

CONTRACT
SPECIAL PROVISIONS

CSI-Inch/Pound

Project No: CM-LC35(121)

Name: LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH
EARTHWORK, PAVING AND STRUCTURES

County: SALT LAKE

Bid Opening: April 06, 2004
Date



2002 - U.S. Standard Units (Inch-Pound Units) February 2, 2004

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I. 2002 Standard Specifications

The State of Utah Standard Specifications for Road and Bridge Construction, U.S. Standard Units (Inch Pound Units) CSI Format, Edition of 2002 with Changes One and Two included applies on this project as a static Specification Book as well as all other applicable specification changes.

Refer to Part II (List of Revised Standard Specifications) and Part XV (Special Provisions) for other project specific specifications.

II. List of Revised Standard Specifications

Change One – Included in 2002 Standard Specifications

Revised August 29, 2002

Section 00570 Articles 1.2 A 69, A 71 b (deleted)
Section 00727 Articles 1.1 D; 1.5 B; 1.9; 1.10; 1.16 B, C; 1.18 B
Section 01574 Articles 1.2 B
Section 02721 Articles 1.2 D (added), H (replaced), I (deleted); 1.6 B1; 2.1 A Table 3;
3.2 C
Section 02741 Articles 3.8 E 2 a, b
Section 02821 Articles 3.1 A
Section 02892 Articles 1.5 A, B
Section 02936 Articles 1.4; 1.5 C
Section 03152 Articles 1.2 P, Q; 2.2 A, B
Section 05120 Articles 1.4 A (deleted), 3.3 A
Section 16525 Articles 1.6 A, B

Change Two – Included in 2002 Standard Specifications

Revised December 19, 2002

Section 01561 Article 3.1 A
Section 02075 Article 2.7 A
Section 02372 Article 2.1 A 4
Section 02455 Article 3.3 B 2
Section 02785 Article 3.2 C
Section 02861 Article 3.3 A
Section 03055 Articles 1.2 P (inserted), 2.3 B, 2.4 (deleted), 2.7 A 1 a-e (added), 2.7 B 2
(added), 2.8 A 1 a, 2.8 A 2 (deleted), 2.9 A3, 3.2 A Table, 3.2 C, 3.7 A 3, 3.8 C 1, 3.9 A-
B, 3.10, 3.11 B 1, 3.11 B 3
Section 07922 Article 2.1 Table 1

Change Three

Revised February 27, 2003

- Section 01355 Article 1.3 A 3
- Section 01721 1.4 C deleted and moved to Measurement and Payment document
- Section 02222 Changed title from Site Demolition-Pavement to Site Demolition - Concrete, A, 3.2 Title, 3.2 A
- Section 02224 New Specification
- Section 02316 1.2 A, D, I added, 1.3 added, 1.7 B, C, D, E, F, G added, 3.9 A added
- Section 02455 3.3 B 2 (corrected error from change two)
- Section 02721 1.2 Related Sections added, 1.3 H and I added, 1.7 B, 1.7 F deleted, 2.1 B added, 2.2 deleted, 3.1 Title changed, 3.2 B reference added, 3.2 E added
- Section 02741 1.4 C6a added, 1.4 H, Table 3, 2.4 A, 2.4 C, Table 9, 2.5 B 1-3, 2.5 B 4 added, 2.5 D, 3.1 A1 deleted, 3.2 C3 added, 3.7 D1, 3.9 B4, 3.9 B5 added, 3.9 E note added
- Section 02744 Entire Section deleted
- Section 02745 1.4 A9
- Section 02785 1.2 C and D added
- Section 02892 Added Articles, 1.3 N, O, Y, 1.5 D, 2.4 I, 2.5 C, D, E, 2.6 B3 - B6, 2.6 C, 2.16, 2.17, 3.11 and Revised Articles 3.5 F and Table Number, 3.5 G and Table Number
- Section 02896 2.1 A, B and 3.1 A drawing number corrected
- Section 16525 1.2 H

Change Four

Revised April 24, 2003

- Section 00555 1.18 added Table 1
- Section 01280 1.2 K
- Section 01282 1.13 B added, 1.13 G 2 deleted
- Section 02222 1.2 B Title Changed
- Section 02231 3.5 A
- Section 02705 Title Changed, 1.1 A, 1.3 added, 3.1 Title changed, 3.1 A, 3.1 D moved, 3.2 added
- Section 02741 3.7 B
- Section 02747 Entire Section deleted
- Section 02752 1.8 E 1
- Section 02753 3.1 D 5 a, 3.3 D
- Section 02842 2.4A
- Section 02861 2.1 I
- Section 02911 3.2 A 1
- Section 02931 3.2 B
- Section 03392 2.1 A 8-9
- Section 03921 2.1 A 1, 2.1 C
- Section 03922 2.1 B 1-2
- Section 03923 2.1 A-B, 3.1 B
- Section 03924 2.2 A-B

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Section 03935 2.1 A, 2.1 A 2

Section 07105 2.3 A

Section 13553 1.2 C Title Changed

Section 13554 1.1 A, 1.3 C and D added, 2.1 A, 2.1 F, 2.2 D 1, 2.2 D 2 deleted, 2.2 E, 2.2 H, 2.2 H 2, 2.2 H 3 deleted and renumbered, 3.1 B 3 added, 3.1 I

Change Five

Revised June 26, 2003

Section 00727 1.5 B – Measurement and Payment added

Section 01452 Parts 1 and 3 replaced

Section 01721 3.3 A, 3.15 added

Section 02741 1.2 A

Section 02752 1.2 B, 1.9 added, 3.13 deleted

Section 02786 1.2 B, 1.4 D 1

Section 02962 Entire Section Replaced

Change Six

Revised August 28, 2003

Section 01455 1.6 H

Section 01571 1.1 B, 1.2 B and F added, 3.1 B revised, 3.1 D deleted and E renumbered to D, 3.2 A 1 and 2 deleted, 3.2 B added, 3.3 added, 3.4 added, 3.5 added

Section 01574 1.5 A, 3.3 A

Section 02316 1.1 D added, 1.7 B, C, C.3, and D

Section 02896 3.1 A 5 added, 3.3 C 3 and 4

Section 03211 3.3 F 1

Section 09972 1.5, 2.1 A, 3.1 A, 3.2 A 1 b and d, 3.2 B 3 and 5, 3.4 E, G, H

Section 09991 1.1 A, 1.3 added, 1.4, 1.6 B 2 c added, 2.2 A, 3.1 I

Section 09992 1.4 A, 1.5, 1.7 B 2 c, 2.2 A

Change Seven

Revised October 30, 2003

Section 00120 1.1 all, 1.2 A, B, 1.3 A, 1.4 all, 1.5 A, 1.6 A, 1.7 B, C, D, H, 1.8 A, B, D, E deleted and remaining re-lettered, E, H, 1.9 A, 1.10 all, 1.11 all, 1.12 all, 1.14 A, 1.16 F, 1.20 E

Section 00515 1.2 A, C 1, C 4, 1.3 D, 1.5 A, 1.6 A, B, E deleted and remaining re-lettered, G 2, 1.7 A, A 1

Section 01452 1.4 B 1

Section 02075 2.4 A, 2.5 A

Section 02330 3.3 K

Section 09992 2.2 B

Section 13592 Revised entirely

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Change Eight

Revised December 18, 2003

Section 01721 1.1 A, 1.2, 1.4, 1.5 E, 1.6 A, 3.4 B, 3.5 C and D, 3.6, 3.14 added, 3.15

Section 16525 1.2 A deleted, 1.6 A, 2.6 A, 2.6 F 1, 2.7 A, 2.7 B, 2.14 C, 2.16 A, 2.16 B,
2.17 B 2, 3.2 A, 3.9 A, 3.11 A

III. List of Revised Standard Drawings

Change One

Revised December 19, 2002

AT 7	Polymer Concrete Junction Box Details	12/19/2002
BA 1A	Precast Concrete Full Barrier Standard Section	12/19/2002
BA 1B	Precast Concrete Full Barrier Standard Section	12/19/2002
BA 3	Cast In Place Constant Slope Barrier	12/19/2002
BA 4B	Beam Guardrail Installations	12/19/2002
BA 4C	Beam Guardrail Anchor Type I	12/19/2002
CC 6	Crash Cushion Type E Sand Barrel Details	12/19/2002
DG 3	Maximum Fill Height and End Sections for HDPE And PVC Pipes	12/19/2002
DG 4	Pipe Culverts Minimum Cover	12/19/2002
EN 4	Temporary Erosion Control (Drop-Inlet Barriers)	12/19/2002
GW 1	Raised Median and Plowable End Section	12/19/2002
PV 2	Pavement Approach Slab Details	12/19/2002
SL 13	Traffic Counting Loop Detector Details	12/19/2002
SN 2	Flashing School Sign	12/19/2002
SN 4	Flashing Stop Sign	12/19/2002
SN 5	Typical Installation For Milepost Signs	12/19/2002
SN 8	Ground Mounted Timber Sign Post (P1)	12/19/2002
ST 1	Object Marker "T" Intersection and Pavement Transition Guidance	12/19/2002
ST 7	Pavement Markings and Signs at Railroad Crossings	12/19/2002
SW 3A	Precast Concrete Noise Wall 1 of 2	12/19/2002
SW 3B	Precast Concrete Noise Wall 2 of 2	12/19/2002
SW 4A	Precast Concrete Retaining/Noise Wall 1 of 2	12/19/2002

Change Two

Revised February 27, 2003

GW 2	Concrete Curb and Gutter	02/27/2003
GW 5	Pedestrian Access	02/27/2003

Change Three

Revised April 24, 2003

AT 7	Polymer-Concrete Junction Box Details	04/24/2003
CB 2	Curb Inlet Catch Basin	04/24/2003
CC 7	Grading & Installation Details Crash Cushion Type F	04/24/2003
CC 8	Grading & Installation Details Crash Cushion Type G	04/24/2003
CC 9A	Grading & Installation Details Crash Cushion Type H	04/24/2003 (New)
CC 9B	Grading & Installation Details Crash Cushion Type H	04/24/2003 (New)
EN 2	Temporary Erosion Control (Silt Fence)	04/24/2003
GW 2	Concrete Curb and Gutter	04/24/2003
SN 12B	Ground Mounted Sign Installation Details	04/24/2003

Change Four

Revised June 26, 2003

DD 1	Superelevation and Widening	06/26/2003
DD 3	Climbing Lanes	06/26/2003
DD 8	Structural Geometric Design Standards Clearances	06/26/2003
DD 9	Structural Geometric Design Standards	06/26/2003
DD 10	Railroad Clearances At Highway Overpass Structures	06/26/2003
DD 11	Rural Multi Lane Highways Other Than Freeways	06/26/2003
DD 12	Rural Two Lane Highways	06/26/2003
DD 13	Frontage and Access Roads (Under 50 ADT)	06/26/2003
GW 2	Concrete Curb & Gutter	06/26/2003

Change Five

Revised August 28, 2003

DD 2	Slope Rounding, Benched Slope, and Cut Ditch Details	08/28/03 (New)
DD 4	Geometric Design for Freeways (Roadway)	08/28/03 (New)
DD 5	Entrance and Exit Ramps At Crossroads	08/28/03 (New)
DD 6	Entrance and Exit Ramp Geometrics	08/28/03 (New)
DD 7	Freeway Crossover	08/28/03 (New)
DD 14	Typical Rural 2 Lane Road With Median Lane and Deceleration Lane For Intersecting Crossroads	08/28/03 (New)
GW 9	Delineation Hardware	08/28/03
GW 10	Delineation Application	08/28/03
GW 11	Sidewalks and Shoulders On Urban Roadways	08/28/03 (New)
ST 2	Freeway Crossover Markings	08/28/03
ST 9	School Crossing and School Message	08/28/03 (New)

Change Six

Revised October 30, 2003

AT 15	RWIS Site and Foundation Details	10/30/03 (New)
AT 16	RPU Tower Base and Service Pad Layout	10/30/03 (New)
AT 17	Ground Rod Installation and Tower Grounding	10/30/03 (New)
SN 2	School Speed Limit Assembly	10/30/03
SN 3	Overhead School Speed Limit Assembly	10/30/03

Change Seven

Revised December 18, 2003

DD 2	Surface Ditch, Benched Slope, and Cut Ditch Details	12/18/03
DD 4	Geometric Design For Freeways (Roadway)	12/18/03
DD 11	Rural Multi Lane Highways Other Than Freeways	12/18/03
DD 12	Rural Two Lane Highways	12/18/03
DD 13	Frontage and Access Roads (Under 50 ADT)	12/18/03
SL 1A	Traffic Signal Mast Arm Pole and Luminaire Extension	12/18/03
SL 1B	Traffic Signal Mast Arm Pole and Luminaire Extension	12/18/03
SL 2	Traffic Signal Mast Arm Detail 30' Thru 75'	12/18/03
SL 3	Underground Service Pedestal Detail	12/18/03
SL 4	Traffic Signal Mast Arm Pole Foundation	12/18/03
SL 5	Traffic Signal Pole	12/18/03
SL 6	Pole Mounted Power Source Details	12/18/03
SL 7	Span Wire Signal Pole Detail	12/18/03
SL 8	Signal Head Details	12/18/03
SL 9	Pedestrian Signal Assembly	12/18/03
SL 10	Traffic Signal Controller Base Detail	12/18/03
SL 11	Traffic Signal Loop Detector Detail	12/18/03
SL 12	Traffic Counting Loop Detector Detail	12/18/03
SL 13	Drawing Deleted - Will be added in future	
SL 14	Highway Luminaire Pole Ground Mount	12/18/03
SL 15	Luminaire Slip Base Detail	12/18/03
SL 16	Highway Luminaire Pole Barrier Mount	12/18/03
SL 17	Highway Luminaire Pole Foundation Extension	12/18/03
SL 18	Single Transformer Substation Details	12/18/03

IV. Materials Minimum Sampling and Testing

Follow the requirements of the Current Materials Minimum Sampling and Testing Manual:

Materials Minimum Sampling and Testing Manual reference can be found from the UDOT Web Site at:

<http://www.udot.utah.gov/index.php/m=c/tid=642>



NOTICE TO CONTRACTORS

Sealed proposals will be received by the Utah Department of Transportation UDOT/DPS Building (4th Floor), 4501 South 2700 West, Salt Lake City, Utah. 84114-8220, until 2 o'clock p.m. Tuesday, April 06, 2004, and at that time the download process of bids from the USERTrust Vault to UDOT will begin, with the public opening of bids scheduled at 2:30 for EARTHWORK, PAVING AND STRUCTURES of LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH in SALT LAKE County, the same being identified as Federal Aid Project No: CM-LC35(121).

Federal Regulations:

Wage Rate Non-Applicable.

Project Location: 4.868 Miles of Route: 0035 from R.P. to R.P.

The principal items of work are as follows (for all items of work see attachment):

HMA - Small Projects 1/2 inch
Untreated Base Course 3/4 inch or 1 inch Max
4 ft Chain Link Fence

The project is to be completed: in 60 Working Days.

Other Requirements:

All project bidding information, including Specifications and Plans, can be viewed, downloaded, and printed from UDOT's Project Development Construction Bid Opening Information website, <http://www.udot.utah.gov/index.php/m=c/tid=319>. To bid on UDOT projects, bidders must use UDOT's Electronic Bid System (EBS). The EBS software and EBS training schedules are also available on this website.

Project information can also be reviewed at the main office in Salt Lake City, its Region offices, and its District offices in Price, Richfield, and Cedar City.

Project Plans cannot be downloaded or printed from the website unless your company is registered with UDOT. Go to UDOT's website to register. Unregistered companies may obtain a **CD**, that contains the Specifications and Plans, from the main office, 4501 South 2700 West, Salt Lake City, (801) 965-4346, for a fee of \$20.00, plus tax and mail charge, if applicable, none of which will be refunded.

Prequalification of bidders is required. Prior to submitting a bid, the bidder must have on file with the Utah Department of Transportation a completed and approved contractor's application for prequalification. Department processing time is 10 working days from receipt of properly executed documentation.

As required, a contractor's license must be obtained from the Utah Department of Commerce.

Each bidder must submit an electronic bid bond from an approved surety company using UDOT's Electronic Bid System (EBS); or in lieu thereof, cash, certified check, or cashier's check for not less than 5% of the total amount of the bid, made payable to the Utah Department of Transportation, showing evidence of good faith and a guarantee that if awarded the contract, the bidder will execute the contract and furnish the contract bonds as required.

The right to reject any or all bids is reserved.

If you need an accommodation under the Americans with Disabilities Act, contact the Construction Division at (801) 965-4346. Please allow three working days.

Additional information may be secured at the office of the Utah Department of Transportation, (801) 965-4346.

Dated this 13th day of March, 2004.

UTAH DEPARTMENT OF TRANSPORTATION
John R. Njord, Director

Revised Date:

VI. Use of Minority or Women Owned Banks

SPECIAL PROVISION

In the spirit of Federal Department of Transportation regulations the Utah Department of Transportation encourages all contractors and suppliers to thoroughly investigate the services offered by banks controlled and/or owned by minorities or women and to utilize their services as deemed feasible.

VII. BID CONDITIONS DISADVANTAGED BUSINESS ENTERPRISE (DBE)

POLICY

“Policy Statement”

It is the policy of the DEPARTMENT to take all necessary and reasonable actions to ensure that DBEs as defined herein shall have equal opportunity to participate in the performance of contracts financed in whole or in part with US Department of Transportation (DOT) funds under this agreement as modified herein.

“Objectives”

The objectives of this policy are to:

1. Ensure nondiscrimination in the award and administration of DOT assisted contracts;
2. Create a level playing field on which DBEs can compete fairly for DOT assisted contracts;
3. Ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. Ensure that only firms that fully meet *49 CFR 26* eligibility standards are permitted to participate as DBEs;
5. Remove barriers to the participation of DBEs in Federal aid contracts;
6. Assist the development of firms that can compete successfully in the marketplace outside the DBE program; and
7. Provide appropriate flexibility in establishing and providing opportunities for DBEs.

“Responsibilities”

Implementation of the DBE Program is accorded the same priority as compliance with all other legal obligations incurred by the DEPARTMENT in financial assistance agreements with DOT.

1. The Civil Rights Manager shall be the DBE liaison officer, who shall have direct, independent access to the Executive Director concerning DBE program matters. The Civil Rights manager shall be responsible for implementing all aspects of the DBE program. Adequate staff will be assigned to administer the DBE program.

2. The ENGINEER is responsible for supervision of the DBE participation covered by the Contract.

DBE BID AND PERFORMANCE CONDITIONS

“Obligations”

The contractor, subcontractor, service provider, or supplier at any lower tier shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate.

“Assurances”

Each contract between the DEPARTMENT and the Contractor and each subcontract at any lower tier must include the following assurance:

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the DEPARTMENT deems appropriate.

A. CONTRACT GOAL

1. The DEPARTMENT has determined that one or more can reasonably be expected to compete for the work contained in the proposal for this project. It is, therefore, the goal of the DEPARTMENT that DBE firms shall have an affirmative action opportunity to contract for the following percentage of work under this contract:
 - a. If the indicated DBE percent of the *CONTRACT DBE GOAL* is greater than 0.0%, complete Part A of the DBE BID ASSURANCE. Refer to Bidding Requirements, Section D, Subsection 1,a, of this Special Provision. (The commitment dollar amount up to the amount of the assigned goal is Race Conscious DBE participation. Any commitment dollar amount in excess of the assigned goal is Race Neutral Participation.)

- b. If the indicated DBE percent of the *CONTRACT DBE GOAL* is 0.0% complete Part B of the DBE BID ASSURANCE. Refer to Bidding Requirements, Section D, Subsection 1,b, of this Special Provision. (Any commitment to a DBE is Race Neutral Participation.)

CONTRACT DBE GOAL: 0 Percent

2. GOALS

a. GOAL FOR BID EVALUATION

The above entered DBE percentage is a goal for bid evaluation to determine responsiveness of the proposal as it relates to this specification. Percentages for bidding purposes shall be calculated using dollar values and quantities as shown in proposals received for this project. Bidders shall compute the percentage of their DBE commitment by dividing the dollar amount of subcontract work that is being committed to certified DBE firms by the total dollar amount of the proposal. This will be the percentage of their DBE commitment to be used by the Electronic Bidding System (EBS) software.

b. RACE CONSCIOUS GOAL

DBE participation on projects that are assigned a Goal for Bid Evaluation that is greater than 0.0% is *race conscious* and the DBE commitment becomes a contract specification upon award. The Bidder must submit with its Bid Proposal a *DBE Commitment*, prepared within the EBS software, that indicates:

- (1) Name of DBE firm
- (2) Work items to be performed
- (3) Total dollar amount of commitment

If the DBE commitment does not meet or exceed the assigned goal, the Bidder must submit with the Bid Proposal documentation of good faith efforts.

c. RACE NEUTRAL GOAL

DBE participation on projects that are assigned 0.0% Goal for Bid Evaluation is *race neutral* and does not become a contract specification upon award. The Bidder must take equal opportunity action to allow DBEs to compete for and perform on subcontracts. Only work classifications that the Bidder will subcontract need to be considered in evaluating equal opportunity action in the bid preparation. Contacts that have been made with DBE firms regarding potential work to be subcontracted and the

results of such contacts are to be submitted with the EBS prepared Bid Proposal in *Race Neutral DBE Documentation* which contains:

- (1) The work classifications that will be subcontracted.
- (2) DBE firms contacted.
- (3) Result of contact
- (4) Name of anticipated DBE subcontractor(s)
- (5) Anticipated work items to be performed by DBEs.
- (6) Anticipated dollar amount of subcontract(s).

NOTE: In the EBS (Electronic Bidding System):

Use the Quote Comparison to document item (1).

Use the DBE Contact Log to document items (2) and (3).

Use the DBE Commitment to document items (4), (5), and (6).

The *Race Neutral DBE Documentation* is required to document equal opportunity action and to assist UDOT with DBE reporting and DBE goal setting. Use the EBS functions in above NOTE as the Race Neutral DBE Documentation.

d. GOAL FOR CONTRACT PERFORMANCE

The Bidder's *DBE Commitment* becomes an attachment to the Bid Proposal and is a condition of award, and thereby becomes a contract specification. Upon award, this Race Conscious DBE Commitment also becomes the minimum goal for contract performance.

Commitments to DBEs that exceed the Goal for Bid Evaluation will be considered as both race conscious and race neutral. The dollar amount of the Goal for Bid Evaluation will be considered to be race conscious participation. Any dollar amounts in excess of the Goal for Bid Evaluation will be considered as race neutral participation.

It is the intent of this Special Provision that the DBE Firm(s) listed for *race conscious* participation, as a minimum level of participation, will perform to the extent indicated in the Bidder's DBE Commitment. The minimum level of DBE participation includes:

- (1) Indicated DBE firm(s),
- (2) Indicated work item(s) (bid items),
- (3) Indicated total dollar amounts.

Listed bid items shall be considered to be committed in their entirety unless Bidders designate otherwise in their DBE Commitment. If the DBE will perform only a part of the bid item, i.e., haul only, the Bidder must indicate what part the DBE will perform (Partial Performance). If

the DBE will perform only a part of the quantity of the bid item, the Bidder must indicate the estimated quantity of the work to be performed by the DBE (Partial Quantity).

Substitutions of DBE subcontractor(s), work item(s), or decreases of total dollar amount(s) as indicated in the Bidder's DBE Commitment will not be allowed without prior submission of written justification to the ENGINEER and approval of the ENGINEER and the Civil Rights Manager.

After award of a contract, substitutions will not be allowed without prior submission of a written "hold harmless" statement from the DBE.

Any change by the Contractor in the DBE Commitment requires that the change is approved by a Change Order.

Substitution of race neutral participation in excess of the Goal for Bid Evaluation requires equal opportunity efforts to substitute with other DBE participation.

DEPARTMENT generated decreases due to quantity changes in individual bid items do not require prior approval of the Civil Rights Manager—but must be fully justified by the ENGINEER at the conclusion of the project in the Explanation of Overruns and Under-runs Statement. The ENGINEER'S justification shall show the total estimated quantity, the final pay quantity as shown on the final estimate invoice, the quantity of the under-run, and the percent of under-run of the individual item. The explanation for the under-run shall include the reasons for the under-run and shall include as much detail as possible.

e. GOAL FOR FINAL COMPLIANCE

Percentages for final compliance shall be based on actual payments to DBEs. Over-runs and under-runs in individual contract items may require adjustments in the predetermined DBE percentage for a project if those items were not related to DBE performance. "The predetermined percentage for a project" refers to the percentage of the Contractor's DBE Commitment that becomes a contract specification upon award.

B. DEFINITIONS

For the purpose of this Special Provision, the following terms are defined:

1. Contract means a legally binding relationship obligating a seller to furnish supplies or services including but not limited to, construction and professional services) and the buyer to pay for them.

2. Contractor means one who participates, through a contract or subcontract (at any tier).
3. Disadvantaged Business Enterprise or DBE means a for profit small business concern.
 - a. That has been certified to DBE status by the UUCP.
 - b. That is at least 51 per cent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 per cent of the stock of which is owned by one or more such individuals; and
 - c. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
 - d. Whose size is limited to average annual gross receipts of \$17,425,000 over the previous three fiscal years. The Secretary of Transportation may adjust this amount from time to time for inflation.

OR

Whose size is limited to the current SBA Business size standard(s) found in 23 CFR part 121 appropriate to the type(s) of work the firm seeks to perform in DOT-assisted contracts.

4. DBE Goals mean:
 - a. UDOT's annual overall goal on DOT-assisted projects for Federal fiscal year
 - b. 2004 is 7.5%. 3.3% of the overall goal is a race neutral goal and reflects the level of DBE participation that would be expected absent the effects of discrimination. There is an implied DBE goal on projects with no goals (0.0%) that have subcontracting opportunities. The implied goal is the percent achievable by equal opportunity efforts.
 - c. 4.2% of the goal is a race conscious goal and reflects the level of DBE participation that will be achieved in response to assigned DBE goals.
5. DBE Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for profit business enterprise, for which the parties combine their property, capital, efforts, skills, and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks,

and profits of the joint venture to a degree commensurate with its ownership interest.

The DEPARTMENT's Civil Rights Office prior to bid opening must approve a DBE joint venture in order to be utilized for the satisfaction of contract DBE goals. A DBE Joint Venture application must be submitted allowing ample lead-time for the Civil Rights Office to review, evaluate, and verify information provided for in the application. An interview of the applicant may be necessary at the discretion of the DEPARTMENT prior to approval of the application. If an interview is deemed necessary it will be scheduled at the convenience of all parties.

6. Equal Opportunity Action requires individuals to be considered on the basis of individual capacities and not on the basis of any characteristics generally attributed to the group.

