS x ($0.67) = $1,152.52

### Support Documentation/References:

QL-PAY calculation sheet for Lot 1, 30101-0000 unit price

- **Interim Measurement**
- **Final Measurement**

**TOTAL QUANTITY:** 1720.18 ton@$0.67

**By signature below, I hereby certify that the measurements and calculations shown above are correct to the best of my knowledge and that the quantity being measured is subject to direct payment for the identified item under contract.**

- **Contractor Representative (Print):** Bob the Contractor  
  **Date:** 10/10/10
- **Contractor Representative (Signature):**
- **Approved by FHWA Representative (Print):** Joe the Inspector  
  **Date:** 10/11/10
- **Approved by FHWA Representative (Signature):**
- **Checked by FHWA Representative (Signature):** Jane the Project Engineer  
  **Date:** 10/13/10
## Quality Level Analysis & Pay Factor Computations

Project Name: Hill City to Lead  
Project Number: SD PFH 17-1(6)  
Project ID: DTFH68-10-C-00010  
Item Number: 30101-0000  
Lot Number: 1  
Lab: Contractor Lab

### Quality Levels and Pay Factors

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TESTING COMPLETED  
FINAL PAY FACTOR: 1.03
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<thead>
<tr>
<th>Pay Item No.</th>
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<th>Unit Bid Price</th>
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<td>AGGREGATE BASE</td>
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<td>PRIME COAT</td>
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<td>41105-0000</td>
<td>BLOTTER</td>
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</table>

Bid Schedule A
Project: PFH 17-1(6)
HILL CITY TO LEAD
Federal Highway Administration
P. O. Box 78
Sutterville, CA 94832

Gentlemen:

Re: CA FH 93-1(3), Gold Rush Highway
Quality Control Plan

The following items comprise our Quality Control Plan (QCP) required by Subsection 153.02 of the Contract.

1. All work will be performed in accordance with the contract requirements. ABC will maintain an inspection system which assures compliance with the contract requirements. Any indication of system deficiencies whether discovered as a result of the Government’s or ABC’s checks and tests, will result in modifications to the system to correct these deficiencies.

2. This QCP does not endeavor to repeat or summarize contract requirements. It describes the process which ABC will use to assure compliance with those requirements. The QCP documents broad categories of contract work in accordance with Subsection 153.02. Necessary details dealing with minor items that may be overlooked in this plan will be addressed informally between the Quality Control Technician (QCT) and the Project Engineer (PE), as the work progresses; and will be documented in writing if so requested by the PE. It is understood that the level of QC accountability and control exercised by ABC on these items will be consistent with the details of this plan.

3. The Project Superintendent, Mr. Ralph Altway has overall responsibility for the successful completion of the project work. Mr. Altway has had similar responsibilities on other Federal (Corps of Engineers) and State (CALTRANS) projects.

4. Mr. Leon Williams will be the QCT for the project. He will report directly to Mr. Altway. Mr. Williams is also a NICET Level IV Technician and Certified by CALTRANS and Nevada DOT as a QC Technician. He has been employed in this role by ABC for nearly three years. He will be responsible for overseeing day-to-day construction operations from a QC standpoint. He will assure that all required tests and documentation are completed, and that the results are furnished to the Government in the time frame required. Mr. Williams is empowered to suspend any operations which he deems to be in noncompliance with the contract, and/or order corrective measures to assure compliance. Mr. Williams will complete the Inspector's Daily Record required by Subsection 153.04.

5. As the number of operations or their dispersion on the project starts to overextend Mr. Williams, QC responsibilities will specifically be assigned to ABC’s supervisory personnel specifically responsible for given operations; or an assistant to him will be provided. In either case, standards of application of the QCP will be the same. The names, experience and qualifications of any personnel assuming QC responsibilities will be provided to the Government in advance.

6. ABC has an experienced and highly professional staff that is used to the responsibility entailed by the QC requirements. We therefore do not anticipate any personnel or training problems in complying with them. If any such problems occur, ABC will take whatever actions are necessary to correct them including retraining, providing more supervision or removal of poorly functioning personnel.

August 18, 1997
7. Grading

Preparatory Phase -

QCT will go over erosion control requirements with Project Engineer and order silt fence and other authorized materials at least two weeks before work starts.

QCT will go over clearing limits and slope limits with PE and Grading Foreman.

Startup Phase -

ABC will install silt fences and temporary culverts as necessary along pioneer road.

QCT will obtain materials samples for T-99 or T 180 proctor tests as soon as cuts are started. Provide PE with splits of samples. Provide completed proctor worksheets within 48 hours.

Grading Foreman’s name will be provided to Government as soon as known.

QCT will go over lift thickness and other contract requirements with Grading Foreman.

Production Phase -

After startup, Grading Foreman will be responsible for continuous monitoring of QC.

QCT will monitor the work and density with a nuclear gauge. These tests will be at the minimum levels as required by the contract for non-rock material. The QCT will require additional proctors to be performed when test results indicate the proctor being used may not be correct, or when the material changes. One-point proctors will be performed as needed to verify the use of the proper proctor. If appropriate to the material being tested, the proctor will contain a rock correction and/or a moisture correction. Only moisture corrections supported by laboratory testing will be used when testing the compacted material with a density gauge. QCT will advise the Grading Foreman of test results.