If a bidder requests or accepts bids for subcontract work, the bidder will request and accept bids from DBEs in the work classifications that potentially will be subcontracted.

7. Good Faith Efforts means efforts to achieve a DBE goal or other requirements of this part which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirements.
8. Lack of Financial Fitness is a performance-based definition based solely on failure to pay promptly. There is no reference to financial status or financial capability.
9. Prompt Payment means payment made no later than ten (10) work days after receipt of payment by the Contractor or Subcontractor, Service Provider or Supplier at any lower tier.
10. Race Conscious measure or program is focused specifically on assisting only DBEs, including women-owned DBEs. UDOT must establish contract goals to meet any portion of its overall DBE goal that it does not project being able to meet using race neutral means. To ensure that the DBE program continues to be narrowly tailored to overcome the effects of discrimination, UDOT must adjust the use of contract goals as follows:
 - a. If during the course of any year it is determined that the overall goal will be exceeded, UDOT will reduce or eliminate the use contract goals to the extent necessary to ensure that the use of contract goals does not result in exceeding the overall goal.

- b. If it is determined that UDOT will fall short of its overall goal, then appropriate modifications in the use of race neutral and/or race conscious measures will be made to allow UDOT to meet the overall goal.
11. Race Neutral measure or program is one that is, or can be, used to assist all small businesses. UDOT must meet the maximum feasible portion of its overall DBE goal by using race -neutral means of facilitating DBE participation. Race neutral DBE participation includes:
 - a. Any time a DBE wins a prime contract through customary competitive procurement procedures,
 - b. Is awarded a subcontract on a prime contract that does not carry a DBE goal,
 - c. Is awarded a subcontract from a prime contractor that did not consider its DBE status in making the award even if there is a DBE goal.
For the purposes of this part, race-neutral includes gender-neutrality.
12. Regular Employee is a person who:
 - a. Would be working for the DBE firm on any other subcontract with any other contractor.
 - b. Is a permanent employee of the DBE firm

Or

Has been recruited through the traditional recruitment and/or employment centers
 - c. Has not recently been employed by the prime contractor on the present project, another subcontractor on the present project, or the renter-lesser of equipment being used on the present project.
 - d. Is not a member of a construction crew which regularly works for a non-DBE.
 - e. Is not a licensed contractor who is at the time “unemployed” or “between jobs.”
13. Regular Equipment is owned or leased and operated on a long term agreement and not on an *ad hoc* or contract by contract agreement.
 - a. The equipment would be used by the DBE firm on any other subcontract with any other contractor.

b. The equipment would be owned by the DBE firm.

Or

The equipment would be leased/rented from traditional equipment lease/rental sources.

c. The DBE firm would have a rental/lease agreement for any rented or leased equipment.

d. The equipment cannot belong to:

- (1.) Prime Contractor
- (2.) Another subcontractor on the present project.
- (3.) Supplier of materials being installed by the DBE firm.

e. The equipment cannot come from another contractor fully operated.

14. Reasonable Bid

This is a bid the DEPARTMENT would accept if it were the only bid submitted. Generally, this is a bid within 10% of the Engineer's Estimate.

15. Responsible Bidder

A responsible bidder has the apparent ability and capacity to perform the contract requirements.

In addition to normal prequalification, a responsible bidder is defined as one who has signed (manually or electronically) and submitted with the bid the DBE Bid Conditions Assurance of good faith effort included as Part I of this Special Provision certifying the intention to meet the DBE goal of a proposed contract or to continue good faith effort to do so. These goals may be met by subcontracting or leasing contracts with a DBE or purchasing material from a DBE insofar as the work or material becomes a part of a proposed contract.

16. Responsive Bidder

a. A responsive bidder is a bidder who unequivocally offers to provide services or supplies in conformity with the material terms of the solicitation. In addition to normal prequalification and other bidding requirements, a responsive bidder in relationship to this Special Provision is defined as one who submits evidence of proposed subcontract performance with certified DBE firms to achieve the required dollar amount necessary to achieve the percentage goal.

- b. Bidders may be considered as presumptively responsive if they have failed to satisfy the advertised DBE goal set for the proposed contract but have certified in their bid that good faith efforts have been expended to meet the goal and that they will continue during the performance of the contract to locate, solicit, and involve DBE firms in contract performance. Documentation of the bidder's good faith efforts must be included with the bid package of the DEPARTMENT's review and assessment. Failure to do so shall render the bid non-responsive. The DEPARTMENT will reject the bid.
17. Satisfactory Completion of a subcontract occurs when:
- a. The subcontractor has satisfactorily completed in all respects the work under the Contract.
 - b. The Contractor and the subcontractor have notified the ENGINEER in writing that the work of the subcontractor has been completed.
 - c. The Engineer will be given a reasonable length of time to check quantities if necessary. Checking quantities does not guarantee the absolute correctness of quantities.
 - d. The Contractor and the subcontractor have satisfactorily executed and delivered to the ENGINEER all documents, certificates and proofs of compliance required by the Contract. The satisfactory execution and delivery of these documents, certificates and proofs of compliance to the ENGINEER is a material requirement of the contract.
 - e. The ENGINEER accepts in writing the work of the subcontract.
 - f. Satisfactory Completion refers only to payment of retainage and accrued interest. A determination of Satisfactory Completion and payment in full for work performed does not relieve the contractor nor the subcontractor from any contractual obligation.
18. Satisfactory Performance means work performed and materials furnished in conformity with the plans and specifications.
19. Service Provider means a broker or a middle man. A business person who buys, sells or performs a service for another in exchange for a mark up or commission.

20. Socially and Economically Disadvantaged Individuals means any individual who is a citizen (or lawful admitted permanent resident) of the United States and who is:
- a. Any individual who the DEPARTMENT finds to be a socially and economically disadvantaged individual on a case-by-case basis.
 - b. Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - (1) “Black Americans,” which includes persons having origins in any of the black racial groups of Africa;
 - (2) “Hispanic Americans,” which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American or other Spanish or Portuguese culture or origin, regardless of race;
 - (3) “Native Americans,” which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
 - (4) “Asian-Pacific Americans,” which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands, (Republic of Palau), the Commonwealth of the Northern Mariana Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
 - (5) “Subcontinent Asian Americans,” which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.
 - (6) Women.
 - (7) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

21. Subcontractor

A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the contract work and the following conditions are present.

- a. The person or firm performing the work is particularly experienced and equipped for such work.
- b. Compensation is related to the amount of work accomplished rather than being on an hourly basis.
- c. Choice of work methods, except as restricted by the specifications, and the furnishing and controlling of labor and equipment are exercised by the subcontractor with only general supervision being executed by the prime contractor.
- d. Personnel involved in the operation are under the direct supervision of the subcontractor and are included on the subcontractor's payroll.

All conditions involved shall be considered and no one condition alone will normally determine whether a subcontract actually exists. In all cases, a DBE subcontractor must be an independent organization, and the ownership and control by the socially and economically disadvantaged individual(s) must be real and continuing. The prime contractor, a subcontractor, or a supplier shall not be responsible for the various operating and management activities of a DBE firm.

22. Supplier

Provides or furnishes materials, goods or services that may be incorporated into the project. The supply transaction is to be documented by an appropriate purchase agreement which includes the required provisions for Federal-aid construction projects.

23. UUCP The Utah Unified Certification Program (UUCP) provides “one-stop shopping” to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that is honored by all recipients of Federal-aid Funds in the State of Utah.

C. DETERMINATION OF DBE CONTRACTOR’S ELIGIBILITY BY UUCP

1. Any Contractor may apply to the UUCP for status as a DBE. Applications shall be made on forms provided by the UUCP, entitled "UNIFORM CERTIFICATION APPLICATION" or "Information for Determining DBE Joint Venture Eligibility," Form No. R-817. Application need not be made in connection with a particular bid. Only work contracted to certified DBE prime contractors or

subcontractor to firms that have applied for and have been granted status as a DBE by the UUCP shall be considered toward contract goals as established in Subsection A.

2. It shall be the Contractor's responsibility to submit a DBE application so that the UUCP has time to review it. The UUCP will review applications in a timely manner but is not committed to approve DBE status within any given period of time. The UUCP must have ample lead time to review, evaluate, and verify information provided with a application.
3. The DEPARTMENT shall maintain a UUCP Unified DBE Directory of DBE Contractors, vendors, service providers and suppliers that is updated as changes occur for the purpose of providing a reference source to assist any bidder in meeting the requirements of this bid condition. Bidders must use the most current DBE information available on the web site when submitting bids. A current UUCP DBE directory representing certified DBE Contractors is available through the UDOT Civil Rights Office, and also on the Internet at (click on this link):

http://www.dot.state.ut.us/download.php/200310201154542/UUCP_DBE_DIRECTORY.pdf

<http://www.udot.utah.gov/index.php/m=c/tid=198>

An electronic file of the UUCP DBE Directory is available for downloading to use in the Electronic Bidding System (EBS) at the following URL (click on this link):

<http://www.udot.utah.gov/index.php/m=c/tid=317>

4. In meeting the requirements of this bid condition, bidders are in no way limited to the DBE Directory referred to in 3 above in seeking out and negotiating with the DBE Contractors and determining which items of work shall be subcontracted to DBE Contractors. Bidders shall exercise their own judgments in selecting any subcontractor to perform any portion of the work.

The UUCP prior to bid opening must grant DBE status to any DBE Contractor or DBE Joint Ventures. DBE credit will not be allowed toward *race conscious* goals for a firm or joint venture that has not been DBE certified by the UUCP.

D. BIDDING REQUIREMENTS

All bidders must satisfy the bidding requirements of this part. A DBE prime contractor's performance does not count toward fulfilling the DBE goal. A prime bidder who is a DBE contractor shall meet the DBE goal by using DBE subcontractors or by using good faith efforts.
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1. DBE Bid Assurance

a. Race Conscious Goal

For a bid with a DBE goal greater than 0.0% to be considered responsive, *Part A* of the DBE Bid Assurance must be completed and included in the BID PROPOSAL, certifying that they will meet or exceed the Goal for Bid Evaluation established in Subsection A, or that they fail to meet the goal but have and will put forth good faith effort to meet or exceed the goal of the DBE program. *The EBS software based upon the entry of the DBE Commitment and/or the Good Faith Documentation into EBS will complete part A of the DBE Bid Assurance.* In either event, the Contractor shall continue efforts to consider and utilize DBE firms during the performance of the contract.

b. Race Neutral Goal

For a bid with a DBE goal of 0.0% to be considered responsive, *Part B* of the DBE Bid Assurance must be included in the BID PROPOSAL certifying that the Bidder has utilized equal opportunity action to allow DBE's to compete for and perform on subcontracts. *Part B* of the DBE Bid Assurance will be completed based upon the following information entered into EBS:

(1) Bids with no subcontracting opportunities

Bidders who intend to do all the work with their own organization will indicate this in EBS on the Bid Submission Checklist and Forms window. EBS will subsequently indicate on Part B of the DBE Bid Assurance that the Bidder does not intend to sublet a portion of the contract work.

After the award of the bid, in the event that a Contractor indicates that he does not intend to sublet any work and subsequently determines to sublet a portion of the work, the Contractor:

- (a) must justify why subcontract quotes were not a part of the Bid Proposal,
- (b) must utilize equal opportunity action to allow DBEs to compete for and perform on the work to be sublet,
- (c.) must submit the required Race Neutral Documentation with the proposed subcontract.

NOTE: The Contractor may use the 'DBE Contact Log' and 'Quote Comparison' functions in EBS to develop the above requirements for documentation.

- (2.) Bids with subcontracting opportunities
Race Neutral measure or program is one that is, or can be, used to assist all small businesses. UDOT must meet the maximum feasible portion of its overall DBE goal by using race -neutral means of facilitating DBE participation.

Bidders who solicit non-DBE subcontract quotes will utilize equal opportunity action to allow DBEs to compete for and perform on subcontracts. If the Bidder has selected 'Intend to Sublet' on the 'Bid Submission Checklist and Forms' window in the EBS software, Part B of the DBE Bid Assurance will indicate that the Bidder intends to sublet a portion of the contract work.

The results of the equal opportunity actions will be included with the EBS prepared Bid Proposal as a *Race Neutral Documentation*. Part B of the Bid Assurance Form will indicate the existence of any of the following types of Race Neutral Documentation that the Bidder has entered into EBS:

- (a) DBE Commitment
- (b) DBE Contact Log
- (c) Quote Comparison

In either event, the Contractor shall continue efforts to consider and utilize DBE firms during the performance of the contract.

2. DBE Commitment

For a bid to be considered responsive, Bidders shall submit the following information regarding DBE compliance with the EBS prepared Bid Proposal:

Submit a DBE Commitment of work that will be subcontracted to certified DBE firm(s) as listed in the UUCP's Directory or DBE firms that have been approved by the UUCP prior to bid opening.

- a. The names of DBE firms that will participate in the contract;
- b. A specific description of the work each named DBE firm will perform (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Bidders designate otherwise in their DBE Commitment.
 - (1.) If mobilization is a bid item that is partially committed to a DBE, indicate the dollar amount of the DBE mobilization.

- (2.) If a partial quantity is committed to a DBE, indicate the quantity committed to the DBE.
 - (3.) If a partial performance of an item is committed to a DBE, explain what part of the item the DBE will perform;
- c. The dollar amount of participation by each named DBE firm;
 - d. If the contract goal is not met, evidence of good faith efforts.

The DBE Commitment is to be included in the bid prepared within, and said information will be kept confidential and will not be reviewed unless the Contractor is otherwise determined to be the low Bidder or the DEPARTMENT elects to review said information in making its determination as to award of the contract.

3. Race Neutral Commitment

For a bid to be considered responsive, Bidders shall submit the following information regarding equal opportunity compliance with their EBS prepared Bid Proposal:

Submit a Race Neutral DBE Commitment of work that will be subcontracted to certified DBE firm(s) as listed in UUCP DBE_Directory or DBE firms that have been approved by the DEPARTMENT prior to bid opening. The DBE Commitment will include:

- a. The bid item(s) or work classification(s) that will be subcontracted;
- b. The DBE firms that have been contacted. A reasonable number of DBEs available to perform the anticipated subcontract work must be contacted. The DBE firms must be given a reasonable amount of time to develop subcontract quotes.
- c. The results of the contacts with the DBE firms
- d. Name(s) of anticipated DBE subcontractor(s)
- e. Anticipated work items to be performed by DBE(s)
- f. Anticipated dollar amount of subcontract(s).

A specific description of the work each named DBE firm will perform (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Contractors designate otherwise in their DBE commitment.

- (1.) If mobilization is a bid item that is partially committed to a DBE, indicate the dollar amount of the DBE mobilization.
- (2.) If a partial quantity is committed to a DBE, indicate the quantity committed to the DBE.
- (3.) If a partial performance of an item is committed to a DBE, explain what part of the item the DBE will perform;

NOTE: In the EBS (Electronic Bidding System):

Use the quote comparison to document item (a)

Use the contact log to document items (b) and (c).

Use the DBE commitment to document items (d), (e), and (f).

The *Race Neutral Documentation* submitted in the EBS prepared bid, will be kept confidential and not reviewed unless the Contractor is otherwise determined to be the low Bidder or the DEPARTMENT elects to review said information in making their determination as to award of the contract.

4. DBE Written Confirmation

Low Bidder shall submit to the Director of Construction & Materials within three (3) work days after the bid opening written confirmation from each DBE that it is participating in the contract as provided in the Prime Contractor's DBE Commitment or Race Neutral Documentation. The written confirmation shall include the following information:

- a. A description of the work that will be performed (list specific bid items). Listed bid items shall be considered to be committed in their entirety unless Contractors designate otherwise in their DBE commitment.
 - (1) If mobilization is a bid item that is partially committed, please confirm the dollar amount of the mobilization to be performed.
 - (2) If a partial quantity is committed, confirm the quantity to be performed.
 - (3) If a partial performance of an item is committed, confirm what part of the item will be performed.
 - (4) Unit bid prices for each bid item that is committed to a DBE.
 - (5) Total dollar amounts (mathematical extensions) for each bid item that is committed to a DBE

- b. The dollar amount of participation by each named DBE firm.

5. Good Faith Efforts

Bidders who fail to meet the DBE goal for bid evaluation must demonstrate with documentary evidence that they made good faith efforts to do so. Bidders are required to include the Good Faith Efforts Documentation with the EBS prepared Bid Proposal. The said information will be kept confidential and not reviewed unless the Bidder is otherwise determined to be the low Bidder or UDOT and authorized representatives elect to review said information in making their determination as to award of the contract. For the bid to be considered responsive, Bidders shall include with the BID PROPOSAL specific documentary evidence that good faith efforts have been made to meet the goal.

Attached hereto and marked Exhibit A, and by this reference made a part hereof, is a list of actions that may be used to prove the kinds of efforts prospective Bidders should consider in their attempts to demonstrate good faith efforts. The list of actions, as contained in Exhibit A, is not intended to be an exclusive list of efforts that a prospective Bidder may wish to consider in demonstrating good faith efforts to satisfy DBE participation requirements. The determination of good faith efforts shall be based upon the information and documentation of the actions supplied by the Bidder with the bid proposal. The DEPARTMENT reserves the right to investigate and verify such information or to request the low dollar Bidder to clarify information submitted at the time of bid.

6. Award of the Contract

The award of the contract, if awarded, will be made to the apparent successful responsive, responsible Bidder who submitted a reasonable bid for the contract and has complied with this Subsection D.

7. Administrative Reconsideration

Good faith efforts as used herein shall be determined on a case by case basis. If it is determined that the apparent low Bidder has failed to meet the requirements of Exhibit A, the bidder will be provided an opportunity for administrative reconsideration.

- a. Official(s) who did not take part in the original determination will perform the administrative reconsideration..
- b. The Bidder will have the opportunity to provide to written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so.

- c. The Bidder will have the opportunity to meet in person with the reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do so.
- d. The Bidder will be notified in writing of the decision and the basis for the decision.
- e. The reconsideration decision is administratively final and is not appealable to FHWA nor to the DOT.

E. COUNTING DBE PARTICIPATION TOWARD GOALS FOR BID EVALUATION

1. The DEPARTMENT will recognize and grant DBE credit toward the goal for bid evaluation (*race conscious* goals) for work committed to DBE subcontractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary that all bidders refer to the UUCP DBE Directory for direction and guidance. A current copy of the DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

<http://www.udot.utah.gov/index.php/m=c/tid=198>

An electronic file of the DBE Directory is available for downloading to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

<http://www.udot.utah.gov/index.php/m=c/tid=317>

2. The DEPARTMENT will grant DBE credit toward *race neutral* goals for work performed by firms who are not DBE certified prior to bid opening or who bid types of work for which DBE certification has not been granted by the DEPARTMENT prior to bid opening but subsequently are granted DBE certification.
3. Commitments to DBEs that exceed the Goal for Bid Evaluation will be considered as both race conscious and race neutral. The dollar amount of the Goal for Bid Evaluation will be considered to be race conscious participation. Any dollar amounts in excess of the Goal for Bid Evaluation will be considered as race neutral participation.

F. COUNTING DBE PARTICIPATION TOWARD GOALS FOR PERFORMANCE

Subcontracts to DBEs that exceed the *Goal For Bid Evaluation* will be considered in part as race conscious participation and in part as race neutral participation. Any dollar amounts in excess of the *Goal For Bid Evaluation* will be considered as race neutral participation.

It is intended that the Contractor shall utilize the subcontractors designated in the DBE Commitment in the performance of the contract. Any changes in the Contractor's DBE Commitment, such as substitution of a DBE subcontractor, substitution of contract items, or decrease in total dollar amount must be approved by the DEPARTMENT and must be covered by a Change Order. Unauthorized substitutions or eliminations may result in the imposition of sanctions. Failure to meet the Goal for Performance, that is established at the time of award by the Contractor's DBE Commitment, without adequate justification, including concurrence of the ENGINEER and Civil Rights Manager, shall result in the imposition of sanctions as provided in Part I of this Special Provision.

1. Only the value of the work actually performed by the DBE will count toward DBE goals.
2. Contractors may count toward their contract goals a portion of the total dollar value of a contract with a joint venture eligible under the standards of this bid condition equal to the percentage of the ownership and controls of the DBE partner in the joint venture.
3. The ENGINEER will recognize and grant DBE credit for work subcontracted and performed by DBE subcontractors ONLY in the types of work for which DBE certification has been granted by the UUCP prior to bid opening. It is necessary that all Bidders refer to the UUCP'DBE Directory for direction and guidance. A current copy of the UUCP DBE directory is available through the Civil Rights Office and on the Internet at (click on this link):

<http://www.udot.utah.gov/index.php/m=c/tid=198>

An electronic file of the DBE Directory is available for downloading to use in the Electronic Bidding system (EBS) at the following URL (click on this link):

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4. Contractors may count toward their goals only the value of the work actually performed by the DBE toward the DBE goals.
 - a. Work performed by the DBE's own forces using "regular employees and "regular equipment."

- b. The cost of supplies and materials obtained and purchased by the DBE and equipment leased for the work of the contract.
 - c. Work that a DBE subcontracts to a lower tier DBE firm.
5. Contractors may not count toward the DBE goals:
- a. Supplies and material purchased and equipment leased by the DBE from the prime Contractor or its affiliates or another subcontractor on the project.
 - b. Work that a DBE subcontracts to a lower tier non-DBE firm.
6. Contractors may count toward their goals only expenditures to a DBE that performs a commercially useful function in the work of the contract.
- a. A DBE performs a "commercially useful function" when it is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.
 - b. The DEPARTMENT shall evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.
 - c. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the DEPARTMENT must examine similar transactions, particularly those in which DBEs do not participate.
 - d. A DBE does not perform a commercially useful function if it does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved.
7. The DEPARTMENT shall use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

- a. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- b. The DBE must be responsible for the management and supervision of the entire trucking arrangement for the purpose of meeting DBE goals.
- c. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks its owns, insures, and operates using drivers it employs.
- d. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
- e. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit *for the total value of the transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement. If a recipient chooses this approach, it must obtain written consent from the appropriate Department Operating Administration.*

Leases two trucks from DBE Firm Y and six trucks from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. With respect to the other two trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.

- f. For purposes of this paragraph (d), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

8. Contractors may count expenditures with DBEs for materials or supplies as provided in the following:

- a. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies counts toward DBE goals.

For purposes of this paragraph, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

- b. If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies counts toward DBE goals.

For purposes of this paragraph, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

- (1) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
- (2) A firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis.
- (3) Packagers, brokers, manufacturers representatives, or other persons or firms who arrange, or expedite, transactions are not regular dealers.
- (4) A DBE trucking company that picks up a product from a manufacturer or regular dealer and delivers the product to the Contractor performs a delivery service. Credit will not be given based on a percentage of the cost of the product; credit will be allowed only for the cost of the transportation service.

9. If the materials or supplies are purchased from a service provider, the fees or commission charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies, count toward the DBE goals.

A Service Provider is a business which is neither a manufacturer nor a regular dealer but simply transfers title of a product from manufacturer to ultimate purchaser or a firm that puts a product into a container for delivery. A service provider charges a fee or a commission for assistance in the procurement of the materials and supplies, or fees or transportation for the delivery of materials or supplies required on a job site.

- a. Only the fees, commissions, or transportation performed by the DBE service provider count toward the DBE goals. The DEPARTMENT must determine that the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.
 - b. No portion of the cost of the materials and supplies count toward the DBE goals. Documentary evidence of the supply agreements, i.e., sales contract, purchase order, etc., shall be submitted to the Resident Engineer or Consultant Engineer at the Preconstruction Conference. The agreement shall set forth the estimated quantities, unit prices, total dollar amounts, material guarantees, delivery, and payment requirements including the requirements listed part E, 4, e, of this DBE Special Provision.
10. Prompt payment for the work accomplished is an integral part of the concept of commercially useful function.

See Section F, Subsection 6,a for a definition of “commercially useful function.”

G. CONTRACTOR’S RESPONSIBILITY

1. It is the Contractor's responsibility to determine the level of professional competence and financial responsibility of any proposed DBE subcontractor. The Contractor shall ascertain that the proposed DBE subcontractor is particularly experienced and equipped for the work of the subcontract.
2. It is the Contractor’s responsibilities to monitor and assure that DBE’s listed to fulfill DBE goals perform a commercially useful function.

H. DBE SUBCONTRACTOR’S FAILURE TO PERFORM SUCCESSFULLY

If, during the performance of the contract, the Prime Contractor determines that a DBE subcontractor is unable to perform successfully, the Contractor shall make good faith efforts to replace the DBE subcontractor with another DBE to fulfill the Goal for Bid Evaluation. For Race Conscious DBE participation, the Contractor shall consider the

uncompleted DBE committed work items as well as other work items as a part of the good faith efforts. All substitutions of DBE subcontractors shall receive prior approval by the DEPARTMENT.

The Contractor shall not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment without prior submission of written justification to the ENGINEER and without prior approval of the ENGINEER and the Civil Rights Manager.

The Contractor shall not substitute DBE subcontractor(s), work item(s), nor decrease dollar amount(s) as indicated in the Contractor's DBE Commitment Substitutions without prior submission of a written statement from the DBE consenting to the substitution or decrease and holding the ENGINEER harmless for approving the substitution.

Unauthorized substitutions of the DBE(s), underruns of work item(s), or decreases in dollar amount(s) may result in the imposition of sanctions as allowed under Section I.

UDOT reserves the right to authorize completion of the work that was subcontracted to a DBE who is unable to perform successfully by either of the following methods:

1. Approve, at no additional cost to the DEPARTMENT, a replacement DBE subcontractor and, when appropriate, modify the contract to provide for reasonable extra time necessary to obtain a DBE replacement at no additional cost to the DEPARTMENT.
2. Direct the Contractor to perform at unit bid prices. In the event this option is selected, the percentage DBE goal will be adjusted as may be appropriate.

I. SANCTIONS

1. The Contractor's DBE Commitment becomes a 3-part commitment comprised of the DBE Contractor(s), work item(s) and dollar amount(s). The Commitment becomes a contract specification upon award of the contract and becomes the minimum goal for contract performance.

If the Contractor fails to achieve the minimum goal, established in the contract at the time of the award of the contract or later modified, the contract payments shall be reduced as a liquidated damage and not as a penalty by an amount equal to the dollar amount of work not performed by the DBE. The dollar amount of any sanction will be computed using the unit prices indicated in the DBE subcontract

Exceptions:

- a. Any authorized adjustment in the DBE Commitment that has been approved by the ENGINEER and Civil Rights Manager.
 - b. Race neutral participation.
2. The ENGINEER shall deduct maximum points for *Compliance with EEO* when completing the *Contract Performance Report*.

J. RECORD KEEPING

1. DBEs shall maintain records of payment received under this bid condition. DBEs shall submit to the ENGINEER within 10 work days after receipt copies of progress payments received from the prime Contractor or subcontractor if the DBE is a lower tier subcontractor:
 - a. For each committed bid item:
 - (1) The quantity committed toward the DBE goal
 - (2) The quantity performed by the DBE to the date of the payment
 - b. Total dollar amount earned to the date of the payment
 - c. The total amount paid to the date of the payment.
2. The Contractor shall maintain records of payment under this bid condition. At the completion of the project, the Contractor will submit to the ENGINEER a certificate in the form of an affidavit for each DBE firm participating on the Project. The Affidavit will be in the form of a spread sheet and will include for each committed DBE subcontractor:
 - a. For each committed bid item:
 - (1) The quantity committed toward the DBE goal
 - (2) The total quantity performed on the project
 - (3) The quantity performed by the DBE
 - (4) The dollar amount paid to the DBE
 - b. Total dollar amount committed toward the DBE goal
 - c. Total dollar amount earned

- d. Interest earned from escrow and from late payment`
- e. The total amount paid
- f. The dollar amount of money retained.

If it appears that the DBE goals will not be met, the Contractor's retained amount may not be reduced to one and one half percent. The DEPARTMENT shall retain necessary funds until the Contractor complies with this contract specification.

DBE firms listed in the original DBE Commitment or later modified with the DEPARTMENT approval shall be paid in full prior to the DEPARTMENT processing the final payment. The Contractor shall submit with the signed, final estimate invoice, a certificate in the form of an affidavit listing all DBEs that engaged in this contract and report the total dollar amount paid to each. The affidavit(s) must be submitted to the DEPARTMENT on the Contractor's letterhead and must be dated and signed by a responsible official legally representing the Contractor.

- 3. The DEPARTMENT must create and maintain a Bidders list consisting of all firms bidding on prime contracts and bidding or quoting subcontractors on DOT-assisted projects. For every firm, the following information must be submitted annually:
 - a. Firm name
 - b. Firm address
 - c. Firm's status as a DBE or non-DBE
 - d. Age of firm
 - e. Annual gross receipts of the firm.

Every firm bidding or quoting as a prime or subcontractor at any level on DOT-assisted projects must register annually with UDOT.

NOTE: Items (a) and (b) should be completed in the EBS software by using the 'Quote Comparison' and submitted with your bid.

- 4. With the bid or no later than 10 work days after bid opening date, each and every prime bidder must submit to The DEPARTMENT a list of all firms bidding and/or quoting as subcontractors, service providers or suppliers.* The Prime Bidder must also submit for each and every firm sub-quoting the following information:

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- a. Firm Name
- b. Firm address
- c. Work classification(s) bid by subcontractor, service provider or supplier:
 - (1) Building
 - (2) Concrete - Miscellaneous and flatwork, etc.
 - (3) Concrete - Structural
 - (4) Demolition
 - (5) Electrical
 - (6) Engineering - Consultants
 - (7) Engineering - Design
 - (8) Equipment - Purchases
 - (9) Equipment - Rentals
 - (10) Excavation
 - (11) Fence
 - (12) Grading
 - (13) Guardrail
 - (14) Hauling - Earth or Other Materials
 - (15) Landscaping
 - (16) Lighting
 - (17) Miscellaneous
 - (18) Painting - Striping & Messages
 - (19) Painting - Structural
 - (20) Paving - Asphalt, Highway
 - (21) Paving - Concrete
 - (22) Paving - Miscellaneous
 - (23) Paving - Rotomilling
 - (24) Pipe Culverts
 - (25) Reconstruction
 - (26) Saw & Seal
 - (27) Signs - Permanent
 - (28) Signs - Temporary or traffic control
 - (29) Steel - Reinforcing
 - (30) Steel - Structural
 - (31) Supplier - Manufacture
 - (32) Supplier - Regular Dealer
 - (33) Supplier - Service Providers
 - (34) Surveying
 - (35) Traffic Signals

*NOTE: This requirement can be met with the 'Quote Comparison' function in EBS. The report must be printed and faxed to the Civil Rights Department at (801) 965-4101.

K. PROMPT PAYMENT

THIS SECTION APPLIES TO ALL PRIME CONTRACTORS, ALL SUBCONTRACTORS, AND ANY LOWER TIER SUBCONTRACTORS, AND ALL SUPPLIERS. Refer to CFR 49 Part 26.29

PART 1 GENERAL

1.1 SECTION INCLUDES

This Section applies to prime Contractors, all subcontractors, all service providers and all material suppliers, and any lower tier subcontractors, service providers, and suppliers.

1.2 PROMPT PAYMENT TO SUBCONTRACTORS, MATERIAL SUPPLIERS AND SERVICE PROVIDERS - PROGRESS PAYMENTS

- A. Include in subcontract, service or purchase agreement language agreeing to pay as promptly as or sooner than required by this specification.
- B. Pay subcontractor, service provider, or material supplier for satisfactory performance of the subcontract, service or material supply agreement no later than 10 work days after receipt of payment.
- C. Submit to the Engineer within 5 work days after paying subcontractor(s), service providers, or material supplier(s), a certified payment statement in the form of an affidavit certifying that the total dollar amount paid to each subcontractor, service provider or supplier that the payment has been made promptly, and that the dollar amount paid is the total amount due for work or services performed or materials purchased during the pay periods. Contractor, subcontractor at any lower tier, material suppliers, and service providers are required to submit the affidavit on the firm's letterhead and include the signature of a responsible official legally representing the Contractor, subcontractor, material supplier, or service provider.

1.3 PAYMENT TO SUBCONTRACTORS, SUPPLIERS AND SERVICE PROVIDERS – RETAINED MONEY AND ACCRUED INTEREST

- A. Include in subcontract, service or purchase agreement language agreeing to pay retained money and accrued interest upon satisfactory completion of the work of subcontract, service or purchase agreement.
- B. Pay retained money and accrued interest to subcontractor, service or material provider no later 10 days after the receipt of the retainage and accrued interest.

- C. Submit to the Engineer within 5 work days after paying subcontractor, supplier, or service provider a certified payment statement in the form of an affidavit, signed by a responsible official legally representing the firm, certifying that the total amount paid is the total amount of work satisfactorily completed, including the retained money and interest due to the subcontractor, service provider or supplier. Provide a signed affidavit by a responsible official legally representing the Contractor, on Contractor's letterhead.
- D. A determination of satisfactory completion and payment of retained money and accrued interest does not relieve the Contractor, subcontractor, service provider or supplier from any contractual obligation.

1.4 DELAY OF PAYMENT

- A. Delay payment to subcontractor, service provider, or supplier, only for good cause, with prior written notice to subcontractor, service provider or supplier and with prior written approval of the Engineer.
- B. Give subcontractor, service provider or supplier time to correct deficiencies before estimated cut-off date.
- C. Not giving notice to subcontractor, service provider, or supplier nor receiving written approval from Engineer will be considered as implied consent to pay promptly.
- D. Engineer withholds delayed payments from progress payment..
- E. Include in subcontract, service and supply agreements, language providing for the use of appropriate alternative dispute resolution mechanisms to resolve payment disputes.
- F. Department holds in escrow disputed funds until the dispute is resolved.

1.5 PENALTIES FOR FAILURE TO MAKE PROMPT PAYMENT

- A. Department will not reimburse for work performed by subcontractors, service providers nor materials delivered by suppliers unless and until the Contractor ensures that subcontractors, service providers and suppliers are promptly paid for work performed or materials delivered.
 - 1. Engineer deducts the dollar amount due but not paid to subcontractor, service provider or supplier from the next progress payment.
 - 2. Engineer may deduct an equal amount from the Contractor's payment.
- B. Department considers the failure to pay promptly an indication of a lack of financial fitness.

1. Forfeit the privilege of bidding on the Department's projects as a prime Contractor until subcontractors, service providers or suppliers are paid.
 2. Forfeit the privilege of having a subcontract, supply or purchase agreement approved to perform as a subcontractor, service provider or supplier on the Department's projects until subcontractors, service providers or suppliers are paid.
- C. Department employs other mechanisms, consistent with this part and applicable state and local law, to ensure that DBEs, other Contractors, service providers and suppliers are fully and promptly paid.

1.6 OVERPAYMENT BY ENGINEER

- A. If the Engineer overpays for work or services performed or materials delivered, the Department deducts the dollar amount of the overpayment from future payments to the Contractor.
- B. The subcontractor, service provider or supplier is responsible to keep records and to know the quantity of work or services performed or materials delivered. If overpayment is made to a subcontractor, service provider or material supplier, the subcontractor, service provider or material supplier immediately notifies the Contractor and the Department of the overpayment.
- C. If prompt payment results in overpayment, the subcontractor, service provider or supplier promptly repays the Contractor the amount of the overpayment. If prompt repayment is not made to the Contractor, the prompt payment penalties of this specification applies to subcontractor or supplier.

Exhibit A

Suggested Actions and Required Documentation to Demonstrate Good Faith Efforts to Comply With DBE Requirements

A Bidder must show that it took necessary and reasonable steps to achieve a DBE goal which, by their scope, intensity, and appropriateness, can reasonably be expected to fulfill the program requirement. The efforts employed should be those that would be taken if a Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract. Goal. Mere *pro forma* efforts are not good faith efforts to meet the DBE contract requirements.

Documentary evidence of each action taken must be submitted with the Bid Proposal.
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The following is taken, with some modification, from CFR 49 Part 26, Appendix A. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive.

GUIDANCE CONCERNING GOOD FAITH EFFORTS

- I. When the DEPARTMENT establishes a contract goal on a Federal aid contract, a Bidder must, in order to be responsive, make good faith efforts to meet the goal. The Bidder can meet this requirement in either of two ways:
 - A. The Bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose.
 - B. If it doesn't meet the goal, the Bidder can document adequate good faith efforts. This means that the Bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which the DEPARTMENT has established a contract goal, CFR 49, Part 26 requires UDOT to use the good faith efforts mechanism of this part. It is up to the DEPARTMENT to make a fair and reasonable judgment whether a Bidder that did not meet the goal made adequate good faith efforts. It is important for the DEPARTMENT to consider the quality, quantity, and intensity of the different kinds of efforts that the Bidder has made. The efforts employed by the Bidder should be those that one could reasonably expect a Bidder to take if the Bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. The DEPARTMENT emphasizes, however, that its determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The U. S. Department of Transportation also strongly cautions the DEPARTMENT against requiring that a Bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the Bidder makes an adequate good faith efforts showing. This rule specifically prohibits UDOT from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which UDOT should consider as part of the Bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The Bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The Bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

- B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
- C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- D. Negotiating in good faith with interested DBEs.
 - (1) It is the Bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
 - (2) A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration.
 - (a) The fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable.
 - (b) No specific price differential has been established by 49 CFR 26. This approach allows flexibility.
 - (c) Along with the reasonableness of the cost necessarily comes the fact that prime Contractors are not expected to bear unreasonable costs.
 - (d) Any burden that a non-DBE subcontractor might face is also limited by the reasonableness of competing bids.

- (3) The ability or desire of a prime Contractor to perform the work of a contract with its own organization does not relieve the Bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
- (4) The ability or desire of a prime Contractor to bundle the work of a subcontractor who wishes to perform all the work of the subcontract with its own organization does not relieve the Bidder of the responsibility to require a subcontractor to make good faith efforts. Subcontractors are not required to accept higher quotes from lower tier DBEs if the price difference is excessive or unreasonable.
- E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.
- F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
- G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- H. Effectively using the services of available minority/women community organizations; minority/women Contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

NOTE: The DBE 'Contact Log' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:

- IV. A.
- IV. C.
- IV. D. (1)

The 'Quote Comparison' in EBS, submitted as part of the Bid Proposal, can be used to document the following efforts:

- IV. B.
- IV. D. (3)

- V. In determining whether a Bidder has made good faith efforts, the DEPARTMENT may take into account the performance of other Bidders in meeting the contract. For example, when the apparent successful Bidder fails to meet the contract goal, but others meet it, UDOT may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful Bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other Bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful Bidder having made good faith efforts.

Submit with the Bid Proposal documentary evidence to prove that good faith efforts were accomplished:

1. Submit copies of all solicitations: correspondence, faxes, advertisements, telephone logs with dates, times, names of persons contacted, nature of conversation, DBEs' responses, and etc.
2. If DBEs submitted quotes that were not used because the range of additional costs was determined to be excessive or unreasonable, submit the range that has been determined by the Bidder to be a reasonable range of additional costs and explain how that range was determined.
3. As a part of demonstrating a reasonable range of additional costs, submit copies of all subcontractor quotes, copies of spread sheet(s) which compare all DBE quotes with non-DBE quotes and which include bid item(s) quoted, work classifications, quantities, prices, and dollar amounts.
4. Submit a narrative of specific names and types of information, assistance, considerations given, and efforts to assist DBEs under Item IV, subparts C through F.

**DBE BID ASSURANCE
COMPLETE ONLY PART A. OR PART B.**

**PART A. RACE CONSCIOUS DBE PARTICIPATION
SPECIFIC ASSIGNED *CONTRACT DBE GOAL* FOR BID
EVALUATION _____ PERCENT**

If the DBE goal which is indicated in Section A., *CONTRACT GOAL*, of APPENDIX A, *BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE)* is greater than 0.0 %, complete only Part A, and submit *DBE Commitment*, and if applicable, *Documentation of Good Faith Efforts*.

By signing the BID REPORT (either manually or electronically), it is understood that those individuals who sign as owners or authorized representatives of the Bidder, have read and are familiar with APPENDIX A, *SPECIAL PROVISION, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE* and hereby certify that good faith efforts have been utilized to meet or exceed the goal of the DBE Program as established by the DBE Special Provision.

Indicate intended DBE commitment.

_____ We intend to meet or exceed the contract goals as per the DBE Commitment which is submitted with the Bid Proposal.

RACE CONSCIOUS AND RACE NEUTRAL COMMITMENT _____ PERCENT

_____ We fail to meet the advertised goal. This firm commits to DBE participation as per the DBE Commitment which is submitted with the EBS Bid Proposal and to continue Good Faith Efforts throughout the performance of the project. Documentation of Good Faith Efforts is submitted with the Bid Proposal, including:

1. DBE Contact Log Report
2. Quote Comparison Report

**PART B. RACE NEUTRAL DBE PARTICIPATION
ASSIGNED *CONTRACT DBE GOAL* FOR BID EVALUATION
_____ PERCENT**

If the DBE goal, which is indicated in Section A., *CONTRACT GOAL*, of APPENDIX A, *BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE (DBE)* is 0.0% , complete only Part B and submit *Race Neutral DBE Information*.

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By signing the BID REPORT (either manually or electronically), it is understood that those individuals who sign as owners or authorized representatives of the Bidder, have read and are familiar with APPENDIX A, SPECIAL PROVISION, BID CONDITIONS, DISADVANTAGED BUSINESS ENTERPRISE and hereby certify that equal opportunity action has been utilized to allow DBEs to compete for and perform on subcontracts.

_____ We do not intend to sublet a portion of the contract work.

_____ We intend to sublet a portion of the contract work. Our firm has taken equal opportunity action to allow DBEs to compete for and perform on subcontracts. Documentation of Race Neutral efforts is submitted with the Bid Proposal, including:

- _____ 1. RACE NEUTRAL DBE COMMITMENT _____ PERCENT
- _____ 2. DBE Contact Log Report
- _____ 3. Quote Comparison Report

VIII. ATTENTION CONTRACTORS
E.E.O. Affirmative Action Requirements on
Federal and Federal-Aid Construction Contracts

Changes in Hometown Plan and Special Bid Conditions

All imposed Plans and the Philadelphia Plan approvals have been rescinded.

The use of Special Bid Conditions will discontinue.

New Requirements

Effective immediately all requests for bids/solicitations on all contracts and subcontracts of \$10,000 or more, will include the Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, (Executive Order 11246), (Appendix A) and the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), (Appendix B). The provisions of FHPM 6-4-1-2 will continue to be used.

We recognize that there will be some duplicate material in the contracts as a result of incorporating the new OFCCP requirements. But we cannot discontinue use of Special Provision (Attachment 1 of FHPM 6-4-1-2) as it is regulatory material that requires an amendment by the Secretary of Transportation and publishing in the Federal Register. We have been informed by our Washington Office that FHPM 6-4-1-2 will be amended to eliminate any duplication in the contract provisions.

Appendix A, Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, must include the goals for minority and female participation in each craft on all contracts and subcontracts.

As indicated in the final rulemaking published in the October 3, 1980, Federal Register by the Office of Federal Contract Compliance Programs, standards and goals for minority utilization, throughout the country, have now been implemented. Goals for minority representation in each trade are shown in Attachment A for the Contractor's use and guidance. (As previously indicated, the goals for female utilization will apply to all contracts and subcontracts irrespective of their geographical location.)

Paragraph 3, of Appendix A points out that the Contractor will provide written notification to OFCCP of award of any subcontract in excess of \$10,000. The Contractors must be advised that their notification will continue, as our regular reporting procedures, by making such notification to the Utah Department of Transportation that will then report it to the FHWA, that will then report to OFCCP.

APPENDIX A

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation in each trade
April 1, 1980 until March 31, 1981		<u>6.9%</u>
October 3, 1980	<u>6.0 %</u>	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. See Attachment A. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federal involved construction.

The Contractor's compliance with the Executive Order and the regulations is 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and their efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of their projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

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3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is, State of Utah, County of Salt Lake .

APPENDIX B

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United State Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any at any tier, subcontracts a portion of the work involving any construction trade, they shall physically include in each subcontract in excess of \$10,000 the provision of these specifications and the Notice that contains the applicable goals for minority and female participation and that is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, their affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that Plan for those trades that have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor participating in an approved Plan is individually required to comply with its obligations under the E.E.O. clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's failure to take good faith efforts to achieve the Plan goals and timetables.

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4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonable be able to achieve in each construction trade in which they have employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the federal register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting their goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities, Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon their effort to achieve maximum results from their actions, The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work, The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or their union have employment opportunities available, and maintain a record of the organization's responses.

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- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have take.
- d. Provide immediate written notification to the Director when the union with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area that expressly includes minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's E.E.O. policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting their E.E.O. obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc. by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company E.E.O. policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's E.E.O. policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's E.E.O. policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of

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applications for apprenticeship or other training by ANY recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc. such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the E.E.O. policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractors and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

p. Conduct a review, at least annually of all supervisors' adherence to and performance under the Contractor's E.E.O. policies and affirmative action obligation.

8. Contractors are encouraged to participate in voluntary associations that assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a Contractor association, joint Contractor-union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group, has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goal and timetables, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

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9. A single goal for minorities and a separate single goal for women has been established, The Contractor, however is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority, Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved their goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative actions standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor in fulfilling their obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from their efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company E.E.O. policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer,) dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed, Records shall be maintained in an easily understandable and retrievable form, however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE

<u>County</u>	<u>Percentage</u>
Beaver.....	12.6
Box Elder	5.1
Cache.....	5.1
Carbon	5.1
Daggett.....	5.1
Davis.....	6.0
Duchesne	5.1
Emery.....	5.1
Garfield.....	12.6
Grand.....	10.2
Iron.....	12.6
Juab.....	5.1
Kane.....	12.6
Millard.....	5.1
Morgan.....	5.1
Piute.....	5.1
Rich.....	5.1
Salt Lake	6.0
San Juan.....	10.2
Sanpete.....	5.1
Sevier.....	5.1
Summit.....	5.1
Tooele.....	6.0
Uintah.....	5.1
Utah.....	2.4
Wasatch.....	5.1
Washington.....	12.6
Wayne.....	5.1
Weber.....	6.0

IX. Specific Equal Employment Opportunity Responsibilities

1. General

- a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form PR-1273 or 1316, as appropriate) and these Special Provisions that are imposed pursuant to Section 140 of Title 23, U.S.C. as established by Section 22 of the Federal Highway Act of 1968. The requirements set forth in these Special provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.
- b. Contractors will work with the State highway agencies and the Federal Government in carrying out equal employment opportunity obligations and in their review of contractor activities under the contract.
- c. Contractors and all their Subcontractors holding subcontracts not including material suppliers, of \$10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway program Manual, are applicable to material suppliers as well as Contractors and Subcontractors.) The Contractor will include these requirements in every subcontract of \$10,000 or more with such modification of language as is necessary to make them binding on the Subcontractor.

2. Equal Employment Opportunity Policy

Contractors will accept as operating policy the following statement that is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, apprenticeship, and/or on-the-job training."

3. Equal Employment Opportunity Officer

Contractors will designate and make known to the State highway agency contracting officers an equal employment opportunity officer (hereinafter referred to as the E.E.O. Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active Contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. Dissemination of Policy

- a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - (1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the Contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the E.E.O. Officer or other knowledgeable company official.
 - (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the E.E.O. Officer or other knowledgeable company official covering all major aspects of the Contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the Contractor.
 - (3) All personnel who are engaged in direct recruitment for the project will be instructed by the E.E.O. Officer or appropriate company official in the Contractor's procedures for locating and hiring minority group employees.
- b. In order to make the Contractor's equal employment opportunity policy known to all employees, prospective employees, and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor will take the following actions:
 - (1) Notices and posters setting forth the Contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment, and potential employees.

- (2) The Contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. Recruitment

- a. When advertising for employees, the Contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
- b. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges, and minority group organizations. To meet this requirement, the Contractor will, through his E.E.O. Officer, identify sources of potential minority group employees, and establish with such identified sources of procedures whereby minority group applicants may be referred to the Contractor for employment consideration.

In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, they are expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with equal employment opportunity contract provisions, (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the Contractor to do the same, such implementation violates Executive Order 11246, as amended.)

- c. Contractors will encourage their present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

- a. Contractors will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

- b. Contractors will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. Contractors will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. Contractors will promptly investigate all complaints of alleged discrimination made to them in connection with their obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform every complainant of all avenues of appeal.

7. Training and Promotion

- a. Contractors will assist in locating, qualifying, and increasing the skill of minority group and women employees, and applicants for employment.
- b. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the Contractor shall make full use of training programs i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the training Special provision is provided under this contract, this subparagraph will be superseded as indicated in Attachment 2.
- c. Contractors will advise employees and applicants for employment of available training programs and entrance requirements for each.
- d. Contractors will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. Unions

If Contractors rely in whole or in part upon unions as a source of employees, Contractors will use their best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by Contractors either directly or through a Contractor's association acting as agent will include the procedures set forth below:

- a. Contractors will use their best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
- b. Contractors will use their best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.
- c. Contractors are to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to the State Highway Department and shall set forth what efforts have been made to obtain such information.
- d. In the event the union is unable to provide the Contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor will through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the State highway agency.

9. Subcontracting

- a. Contractors will use their best efforts to solicit bids from and to utilize minority group Subcontractors or Subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from State highway agency personnel.
- b. Contractors will use their best efforts to ensure Subcontractor compliance with their equal employment opportunity obligations.

10. Records and Reports

- a. Contractors will keep such records as are necessary to determine compliance with the Contractor's equal employment opportunity obligations. The records kept by the Contractor will be designed to indicate:
 - (1) the number of minority and non-minority group members and women employed in each work classification on the project,
 - (2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minority and women (applicable only to Contractors who rely in whole or in part on unions as a source of their work force),
 - (3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and
 - (4) the progress and efforts being made in securing the services of minority group Subcontractors or Subcontractors with meaningful minority and female representation among their employees.
- b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State highway agency and the Federal Highway Administration.
- c. Contractors will submit to the State highway agency a monthly E.E.O. report for each month for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. Each covered Subcontractor will submit the reports for the life of the Subcontractor's agreement and indicate last month of work. When no work is performed during a month indicate this on the report as NO WORK.

Training Special Provisions

This Training Special Provisions supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C.C.140(a).

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under the special provision will be 0 (amount to be filled in by the State Highway Department).

In the event that a Contractor subcontracts a portion of the contract work, they shall determine how many, if any, of the trainees are to be trained by the Subcontractor, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman status or in which they have been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the State highway agency and the Federal Highway Administration. The State highway agency and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for off-site training indicated above may only be made to the Contractor where they do one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee, or pays the trainee's wages during the off-site training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. Contractors will have fulfilled their responsibilities under this Training Special Provision if they have provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

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Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

Contractors shall furnish the trainee a copy of the program the Contractor will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting their performance under this Training Special Provision.

X. REQUIRED CONTRACT PROVISIONS

FEDERAL-AID CONSTRUCTION CONTRACTS

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ATTACHMENTS

A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4, and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and

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will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

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c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL

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poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the

contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level

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hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable

wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

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9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this

Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

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b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment

and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of

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the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented; Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*, as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 *et seq.*, as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant

knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

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a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

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b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or

entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XI. Wage Rates Non-Applicable

Utah Department of Transportation Bidder's Schedule

Bid Opening Date: 4/6/2004

Region: REGION 2

Project Number: CM-LC35(121)

County: SALT LAKE

Project Name: LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

Concept: EARTHWORK, PAVING AND STRUCTURES

Funding: FEDERAL

Bid Items Version#: 1

DBE Goal: 0.00%

#	Item	Description	Quantity	Unit
10 - ROADWAY				
1	012850010	Mobilization	1	lump sum
2	013150010	Public Information Services	1	lump sum
3	015540005	Traffic Control	1	lump sum
4	015710010	Check Dam (Straw or Hay Bale)	233	foot
5	015720020	Dust Control and Watering	1437	1000 gallons
6	01892000*	Relocate Park Bench	5	each
7	020560010	Borrow	954	ton
8	020560050	Clay	53	ton
9	022210055	Remove Concrete Headwall	2	each
10	02221006*	Remove Rock Lined Ditch	577	foot
11	022210080	Remove Fence	189	foot
12	022220005	Remove Concrete Sidewalk	1	square yard
13	022310010	Clearing and Grubbing	1	lump sum
14	023160020	Roadway Excavation (Plan Quantity)	6197	cubic yard
15	023180020	Surface Ditch	1365	foot
16	026100194	12 inch Smooth Lined Pipe Culvert, Class C	625	foot
17	026100196	18 inch Smooth Lined Pipe Culvert, Class C	742	foot
18	026100426	18 inch Reinforced Concrete Pipe Culvert, Class C	6	foot
19	026130020	Culvert End Section 12 inch	2	each
20	026130030	Culvert End Section 18 inch	3	each
21	026350040	Rectangular Grate And Frame (Bicycle Safe Grating) Std Dwg GF 3	2	each
22	026350045	Solid Cover and Frame , Std Dwg GF 5	8	each
23	027210070	Untreated Base Course 3/4 inch or 1 inch Max	8319	ton
24	027430040	HMA - Small Projects 1/2 inch	2855	ton
25	027650020	Pavement Message Paint	10	each
26	027650050	Pavement Marking Paint	13	gallon
27	027710025	Concrete Curb and Gutter Type B1	9	foot
28	027710080	Pedestrian Access Ramp Type E	98	square foot
29	027760010	Concrete Sidewalk	4814	square foot
30	02812001*	Restore Landscaping	1507	square foot
31	02821000*	4 ft Chain Link Fence	11548	foot
32	02821001*	Swing Gate	30	each
33	02821002*	Guardrail	180	foot
34	028210044	Chain Link Brace Post	2	each
35	02861001*	Block Retaining Wall	468	square foot
36	02873001*	Vinyl Rail Fencing	520	foot
37	02891000*	Sign	133	each
38	029220040	Broadcast Seed	219	1000 square fee
39	032110010	Reinforcing Steel - Coated	2112	pound
40	033100020	Concrete- Small Structure	17	cubic yard

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Measurement and payment. Read all related documents carefully.