Failing tests will be followed by appropriate corrective [reworking/recompaction] efforts, and retesting. If the rate of initial failing tests exceeds one out of five, the QCT and Grading Foreman will meet and formally document the corrective actions to the embankment construction process which will be taken to resolve the problem.

Grading Foreman will order drying operations or more water when compaction tests or appearance of fills material indicate that moisture is a problem.

Density tests will be documented in tabular form showing date, time, location, offset, depth below grade and test result. Results will be provided to PE by the next working day.

Each day QCT will plot test results on control charts in the ABC project lab.

8. Drainage

Preparatory Phase -

QCT will obtain survey crews’ stakeout notes and review culvert design prior to submittal to PE for approval. QCT will obtain approved designs and order culvert and end section materials.

Precast inlets and similar items will be obtained from Williams Precast Co. of Susanville. Copies of their materials data, mix designs and QC plan will be obtained and furnished to PE 30 days prior to start of work.

Cast-in-place concrete will be furnished under Section 601 and obtained from Sutterville Quality Concrete (SQC). QCT will obtain documentation from SQC. QCT will go over their procedures with them before production.
QCT will identify a source of backfill material to be used if natural material is too rocky or otherwise unsuitable. QCT will test the material (proctor) and provide results to PE.

QCT will inspect culvert materials upon arrival and obtain valid materials certifications and submit to PE.

QCT will go over stakeout notes and contract requirements with pipe crew foreman prior to start of work. Pipe foreman will be identified to PE prior to start of work.

Startup Phase -

QCT will work nearly continuously with the pipe crew on the first day to verify layout procedures, bedding preparation and assembly.

QCT will go over proctor data and operation of nuclear gauge with pipe foreman. They will agree on what passing density readings are for the borrow backfill and other possible backfill materials.

QCT will go over backfill, lift thickness and density monitoring procedures.

For cast-in-place concrete, QCT will be at plant to verify QC procedures at the start of production. QCT will perform required QC at the site.

Production Phase -

Pipe foreman will be responsible for QC during construction.

The pipe foreman is trained and certified to operate a nuclear density gauge. The pipe foreman will monitor work and density with a nuclear gauge during backfill operations, and will perform density testing at the minimum rate required by the contract. QCT will visit each installation on a random basis to take density tests to verify the pipe foreman’s results. A new proctor will be performed when test results indicate the proctor being used may not be correct, or when the material changes. One-point proctors will be performed as needed to verify the use of the proper proctor. Moisture corrections will not be used unless supported by laboratory data. Record of density tests will be furnished to the PE by the following working day.

Failing tests will be followed by appropriate corrective efforts and retesting. If the rate of initial failing tests exceeds one out of five, the QCT and pipe foreman will meet and formally document the corrective actions to the embankment construction process which will be taken to resolve the problem.

For cast-in-place concrete QCT will obtain all required documentation and furnish to PE. QCT will be at placement site enough to perform required QC tests. QCT will go over QC procedures with foreman, who will be responsible for QC when the QCT is absent.

9. Subgrade

Preparatory Phase -

QCT will coordinate with grading foreman and survey crew as to how subgrade will be staked, controlled and finished.

QCT will go over with grading foreman, any problems with subgrade materials quality - rocky material, clay or other unsuitable. Such materials will be used in other than subgrade locations.

Startup Phase -

QCT will coordinate with grading foreman and PE, the acceptable standards and tolerances for subgrade finishing.
Production Phase -

Grading foreman will be responsible for day to day QC.

Grading foreman will advise PE when each segment of subgrade is ready for acceptance.

QCT will take subgrade density tests at required frequency using nuclear gauge. One point proctors will be run whenever materials change or when there are questions as to the suitability of the proctor being used.

Test results will be plotted on control charts by QCT and also furnished to the PE by the next working day.

10. Base Course

Preparatory Phase -

Base course will be obtained from Whippel Mountain Aggregates, Inc. (WMA)

QCT will obtain suppliers quality tests and samples of material for the PE at least 30 days prior to base work beginning.

QCT will perform proctor tests on base course. QCT will also perform initial gradation tests on stockpile just prior to startup.

QCT will review supplier’s QC procedures including stockpiling, moisture control, process control testing, and weighing.

QCT will develop dumping spread sheets for base course foreman.

Startup Phase -

QCT will go over delivery and dumping procedures with base course foreman.

QCT will go over spreading and compaction procedures with base course foreman.

Base course will be pugmill mixed and delivered at optimum moisture and in nonsegregated condition so that processing on the grade will be minimal.

Production Phase -

WMA will be responsible for plant QC. WMA will perform at least one gradation test per day as long as at least 80% of tests pass. Frequency will be increased if there are more failing tests.

Grading foreman will be responsible for receiving, dumping, tabulating tonnages and delivering receiving reports to PE at the end of each day.