Utah Department of Transportation Bidder's Schedule

Bid Opening Date: 4/6/2004

Project Number: CM-LC35(121)

Project Name: LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

Concept: EARTHWORK, PAVING AND STRUCTURES

Funding: FEDERAL

Region: REGION 2

County: SALT LAKE

Bid Items Version#: 1

DBE Goal:

#	Item	Description	Quantity	Unit
20 - STRUCTURES				
41	020560015	Granular Borrow	12	cubic yard
42	023160020	Roadway Excavation (Plan Quantity)	45	cubic yard
43	032110010	Reinforcing Steel - Coated	1559	pound
44	033100020	Concrete- Small Structure	11	cubic yard
45	05125001*	Pre-fabricated steel bridge	1	lump sum

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Measurement and payment. Read all related documents carefully.

MEASUREMENT AND PAYMENT
CM-LC35(121)

The Department will measure and pay for each bid item as detailed in this section. Payment is contingent upon acceptance by the Department.

Items are listed by Specification and in tables as follows:

Item #	Bid item number	Bid Item Name	Unit of measurement and payment
Additional information goes here.			

1	012850010	Mobilization	Lump sum
	Payment	Amount Paid	When Paid
	First	The lesser of 25% of Mobilization or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price.	Project Acceptance-Final

2	013150010	Public Information Services	Lump Sum
	Payment	Amount Paid	When Paid
	One	25% of bid item amount	With first estimate
		Remaining portion of bid item paid as a percentage of the contract completed	With each estimate

3	015540005	Traffic Control	Lump Sum
	Payment	Amount Paid	When Paid
	One	25% of the bid item amount	With first estimate
		Remaining portion of bid item paid as a percentage of the contract completed	With each estimate

4	015710010	Check Dam (Straw or Hay Bale)	Feet
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5	015720020	Dust Control and Watering	1000 Gallon
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6	01892000*	Relocate Park Bench	Each
In place			

7	020560010	Borrow	Ton
Refer to Section 01280 "Measurement."			

8	020560050	Clay	Ton
In final position			

9	022210055	Remove Concrete Headwall	Each
Removed			

10	02221006*	Remove Rock Lined Ditch	Feet
Removed			

11	022210080	Remove Fence	Feet
Removed			

12	022220005	Remove Concrete Sidewalk	Square yard
Area of steps will be based on the area of the horizontal projection.			
13	022310010	Clearing and Grubbing	Lump sum
14	023160020	Roadway Excavation (Plan Quantity)	Cubic yard
15	023180020	Surface Ditch	Feet
A. Measured along the ditch center line, in place. B. Department pays for "Surface Ditch" as "Roadway Excavation" when the contract does not contain a pay item for "Surface Ditch."			
16	026100194	12 inch Smooth Lined Pipe Culvert, Class C	Feet
Measured parallel to the center line from barrel end to barrel end, in place.			
17	026100196	18 inch Smooth Lined Pipe Culvert, Class C	Feet
Measured parallel to the center line from barrel end to barrel end, in place.			
18	026100426	18 inch Reinforced Concrete Pipe Culvert, Class C	Feet
Measured parallel to the center line from barrel end to barrel end, in place.			
19	026130020	Culvert End Section 12 inch	Each
In place			
20	026130030	Culvert End Section 18 inch	Each
In place			

21	026350040	Rectangular Grate and Frame, (Bicycle Safe Grating), Std Dwg GF 3	Each
In place			

22	026350045	Solid Cover and Frame, Std Dwg GF 5	Each
In place			

23	027210070	Untreated Base Course 3/4 inch or 1 inch Max	Ton
In place			

24	027430040	HMA - Small Projects 1/2 inch	Ton
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25	027650020	Pavement Message Paint	Each
<p>In place, measurement - Painted Pavement Messages:</p> <p>A. Letter = one message.</p> <p>B. Arrow = one message.</p> <p>C. Multi-headed arrow = one message per arrow.</p> <p>D. School crossbars = one message per 24 inch x 10 ft bar.</p> <p>E. Crosswalk = two message per lane and two messages per shoulder.</p> <p>F. Stop Bar = one message per lane and one message per shoulder.</p> <p>G. Railroad crossing markings = seven messages per lane.</p> <p> 1. 'R' = one message each (two required).</p> <p> 2. 'X' = two messages.</p> <p> 3. Transverse Bar = one message each (two required).</p> <p> 4. Stop Bar = one message.</p> <p>Payment:</p> <p>A. The Department will not pay for removal of unauthorized, smeared, or damaged markings.</p>			

26	027650050	Pavement Marking Paint	Gallon
<p>In place, Payment:</p> <p>A. The Department will not pay for removal of unauthorized, smeared, or damaged markings.</p>			

27	027710025	Concrete Curb and Gutter Type B1	Feet												
<p>Measured along the roadway face. Include excavation if Roadway Excavation is not a bid item.</p> <p>Price Adjustments for Strength</p> <p>A. When concrete is below specified strength:</p> <ol style="list-style-type: none"> 1. Department may accept item at a reduced price 2. The pay factor will be applied to the portion of the item that is represented by the strength tests that fall below specified strength. 3. Department will calculate the pay factor as follows: <table style="margin-left: 40px;"> <tr> <td>Psi below specified strength:</td> <td>Pay Factor:</td> </tr> <tr> <td>1 - 100</td> <td>0.98</td> </tr> <tr> <td>101 - 200</td> <td>0.94</td> </tr> <tr> <td>201 - 300</td> <td>0.88</td> </tr> <tr> <td>301 - 400</td> <td>0.80</td> </tr> <tr> <td>More than 400</td> <td>0.50 or Engineer may reject</td> </tr> </table>				Psi below specified strength:	Pay Factor:	1 - 100	0.98	101 - 200	0.94	201 - 300	0.88	301 - 400	0.80	More than 400	0.50 or Engineer may reject
Psi below specified strength:	Pay Factor:														
1 - 100	0.98														
101 - 200	0.94														
201 - 300	0.88														
301 - 400	0.80														
More than 400	0.50 or Engineer may reject														

28	027710080	Pedestrian Access Ramp Type E	Square Feet												
<p>In place</p> <p>Price Adjustments for Strength</p> <p>A. When concrete is below specified strength:</p> <ol style="list-style-type: none"> 1. Department may accept item at a reduced price 2. The pay factor will be applied to the portion of the item that is represented by the strength tests that fall below specified strength. 3. Department will calculate the pay factor as follows: <table style="margin-left: 40px;"> <tr> <td>Psi below specified strength:</td> <td>Pay Factor:</td> </tr> <tr> <td>1 - 100</td> <td>0.98</td> </tr> <tr> <td>101 - 200</td> <td>0.94</td> </tr> <tr> <td>201 - 300</td> <td>0.88</td> </tr> <tr> <td>301 - 400</td> <td>0.80</td> </tr> <tr> <td>More than 400</td> <td>0.50 or Engineer may reject</td> </tr> </table>				Psi below specified strength:	Pay Factor:	1 - 100	0.98	101 - 200	0.94	201 - 300	0.88	301 - 400	0.80	More than 400	0.50 or Engineer may reject
Psi below specified strength:	Pay Factor:														
1 - 100	0.98														
101 - 200	0.94														
201 - 300	0.88														
301 - 400	0.80														
More than 400	0.50 or Engineer may reject														

29	027760010	Concrete Sidewalk	Square feet												
<p>In place, include excavation if Roadway Excavation is not a bid item.</p> <p>Price Adjustments for Strength</p> <p>A. When concrete is below specified strength:</p> <ol style="list-style-type: none"> 1. Department may accept item at a reduced price 2. The pay factor will be applied to the portion of the item that is represented by the strength tests that fall below specified strength. 3. Department will calculate the pay factor as follows: <table style="margin-left: 40px;"> <tr> <td>Psi below specified strength:</td> <td>Pay Factor:</td> </tr> <tr> <td>1 - 100</td> <td>0.98</td> </tr> <tr> <td>101 - 200</td> <td>0.94</td> </tr> <tr> <td>201 - 300</td> <td>0.88</td> </tr> <tr> <td>301 - 400</td> <td>0.80</td> </tr> <tr> <td>More than 400</td> <td>0.50 or Engineer may reject</td> </tr> </table>				Psi below specified strength:	Pay Factor:	1 - 100	0.98	101 - 200	0.94	201 - 300	0.88	301 - 400	0.80	More than 400	0.50 or Engineer may reject
Psi below specified strength:	Pay Factor:														
1 - 100	0.98														
101 - 200	0.94														
201 - 300	0.88														
301 - 400	0.80														
More than 400	0.50 or Engineer may reject														

30	02812001*	Restore Landscaping	Square feet
Include all materials and workmanship to provide a complete and fully operational pressurized irrigation system.			
31	02821000*	4 ft Chain Link Fence	Feet
In place			
32	02821001*	Swing Gate	Each
In place			
33	02821002*	Guardrail	Feet
In place			
34	028210044	Chain Link Brace Post	Each
In place			
35	02861001*	Block Retaining Wall	Square feet
In place			
36	02873001*	Vinyl Rail Fencing	Feet
In place			
37	02891000*	Sign	Each
In place			
38	029220040	Broadcast Seed	1000 Square
In place			

39	032110010	Reinforcing Steel - Coated	Pound
<p>Measurement: Per plan quantity.</p> <ol style="list-style-type: none"> Do not include the mass of the coating or the specified test bars as computed weight. Department will not make allowances for extra reinforcing steel required to provide lap splices that are requested by the Contractor. Department will not make allowances for clips, chairs, wire, or other materials used for fastening reinforcement in place. 			

40	033100020	Concrete - Small Structure	Cubic Yard
<p>Measurement:</p> <ol style="list-style-type: none"> When the contract provides measurement per cubic yard, measure quantities by the dimensions shown. Use the prismatic formula when the method of average end areas is not sufficiently accurate. Do not measure concrete required to fill over breakage of excavation for footings, walls, or slabs. Department will not deduct for volume occupied by pipes (other than culverts), reinforcing steel, piles, metal grillage, anchors, conduits, or weep holes. <p>Payment:</p> <ol style="list-style-type: none"> Department will pay for reinforcing steel for structures separately, unless otherwise noted. Department will pay separately for concrete placed in individual structures containing less than 8 yd³ at the bid price per cubic yard for Concrete, Small Structure. Department will make no separate payment for excavation for structures. 			

41	020560015	Granular Borrow	Cubic Yard
<p>Computed by average end area of plan typical sections.</p>			

42	023160020	Roadway Excavation (Plan Quantity)	Cubic yard
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43	032110010	Reinforcing Steel - Coated	Pound
<p>Measurement: Per plan quantity.</p> <ol style="list-style-type: none"> Do not include the mass of the coating or the specified test bars as computed weight. Department will not make allowances for extra reinforcing steel required to provide lap splices that are requested by the Contractor. Department will not make allowances for clips, chairs, wire, or other materials used for fastening reinforcement in place. 			

44	033100020	Concrete - Small Structure	Cubic Yard
<p>Measurement:</p> <p>A. When the contract provides measurement per cubic yard, measure quantities by the dimensions shown.</p> <p>B. Use the prismatic formula when the method of average end areas is not sufficiently accurate.</p> <p>C. Do not measure concrete required to fill over breakage of excavation for footings, walls, or slabs.</p> <p>D. Department will not deduct for volume occupied by pipes (other than culverts), reinforcing steel, piles, metal grillage, anchors, conduits, or weep holes.</p> <p>Payment:</p> <p>A. Department will pay for reinforcing steel for structures separately, unless otherwise noted.</p> <p>B. Department will pay separately for concrete placed in individual structures containing less than 8 yd³ at the bid price per cubic yard for Concrete, Small Structure.</p> <p>C. Department will make no separate payment for excavation for structures.</p>			

45	05125001*	Pre-fabricated Steel Bridge	Lump
In place			

XIV. Summary Sheets (Excel Files) or PDBS Project Summary Report and Detailed Stationing Summaries Report

Summary Report

Project: CM-LC35(121)

Version: 1

LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

Detail	Alt Group	Alt #	Description	Qty	Unit
10 - ROADWAY	0	0			
Item Number	Description				
012850010	Mobilization			1	Lump
013150010	Public Information Services			1	Lump
015540005	Traffic Control			1	Lump
015710010	Check Dam (Straw or Hay Bale)			233	ft
015720020	Dust Control and Watering			1,437	1000 gal
01892000*	Relocate Park Bench			5	Each
020560010	Borrow			954	Ton
020560050	Clay			53	Ton
022210055	Remove Concrete Headwall			2	Each
02221006*	Remove Rock Lined Ditch			577	ft
022210080	Remove Fence			189	ft
022220005	Remove Concrete Sidewalk			1	sq yd
022310010	Clearing and Grubbing			1	Lump
023160020	Roadway Excavation (Plan Quantity)			6,197	cu yd
023180020	Surface Ditch			1,365	ft
026100194	12 inch Smooth Lined Pipe Culvert, Class C			625	ft
026100196	18 inch Smooth Lined Pipe Culvert, Class C			742	ft
026100426	18 inch Reinforced Concrete Pipe Culvert, Class C			6	ft
026130020	Culvert End Section 12 inch			2	Each
026130030	Culvert End Section 18 inch			3	Each
026350040	Rectangular Grate And Frame (Bicycle Safe Grating) Std Dwg GF 3			2	Each
026350045	Solid Cover and Frame , Std Dwg GF 5			8	Each
027210070	Untreated Base Course 3/4 inch or 1 inch Max			8,319	Ton
027430040	HMA - Small Projects 1/2 inch			2,855	Ton
027650020	Pavement Message Paint			10	Each
027650050	Pavement Marking Paint			13	gal
027710025	Concrete Curb and Gutter Type B1			9	ft
027710080	Pedestrian Access Ramp Type E			98	sq ft
027760010	Concrete Sidewalk			4,814	sq ft

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

Detail	Alt Group	Alt #	Description	Qty	Unit
10 - ROADWAY	0	0			
Item Number	Description				
02812001*	Restore Landscaping			1,507	sq ft
02821000*	4 ft Chain Link Fence			11,548	ft
02821001*	Swing Gate			30	Each
02821002*	Guardrail			180	ft
028210044	Chain Link Brace Post			2	Each
02861001*	Block Retaining Wall			468	sq ft
02873001*	Vinyl Rail Fencing			520	ft
02891000*	Sign			133	Each
029220040	Broadcast Seed			219	1000sqft
032110010	Reinforcing Steel - Coated			2,112	lb
033100020	Concrete- Small Structure			17	cu yd

Detail	Alt Group	Alt #	Description	Qty	Unit
20 - STRUCTURES	0	0			
Item Number	Description				
020560015	Granular Borrow			12	cu yd
023160020	Roadway Excavation (Plan Quantity)			45	cu yd
032110010	Reinforcing Steel - Coated			1,559	lb
033100020	Concrete- Small Structure			11	cu yd
05125001*	Pre-fabricated steel bridge			1	Lump

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
015710010	Check Dam (Straw or Hay Bale)				233	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+133.680	16.960		LT	9.84	
1	1+195.293	11.475		LT	9.84	
2	2+209.377	1.487		LT	3.28	
3	3+122.463	1.808		LT	3.28	
3	3+640.265	5.833		LT	9.84	
5	5+017.314	3.918		LT	19.69	
5	5+017.562	6.844		RT	19.69	
5	5+021.190	6.106		RT	3.28	
5	5+062.050	5.806		RT	3.28	
5	5+070.954	4.155		LT	19.69	
5	5+114.990	5.761		RT	3.28	
5	5+316.500	4.755		LT	19.69	
5	5+319.900	5.557		RT	3.28	
5	5+516.372	5.632		RT	3.28	
5	5+637.700	7.073		RT	3.28	
5	5+810.000	9.475		RT	6.56	
5	5+817.453	2.913		LT	19.69	
6	6+410.009	4.771		LT	22.97	
6	6+460.908	4.512		LT	22.97	
6	6+601.460	3.634		LT	22.97	
7	7+319.750	5.255		LT	3.28	
					232.96	

015720020	Dust Control and Watering				1,437	1000 gal
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
	1+000		10+074		1,436.53	
					1,436.53	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
01892000*	Relocate Park Bench				5	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
10	10+022.050				1.0	
10	10+048.860				1.0	
8	8+096.843				1.0	
8	8+135.000				1.0	
9	9+007.820				1.0	
					5.0	
020560010	Borrow				954	Ton
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
2	2+000		2+792		238.56	
22	22+000		22+791		238.56	
3	3+000		4+000		238.56	
33	33+000		33+819		119.28	
5	5+000		5+822		119.28	
					954.24	
020560050	Clay				53	Ton
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+074.685				26.5	125 lb/cf
7	7+091.666				26.5	125 lb/cf
					53.0	
022210055	Remove Concrete Headwall				2	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
2	2+778.628	2.697 LT			1.0	
3	3+026.333	2.335 LT			1.0	
					2.0	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description					Use Qty	Unit
02221006*	Remove Rock Lined Ditch					577	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
7	7+143	4.00 RT	7+319	2.00 RT	577.43		
					577.43		
022210080	Remove Fence					189	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
5	5+632.353	2.500 LT	5+695.000	3.000 RT	169.42		
7	7+004.363	1.500 RT	7+005.863	2.940 LT	19.69		
					189.11		
022220005	Remove Concrete Sidewalk					1	sq yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
8	8+005.000	0.000 RT	8+007.800	1.900 RT	0.333		
8	8+066.900	1.600 RT	8+070.500	0.000 RT	0.333		
					0.666		
022310010	Clearing and Grubbing					1	Lump
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
					1.0		
					1.0		

Detailed Report

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description					Use Qty	Unit
023160020	Roadway Excavation (Plan Quantity)					6,197	cu yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
0	0+000		0+025		15.99		
1	1+000		1+800		781.44		
10	10+000		10+074		26.16		
11	11+000		11+798		51.52		
2	2+000		2+792		285.75		
22	22+000		22+791		42.61		
3	3+000		4+000		853.9		
33	33+000		33+819		38.26		
5	5+000		5+822		521.1		
6	6+000		6+799		3,008.29		
7	7+000		7+377		501.18		
8	8+000		8+143		49.7		
9	9+000		9+059		20.93		
					6,196.83		
023180020	Surface Ditch					1,365	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
3	3+589.303	3.849 LT	3+640.265	5.833 LT	167.32		
5	5+040.000	6.000 RT	5+310.000	5.126 RT	885.83		
5	5+360.000	5.235 RT	5+415.000	4.574 RT	180.45		
5	5+460.000	5.337 RT	5+500.000	5.067 RT	131.23		
					1,364.83		
026100194	12 inch Smooth Lined Pipe Culvert, Class C					625	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
7	7+104.168	5.182 LT	7+118.545	5.505 RT	55.11		
7	7+146.311	4.390 RT	7+232.464	1.333 LT	282.65		
7	7+232.464	1.333 LT	7+318.963	1.312 LT	283.79		
7	7+318.963	1.312 LT	7+318.963	2.324 LT	3.32		
					624.87		

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description					Use Qty	Unit
026100196	18 inch Smooth Lined Pipe Culvert, Class C					742	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
2	2+778.283	7.650 RT	2+786.450	7.778 RT	25.81		
2	2+778.628	2.697 LT	2+778.283	7.650 RT	33.87		
3	3+005.912	6.954 RT	3+026.369	6.898 RT	70.27		
3	3+026.369	6.898 RT	3+026.333	2.335 LT	30.29		
3	3+373.263	6.203 RT	3+406.792	6.134 RT	110.0		
3	3+414.519	5.928 RT	3+463.581	4.279 RT	161.61		
3	3+463.309	5.580 RT	3+463.581	4.279 RT	4.55		
3	3+463.581	4.279 RT	3+502.863	4.162 LT	128.1		
3	3+534.798	4.081 LT	3+550.595	3.893 LT	51.5		
3	3+550.595	3.893 LT	3+589.303	3.849 LT	125.5		
					741.5		
026100426	18 inch Reinforced Concrete Pipe Culvert, Class C					6	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
3	3+550.595	3.893 LT	3+550.542	2.224 LT	5.6		
					5.6		
026130020	Culvert End Section 12 inch					2	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
7	7+104.168	5.182 LT			1.0		
7	7+146.311	4.390 RT			1.0		
					2.0		
026130030	Culvert End Section 18 inch					3	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
3	3+373.263	6.203 RT			1.0		
3	3+414.519	5.928 RT			1.0		
3	3+534.798	4.081 RT			1.0		
					3.0		

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
026350040	Rectangular Grate And Frame (Bicycle Safe Grating) Std Dwg GF 3				2	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+232.464	1.333 LT			1.0	
7	7+318.963	1.312 LT			1.0	
					<hr/> 2.0	
026350045	Solid Cover and Frame , Std Dwg GF 5				8	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
2	2+778.283	7.650 RT			1.0	
2	2+778.628	2.697 LT			1.0	
2	2+786.450	7.778 RT			1.0	
3	3+004.956	6.585 RT			1.0	
3	3+026.333	2.335 LT			1.0	
3	3+026.369	6.898 RT			1.0	
3	3+463.581	4.279 RT			1.0	
3	3+550.595	3.893 LT			1.0	
					<hr/> 8.0	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
027210070	Untreated Base Course 3/4 inch or 1 inch Max				8,319	Ton
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
0	0+000		0+025		320.52	
1	1+003.29		1+795.424		1,118.36	
10	10+000		10+074		21.42	
11	11+002.856		11+795.705		371.77	
2	2+003.511		2+797.819		1,121.4	
22	22+005.404		22+787.385		366.66	
3	3+002.678		4+000		1,408.03	
33	33+002.335		33+818		382.47	
4	4+000		4+325		234.01	
5	5+003		5+520		745.8	
5	5+520		5+680		230.81	
5	5+680		5+817.270		198.01	
5	5+817.270		5+820.203		4.23	
6	6+000		6+799		1,152.62	
7	7+004.469		7+075		101.74	
7	7+091.709		7+120		40.82	
7	7+120		7+138.238		26.31	
7	7+138.238		7+152.124		4.02	
7	7+152.124		7+376.879		324.23	
8	8+000		8+143		41.4	
9					87.63	sidewalks
9	9+000		9+059		17.09	
					8,319.35	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
027430040	HMA - Small Projects 1/2 inch				2,855	Ton
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
0	0+000		0+025		154.784	
1	1+003.289		1+795.043		440.851	
2	2+003.511		2+788.762		436.418	
3	3+002.628		4+000		645.824	
4	4+000		4+325		90.478	
5	5+003.000		5+817.270		453.391	
6	6+000		6+795.941		443.184	
7	7+004.469		7+376.602		190.169	
					<u>2,855.099</u>	

027650020 **Pavement Message Paint** 10 Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+007.536	0.000 LT	1+007.536	1.500 LT	1.0	
1	1+792.766	0.000 RT	1+792.766	1.500 RT	1.0	
2	2+007.022	0.000 LT	2+007.022	1.500 LT	1.0	
2	2+784.535	0.000 RT	2+784.535	1.500 RT	1.0	
3	3+007.248	0.000 LT	3+007.248	1.500 LT	1.0	
5	5+006.625	0.000 LT	5+006.625	1.500 LT	1.0	
5	5+813.636	0.000 RT	5+813.636	1.500 RT	1.0	
6	6+004.640	0.000 LT	6+004.640	1.500 LT	1.0	
6	6+792.352	0.000 RT	6+792.352	1.500 RT	1.0	
7	7+007.363	0.000 LT	7+007.363	1.500 LT	1.0	
					<u>10.0</u>	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
027650050	Pavement Marking Paint				13	gal
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+003.289		1+795.043		2.061	
10	10+000		10+074		0.193	
2	2+003.511		2+788.762		2.044	
3	3+002.628		4+000		3.437	
5	5+002.967		5+810.175		2.101	
6	6+000		6+796.849		2.074	
7	7+004.512		7+379.734		0.94	
8	8+000		8+143		0.372	
9	9+000		9+059		0.153	
					13.375	
027710025	Concrete Curb and Gutter Type B1				9	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
6	5+999				9.41	
					9.41	
027710080	Pedestrian Access Ramp Type E				98	sq ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
6	5+999				97.83	
					97.83	
027760010	Concrete Sidewalk				4,814	sq ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
10	10+000		10+074		1,194.79	
6	5+999				170.68	concrete curb return
7	7+138.238		7+152.124		186.84	
8	8+000		8+143		2,308.86	
9	9+000		9+059		952.61	
					4,813.78	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description	Use Qty	Unit			
02812001*	Restore Landscaping	1,507	sq ft			
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
5	5+685.000		5+822.000		1,506.95	
					<u>1,506.95</u>	

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10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
02821000*	4 ft Chain Link Fence				11,548	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+002.514	6.500 RT	1+002.514	12.487 RT	19.64	
1	1+003.987	2.500 RT	1+003.987	3.500 RT	3.28	
1	1+003.987	2.500 RT	1+049.537	2.500 RT	148.52	
1	1+004.536	2.500 RT	1+004.536	1.500 RT	3.28	
1	1+006.036	3.000 LT	1+006.036	1.500 RT	4.92	
1	1+006.036	3.000 LT	1+795.766	4.021 LT	2,596.9	
1	1+750.877	2.500 RT	1+795.877	2.500 RT	147.64	
1	1+794.266	1.500 RT	1+794.266	2.500 RT	3.28	
1	1+794.377	6.500 RT	1+794.377	7.991 RT	4.89	
1	1+795.766	4.021 LT	1+795.766	1.500 LT	8.27	
1	1+795.877	2.500 RT	1+795.877	3.500 RT	3.28	
2	2+003.514	8.260 RT	2+003.514	6.500 RT	5.77	
2	2+004.022	1.500 RT	2+004.022	2.500 RT	3.28	
2	2+004.022	2.500 RT	2+049.022	2.500 RT	147.64	
2	2+005.014	2.500 RT	2+005.014	3.500 RT	3.28	
2	2+005.522	3.347 LT	2+005.522	1.500 LT	6.06	
2	2+005.522	3.347 LT	2+787.535	2.372 LT	2,564.68	
2	2+741.917	2.500 RT	2+781.350	2.500 RT	129.27	
2	2+783.350	2.500 RT	2+786.917	2.500 RT	11.7	
2	2+785.328	8.662 RT	2+785.328	5.488 RT	10.41	
2	2+786.035	1.500 RT	2+786.035	2.500 RT	3.28	
2	2+786.917	2.500 RT	2+786.917	4.031 RT	5.02	
2	2+787.535	2.372 LT	2+787.535	1.500 LT	2.86	
3	3+004.114	1.500 RT	3+004.114	2.500 RT	3.28	
3	3+004.114	2.500 RT	3+004.114	6.226 RT	8.3	
3	3+004.114	8.755 RT	3+048.651	2.500 RT	147.64	
3	3+005.512	3.242 RT	3+005.533	2.500 RT	2.43	
3	3+005.669	1.500 LT	3+005.669	3.403 LT	6.24	
3	3+005.669	3.043 LT	3+839.327	6.088 LT	2,732.88	
5	5+003.625	1.500 RT	5+003.625	4.500 RT	9.84	
5	5+003.625	4.500 RT	5+015.764	4.500 RT	36.71	
5	5+005.125	1.500 LT	5+005.125	6.706 LT	17.08	
5	5+015.764	3.000 RT	5+015.764	3.000 RT	4.92	
5	5+015.764	4.500 RT	5+965.000	3.000 RT	2,227.97	
5	5+694.562	2.500 LT	5+816.636	2.500 LT	400.51	
5	5+815.136	2.979 RT	5+815.136	1.500 RT	4.85	
5	5+816.636	2.500 LT	5+816.636	1.500 LT	3.28	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
6	6+002.150	7.186 RT	6+001.640	1.500 RT	18.73	
6	6+780.281	4.882 RT	6+783.894	3.286 RT	46.25	
6	6+793.894	3.286 RT	6+793.894	1.500 RT	5.86	
7	7+005.863	2.940 LT	7+005.863	1.500 LT	4.72	
7	7+070.770	1.993 LT	7+074.528	1.794 LT	11.94	
7	7+375.715	2.500 RT	7+377.000	1.621 RT	17.65	
					<hr/>	
					11,548.23	

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LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
02821001*	Swing Gate				30	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+002.514	0.300 LT	1+002.514	1.500 RT	1.0	
1	1+003.987	1.500 LT	1+003.987	0.610 RT	1.0	
1	1+004.536	0.300 LT	1+004.536	1.500 RT	1.0	
1	1+006.036	1.500 LT	1+006.036	0.300 RT	1.0	
1	1+794.266	0.300 LT	1+794.266	1.500 RT	1.0	
1	1+794.377	4.390 RT	1+794.377	6.500 RT	1.0	
1	1+795.766	1.500 LT	1+795.766	0.300 RT	1.0	
1	1+795.877	3.500 RT	1+795.877	5.300 RT	1.0	
2	2+003.514	4.700 RT	2+003.514	6.500 RT	1.0	
2	2+004.022	0.300 LT	2+004.022	1.500 RT	1.0	
2	2+005.014	3.500 RT	2+005.014	5.610 RT	1.0	
2	2+005.522	1.500 LT	2+005.522	0.300 RT	1.0	
2	2+785.328	5.488 RT	2+785.328	6.488 RT	1.0	
2	2+786.035	0.300 LT	2+786.035	1.500 RT	1.0	
2	2+786.917	4.031 RT	2+786.917	5.831 RT	1.0	
2	2+787.535	1.500 LT	2+787.535	0.300 RT	1.0	
3	3+004.114	1.500 RT	3+004.114	0.300 LT	1.0	
3	3+004.114	4.426 RT	3+004.114	6.226 RT	1.0	
3	3+005.455	5.351 RT	3+005.512	3.242 RT	1.0	
3	3+005.669	1.500 LT	3+005.669	0.300 RT	1.0	
5	5+003.625	0.300 LT	5+003.625	1.500 RT	1.0	
5	5+005.125	1.500 LT	5+005.125	0.300 RT	1.0	
5	5+815.136	1.500 RT	5+815.136	0.300 LT	1.0	
5	5+816.636	1.500 LT	5+816.636	0.300 RT	1.0	
5	6+001.640	1.500 RT	6+001.640	0.300 LT	1.0	
6	6+003.140	1.500 LT	6+003.140	0.300 RT	1.0	
6	6+793.894	1.500 RT	6+793.894	0.300 LT	1.0	
6	6+795.394	1.500 LT	6+795.394	0.300 RT	1.0	
7	7+005.863	1.500 LT	7+005.863	0.300 RT	1.0	
7	7+007.363	1.500 RT	7+007.363	0.300 LT	1.0	
					30.0	

Detailed Report

CM-LC35(121)

Version: 1

LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description					Use Qty	Unit
02821002*	Guardrail					180	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
6	6+030.000		6+085.000		180.45		
					180.45		
028210044	Chain Link Brace Post					2	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
5	5+632.353	2.500 LT			1.0		
5	5+695.000	3.000 RT			1.0		
					2.0		
02861001*	Block Retaining Wall					468	sq ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
6	6+030.000	1.856 LT	6+085.000	1.856 LT	263.63		
7	7+046.477	2.191 LT	7+074.838	2.216 LT	204.51		
					468.14		
02873001*	Vinyl Rail Fencing					520	ft
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment	
3	3+498.739	2.500 RT	3+657.234	2.500 RT	520.0		
					520.0		

Detailed Report

CM-LC35(121)

Version: 1

LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
02891000*	Sign				133	Each
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+000		1+797		19.0	
10	10+000		10+074		1.0	
10600S					6.0	
11	11+000		11+796		2.0	
11000S					6.0	
11400S					7.0	
2	2+000		2+792		14.0	
22	22+000		22+788		4.0	
3	3+000		4+325		10.0	
33	33+002		33+819		3.0	
5	5+000		5+822		10.0	
6	6+000		6+799		10.0	
7	7+000		7+377		8.0	
8	8+000		8+143		2.0	
8680S					4.0	
8720S					4.0	
8800S					4.0	
9	9+000		9+059		2.0	
9000S					6.0	
9400S					6.0	
9800S					5.0	
					133.0	

029220040

Broadcast Seed

219 1000sqft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
1	1+000		1+797		40.205	
2	2+000		2+792		34.734	
3	3+000		4+000		44.123	
5	5+000		5+822		46.71	
6	6+000		6+799		39.469	
7	7+000		7+377		14.106	
					219.347	

Detailed Report

CM-LC35(121)

Version: 1

LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

10 - ROADWAY

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
032110010	Reinforcing Steel - Coated				2,112	lb
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
2	2+778.283	7.65 RT			216.05	
2	2+778.628	2.697 LT			216.05	
2	2+786.450	7.778 RT			216.05	
3	3+005.912	6.954 RT			216.05	
3	3+026.333	2.335 LT			216.05	
3	3+026.369	6.898 RT			216.05	
3	3+463.581	4.279 RT			224.87	
3	3+550.595	3.893 LT			224.87	
7	7+232.464	1.333 LT			182.98	
7	7+318.963	1.312 LT			182.98	
					2,112.0	

033100020	Concrete- Small Structure				17	cu yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
2	2+778.283	7.65 RT			1.69	
2	2+778.628	2.697 LT			1.69	
2	2+786.450	7.778 RT			1.69	
3	3+005.912	6.954 RT			1.69	
3	3+026.333	2.335 LT			1.69	
3	3+026.369	6.898 RT			1.69	
3	3+463.581	4.279 RT			1.83	
3	3+550.595	3.893 LT			1.83	
7	7+232.464	1.333 LT			1.41	
7	7+318.963	1.312 LT			1.41	
					16.62	

Detailed Report

CM-LC35(121)

Version: 1

LIGHT RAIL TRAIL, 11400 SOUTH TO 8400 SOUTH

20 - STRUCTURES

Alt Group: 0 Alt #: 0

Item Number	Description				Use Qty	Unit
020560015	Granular Borrow				12	cu yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+074.685				5.89	
7	7+091.666				5.89	
					11.78	
023160020	Roadway Excavation (Plan Quantity)				45	cu yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7					44.69	bridge footings
					44.69	
032110010	Reinforcing Steel - Coated				1,559	lb
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+074.685				779.66	South bridge footing
7	7+091.666				779.66	North bridge footing
					1,559.32	
033100020	Concrete- Small Structure				11	cu yd
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+074.685				5.6	South bridge footing
7	7+091.666				5.6	North bridge footing
					11.2	
05125001*	Pre-fabricated steel bridge				1	Lump
Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
7	7+074.685		7+091.666		1.0	
					1.0	

XV. Special Provisions

February 26, 2004

SPECIAL PROVISION

CM-LC35(121)

SECTION 00120S

STANDARD DRAWING AND ITEM CONVERSIONS

English standard drawings will be used on this project. When using the index to standard drawings, convert from metric standard drawing number to english standard drawing number using the following list:

Metric	English		Metric	English
605-1	DG-1		745-2G	TC-5
605-2	DG-2		745-2H	TC-9
605-3	DG-3		745-2I	TC-13
605-4	DG-5		745-2J	TC-16
605-5	DG-6		745-2K	TC-6
605-6	DG-7		745-2L	TC-15
605-7	DG-8		745-2M	TC-12
605-8	DG-9		745-2N	TC-11
615-1A	GW-2			
615-1B	GW-3		1010	EN-1
715-2	GW-5		1551-1	DB-1A
745-1	TC-1A & TC-1B		1551-3	DB-1C
745-2	TC-2A & TC-2B		1551-4	DB-1D
745-2A	TC-3		1703	GF-3
745-2B	TC-8		1705	GF-5
745-2C	TC-14		1710-1	CB-9A
745-2D	TC-10		1710-2	CB-9B
745-2E	TC-7		1710-3 & 1710-4	CB-9C
745-2F	TC-4			

English standard items will be used on this project. When using the plans, convert from metric standard item description to english standard item description using the following list:

Metric	English
300 mm Smooth Lined Pipe Culvert Class C	12 inch Smooth Lined Pipe Culvert, Class C
450 mm Smooth Lined Pipe Culvert Class C	18 inch Smooth Lined Pipe Culvert, Class C
450 mm Reinforced Concrete Pipe Culvert Class C	18 inch Reinforced Concrete Pipe Culvert, Class C
Culvert End Sections 300 mm	Culvert End Section 12 inch
Culvert End Sections 450 mm	Culvert End Section 18 inch
Rectangular Grate and Frame (Bicycle Safe Grating), Std Dwg 1703	Rectangular Grate and Frame (Bicycle Safe Grating) Std Dwg GF 3
Solid Cover and Frame, Std Dwg 1705	Solid Cover and Frame, Std Dwg GF 5
Untreated Base Course 19 mm or 25 mm Max	Untreated Base Course $\frac{3}{4}$ inch or 1 inch Max
Hot Mix Asphalt Mix – 19 mm Max	HMA – Small Projects $\frac{1}{2}$ inch
Traffic Striping Paint	Pavement Marking Paint
Disabled Pedestrian Ramp Type G	Pedestrian Access Ramp Type E
1.2 m Chain Link Fence	4 ft Chain Link Fence
Pavement Marking Paint (Stop Bars, Crosswalks – 300 mm)	Pavement Message Paint

February 25, 2004

**SPECIAL PROVISION
CM-LC35(121)**

SECTION 00555M

PROSECUTION AND PROGRESS

Add the following to paragraph 1.11 “Limitation of Operations”

- D. The Contractor will adhere to all “Licensee contractor” requirements as outlined in the “General License Agreement For Multiple Use Trail”. See attached agreement.

- E. During construction the Contractor shall ensure that all existing track drainage is maintained. This track drainage includes all existing surface ditches, pipes, culverts, and associated headworks and/or drainage structures. At no time will the contractor block, dam, or impede these existing drainages or drainage structures

December 5, 2003

**SPECIAL PROVISION
CM-LC35(121)**

SECTION 00725M

SCOPE OF WORK

Replace section 1.15 “RAILWAY - HIGHWAY PROVISIONS:” with the following

- A. Execute Right-of-Entry Agreement with Utah Transit Authority (UTA) prior to beginning any construction activities on the project.
 - 1. Send executed copies of this agreement to the Engineer prior to any work being performed within the UTA right-of-way.
 - 2. The Right-of-Entry Agreement will include a Construction Management Plan prepared by the contractor and approved by UTA.
 - 3. The Construction Management Plan shall demonstrate how the contractor will ensure that construction work on the trail will not interfere with TRAX and railroad operations nor undermine existing track ballast.
 - 4. The Construction Management Plan shall also demonstrate how the Contractor will follow all the safety requirements identified in UTA’s Construction Safety Program Manual.
- B. The Contractor will cleanup the right-of-way to the satisfaction of UTA.
 - 1. If the Contractor fails to cleanup the right-of-way to the satisfaction of UTA, the Contractor will be assessed the cost to cleanup the right-of-way by a third party.
- C. Costs associated with developing, executing and maintaining the Right-of-Entry Agreement will be included in the bid price for mobilization.

SPECIAL PROVISION

CM-LC35(121)

SECTION 01571S

TEMPORARY ENVIRONMENTAL CONTROLS

Delete Section 01571 in its entirety and replace with the following.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Requirements for controlling surface environmental conditions at the construction site, and related areas under the Contractor's control.
- B. Installation, inspection, maintenance, and removal of temporary erosion control measures.

1.2 RELATED SECTIONS

- A. Section 01282: Payment.
- B. Section 02061: Select Aggregate.
- C. Section 02373: Riprap.
- D. Section 02610: Pipe Culverts.
- E. Section 02613: Culvert End Sections.
- F. Section 02922: Seed, Turf Seed, and Turf Sod.

1.3 REFERENCES

- A. AASHTO M 288: Geotextile Specifications for Highway Applications.

1.4 TYPES

- A. Check Dam:
 - 1. Intercepts and ponds sediment-laden ditch flows.
 - 2. Ponding the water reduces the velocity of the incoming flow and allows most of the suspended sediment to settle out.
 - 3. Water exits the check dam by flowing over the top.
 - 4. Types:
 - a. Straw or Hay Bale
 - b. Stone

- B. Silt Fence Slope Barrier:
 - 1. Intercepts and ponds sediment-laden sheet flow runoff from slopes.
 - 2. Ponding the water reduces the velocity of the incoming flow and allows most of the suspended sediment to settle out.
 - 3. Water exits by percolating through the silt fence.

- C. Slope Drain:
 - 1. Collects and transports storm runoff down the face of a slope.
 - 2. Consists of a berm at the top of the slope, a pipe culvert with end sections and outlet protection.
 - 3. Used until permanent facilities are installed or until vegetation growth is adequate.

- D. Drop-inlet Barrier:
 - 1. Intercepts and ponds sediment-laden runoff.
 - 2. Ponding the water reduces the velocity of the incoming flow and allows most of the suspended sediment to settle out.
 - 3. When pond height reaches the top of the barrier, water flows over the bales or stones and into the drop-inlet. If a silt-fence barrier is used, the ponded water percolates through the silt-fence fabric and into the drop-inlet.
 - 4. Types:
 - a. Straw or Hay Bale Drop-inlet Barrier
 - b. Stone Drop-inlet Barrier
 - c. Silt-Fence Drop-Inlet Barrier

- E. Sediment Trap:
 - 1. Intercepts and ponds sediment-laden concentrated flows.
 - 2. Ponding the water reduces the velocity of the incoming flow and allows most of the suspended sediment to settle out.

- F. Temporary Berm:
 - 1. Diverts storm runoff from a recently constructed slope to a controlled release point.
 - 2. Ridge of compacted soil, with or without shallow ditch.
- G. Curb Inlet Barrier:
 - 1. Intercepts Sediment-laden runoff.
 - 2. Minor ponding may occur.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Check dams:
 - 1. Straw or hay bale:
 - a. Twine bound hay or straw bales free from weeds declared noxious by the UDA.
 - b. Hardwood stakes: 2 inch square (nominal) by 4 feet.
 - c. Filter Fabric: AASHTO M 288.
 - 2. Stone: Well graded within 0.5 inch to 1.5 inch.
- B. Silt Fence:
 - 1. Hardwood Post: 2 inch square (nominal) by 4 feet in length.
 - 2. Free Draining Granular Backfill Borrow: Refer to Section 02061.
 - 3. Filter Fabric: Synthetic, pervious sheet of propylene, nylon, polyester, or ethylene yarn. AASHTO M 288.
 - a. Allows a flow rate of 0.067 gal/yd²/min.
 - b. Filter efficiency of 97 percent.
 - c. With ultraviolet ray inhibitors and stabilizers.
 - d. Provide a minimum of 6 months of expected usable construction life at a temperature range of 0 degrees F. to 120 degrees F.
 - 4. Fasteners: Staples, wire, zip ties, or nails.
- C. Slope Drain:
 - 1. Pipe Culverts: Refer to Section 02610.
 - 2. End Section: Refer to Section 02613.
 - 3. Riprap or Rock Lining: Refer to Section 02373. Fifty percent of the riprap to be between 6 inches and 12 inches with a maximum size of 12 inches and a minimum size of 4 inches.
 - 4. Hay or straw bales and hardwood stakes: Refer to this Section, Part 2, article, Check Dams.

- D. Drop-Inlet Barriers:
 - 1. Straw or Hay Bale: Refer to this Section, Part 2, article, Check Dams.
 - 2. Stone: Refer to this Section, Part 2, article, Check Dams, Stone.
 - 3. Silt-fence: Refer to this Section, Part 2, article, Silt Fence.

- E. Sediment Trap:
 - 1. Free draining granular backfill borrow: Refer to Section 02061.
 - 2. Riprap or Rock Lining: Refer to Section 02373, and this Section, this article, Materials, Slope Drain.

- F. Temporary Berm: Existing Soil.

- G. Curb Inlet Barrier:
 - 1. Concrete Building Blocks.
 - 2. Stone: Refer to this Section, Part 2, article, Check Dams, Stone.
 - 3. Wire Mesh: 0.5 inch by 0.5 inch.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prepare and submit a Notice of Intent (NOI) form for Storm Water Discharges with Construction Activity. NOI forms can be completed online at the Division of Water Quality website at <http://secure.e-utah.org/swp/client>.

- B. Do not start earth-disturbing activities until the completed NOI form has been submitted to the Division of Water Quality at the DEQ.

- C. Follow the Storm Water Pollution Prevention Plan (SWPPP) in the plan.
 - 1. Address in the SWPPP all disturbed areas on a project including staging areas, haul roads, borrow sites, stockpiles, and disposal areas.
 - 2. If SWPPP is not provided in the plans, create and submit a plan to the Engineer for approval.
 - 3. Obtain written approval from the Engineer to change the SWPPP.

- D. Designate a SWPPP coordinator who will:
 - 1. Work directly with the Department SWPPP coordinator designated by the Engineer.
 - 2. Be available as needed to coordinate the SWPPP, inspect and maintain sediment control devices, and resolve other issues.

- E. Do not start earth-disturbing work until SWPPP is approved, and appropriate temporary erosion and sediment control measures are in place.

- F. Follow installation procedures outlined in the Standard Drawings.
- G. Use the most restrictive requirement if a conflict occurs between erosion and sediment control specifications and federal, state, or local agency's laws, rules, or regulations.
- H. At the end of construction, submit a Notice of Termination (NOT) form to the Division of Water Quality to terminate the permit. NOT forms can be obtained from the website listed under A in this subsection.

3.2 INSTALLATION

- A. The erosion control measures on the SWPPP are diagrammatic and must be adapted in the field to meet their intended purpose. As the project progresses through the various construction phases, implement the appropriate erosion control measures for that stage.
- B. Obtain approval from the Engineer to make changes to the SWPPP. Install additional erosion control measures as directed by the Engineer.
- C. Follow installation procedures outlined in the Standard Drawings and in the UDOT Temporary Erosion and Sediment Control Manual.
- D. Provide or construct measures such as check dams, silt fence, slope drains, drop-inlet barriers, sediment traps, and other erosion control devices or methods to prevent erosion and sedimentation during construction and shutdown periods.
- E. Temporary or Permanent stabilization measures (Section 02911: Mulching and Section 02376: Erosion Control Blanket) must be in place as soon as practicable but in no case longer than 14 days unless construction activity will resume on that portion of the site within 21 days from when activity ceased. If snow cover precludes the mulch placement, it shall be applied as soon as practicable. Seasonal shutdowns require that mulch be placed for all disturbed portions of the project.

3.3 INSPECTION

- A. Inspect all denuded areas during construction to determine potential erosion problems. Pro-actively apply corrective measures.
- B. Inspect all temporary erosion control measures a minimum of once every seven calendar days and within 24 hours after any storm event greater than 13 mm. Where construction sites have been temporarily or seasonally shut down, conduct inspections once a month.

- C. After each inspection, complete an inspection report and submit it to the Engineer. Include the following information: summary of the scope of inspection, name(s) of qualified personnel conducting the inspection, date of inspection, major observations relating to the implementation of the plan.

3.4 MAINTENANCE

- A. Maintain temporary sediment control devices to ensure they function properly until all disturbed areas draining to them are stabilized.
- B. Remove and properly dispose of sediment when it has accumulated half way up the height or it interferes with the performance of the structure.
- C. Dispose of sediment removed from erosion control structures in a manner acceptable to the Engineer.

3.5 REMOVAL

- A. After all seeding and mulching has been placed and just before final closeout of the project, remove any remaining sediment from behind and around erosion control features and remove all temporary erosion control features unless directed differently by the Engineer.
- B. Seed areas where the sediment was removed following Section 02922 Seed, Turf Seed and Turf Sod.

END OF SECTION

March 5, 2002

**SPECIAL PROVISION
CM-LC35(121)**

SECTION 01892S

RELOCATE PARK BENCH

PART 1 GENERAL

1.1 SUMMARY

- A. Includes but not limited to:
 - 1. Remove and salvage park bench.
 - 2. Remove and dispose of existing concrete pad.
 - 3. Construct concrete pad.
 - 4. Relocate salvaged park bench to new concrete pad.

- B. Related Sections:
 - 1. 02222 Site Demolition – Pavement.

 - 2. 02721 Untreated Base Course.

 - 3. 02776 Concrete Sidewalk, Median Filler & Flatwork.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Remove the existing park bench from it's existing location without damage. Store it safely until the new concrete pad is complete.
- B. Remove and dispose of the existing concrete pad.
- C. Construct a concrete pad as shown in the plans.
- D. Place the salvaged park bench on the new concrete pad. Anchor the park bench to the concrete pad as it was originally.

March 5, 2002

**SPECIAL PROVISION
CM-LC35(121)**

SECTION 02221M

REMOVE STRUCTURE AND OBSTRUCTION

Add the following to Part 3 Execution:

3.18 REMOVE ROCK LINED DITCH

- A. Remove rock lined ditch where designated.
- B. Dispose of removed rocks and materials.

March 5, 2002

**SPECIAL PROVISION
CM-LC35(121)**

SECTION 02316M

ROADWAY EXCAVATION

Add the following to paragraph 3.5 "Excavation – Standard Procedures"

- G. Place excavated material from the area between 9400 South and 9000 South within the project limits.
- H. The contractor will place this material in within the right of way in areas designated by the Engineer.
- I. The contractor will thoroughly compact and grade the material even with the adjacent ground surface.

SPECIAL PROVISION

CM-LC35(121)

SECTION 02610M

PIPE CULVERTS

Add the following to Part 1:

1.4 ACCEPTANCE CRITERIA

- A. Pipe culverts accepted according to the criteria outlined in this section. The Engineer may require testing of any or all culverts for compliance with the criteria. The Engineer reviews and approves proposed corrections. The acceptance of pipe culvert is based on five requirements: 1) Horizontal and vertical alignment deviations; 2) Barrel distortions; 3) Damages to the pipe; 4) Joint fitting; 5) Coating integrity. Following is a description of the requirements:
1. **Horizontal and vertical alignment deviations**
Measure horizontal and vertical installation deviations from the culvert's final construction survey stakes. Do not exceed the tolerances shown on Table A of this section.
 2. **Barrel distortions**
Measure load distortions along a straight line through the centerline of the pipe. Do not exceed the tolerances shown on Table A of this section.
 3. **Damaged culverts**
Remove or repair pipe culverts that are irregular or distorted, have cracks, dents, holes, splits, or loose nuts or bolts. Remove all pipes with a damaged invert.
 4. **Joints**
Remove all pipe culverts that have damaged joints that allow the culvert to leak. Re-install or remove all pipes that do not connect properly. Connect joints according to manufacturers recommendations. Provide a manufacturer Certificate of Compliance for the pipe joints.
 5. **Coating integrity**
Repair all pipe coatings, according to manufacturer recommendations, that don't have the required thickness or that have been damaged. Provide a Manufacturer Certificate of compliance for the pipe coating.

Table - A TOLERANCES

Alignment Tolerances			Distortions Gradual Ovaling or Elliptical	
Design Grade	Max. Line Deviation	Max. Grade Deviation	Nominal Pipe Diameter *	Maximum Distortions **
	Percent of Nominal Pipe Diameter	inch/100feet	inch	Inch
> 1 %	5	1 1/2	18	+/- 0 - 7/8
			24	+/- 1 - 1/4
≤ 1 %	5	1	30	+/- 1 - 1/2
			36	+/- 1 - 7/8
< 0.5 %		± 0.5	42	+/- 2
			48 +/-	+/- 2 - 3/8

Notes For nominal culvert diameters larger than 48 inch, use measured diameter to calculate 5 percent allowable distortion. *
 Maximum distortions are used to define dimensions associated with allowable pipe deflections. Measure directly or by use of a mandrel test. **

SPECIAL PROVISION

CM-LC35(121)

SECTION 02742S

PROJECT SPECIFIC SURFACING REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Required PG Asphalt or emulsion.
- B. Number of gyrations to use for Superpave Mix Design.

PART 2 PRODUCTS

2.1 MIXES

- A. Hot Mix Asphalt (HMA): (Refer to bid item for size)
 - 1. PG 64-28 Asphalt.
 - 2. N_{initial} 6 N_{design} 50 N_{final} 75
- B. Open-Graded Surface Course:
 - 1. PG N/A Asphalt.
- C. Chip Seal
 - 1. Type of asphalt emulsion N/A

PART 3 EXECUTION Not used.

END OF SECTION

SPECIAL PROVISION

CM-LC35(121)

SECTION 02745S

ASPHALT MATERIAL

Delete Section 02745 in its entirety and replace with the following.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Asphalt materials.