Grading foreman will perform occasional (at least one per day) depth checks to verify spread rates.

QCT will obtain gradation samples at the required frequency. Samples will be split, with the splits delivered to the PE.

11. Asphalt Items

Preparatory Phase -

All asphalt items will be furnished by Allied Paving (AP) of Sutterville. Materials will be hauled to the site by ABC’s hauling sub, and paving or installation of materials will be by ABC.
AP has a lab certified by Caltrans at the plant. Lab supervisor is William Brown, Certified Asphalt Technician in California.

QCT will obtain required mix design submittals and samples from AP and deliver to PE at least 30 days before work is scheduled to start. AP’s QC/Mix Design technician is Allen Rockford who has 15 years in this position and is a certified asphalt technician in California and Nevada. Mr. Rockford will be the contact for any technical discussions during the mix approval process.

With the mix designs, AP will furnish a separate QC plan dealing with their plant operations, personnel, etc.

Startup Phase -

QCT will review all specification requirements with paving foreman prior to start of work.

QCT will be in charge of production start up procedures. Documentation and tests will be at his directions and submitted to the PE. Full production will start when approved by PE.

Production Phase -

Paving foreman will be responsible for QC on a daily basis. QCT will conduct periodic inspections.

QCT or designee will obtain mix sample and cores. Splits will be provided to PE for acceptance. Contractor samples will be delivered to AP's plant lab for testing. Results will be provided through the QCT by the following day. We will attempt to set up a system to provide results by FAX.

AP will obtain AC samples at the plant and deliver (through QCT) to PE for testing.

Test results will be plotted on control charts in ABC’s onsite lab. QCT will run QL Pay at the end of each day, or the beginning of the next. Quality problems evident either from inspections or test results will be dealt with under the direction of the QCT. Work will be suspended if problems cannot be resolved expeditiously.

12. Structural Concrete

Preparatory Phase -

Wahoo Readymix in Martin, CA will provide PC concrete under Section 552 for the box culverts. Wahoo’s plant is certified by CalTrans as is their Quality Supervisor, Mr. Larry Ryland. Mr. Ryland will provide documentation [through ABC’s QCT] of proposed mix design (previously approved by CalTrans) and all materials 30 days or more prior to first delivery. Wahoo will also be responsible for all plant QC and inspection of trucks.

QCT will be responsible for onsite QC operations other than the concrete mix itself, e.g. resteel, forming, concrete placement, finishing, etc. Resteel will be inspected upon delivery for proper certification, dimensions, storage, etc. QCT will be responsible for stakeout and foundation preparation prior to forming.

Startup Phase -

QCT will coordinate with Wahoo to schedule delivery operations. Wahoo will send one or more certified concrete technicians to each concreting operations. Technicians will be responsible for any final mix adjustments, delivery ticket validation, screening (air, slump, temperature) and acceptance testing as required by FHWA inspector. Cylinders will be cured onsite at ABC’s lab, and taken to Wahoo’s lab for breaking. QCT will advise FHWA of scheduled breaks and provide opportunity for witnessing.

QCT will inspect forming and resteel operations from their inception and work with crews to assure acceptable tolerances and other compliance. QCT will inspect placement operations including vibrating and finishing. QCT will inspect curing operations and work with ABC crews to resolve any
problems. All required documentation will be completed by QCT and delivered to FHWA by the day following each placement operation.

**Production Phase -**

Wahoo will continue to provide onsite QC for each concrete delivery.

Once resteel and forming crews are lined out, QCT will make spot checks of their operations, plus a final inspections two hours or so prior to each placement. QCT will inspect curing QCT will inspect all surfaces upon stripping and go over any necessary repairs and finishing operations.

13. **Miscellaneous Items**

This covers items, mostly involving installation of manufactured items such as guardrail, delineators, fencing, etc.

**Preparatory Phase -**

QCT will verify all certification requirements, inspect material upon delivery and submit certifications and other documentation to PE.

QCT will work with survey crew and PE to verify exact stakeout requirements and resolve any potential stakeout problems.

**Startup Phase -**

QCT will go over the specification requirement and stakeout data with the foreman in charge of installation.

QCT will normally be present when any operation begins to resolve problems and verify specification compliance.

**Production Phase -**

Foreman will normally be responsible for QC during production. QCT will make spot checks approximately once a day or more frequently if there are problems.

QCT will perform tests required by the contract and furnish results to PE. QCT will advise PE when segments of the work are ready for acceptance.

The overall goal of ABC Construction Company’s quality control program is to conduct consistent and effective processes such that work performed naturally conforms to the contract requirements. Testing and inspection will be performed and documented for the purpose of evaluating the effectiveness of our work processes, identifying and correcting non-conforming work, and ensuring the quality of the work is not compromised.

Please advise me if there are any additions or supplements you would like us to make to this QCP. If there are changes to any items (personnel, suppliers, etc.) we will attempt to provide the PE notice in advance of their impact on the work.

We need concurrence to proceed with at least the clearing and grading portion of the work by June 1 in order to stay on our schedule.

Sincerely yours,

Ralph Altway

Superintendent