1.2 PAYMENT PROCEDURES

- A. Price adjustments for asphaltic cement and liquid asphalt (chip-seal emulsions and/or cut-backs):
 - 1. Standard department procedures governs price adjustments made where asphalt material does not conform to the specifications
 - a. If the price adjustment exceeds 30 percent, the Engineer may order the removal of any or all the defective asphalt material.
 - b. The pay factor for such material is 0.50 when allowed to remain in place.
- B. Price adjustments for Performance Graded Asphalt Binder (PGAB):
 - 1. Standard department PGAB management plan governs price reductions or removal of material where they binder does not conform to the specifications.

1.3 REFERENCES

- A. AASHTO M 81: Cut-Back Asphalt (Rapid-Curing Type).
- B. AASHTO M 82: Cut-Back Asphalt (Medium-Curing Type).
- C. AASHTO M 140: Emulsified Asphalt.
- D. AASHTO M 208: Cationic Emulsified Asphalt.

- E. AASHTO M 226: Viscosity Graded Asphalt Cement.
- F. AASHTO MP 1: Performance Graded Asphalt Cement.
- G. AASHTO T 44: Solubility of Bituminous Materials.
- H. AASHTO T 49: Penetration of Bituminous Materials.
- I. AASHTO T 50: Float Test for Bituminous Materials.
- J. AASHTO T 51: Ductility of Bituminous Materials.
- K. AASHTO T 59: Testing Emulsified Asphalt.
- L. AASHTO T 201: Kinematic Viscosity of Asphalts.
- M. AASHTO T 228: Specific Gravity of Semi-Solid Bituminous Materials.
- N. AASHTO T 240: Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test).
- O. AASHTO T 300: Force Ductility of Bituminous Materials.
- P. AASHTO T 301: Elastic Recovery Test of Bituminous Materials by Means of a Ductilometer.
- Q. ASTM D 92: Flash and Fire Points by Cleveland Open Cup.
- R. ASTM D 1190: Concrete Joint Sealer, Hot-Applied Elastic Type.
- S. ASTM D 2007: Characteristic Groups in Rubber Extender and Processing Oils and Other Petroleum-Derived Oils by the Clay-Gel Absorption Chromatographic Method.
- T. ASTM D 2026: Cutback Asphalt (Slow-Curing Type).
- U. ASTM D 3405: Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements.
- V. ASTM D 4402: Viscosity Determinations of Unfilled Asphalts Using the Brookfield Thermosel Apparatus.
- W. ASTM D 5167: Melting of Hot-Applied Joint and Crack Sealant and Filler for Evaluation.

- X. ASTM D 5329: Sealants and Fillers, Hot-Applied, For Joints and Cracks in Asphaltic and Portland Cement Concrete Pavements.
- Y. ASTM D 5801: Toughness and Tenacity of Bituminous Materials.
- Z. CA 332: California Test Method for Torsional Recovery of Modified Asphalt Residue.
- AA. UDOT Method 967: Cold Bend Flexibility

1.4 SUBMITTALS

- A. For each shipment of material, supply a vendor-prepared bill of lading showing the following information:
 - 1. Type and grade of material
 - 2. Type and amount of additives, used, if applicable
 - 3. Destination
 - 4. Consignee's name
 - 5. Date of Shipment
 - 6. Railroad car or truck identification
 - 7. Project number
 - 8. Loading temperature
 - 9. Net weight in tons (or net gallons corrected to 60 degrees F, when requested)
 - 10. Specific gravity
 - 11. Bill of lading number
 - 12. Manufacturer of asphalt material

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Each shipment of asphalt material must:
 - 1. Be uniform in appearance and consistency.
 - 2. Show no foaming when heated to the specified loading temperature.
- B. Do not supply shipments contaminated with other asphalt types or grades than those specified.

1.6 GRADE OF MATERIAL

- A. The Engineer determines the grade of material to be used based on the supply source designated by the Contractor when the bid proposal lists more than one grade of asphalt material.

PART 2 PRODUCTS

2.1 PERFORMANCE GRADED ASPHALT BINDER (PGAB)

- A. Supply PGABs under the Approved Supplier Certification (ASC) System. Refer to UDOT Asphalt Binder Quality Management Plan.
- B. As specified in AASHTO M320, with the following modifications:
1. Delete superscript (f) for all specified grades having algebraic differences of 92 degrees C or greater between the high and low design temperatures.
 2. Add Direct Tension Test for all specified grades having algebraic differences of 92 degrees C or greater between the high and low design temperatures.
 - a. Failure Strain, minimum of 1.5 percent at 1.0 mm/min.
 - b. Failure Stress, minimum of 4.0 Mpa
 3. Delete $G^*/\sin \delta$ requirement for the original binder on all specified grades having algebraic differences of 92 degrees C or greater between the high and low design temperatures.
 4. Add G^* and phase angle (δ) requirements for the original binder on all specified grades having an algebraic difference of 92 degrees C between the high and low design temperatures.
 - a. G^* (complex modulus), 1.3 kPa, minimum
 - b. Phase angle (δ), 74 degrees, maximum
 5. Add G^* and phase angle (δ) requirements for the original binder on all specified grades having an algebraic difference of 98 degrees C or greater between the high and low design temperatures.
 - a. G^* (complex modulus), 1.3 kPa, minimum
 - b. Phase angle (δ), 71 degrees, maximum
 6. Add Toughness and Tenacity Test for all specified grades having algebraic differences of 92 degrees C or greater between the high and low design temperatures.
 - a. Meet a minimum of 75 lb-in 50 lb-in respectively for each test specimen.

2.2 ASPHALT CEMENT, HOT-POUR BITUMINOUS CRACK SEALANT, LIQUID ASPHALTS, REJUVENATING AGENTS

- A. As specified in AASHTO M 226, Table 2 with the following modifications:
1. Delete and replace ductility at 77°F(25°C) with ductility at 39.2°F(4°C) with values as detailed below.

$\frac{AC - 2.5}{50+}$	$\frac{AC - 5}{25+}$	$\frac{AC - 10}{15+}$	$\frac{AC - 20}{5+}$
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- B. As specified for cationic and anionic emulsified asphalt.
 - 1. All standard Slow Setting (SS, CSS), Medium Setting (MS, CMS), and Rapid Setting (RS, CRS) grades; inclusive of all High-Float designations (HF).
 - 2. Supply under the Approved Supplier Certification System (ASC).
 - 3. Meet AASHTO M 208 and M 140.

- C. Conform to the requirements of:
 - 1. Table 1: Cationic Rapid Setting Emulsified Polymerized Asphalt (CRS-2P); or
 - 2. Table 2: Latex Modified Cationic Rapid Setting Emulsified Asphalt (LMCRS-2); or
 - 3. Table 3: Cationic Medium Setting Emulsified Asphalt (CMS-2S); or
 - 4. Table 4: High Float Medium Setting Emulsified Asphalt (HFMS-2); or
 - 5. Table 5: High Float Medium Setting Emulsified Polymerized Asphalt (HRMS-2SP); or
 - 6. Table 6: High Float Rapid Setting Emulsified Polymerized Asphalt (HFRS-2P); or
 - 7. Table 7: Cationic Rapid Setting Emulsified Asphalt (CRS-2A, B).

- D. Curing cut-back asphalt:
 - 1. As specified for slow curing (SC) in ASTM D 2026.
 - 2. As specified for medium curing (MC) in AASHTO M 82.
 - 3. As specified for rapid curing (RC) in AASHTO M 81.

- E. Conform to requirements for Emulsified Asphalt Pavement Rejuvenating Agent:
 - 1. Table 8: Type B
 - 2. Table 9: Type B Modified
 - 3. Table 10: Type C
 - 4. Table 11: Type D

- F. Conform to the requirements for Hot-Pour Bituminous Crack Sealant:
 - 1. Table 12

Table 1

Cationic Rapid Setting Emulsified Polymerized Asphalt (CRS-2P)			
Tests	AASHTO Test Method	Min.	Max.
Emulsion			
Viscosity , SFS, 140°F (60°C), sec (Project-site Acceptance/Rejection Limits)	T59	100	400
Settlement (a) 5 days, percent	T 59		5
Storage Stability Test (b) 1 d, 24 h, percent	T 59		
Demulsibility (c) 35 ml, 0.8% sodium dioctyl Sulfosuccinate, percent	T 59	40	
Particle Charge Test	T 59	Positive	
Sieve Test, percent	T 59		0.10
Distillation			
Oil distillate, by vol of emulsion, percent			0
Residue (d), percent		68	
Residue from Distillation Test			
Penetration, 77°F(25°C), 100 g, 5 s, dmm	T 49	80	150
Ductility, 39.2°F(4°C), 5 cm/min, cm	T 51	35	
Toughness, lb-in	ASTM D5801	75	
Tenacity, lb-in	ASTM D5801	50	
Solubility in trichloroethylene, percent	T 44	97.5	
<p>(a) The test requirement for settlement may be waived when the emulsified asphalt is used in less than a five-day time; or the purchaser may require that the settlement test be run from the time the sample is received until it is used, if the elapsed time is less than 5 days.</p> <p>(b) The 24-hour (1-day) storage stability test may be used instead of the five-day settlement test.</p> <p>(c) The demulsibility test is made within 30 days from date of shipment.</p> <p>(d) Distillation is determined by AASHTO T 59, with modifications to include a 350 ± 5 °F (177±3°C) maximum temperature to be held for 15 minutes.</p>			
Modify the asphalt cement prior to emulsification.			

Table 2

Latex Modified Cationic Rapid Setting Emulsified Asphalt (LMCRS-2)			
Tests	AASHTO Test Method	Min.	Max.
Emulsion			
Viscosity, SFS, 122 °F (50 °C), Sec (Project Site Acceptance/Rejection Limits)	T59	75	300
Settlement (a) 5 days, percent	T 59		5
Storage Stability Test (b) 1 d, 24 h, percent	T 59		1
Demulsibility (c) 35 ml, 0.8% sodium dioctyl Sulfosuccinate, percent	T 59	40	
Particle Charge Test	T 59	Positive	
Sieve Test, percent	T 59		0.3
Distillation			
Oil distillate, by vol of emulsion, percent			0
Residue (d), percent		65	
Residue from Distillation Test			
Penetration, 77 °F(25 °C), 100 g, 5 s, dmm	T49	40	200
Torsional Recovery, (e)		18	
<p>(a) The test requirement for settlement may be waived when the emulsified asphalt is used in less than a five-day time; or the purchaser may require that the settlement test be run from the time the sample is received until it is used, if the elapsed time is less than 5 days.</p> <p>(b) May use the 24-hour (1-day) storage stability test instead of the five-day settlement test.</p> <p>(c) Make the demulsibility test within 30 days from date of shipment.</p> <p>(d) Determine distillation by AASHTO T 59,with modifications to include a 350 ± 5 °F (177 ± 3 °C) maximum temperature to be held for 15 minutes.</p> <p>(e) CA 332 (California Test Method)</p>			
Co-mill latex and asphalt during emulsification			

Table 3

Cationic Medium Setting Emulsified Asphalt (CMS-2S)		
Tests	AASHTO Test Method	Specification
Emulsion		
Viscosity, SSF, 122°F (50°C), sec.	T 59	50 - 450
Percent residue	T 59	60 min
One-day storage stability, percent	T 59	1 max
Sieve, percent	T 59	0.10 max
Particle charge	T 59	Positive
Oil Distillate, percent by volume of emulsion	T 59	5-15
Residue		
Penetration, 77°F (25°C), 100g, 5 sec, dmm	T 59	100-250
Solubility, percent	T 59	97.5 min.

Table 4

High Float Medium Setting Emulsified Asphalt (HFMS-2)			
Tests	AASHTO Test Method	Min.	Max.
Emulsion			
Viscosity, SSF, 122 °F(50 °C), Sec (Project Site Acceptance/Rejection Limits	T59	70	300
Storage Stability Test, 1d, 24 h, percent	T59		1.0
Sieve Test , percent	T59		0.1
Distillation			
Oil Distillate, by vol of emulsion, percent	T59	NA	NA
Residue, percent	T59	65	
Residue from Distillation Test			
Penetration, 77 °F(25 °C), 100g,5 s, dmm	T49	50	200
Float Test, 140 °F(60 °C), sec	T50	1200	
Solubility in Trichloroethylene, percent	T44	97.5	
Ductility, 77 °F(25 °C) 5cm/min, cm	T51	40	

Table 5

High Float Medium Setting Emulsified Polymerized Asphalt (HFMS-2P) (a)			
Tests	AASHTO Test method	Min.	Max.
Emulsion			
Viscosity , SSF ,122°F (50°C), sec (Project Site Acceptance/Rejection Limits)	T 59	100	450
Storage Stability Test (a) 1 d, 24 h, percent	T 59		0.1
Sieve Test, percent	T 59		0.1
Distillation			
Oil distillate, by vol of emulsion, percent	T 59	1	7
Residue (c), percent	T 59	65	
Residue from Distillation Test			
Penetration, 77°F (25°C), 100 g, 5 s, dmm	T 49	70	300
Float Test, 140°F (60°C), sec	T 50	1200	300
Solubility in trichloroethylene, percent	T 44	97.5	
Elastic Recovery, 77°F (25°C), percent	T 301	50	
<p>(a) Supply an HFMS-2SP (anionic, polymerized, high-float) as an emulsified blend of polymerized asphalt cement, water, and emulsifiers. Polymerize the asphalt cement with a minimum of 3.0% polymer by weight of the asphalt cement prior to emulsification. After standing undisturbed for a minimum of 24 hours, the emulsion shall be smooth and homogeneous throughout with no white, milky separation, pumpable, and suitable for application through a distributor.</p> <p>(b) May use the 24-hour (1-day) storage stability test instead of the five-day settlement test.</p> <p>(c) Determine the distillation by AASHTO T 59, with modifications to include a 350 ± 5 °F (177±3 °C) maximum temperature to be held for 15 minutes.</p>			

Table 6

High Float Rapid Setting Emulsified Polymerized Asphalt (HFERS-2P) (a)			
Tests	AASHTO Test method	Min.	Max.
Emulsion			
Viscosity, SFS @ 122°F (50°C), sec (Project Site Acceptance/Rejection Limits)	T 59	100	450
Storage Stability Test (a) 1 d, 24 h, percent	T 59		1
Demulsibility (b) 0.02 N Ca Cl ₂ , percent	T 59	40	
Sieve Test, percent	T 59		0.1
Distillation			
Oil distillate, by vol of emulsion, percent	T 59		3
Residue (c), percent	T 59	65	
Residue from Distillation Test			
Penetration, 77°F (25°C), 100 g, 5 s, dmm	T 49	70	150
Float Test, 140°F (60°C), sec	T 50	1200	
Solubility in trichloroethylene, percent	T 44	97.5	
Elastic Recovery, 77°F (25°C), percent	T 301	58	
<p>(a) Supply an HFMS-2SP (anionic, polymerized, high-float) as an emulsified blend of polymerized asphalt cement, water, and emulsifiers. Polymerize the asphalt cement with a minimum of 3.0% polymer by weight of the asphalt cement prior to emulsification. After standing undisturbed for a minimum of 24 hours, the emulsion shall be smooth and homogeneous throughout with no white, milky separation, pumpable, and suitable for application through a distributor.</p> <p>(b) May use the 24-hour (1-day) storage stability test instead of the five-day settlement test.</p> <p>(c) Determine the distillation by AASHTO T 59, with modifications to include a 350 ± 5 °F (177±3 °C) maximum temperature to be held for 15 minutes.</p>			

Table 7

Cationic Rapid Setting Emulsified Asphalt (CRS-2A,B)			
Tests	AASHTO Test Method	Min	Max
Emulsion			
Viscosity, SSF, 122°F (50°C), sec (Project Site Rejection/Acceptance Limits)	T 59	140	400
Storage stability test, 24 h, percent	T 59		1
Demulsibility, 35 mL 0.8 percent Sodium Dioctyl Sulfosuccinate, percent	T 59	40	
Particle charge test	T 59	Positive	
Sieve test, percent	T 59		0.10
Distillation			
Oil distillate, by volume of emulsion, percent	T 59		0
Residue, percent	T 59	65	
Use PG58-22 and PG64-22 as base asphalt cement for CRS-2A, B, respectively. Specification for high temperature performance: original and RTFO G*/sinδ within 3 °C of grade.			

Table 8

Emulsified Type B Asphalt Pavement Rejuvenating Agent Concentrate		
Tests	Test Method	Limits
Viscosity, SSF, 77°F (25°C), sec	AASHTO T 59	25-150
Residue, percent W	AASHTO T 59 (mod) (a)	62 Min.
Sieve Test, percent W	AASHTO T 59	0.10 Max.
5-day Settlement	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
Pumping Stability (b)		Pass
Residue from Distillation (a)		
Viscosity @ 140°F(60°C), mm ² /s	AASHTO T 201	2500-7500
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	98 Min.
Flash Point, COC	ASTM D 92	204 °C, Min.
Asphaltenes, percent W	ASTM D 2007	15 Max.
Saturates, percent W	ASTM D 2007	30 Max.
Aromatics, percent W	ASTM D 2007	25 Min.
Polar Compounds, percent W	ASTM D 2007	25 Min.
(a) Determine the distillation by AASHTO T-59 with modifications to include a 300 ± 5 °F (149±3°C) maximum temperature to be held for 15 minutes.		
(b) Test pumping stability by pumping 475 ml of Type B diluted 1 part concentrate to 1 part water, at 77°F (25°C) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.		
Type B: an emulsion of lube oil and/or lube oil extract blended with petroleum asphalt.		

Table 9

Emulsified Type B Modified Asphalt Pavement Rejuvenating Agent Concentrate		
Property	Test Method	Limits
Viscosity, SSF, 77°F (25°C), sec	AASHTO T 59	50-200
Residue by distillation or Evaporation (a), percent W	AASHTO T 59	62 Min.
Sieve Test, percent W	AASHTO T 59	0.20 Max.
5-day Settlement, percent W	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
Pumping Stability (b)		Pass
Residue from Distillation (a)		
Viscosity (c) 275°F (135 °C), cP	ASTM D 4402	150 - 300
Penetration, 77°F (25°C), dmm	AASHTO T 49	180 Min.
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	98 Min.
Flash Point, COC, °F (°C)	AASHTO T 48	400(204) Min.
Asphaltenes, percent W	ASTM D 2007	20-40
Saturates, percent W	ASTM D 2007	20 Max.
Polar Compounds, percent W	ASTM D 2007	25 Min.
Aromatics, percent W	ASTM D 2007	20 Min.
PC/S Ratio	ASTM D 2007	1.5 Min.
<p>(a) Determine the distillation by AASHTO T-59 with modifications to include a 300±5°F (149 ± 3°C) maximum temperature to be held for 15 minutes.</p> <p>(b) Pumping stability is tested by pumping 475 ml of Type B diluted 1 part concentrate to 1 part water, at 77°F (25 °C) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.</p> <p>(c) Brookfield Thermocel Apparatus-LV model at 6 rpm with a #28 spindle at 2-98 torque.</p>		
As required by the Asphalt Emulsion Quality Management system (Materials Manual Part 8-208), the supplier certifies that the base stock contains a minimum of 15 % by weight of Gilsonite Ore. Use the HCL precipitation method as a qualitative test to detect the presence of Gilsonite.		

Table 10

Emulsified Type C Asphalt Pavement Rejuvenating Agent Concentrate		
Property	Test Method	Limits
Viscosity, SFS, 77°F (25°C), sec	AASHTO T 59	10-100
Residue (a), percent W (Type C supplied ready to use 1:1 or 2:1.	AASHTO T 59 (a)	30 Min. 1:1 40 Min. 2:1
Sieve Test, percent W (b)		0.10 Max.
5-day Settlement, percent W	AASHTO T 59	5.0 Max.
Particle Charge	AASHTO T 59	Positive
pH (May be used if particle charge test is inconclusive)		2.0 - 7.0
Pumping Stability (c)		Pass
Tests of Residue from Distillation (a)		
Viscosity, 275°F (135°C), mm ² /s	AASHTO T 201	475-1500
Solubility in 1,1,1 Trichloroethylene, percent	AASHTO T 44	97.5 Min.
RTFO mass loss, percent W	AASHTO T 240	2.5 Max.
Specific Gravity	AASHTO T 228	0.98 Min.
Flash Point, COC	AASHTO T 48	232 °C, Min.
Asphaltenes, percent W	ASTM D 2007	25 Min., 45 Max.
Saturates, percent W	ASTM D 2007	10 Max.
Polar Compounds, percent W	ASTM D 2007	30 Min.
Aromatics, percent W	ASTM D 2007	15 Min.
<p>(a) Determine the distillation by AASHTO T-59 with modifications to include a 300± 5°F (149 ± 3°C) maximum temperature to be held for 15 minutes.</p> <p>(b) Test method identical to AASHTO T 59 except that distilled water is used in place of 2 % sodium oleate solution.</p> <p>(c) Test pumping stability by pumping 475 ml of Type diluted 1 part concentrate to 1 part water, at 77°F (25°C) through a 1/4 inch gear pump operating at 1750 rpm for 10 minutes with no significant separation or coagulation in pumped material.</p>		
As required by the Asphalt Emulsion Quality Management system (Materials Manual Part 8-208), the supplier certifies that the base stock contains a minimum of 10 % by weight of Gilsonite ore. Use the HCL precipitation method as a qualitative test to detect the presence of Gilsonite.		

Table 11

Emulsified Type D Asphalt Pavement Rejuvenating Agent Concentrate		
Property	Test Method	Limits
Viscosity, SFS, 77°F (25°C), sec	AASHTO T 59	30-90
Residue, (a) percent W	AASHTO T 59 (mod) (a)	65
Sieve Test, percent W	AASHTO T 59	0.10 Max.
pH		2.0 - 5.0
Residue from Distillation (c)		
Viscosity, 140°F (60°C), cm ² /s	AASHTO T 201	300-1200
Viscosity, 275°F (135°C), mm ² /s	AASHTO T 201	300 Min.
Modified Torsional Recovery (b)	CA 332 (Mod)	40 % Min.
Toughness, 77°F (25°C), in-lb	ASTM D 5801	8 Min.
Tenacity, 77°F (25°C), in-lb	ASTM D 5801	5.3 Min.
Asphaltenes, percent W	ASTM D 2007	16 Max.
Saturates, percent W	ASTM D 2007	20 Max.
(a) California test method #331 for recovery of residue. (b) Torsional recovery measurement to include first 30 seconds. (c) Determine the distillation by AASHTO T-59 with modifications to include a 300±5°F (149 ± 3°C) maximum temperature to be held for 15 minutes.		

2.3 HOT-POUR CRACK SEALANT FOR BITUMINOUS CONCRETE

- A. Combine a homogenous blend of materials to produce a sealant meeting properties and tests in Table 12
- B. Packaging and Marking: Supply sealant pre-blended, pre-reacted, and pre-packaged in lined boxes weighing no more than 30 lb.
 - 1. Use a dissolvable lining that will completely melt and become part of the sealant upon subsequent re-melting.
 - 2. Deliver the sealant in the manufacturer's original sealed container. Clearly mark each container with the manufacturer's name, trade name of sealant, batch or lot number, and recommended safe heating and application temperatures.

Table 12

Hot-Pour Bituminous Concrete Crack Sealant			
Application Properties:			
Workability:	Pour readily and penetrate 0.25 in and wider cracks for the entire application temperature range recommended by the manufacturer.		
Curing:	No tracking caused by normal traffic after 45 minutes from application.		
Asphalt Compatibility: ASTM D 5329, Sec 14.	No failure in adhesion. No formation of an oily ooze at the interface between the sealant and the bituminous concrete or softening or other harmful effects on the bituminous concrete.		
Material Handling:	Follow the manufacturer's safe heating and application temperatures.		
Test Method	Property	Minimum	Maximum
AASHTO T51	Ductility, modified, 1cm/min, 39.2°F (4°C), cm	30	
UDOT method 967	Cold Temperature Flexibility	no cracks	
AASHTO T 300 (a)	Force-Ductility, lb force		4
ASTM D 5329	Flow 140°F (60°C), 5 hrs 75 ° angle, mm		3
ASTM D 3405 (b)	Tensile-Adhesion, modified	300%	
AASHTO T 228	Specific Gravity, 60°F(15.6°C)		1.140
ASTM D 5329	Cone Penetration, 77°F(25°C), 150 g, 5 sec., dmm		90
ASTM D 5329	Resilience, 77°F(25°C), 20 sec., percent	30	
ASTM D 4402	Viscosity, 380°F(193.3°C), SC4-27 spindle, 20 rpm, cP		2500
ASTM D 5329	Bond as per ASTM D 1190, Section 6.4		Pass
(a) Maximum of 4 lb force during the specified elongation of 30 cm @ 1 cm/min, 39.2°F (4 °C). (b) Use ASTM D 3405, Section 6.4.1. Delete bond and substitute tensile-adhesion test in accordance to D 5329.			

PART 3

EXECUTION

Not used.

END OF SECTION

SPECIAL PROVISION

CM-LC35(121)

SECTION 02765S

PAVEMENT MARKING PAINT

Delete Section 02765 in its entirety and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Furnish Acrylic Water Based pavement marking paint meeting Federal Specification TTP-1952 D and refer to 2.2 for resin requirement.
- B. Apply to hot mix asphalt or Portland cement as edge lines, center lines, broken lines, guidelines, contrast lines, symbols and other related markings.
- C. Remove pavement markings.

1.2 REFERENCES

- A. AASHTO M 247: Glass Beads Used in Traffic Paint
- B. ASTM D 562: Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using the Stormer-Type Viscometer
- C. ASTM D 2205: Selection of Tests for Traffic Paints
- D. ASTM D 2743: Uniformity of Traffic Paint Vehicle Solids by Spectroscopy and Gas Chromatography
- E. ASTM D 2805: Hiding Power of Paints by Reflectometry
- F. ASTM D 3723: Pigment Content of Water-Emulsion Paints
- G. ASTM D 3960: Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings

- H. ASTM D 4451: Pigment Content of Paints
- I. ASTM D 5381: X-Ray Fluorescence (XRF) Spectroscopy of Pigments and Extenders
- J. ASTM E 1347: Standard Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry
- K. Federal Standards

1.3 ACCEPTANCE

- A. Provide fixtures (ball valves, gate valves or other) on paint truck for the purposes of obtaining field samples.
- B. Agitate the paint to allow for thorough mixing. Follow paint manufacturer's recommendation for agitation and mixing times.
- C. Stop all agitation before sample is drawn.
- D. All meters on the paint truck must be calibrated annually and certified for application rate verification. Calibration tolerances for meters must be +/- 0.5 pounds per gallon. Keep a clean, legible copy of calibration report with the paint truck. Certifications performed by company personnel, meter calibration companies or UDOT Equipment Certification Unit.
- E. UDOT ENGINEER:
 - 1. Visually inspects each line to verify bead adhesion and compliance with specified line dimensions requirements.
 - 2. Verifies that the paint and beads are being applied within specified tolerances a minimum of once each production day.
 - 3. Verifies quantities used by either method:
 - a. Measuring both paint and bead tanks prior to and after application.
 - b. Witnessing the meter readings prior to and after application.
 - 4. Randomly sample each color of pavement marking paint used, minimum of one sample each per project.
 - a. Use a clean one-pint metal paint can.
 - b. Sample paint immediately after the paint has been completely agitated. (Stop all agitation before drawing the sample)
 - c. Allow a minimum of 10 gallons to be applied prior to taking sample.
 - d. Fill the sample container to within ½ inch of full.
 - e. Seal the containers immediately by tightly attaching the container's lid.
 - f. Submit paint samples to Central Chemistry Lab for acceptance.

- g. For each sample include:
- Project Number
 - Project Name
 - Paint Manufacturer
 - Batch Number
 - Striping Company
 - Color of Paint
 - Est. Quantity
 - Date Sampled
 - Sampler's name

F. Repaint any line or symbol failing to meet bead adherence and dimensional requirements.

G. Price Reductions for Pavement Markings installed below the specified wet mil thickness are outlined in Table I.

Table I - Price Reduction for Wet Mil Thickness	
	Pay Factor
At the specified mil thickness	1.00
1-10 percent below the Specified wet mil thickness	0.75
11-15 percent below the Specified wet mil thickness	0.50
More than 15 percent below the Specified wet mil thickness	Repaint Pavement Markings

H. Price reductions for pavement markings that fail to meet the requirements of Table III are outlined in Table II. When more than one of the requirements of Table III are deficient. The result with the highest price reduction governs.

Table II - Price Reductions	
	Pay Factor
At the specified requirements	1.00
Up to 1 percent deficient	0.90
Up to 2 percent deficient	0.80
Up to 3 percent deficient	0.70
Up to 4 percent deficient	0.60
Up to 5 percent deficient	0.50
More than 5 percent below specified quantitative requirements	Repaint Pavement Markings

PART 2 PRODUCTS

2.1 Manufacturers

- A. Select an acrylic water based pavement marking paint manufacturer, from the Accepted Products Listing (APL) maintained by the UDOT Research Division.

2.2 Paint

- A. Follow Federal Standards 595B, 37875, 33538, and 11105. Meet the following requirements for Acrylic Water Based Paint as listed in Table III:

Table III - Paint Requirements				
Property	White	Yellow (lead free)	Black	Test
Pigment: Percent by weight	62.0	62.0	62.0	ASTM D 3723
Total Solids: Percent by weight, minimum	77.0	77.0	77.0	ASTM D 2205
Nonvolatile vehicle: Percent by weight vehicle, minimum*	40.0	40.0	40.0	ASTM D 2205
Viscosity, KU @ 77 degrees F	80 – 95	80 - 95	80 - 95	ASTM D 562
Volatile Organic Content (VOC): lbs/gal, maximum	1.25	1.25	1.25	ASTM D 3960
Titanium Dioxide Content, lbs/gal	1.0 min	0.2 max	N/A	ASTM D 5381
Directional Reflectance : Minimum	92.0	50.0	N/A	ASTM E 1347
Dry Opacity: Minimum (5 mils wet)	0.95	0.95	N/A	ASTM D 2805

* The binder shall be 100 percent acrylic, a minimum of 40 percent, by weight, as determined by infrared analysis and other chemical analysis available to UDOT (ASTM D 2205). Consisting of either Rohm and Haas Fastrack HD- 21A or Dow DT-400NA.

- B. Additional requirements:
 - 1. Free of lead, chromium, or other related heavy metals ASTM D 5381.
 - 2. ASTM D 2743, ASTM D 4451 and ASTM D 5381: Tests used to verify paint samples meet Accepted Products Listing.

2.3 GLASS SPHERE (BEADS) USED IN PAVEMENT MARKING PAINT

- A. Specific Properties: Meet AASHTO M 247 with the following exceptions.
 - 1. Gradation:

Passing a No. 14 sieve, percent	95 - 100
Passing a No. 16 sieve, percent	80 - 95
Passing a No. 18 sieve, percent	10 - 40
Passing a No. 20 sieve, percent	0 - 5
Passing a No. 25 sieve, percent	0 - 2
 - 2. Beads having a Silane adhesion coating.
 - 3. Roundness - The glass beads will have a minimum of 80 percent true spheres.
- B. Beads used in Temporary Pavement Markings meet AASHTO M 247 Type II uniform gradation.

PART 3 EXECUTION

3.1 PREPARATION

- A. Line Control.
 - 1. Establish control points at 100 ft intervals on tangent and at 50 ft intervals on curves.
 - 2. Maintain the line within 2 inches of the established control points and mark the roadway between control points as needed.
 - a. Remove paint that is not placed within tolerance of the established control points and replace at no expense to the Department. Refer to article 3.4.
 - b. Maintain the line dimension within 10 percent of the width and length dimensions defined in Standard Drawings.
- B. Remove dirt, loose aggregate and other foreign material and follow manufacturer's recommendations for surface preparation.

3.2 APPLICATION

- A. Apply Pavement marking paint at the following Wet mil thickness requirements.
1. 20 – 25 wet mils for all markings.

Example Calculation: (Verify wet mil thickness)

$$\text{Wet Mil} = \frac{(0.133681 \text{ ft}^3/\text{gal}) * 12000 \text{ mil/ft}}{(X \text{ ft/gal})(Z \text{ ft})}$$

Where,

X = application rate. (Meter readings or dipping tanks).

Z = line width measured in feet.

12000 = conversion from ft to mil

0.133681 = conversion from gallons to cubic feet.

For information only: Approximate application rate for required mil thickness requirements.

1. 4 inch Solid Line: From 190 to 240 ft/gal
 2. 4 inch Broken Line: From 760 to 960 ft/gal
 3. 8 inch Solid Line: From 95 to 120 ft/gal
- B. Refer to Table I for pavement markings that are less than 20 wet mils in thickness.
- C. No additional payment for pavement markings placed in excess of 25 wet mils in thickness or exceeding dimensional requirements outlined in Article 3.1 paragraph A.
- D. Painted Legends and Symbols 1 gallon per 80 square feet. Provide Engineer calculations of legends and symbols for pay determination.
- E. Glass Sphere (Beads): Apply a minimum of 8 lbs/gal of paint, the full length and width of line and pavement markings.
1. Do not apply glass beads to contrast lines (black paint).
- F. Begin striping operations no later than 24 hours after ordered by the Engineer.
- G. At time of application apply lines and pavement markings only when the air and pavement temperature are:
1. 50 degrees F and rising for Acrylic Water Based Paint.
- H. Comply with Traffic Control Drawings.

3.3 CONTRACTOR QUALITY CONTROL

- A. Application Rate: Verify that the paint and beads are being applied within specified tolerances prior to striping.
- B. Curing: Protect the markings until dry or cured. In the event that the uncured marking is damaged the marking will be reapplied and track marks left on the pavement will be removed at no additional cost to the Department.

3.4 REMOVE PAVEMENT MARKINGS

- A. Use one of these removal methods:
 - 1. Grinding
 - 2. High pressure water spray
 - 3. Sand blasting
 - 4. Shot blasting.
- B. Do not eliminate or obscure existing striping, in lieu of removal, by covering with black paint or any other covering material.
- C. Use equipment specifically designed for removal of pavement marking material.

END OF SECTION

SPECIAL PROVISION

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SECTION 02771M

**CURBS, GUTTERS, DRIVEWAYS, PEDESTRIAN ACCESS
RAMPS, AND PLOWABLE END SECTIONS**

Add the following to Part 2, Products:

2.5 DETECTABLE WARNINGS

- A. Detectable Warning Surface – In-line truncated dome pattern that meets the requirements of Standard Drawing GW 5. Provide a color that contrasts visually with the adjoining surfaces (either light-on-dark, or dark-on-light). Acceptable products for installation are as follows:
1. Polymer Composite Panel – Vitrified Polymer Composite (VPC), homogenous integral color (UV stable), skid resistant, non-glare finished panel. Use cast-in-place panel for new construction, and surface applied panel for retrofit construction.
 2. Stamped Concrete – Ensure consistent dome shape and pattern throughout the detectable warning surface area. Use for new construction.
 3. Precast Concrete Panel – High strength concrete with high tensile stainless steel tendons, homogeneous integral color (UV stable), skid resistant panel. Use for new construction, or retrofit construction.

Delete Paragraph E from Article 3.3, FINISHING CONCRETE.

Add the following to Part 3, Execution:

3.6 DETECTABLE WARNING SURFACE

- A. Polymer Composite Panel Installation:
1. Install cast-in-place detectable warning panels directly into the finished plastic concrete surface in accordance with manufacturer recommendations. Provide a smooth transition between the panel and the surrounding concrete surface.

2. Install surface applied detectable warning panels directly on roughened existing concrete surface. Apply manufacturer supplied adhesive in accordance with manufacturer's recommendations. Use mechanical fasteners to secure the panel to the existing surface. Caulk a smooth transition bead along beveled panel edge and surrounding concrete surface.

B. Stamped Concrete Installation:

1. Use color hardener and liquid stamp release agent in accordance with manufacturer's recommendations. Refer to Section 02776.
2. Stamp detectable warning surface to produce a durable, consistent in-line truncated dome pattern that meets the dimensional requirements shown on Standard Drawing GW 5.

C. Precast Concrete Panel Installation:

1. Place as shown on drawings. Install per manufacturer recommendations for cast-in-place or thin set method. Provide a smooth transition between the panel and the surrounding concrete surface.

Add the following to Part 3 Execution, 3.1 Preparation, F. Pedestrian Access Ramp: Refer to Standard Drawing GW 5:

1. From the engineer's estimate replace the metric Disabled Pedestrian Ramp Type G with the English Pedestrian Access Ramp Type E to match the English standard drawings.

END OF SECTION

**SPECIAL PROVISION
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SECTION 02812S

RESTORE LANDSCAPING

PART I GENERAL

1.1 SECTION INCLUDES

- A. Procedures for restoring landscaping.

1.2 RELATED SECTIONS

- A. Section 02812: Pressurized Irrigation Systems.
- B. Section 02912: Topsoil.
- C. Section 02922: Seed, Turf Seed, and Turf Sod.
- D. Section 02936: Vegetation Establishment Period.

PART III EXECUTION

3.1 GENERAL

- A. Transition side slope to smoothly tie into existing ground.
- B. Place 100mm of Topsoil on side slope where existing landscape is impacted.
- C. Place Turf Sod on Topsoil.
- D. Move existing sprinkler heads away from fence.
- E. Raise existing sprinkler heads to finish grade.
- F. Replace any damaged or broken sprinkler heads or other sprinkler system components.

- G. Ensure that restored area has proper coverage from sprinkler system.

END OF SECTION

February 25, 2004

**SPECIAL PROVISION
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SECTION 02821S

FENCING AND GATES

This Item may be eliminated from the project based on the bid price.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Materials and procedures installing chain link fencing, guardrail and gates.

1.2 RELATED SECTIONS

- A. Section 03055: Portland Cement Concrete.

1.3 REFERENCES

Sponsor	Number	Subject
ASTM	A 116	Specification for Zinc-Coated (Galvanized) Steel Woven Wire Fence Fabric
ASTM	A6	General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Purposes
ASTM	A 123	Specification for Zinc (Hot Galvanized) Coatings On Products
ASTM	A 153	Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM	A 392	Specification for Zinc-Coated Chain Link Fence Fabric
ASTM	A500	Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM	A 53	Specification for Structural Steel Pipe
ASTM	A 702	Specification for Steel Fence Posts and Assemblies, Hot Wrought
ASTM	A 824	Specification for Metallic-Coated Steel Marvelled Tension Wire for Use With Chain Link Fence

ASTM	F 567	Practice for Installation of Chain Link Fence
ASTM	F 626	Specification for Fence Fittings
ASTM	F 668	Specification for Poly (Vinyl Chloride) (PVC) - Coated Steel Chain Link Fence Fabric
ASTM	F 669	Specification for Strength Requirements of Metal Posts and Rails for Industrial Chain Link Fence
ASTM	F 900	Specification for Industrial and Commercial Swing Gates
ASTM	F 1083	Specification for Pipe, Steel, Hot-Dipped Zinc Coated (Galvanized) Welded, for Fence Structures
FS	RR-F-191/1	Fencing, Wire and Post, Metal (Chain Link Fence Fabric) (Detail Specification) - Type IV.
CLFMI	Standards	Chain Link Fence Manufacturers Institute Standards

1.4 SUBMITTALS

- A. Submit shop drawings and certifications for approval two weeks in advance of fabrication
- B. Submit product data including manufacturer's data, specifications and installation instructions.
- C. Submit Shop Drawings which show details of fabrication and installation.
- D. Submit complete materials list and detailed fabrication drawings for gates and frames including structural calculations as required.

PART 2 PRODUCTS

2.1 GENERAL

- A. Class B Concrete. Refer to Section 03055.

2.2 CHAIN LINK FENCE MATERIALS

- A. Fabric:
 - 1. Galvanized Steel Wire: ASTM A 392, 0.6103 kg/m² of zinc after weaving.
 - 2. Helically wound and woven to height indicated on drawings, 25mm diamond mesh of 9 gauge wire.

3. Selvage of fabric shall be knuckled top and bottom.
 4. Provide one-piece fabric widths.
 5. Provide black vinyl clad fabric of polyvinyl chloride thermally bonded to galvanized wire, conforming to FS RR-F-191/1, Type IV. Provide vinyl of a uniform 0.5mm thickness.
- B. Framing:
1. Steel Pipe: ASTM F 669 standard weight schedule 40.
 2. Hot dipped galvanized with minimum average 0.6103 kg/m² zinc, coated and bonded with black PVC, with finish to match fabric.
- C. Gates:
1. Horizontal and vertical members of gates shall be fabricated for gate operation and attachment of fabric, hardware and accessories.
 2. Fabricate gate perimeter frames of steel pipe, in size required above, galvanized and coated in the same manner as the fabric.
 3. Assemble gate frames by welding or with special fittings and rivets, for rigid connections.
 4. Install fabric with stretcher bars at vertical edges and top and bottom edges.
 5. Attach hardware to provide security against removal or breakage.
 6. Hinges shall be size and material to suite gate size, non-lift-off type, offset to permit maximum degree of gate opening. Provide sufficient hinges for each leaf to support gate without excessive sagging, minimum of 1-1/2 pair of hinges per leaf, unless otherwise noted. Attach chain link fence fabric to the gate frame with stretcher bars and tie wires as specified for the fence construction, and provide suitable tension connections spaced at approximately 300 mm intervals.
 7. Latch shall be forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as integral part of latch.
 8. Provide adequate bracing. Provide gates capable of being opened and closed easily by one person. Provide with locking latches and a plunger-bar arranged to engage the center stop. Use center stops consisting of a device arranged to be set in concrete and to engage a plunger bar of the latch. Use keeper consisting of a mechanical device for securing the free end of the gate when in the full open position.

D. Accessories:

1. Chain link fence accessories shall conform to ASTM F 626. Provide all items necessary to complete fence system. Galvanize and coat each ferrous metal item in accordance with ASTM A 153 and finish to match framing and fabric.
2. Tension wire shall be galvanized and coated seven gage coiled spring wire. Finish shall match fabric.
3. Post Caps shall be pressed steel, wrought iron, or malleable iron, finished to match fabric and posts designed as a watertight closure cap, with openings to permit through passage of top rail. Provide one cap for each post.
4. Tension (stretcher) bars shall be one piece lengths equal to full height of fabric, with a minimum cross-section of 5mm by 19 mm with the same galvanizing as the fabric. Provide tension (stretcher) bars where chain link fabric meets terminal posts.
5. Tension (stretcher bar) bands shall be pressed steel spaced not over 380mm on center to secure tension (stretcher) bars to end, corner, pull, and gate posts.
6. Provide one stretcher bar for each end post, and two for each corner and pull post, except where fabric is integrally woven into the post.
7. Wire ties and clips shall be 9 gauge galvanized steel for attachment of fabric to line posts. Double wrap 13 gauge for rails and braces. Hog ring ties of 11 gauge for attachment of fabric to tension wires.

E. Concrete shall be as specified in Section 03310.

F. Provide all other materials not specifically described, but required for a complete installation of the work described in this Section.

G. Materials shall be new, first quality of their respective kinds, as selected by the Contractor subject to review by the Engineer.

2.3 SWING GATE MATERIALS

- A. Construct gate posts and frames of the sizes following Sheet DT-01.
1. Weld gate frame together as shown on Sheet DT-01.
 2. Use Standard Weight Steel Pipe (Schedule 40) as shown on Sheet DT-01 for Gate frame and posts.
- B. Furnish each gate with the appropriate hinges and locking device as shown on Sheet

DT-01.

2.4 REFLECTIVE SHEETING

- A. Place 75 mm yellow reflective sheeting on gate arm at 300 mm spacing as shown on Sheet DT-01.
- B. Select from Accepted Products Listing (APL) maintained by the UDOT Research Division.
- C. Reflective sheeting: Encapsulated lens sheeting or encapsulated lens (flexible) as specified. Standard Specifications for Construction of Road and Bridges on Federal Highway Projects, FP-92, Type III.

2.5 GUARDRAIL MATERIALS

- A. Construct guardrail of the sizes following Sheet DT-01.
 - 1. Weld guardrail together.
 - 2. Use Standard Weight Steel Pipe or Structural Tubing (Schedule 40) as shown on Sheet DT-01 for guardrail.

PART 3 - EXECUTION

3.1 GENERAL

- A. Verify areas to receive fencing are completed to final grades and elevations.
- B. Ensure property lines and legal boundaries of work are clearly established.

3.2 CHAIN LINK FENCING

- A. Install chain link fencing in accordance with ASTM F 567 and manufacturer's instructions.
- B. Locate terminal posts at each fence termination, change in horizontal alignment and vertical direction of 30 degrees or more.
- C. Space line posts uniformly at 3 meters (10 feet) on center.
- D. Concrete set terminal, line and gate posts:
 - 1. Drill holes for concrete footings for fence posts in firm, undisturbed or compacted soil. Holes shall have 0.3m (1foot) minimum diameters. Excavate hole depths approximately 0.15m (6") lower than the post bottom, with bottom of posts set not less than 1m (36") below the surface.

2. Place concrete around posts and vibrate or tamp for consolidation.
- E. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.
- F. For fencing mounted on concrete wall place fence posts in wall sleeves, check each post for vertical and top alignment. Hold in position and use an approved grout for setting the posts in the sleeves.
- G. Top rails shall be installed continuously through post caps. Expansion couplings as recommended by fencing manufacturer.
- H. Brace assemblies shall be installed so posts are plumb when diagonal rod is under proper tension.
- I. Tension wire shall be installed by weaving through fabric and tying to each post with not less than six gage galvanized wire, or by securing the wire to fabric. Take care not to damage wire coating.
- J. Fabric shall be installed with approximately 50mm (2") between finish grade and bottom selvage and 50mm (2") between top selvage and overhead structure. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.
- K. Stretcher bars shall be threaded through or clamped to fabric at 100mm (4") on center and secure to posts with metal bands spaced 380mm (15") on center.
- L. Gates shall be installed plumb, level, and secured for full opening without interference. Adjust hardware for smooth operation.
- M. U-shaped tie wires, conforming to diameter of pipe to which attached, shall be installed with clasp pipe and fabric firmly attached with ends twisted at least two full turns. Ends of wire shall be bent to minimize hazard to persons and clothing.
- N. Fasteners shall be installed with nuts for tension bands and hardware bolts on side of fence opposite fabric side. Ends of bolts shall be peened or threads shall be scored to prevent removal of nuts.
- O. Do not place manufacturer's or other signs on fence.
- P. Clean up debris and unused material, and remove from the site.

3.3 INSTALLING SWING GATE

- A. Install following Sheet DT-01.

- B. Set steel pipe sleeve in concrete base.
 - 1. Place concrete a minimum of 150 mm below each post.
 - 2. Construct at least 400 mm diameter bases for steel pipe sleeve.
- C. Cut 9.50 mm slot in steel pipe sleeve so that the steel locking plate may be inserted.
- D. Insert swing gate into steel pipe sleeve ensuring that the steel locking plate lines up with notch in sleeve. Install plumb, level, and secure for full opening without interference.

END OF SECTION

March 5, 2002

**SPECIAL PROVISION
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SECTION 02861S

BLOCK RETAINING WALL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Equipment list
- B. Materials list
- C. Installation instructions

1.2 RELATED SECTIONS

- A. Section 02061: Select Aggregate

PART 2 PRODUCTS

2.1 MATERIALS

- A. Construct the wall with ArtStone Retaining Wall block or equivalent.
Dimensions: 356 mm x 203 mm x 406 mm (14" x 8" x 16")
- B. Use top cap of same dimension as specified retaining wall block.
- C. Use "Natural" colored blocks.
- D. Use geogrid with the following properties:

Note: In order to display accurate numbers and to avoid error, this table was not converted to metric units.

	Property	Test Method	Units	Values
Geometry	Rib/Strand Count	Measured	(min) ¹	
	-MD ₂		number/ft	15.8
	-CMD ₃		number/ft	7.1
	Aperture Size ⁴		ID Calipered	1.56
	MD		inches	1.56
	CMD		inches	0.60
	Open Area ⁶		%(nom)	74%
	Thickness	ASTM D1777	(nom)	
	-Rib/Strand		inches	0.052
	-Junction		inches	0.066
	Weight	ASTM C3776	oz/yd	10.0

Strength	Wide Strip	ASTM D4595 7	(min)	
	-MD		lbs/ft	3000
	-CMD		lbs/ft	1000
	Creep Reduced Strength		(min)	
	MD		lbs/ft	1863
	CMD		lbs/ft	621
	Long Term			
	Design Strength	GRI-GG4		
	-MD		lbs/ft	1540
	-CMD		lbs/ft	505
Identification	Roll Size	Width x Length	feet	6 x 300
		Area	sq. yds	200
		Weight	pounds	135

- (1) (min) = Minimum acceptable value (i.e. lowest average roll).
- (2) MD = Machine Direction, running along the roll length.
- (3) CMD = Cross machine Direction, running across the roll length (i.e. running along the roll width).
- (4) Aperture Size = Maximum inside dimension measured by calipers in each direction.
- (5) (nom) = Nominal Value.
- (6) Open area measured without magnification. Calculated from callipered measurements.
- (7) ASTM Method D4595 adapted to geogrids.

E. Use any non-organic soil backfill material behind wall.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Excavate foundation trench to a depth of 300 mm (12"), and a width of 600 mm (24").
- B. Place 150 mm (6") of Free Draining Granular Backfill Borrow in the trench, and compact it.
- C. Ensure that the geogrid is taut, free of wrinkles, and laying flat and secure until backfill material is placed.
- D. Fill the voids in blocks with drainage material.
- E. Place drainage stone to a minimum of 6" behind each unit.
- F. Place soil backfill between the drainage rock and the back of the excavation.
- G. Compact drainage stone behind the wall to 95% of maximum dry density, using the standard proctor density.

- H. Compact non-organic soil backfill to 95% of maximum dry density using the standard proctor density.
- I. Use a 100 mm (4") cap on top of the wall.

END OF SECTION

March 5, 2002

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SECTION 02873S

VINYL RAIL FENCING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fence sections including, rails, posts, and caps.
- B. Excavation and anchorage for posts.

1.2 RELATED SECTIONS

- A. Section 03055: Portland Cement Concrete

1.3 SUBMITTALS

- A. Manufacturer's technical literature with fence and gate instructions.
- B. Shop drawings showing fence design.
- C. Material samples if requested

1.4 WARRANTY

Use fencing materials that have a 30-year non-prorated limited warranty that applies to commercial applications.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Construct the fence with materials made of rigid Poly Vinyl Chloride (PVC) formulated to resist impact and for Ultra Violet (UV) stabilization.
- B. Ensure that the extruded product meets or exceeds the following:
 - a. Cell classification – ASTM D1784 – 14344B
 - b. Tensile Strength – 6,500 PSI(4.48MPA) – ASTM D638
 - c. Izod Impact (Ft. lbs/in notch) 23° C – 5.0° C – 2.0 ASTM D256
 - d. Tensile Modulus 425,000 PSI(2930MPA) ASTM D638
 - e. Deflection Temperature 67° C – ASTM D648
 - f. Thermal Expansion 3x 10-5 in/in F

2.2 COMPONENTS

A. Rails, Pickets, Posts

- a. Cut to specific lengths as required for 3 Rail Fence.
- b. Use 38mm x 140 mm x 4.8 m (1.5" x 5.5" x 192") rails.
- c. Use rail wall thickness of 2.3 mm (0.090").
- d. Use 125 mm x 125 mm x 2.1 m (5" x 5" x 84") posts.
- e. Use post wall thickness of 3.4 mm (0.135").
- f. Route posts to receive rails at correct heights.
 - i. Top rail – 50 mm (2 inches) from top of post.
 - ii. Middle Rail - 463 mm (18.25 inches) from top of post.
 - iii. Bottom Rail - 356 mm (14 inches) from finished grade.

B. Stiffener Channel

- a. Use bottom rails that contain steel reinforcing for additional strength.

C. Post Caps

- a. Use Outside Pyramid Caps.

D. Hardware

- a. Nuts, Bolts, Washers and Screws:
 - i. Stainless Steel
 - ii. Paint screw heads black to match hinge where necessary.
 - iii. Use black acorn nuts and washers for safety and aesthetics.
 - iv. Use screw heads covered in a UV stabilized, mold two part snap cap system

PART 3 EXECUTION

3.1 INSTALLATION

A. Post Installation

- a. Install fence posts at 2.4 m (8 ft) intervals.
- b. Drill holes for fence posts to a depth of 760 mm (30 inches).
- c. Place Portland Cement Concrete a minimum of 150 mm below surface elevation.
- d. Construct at least 300 mm diameter bases for end posts, pull posts, corner posts, gate posts, and line posts.
- e. Check tops of all posts to make sure they are set at the correct depth.
- f. Allow the concrete to cure for 24 hours before installing rails.
- g. Install outside pyramid cap on top of posts.

B. Rail Installation

- a. Insert 4.8 m rail through every other post.
- b. Weave the fence as follows for extra strength.

- i. Cut a 2.4 m (8 ft) rail.
- ii. Insert the 2.4 m rail into the posts as the second rail.
- iii. Secure rail inside the post with a lock ring.

END OF SECTION

**SPECIAL PROVISION
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SECTION 02891M

TRAFFIC SIGNS

Add the following to section 1.4, Traffic Sign Components

- I. All signs shall be new, Type A, mounted on wood posts.

Add the following to section 2.1 A, Materials

- A. Replace Sign Installation detail in Standard Drawing 745-60 with Bicycle Path Sign Placement Typical in the plan set.

Add the following to section 2.1, Materials

- K. Construct signs to the dimensions specified in Chapter 9B of the “Manual on Uniform Traffic Control Devices” (MUTCD).

Add the following paragraph:

1.7 DEFINITIONS

- A. “non-standard sign” – Any sign that is not a standard sign found in the “Manual on Uniform Traffic Control Devices” (MUTCD).

Add the following paragraph:

2.2 FABRICATION

- A. Use 50 mm (2”) series C text on all non-standard signs.
- B. Use a 50 mm (2”) interline, top, bottom, and side spacing on all text for non-standard 455 mm x 455 mm signs.
- C. Use 64 mm (2 ½”) top, bottom and side spacing, and 38 mm (1 ½”) interline spacing on all text for non-standard 455 mm x 610 mm signs.
- D. Use 50 mm (2”) top and bottom spacing, and 38 mm (1 ½”) side and interline spacing on all text for non-standard 455 mm x 305 mm signs.
- E. Use 10 mm (3/8”) border and 6.4 mm (1/4”) margin on all non-standard signs.
- F. Use white signs with black lettering on all non-standard signs.

**SPECIAL PROVISION
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SECTION 05125S

PRE-FABRICATED STEEL BRIDGE

PART 1 GENERAL

1.1 SECTION INCLUDES

These specifications are for a fully engineered clear span bridge of steel construction and shall be regarded as minimum standards for design and construction.

1.2 SYSTEM DESCRIPTION

A Span

Bridge span shall be 55.77'(17m) (straight line dimension) and shall be as measured from each end of the bridge structure.

B Width

Bridge width shall be 10'-0"(3.05m) and shall be as measured from the inside face of structural elements at deck level.

C Bridge System Type

Bridge(s) shall be designed as a Continental Half-Through Pony System that has one (1) diagonal per panel and plumb end vertical members. Interior vertical members shall be perpendicular to the chord faces.

1. Bridge(s) shall be designed utilizing an underhung floor beam (top of floor beam welded to the bottom of the bottom chord).
2. The bridge manufacturer shall determine the distance from the top of the deck to the top and bottom truss members based upon structural and/or shipping requirements.
3. The top of the top chord shall not be less than 54 inches (1371mm) above the deck (measured from the high point of the riding surface) on bike path structures.

D Member Components

All members of the vertical trusses (top and bottom chords, verticals, and diagonals) shall be fabricated from square and/or rectangular structural steel tubing. Other structural members and bracing shall be fabricated from structural steel shapes or square and rectangular structural steel tubing.

To provide lateral support for the top flange of open shape stringers (w-shapes or channels), a minimum of one stiffener shall be provided in each stringer at every floor beam location.

E Attachments

1 Safety Rails

Horizontal safety rails shall be placed on the structure up to a minimum height of 4'-6"(1.371m) above the deck surface. Safety rails shall be placed so as to prevent a 4"(102mm) sphere from passing through the truss. Safety rails shall be welded to the outside of the structure.

The safety rail system shall be designed for an infill loading of 200 pounds(90.72kg), applied horizontally at right angles, to a one square foot area at any point in the system.

2 Toe Plate

The bridge shall be supplied with a 1/4"(6.35mm) x 6"(150mm) steel toe plate mounted to the inside face of both trusses. The toe plate shall be welded to the truss members at a height adequate to provide a 2"(50mm) gap between the bottom of the plate and the top of the deck or the top of the bottom chord, whichever is higher. The span of the toe plate (from center to center of supports) shall not exceed 5'-8"(1.727m).

3 Rubrails

The bridge will be supplied with a 1"x 5-1/2"(25mmX140mm) (actual size) naturally durable hardwood Ipe (Tabebuia Spp) Lapacho Group or Cumaru (Dipteryx Odorta) rubrail. Rubrail shall be partially air dried to a moisture content of 7% to 14%, shall be supplied S4S (surfaced four sides), E4E (eased four edges), with the edges eased to a radius of 1/8"(3mm). Measured at 30% moisture content, the width and thickness shall not vary from specified dimensions by more than ± 0.04 inches(1mm). Ends of each piece shall be sealed with an aqueous wax log sealer.

Rubrails shall be attached flush to the inside face of the bridge truss verticals and fastened with two 1/4"(6.3mm) diameter stainless steel carriage bolts at each support location. The span of the rubrail from centerline to centerline of support shall not exceed 6'-6"(1.981m).

The top of the rubrail shall be 3'-0"(0.914m) above the top of the deck (measured at the outside edge of the deck).

F Camber

The bridge shall have a vertical camber dimension at midspan equal to 100% of the full dead load deflection.

G Elevation Difference

The bridge abutments shall be constructed with a vertical elevation difference of 796 mm (2'-7 3/8").

H

Structural design of the bridge structure(s) shall be performed by or under the direct supervision of a licensed professional engineer and done in accordance with recognized engineering practices and principles. The engineer shall be licensed to practice in Utah.

I Design Loads

In considering design and fabrication issues, this structure shall be assumed to be statically loaded.

Because only small vehicles will cross the bridge at low speeds, no dynamic analysis shall be required nor shall fabrication issues typically considered for dynamically loaded structures be considered for this bridge.

1 Dead Load

The bridge structure shall be designed considering its own dead load (superstructure and original decking) only. No additional dead loading need be considered.

2 Uniform Live Load

A Pedestrian Live Load

Main Members: Main supporting members, including girders, trusses and arches shall be designed for a pedestrian live load of 85 pounds per square foot(415kg/m²) of bridge walkway area. The pedestrian live load shall be applied to those areas of the walkway so as to produce maximum stress in the member being designed.

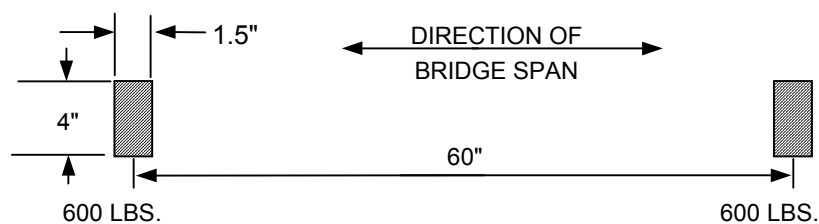
Secondary Members: Bridge decks and supporting floor systems, including secondary stringers, floor beams and their connections to main supporting members shall be designed for a live load of 85 pounds per square foot(415kg/m²), with no reduction allowed.

3 Concentrated Loads

The bridge superstructure, floor system and decking shall be designed for each of the following point load conditions:

3A A concentrated load of 1000 pounds(454kg) placed on any area 2.5 ft x 2.5 ft square(0.232m x 0.232m).

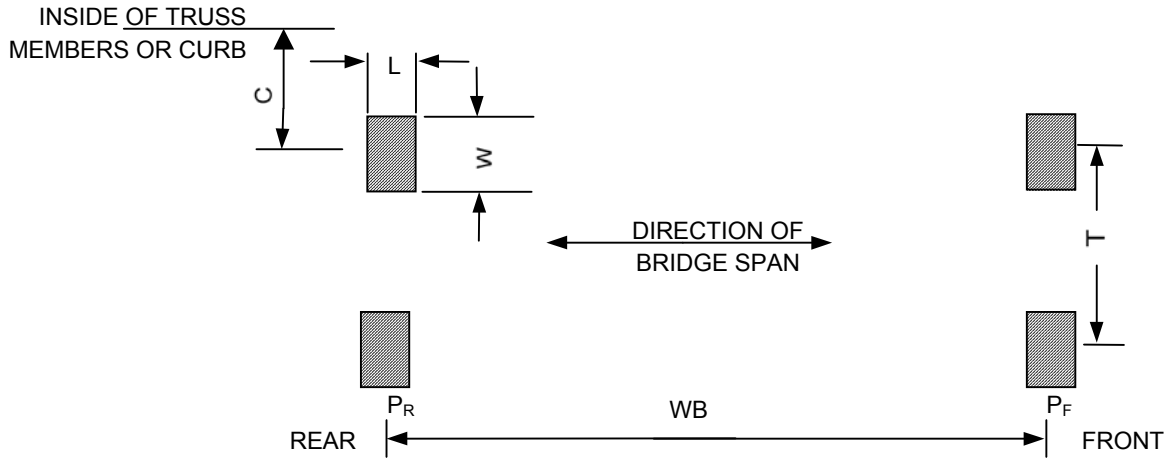
3B A 1200 pound(545kg) two wheel vehicle with a wheelbase and tire print area as shown in the following diagram:



Conversions: 1.5" = 38mm
4" = 100mm
60" = 1525mm
600 LBS = 275kg

3C A 10,000 pound(4535kg) four wheeled vehicle with the appropriate wheelbase, tire track and tire print area as shown in the following diagram: (See Table I for the values corresponding to the

selected vehicle.)



Vehicle	Axle and Wheel Spacings		Front Wheels			Rear Wheels			C*
	WB	T	P _F	L	W	P _R	L	W	
4,000# 1815kg	48" 1220mm	32" 810mm	1,000# 454kg	2.0" 50mm	5.0" 130mm	1,000# 454kg	2.0" 50mm	5.0" 130mm	9" 230mm
6,000# 2720kg	66" 1675mm	48" 1220mm	1,500# 680kg	2.5" 64mm	6.0" 150mm	1,500# 680kg	2.5" 64mm	6.0" 150mm	12" 305mm
8,000# 3630kg	102" 2590mm	60" 1525mm	1,600# 725kg	3.0" 75mm	8.0" 200mm	2,400# 1088kg	3.0" 75mm	8.0" 200mm	15" 380mm
10,000# 4535kg	120" 3050mm	72" 1830mm	2,000# 908kg	3.5" 90mm	8.5" 720mm	3,000# 1360kg	3.5" 90mm	8.5" 720mm	18" 460mm

(*C is the minimum dimension from center of wheel to the inside face of truss or curb.)

TABLE I

All of the concentrated or wheel loads shall be placed so as to produce the maximum stress in each member being analyzed. Critical stresses need be calculated assuming there is only one vehicle on the bridge at any given time. Assumptions that vehicles only travel down the center of the bridge or that the vehicle load is a uniform line load will not be allowed.

Each four wheeled vehicle load listed in Table I, up to and including the maximum weight vehicle selected, must be used in determining critical deck stresses. The wheel distribution for deck design shall be as specified in Section 4.3.1. Stringers shall be designed for the applied wheel loads assuming no lateral load distribution to adjacent stringers.

A vehicle impact allowance is not required.

4 Wind Load

4A Horizontal Forces

The bridge(s) shall be designed for a wind load of 35 pounds per square foot(170kg/m²) on the full vertical projected area of the bridge as if enclosed. The wind load shall be applied horizontally at right angles to the longitudinal axis of the structure.

The wind loading shall be considered both in the design of the lateral load bracing system and in the design of the truss vertical members, floor beams and their connections.

4B Overturning Forces

The effect of forces tending to overturn structures shall be calculated assuming that the wind direction is at right angles to the longitudinal axis of the structure. In addition, an upward force shall be applied at the windward quarter point of the transverse superstructure width. This force shall be 20 pounds per square foot(100kg/m²) of deck.

5 Seismic Forces

The bridge shall be designed for seismic forces based on the static force procedure as outlined in the 1997 Uniform Building Code. Seismic loads shall be determined in accordance with Section 1630. The following site specific conditions and framing conditions shall be used:

- * Seismic Zone 3
- * Soil Profile Type S_E
- * Importance Factor (I) of 1.0
- * The use of an ordinary braced steel frame; therefore,
 - R = 5.6 (Bridge Superstructure)
 - R = 2.2 (Anchor Bolts)
 - $\Omega_0 = 2.2$

Design forces shall be determined based on the site specific conditions, the foundation system used, and the bridge dead load.

(SPECIFIER NOTE: Add any of the following individual loads to the load listing in the paragraph under Section 7 as applicable.)

EQ = Earthquake (Seismic)]

(SPECIFIER NOTE: For bridges located in high seismic areas, add the following:)

DL + EQ

When earthquake forces are determined in accordance with Section 1630 of the 1997 Uniform Building Code, these forces shall be divided by 1.4 for allowable stress design. No allowable stress increase shall be utilized for load combinations containing seismic forces.

6 Top Chord/Railing Loads

The top chord, truss verticals, and floor beams shall be designed for lateral wind loads (per section 3.1.4.1) and for any loads required to provide top chord stability as outlined in Section 3.3.6;

however, in no case shall the load be less than 50 pounds per lineal foot(75kg/m) or a 200 pound(90kg) point load, whichever produces greater stresses, applied in any direction at any point along the top chord or at the top of the safety system (42"(1065mm) or 54"(1370mm) above deck level), if higher than the top chord.

7 Load Combinations

The loads listed herein shall be considered to act in the following combinations, whichever produce the most unfavorable effects on the bridge superstructure or structural member concerned. [DL=Dead Load; LL = Live Load; WL = Wind Load; VEH = Vehicle Load]

DL + LL
DL + VEH
DL+WL
DL+LL+.3WL
DL+VEH+.3WL

NOTE: Allowable stresses may be increased 1/3 above the values otherwise provided when produced by wind loading, acting alone or in combination with the design dead and live loads.

It shall be the responsibility of the foundation engineer to determine any additional loads (i.e. earth pressure, stream force on abutments, wind loads other than those applied perpendicular to the long axis of the bridge, etc.) and load combinations required for design of the abutments.

J Design Limitations

1 Deflection

1A Vertical Deflection

The vertical deflection of the main trusses due to service pedestrian live load shall not exceed 1/500 of the span.

The vertical deflection of cantilever spans of the structure due to service pedestrian live load shall not exceed 1/300 of the cantilever arm length.

The deflection of the floor system members (floor beams and stringers) due to service pedestrian live load shall not exceed 1/360 of their respective spans.

The service pedestrian live load shall be 85 PSF(415kg/m²) for deflection checks.

Deflection limits due to occasional vehicular traffic shall not be considered.

1B Horizontal Deflection

The horizontal deflection of the structure due to lateral wind loads shall not exceed 1/500 of the span under an 35 PSF(170kg/m²) wind load.

2 Minimum Thickness of Metal

The minimum thickness of all structural steel members shall be 1/4"(6mm) nominal and be in accordance with the AISC Manual of Steel Construction's "Standard Mill Practice Guidelines". For ASTM A500 and ASTM A847 tubing, the section properties used for design shall be per the Steel Tube Institute of North America's Hollow Structural Sections "Dimensions and Section Properties".

K Governing Design Codes / References

Structural members shall be designed in accordance with recognized engineering practices and principles as follows:

1 Structural Steel Allowable Stresses

American Association of State Highway and Transportation Officials (AASHTO).
Allowable Design Stresses shall be in accordance with the "Standard Specifications for Highway Bridges" latest edition (AASHTO).

2 Welded Tubular Connections

American National Standards Institute / American Welding Society (ANSI/AWS) and the Canadian Institute of Steel Construction (CISC).

All welded tubular connections shall be checked, when within applicable limits, for the limiting failure modes outlined in the ANSI/AWS D1.1 Structural Welding Code or in accordance with the "Design Guide for Hollow Structural Section Connections" as published by the Canadian Institute of Steel Construction (CISC).

When outside the "validity range" defined in these design guidelines, the following limit states or failure modes must be checked:

- * Chord face plastification
- * Punching shear (through main member face)
- * Material failure
 - Tension failure of the web member
 - Local buckling of a compression web member
- * Weld failure
 - Allowable stress based on "effective lengths"
 - "Ultimate" capacity
- * Local buckling of a main member face
- * Main member failure:
 - Web or sidewall yielding
 - Web or sidewall crippling
 - Web or sidewall buckling
 - Overall shear failure

All tubular joints shall be plain unstiffened joints (made without the use of reinforcing plates) except as follows:

- * Floor beams hung beneath the lower chord of the structure may be constructed with or without stiffener (or gusset) plates, as required by design.
- * Floor beams which frame directly into the truss verticals (H-Section bridges) may be designed with or without end stiffening plates as required by design.
- * Where chords, end floor beams and in high profiles the top end struts weld to the end verticals, the end verticals (or connections) may require stiffening to transfer the forces from these members into the end vertical.
- * Truss vertical to chord connections.

NOTE: The effects of fabrication tolerances shall be accounted for in the design of the structure. Special attention shall be given to the actual fit-up gap at welded truss joints.

3 Bolted Splices

American Institute of Steel Construction (AISC) and the Research Council on Structural Connections of the Engineering Foundation (RCSC).

Bolted splice design shall be in accordance with Section J3 of the “Manual of Steel Construction: Allowable Stress Design”. Splices shall be designed for the actual load in the member but in no case for less than 50% of the effective strength of the member.

Bolted field splices shall be located on the bridge so as to produce a structure which can be economically shipped and erected. Splices along the length of the bridge (in chords and diagonals) shall be placed at the approximate mid point of a bay (between two panel points). Splices across the width of the bridge (in floor beams and wind braces) may be used, when necessary, to keep the overall structure width within reasonable limits for shipping.

4 Wood

American Institute of Timber Construction (AITC), the U.S. Forest Products Laboratory, and the American Forest & Paper Association (AF&PA).

Sawn lumber shall be designed in accordance with the ANSI/AF&PA NDS, “National Design Standard for Wood Construction”, as published by the American Forest & Paper Association or the “Timber Construction Manual” as published by the American Institute of Timber Construction (AITC). Design properties for naturally durable hardwoods shall be in accordance with “Tropical Timbers of the World”, as published by the U.S. Forest Products Laboratory.

5 Top Chord Stability

Structural Stability Research Council (SSRC), formerly Column Research Council.

The top chord shall be considered as a column with elastic lateral supports at the panel points. The critical buckling force of the column, so determined, shall exceed the maximum force from dead load and live load (uniform or vehicular) in any panel of the top chord by not less than 50 percent for parallel chord truss bridges or 100 percent for bowstring bridges. The design approach to prevent top chord buckling shall be as outlined by E.C. Holt's research work in conjunction with the Column Research Council on the stability of the top chord of a half-through truss. See Appendix A for the calculation of the spring constant C and the determination of an appropriate K factor for out-of-plane buckling.

In addition, for the dead load plus vehicle load combination, the spring constant “C” furnished by the transverse “U-Frames” shall not be less than “C” required as defined by:

$$C \text{ required} = \frac{1.46 P_c}{L}$$

where P_c is the maximum top chord compression due to dead load plus the vehicle load times the appropriate safety factor (1.5 for parallel chord truss bridges or 2.0 for bowstring bridges) and L is the length in inches of one truss panel or bay.

For uniformly loaded bridges, the vertical truss members, the floor beams and their connections (transverse frames) shall be proportioned to resist a lateral force of not less than 1/100k times the

top chord compressive load, but not less than .004 times that top chord load, applied at the top chord panel points of each truss. The top chord load is determined by using the larger top chord axial force in the members on either side of the "U-frame" being analyzed. For end frames, the same concept applies except the transverse force is 1% of the axial load in the end post member.

For bridges with vehicle loads, the lateral force applied at the top chord elevation for design of the transverse frames shall not be less than 1% of the top chord compression due to dead load plus any vehicle loading.

The bending forces in the transverse frames, as determined above, act in conjunction with all forces produced by the actual bridge loads as determined by an appropriate analysis which assumes that the floor beams are "fixed" to the trusses at each end.

NOTE: The effects of three dimensional loading (including "U-frame" requirements) shall be considered in the design of the structure. The "U-frame" forces shall be added to the forces derived from a three dimensional analysis of the bridge.

L Welding

Welding and weld procedure qualification tests shall conform to the provisions of ANSI/AWS D1.1 "Structural Welding Code", 1996 Edition. Filler metal shall be in accordance with the applicable AWS Filler Metal Specification (i.e. AWS A 5.28 for the GMAW Process). For exposed, bare, unpainted applications of corrosion resistant steels (i.e. ASTM A588 and A847), the filler metal shall be in accordance with AWS D1.1, Section 3.7.3.

M Welders

Welders shall be properly accredited operators, each of whom shall submit certification of satisfactorily passing AWS standard qualification tests for all positions with unlimited thickness of base metal, have a minimum of 6 months experience in welding tubular structures and have demonstrated the ability to make uniform sound welds of the type required.

N Foundations

Unless specified otherwise, the bridge manufacturer shall determine the number, diameter, minimum grade and finish of all anchor bolts. The anchor bolts shall be designed to resist all horizontal and uplift forces to be transferred by the superstructure to the supporting foundations. Engineering design of the bridge supporting foundations (abutment, pier, bracket and/or footings), including design of anchor bolt embedments, shall be the responsibility of the foundation engineer. The contractor shall provide all materials for (including anchor bolts) and construction of the bridge supporting foundations. The contractor shall install the anchor bolts in accordance with the manufacturer's anchor bolt spacing dimensions.

Information as to bridge support reactions and anchor bolt locations will be furnished by the bridge manufacturer after receipt of order and after the bridge design is complete.

1.4 SUBMITTALS

A Submittal Drawings

Schematic drawings and diagrams shall be submitted to the customer for their review after receipt of

order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the work to be done. All relative design information such as member sizes, bridge reactions, and general notes shall be clearly specified on the drawings. Drawings shall have cross referenced details and sheet numbers. All drawings shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 1.2 paragraph H.

B Approval Checklist

The following checklist will be used in the evaluation of all submittals to assure compliance with the Special Specifications for Prefabricated Bridge. This checklist is considered the minimum acceptable requirements for compliance with these specifications. Any deviations from this checklist shall be considered grounds for rejection of the submittal. Any costs associated with delays caused by the rejection of the submittal, due to non-compliance with this checklist, shall be fully borne by the contractor and bridge supplier.

SUBMITTAL DRAWINGS

Data Required to be Shown:

Bridge Elevation	Weld Failure Checks (Ultimate)
Bridge Cross Section	Local Buckling of the Main Member Face Checks
All Member Sizes	Main Member Yielding Failure Checks
All Vertical Truss Members are Square or Rectangular Tubing	Main Member Crippling Failure Checks
Bridge Reactions	Main Member Buckling Failure Checks
General Notes Indicating	Main Member Shear Failure Checks
AASHTO Stress Conformance	All Bolted Splice Checks (if applicable)
Material Specifications to be Followed	Main Truss Deflection Checks
Design Live Load	Decking Material Checks
Design Vehicle Load (If Applicable)	“U-Frame” Stiffness Checks (if applicable)
Design Wind Load	Interior and End Portal Design Checks (if applicable)
Other Specified Design Loads	Determination of Top Chord K Factor Based on “U-Frame” Stiffness (if applicable)
Welding Process	Consideration of Individual Member Moments Due to Truss Deflection, Joint Fixity and Joint Eccentricity
Blast Cleaning	
Paint System to be Used (If Applicable)	
Paint Color Chart (If Applicable)	
Detailed Bolted Splices (If Applicable)	
Bolted Splice Location (If applicable)	
Signature and Seal of Professional Engineer, licensed in Accordance with Section 3.0	

FABRICATION SUBMITTALS

Data Required to be Shown:

- **Written Installation Instructions
- **Written Splicing Instructions
- **Written Maintenance & Inspection Instructions
- **Welder Certifications
- **Welding Procedures

DESIGN CALCULATIONS

Data Required to be Shown:

Data Input for 3-D Analysis of Bridge	Material Certifications (if applicable)
Joint Coordinates & Member Incidences	Structural Steel (if applicable)
Joint and Member Loads	Decking (if applicable)
Member Properties	Structural Bolts (if applicable)
Load Combinations	**Quality Control Section of AISC Certification Manual (if applicable)
AASHTO Member Stress Checks for Each Member Type	**Painter Certifications (if applicable)
Weld Testing Reports (if applicable)	
Critical Connection Failure Mode Checks For Each Member Type	
Chord Face Plastification Checks	** NOTE: These items are required to be submitted

Punching Shear Checks
Material Failure Checks (Truss Webs)
Weld Failure Checks (Effective Length)

along with Submittal Drawings and Design Calculations.
Those Fabrication Submittal Items not marked are
to be submitted prior to shipment of the bridge.

B Structural Calculations

Structural calculations for the bridge superstructure shall be submitted by the bridge manufacturer and reviewed by the approving engineer. All calculations shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 3.0. The calculations shall include all design information necessary to determine the structural adequacy of the bridge. The calculations shall include the following:

- * All AASHTO allowable stress checks for axial, bending and shear forces in the critical member of each truss member type (i.e. top chord, bottom chord, floor beam, vertical, etc.).
- * Checks for the critical connection failure modes for each truss member type (i.e. vertical, diagonal, floor beam, etc.). Special attention shall be given to all welded tube on tube connections (see section 3.3.2 for design check requirements).
- * All bolted splice connections.
- * Main truss deflection checks.
- * U-Frame stiffness checks (used to determine K factors for out-of-plane buckling of the top chord) for all half through or "pony" truss bridges.
- * Deck design.

NOTE: The analysis and design of triangulated truss bridges shall account for moments induced in members due to joint fixity where applicable. Moments due to both truss deflection and joint eccentricity must be considered.

C Welder certifications in compliance with AWS standard qualification tests.

D Welding procedures in compliance with Section 5.1.

E Material certification*

1 Steel Certification

All certified mill test reports shall be furnished upon request. Mill test reports shall show the chemical analysis and physical test results for each heat of steel used in the work. All steel shall be produced in the United States of America.

NOTE: All asterisked items will be provided upon receipt from the suppliers, not necessarily at the time of the original submittals of drawings and calculations.

1.5 DELIVERY, STORAGE, & HANDLING

A Delivery is made to a location nearest the site which is easily accessible to normal over-the-road tractor/trailer equipment. All trucks delivering bridge materials will need to be unloaded at the time of

arrival.

1.6 WARRANTY

The bridge manufacturer shall warrant their steel structure(s) to be free of design, material and workmanship defects for a period of fifteen years from the date of delivery. Naturally durable hardwood decking and hardwood attachments shall carry a fifteen-year warranty against rot, termite damage, or fungal decay. Other types of wood are excepted under this warranty.

This warranty shall not cover defects in the bridge caused by abuse, misuse, overloading, accident, improper maintenance, alteration or any other cause not the result of defective materials or workmanship. This warranty shall be void unless owner's records can be supplied which shall indicate compliance with the minimum guidelines specified in the inspection and maintenance procedures.

Repair or replacement shall be the exclusive remedy for defects under this warranty. The bridge manufacturer shall not be liable for any consequential or incidental damages for breach of any express or implied warranty on their structures.

PART 2 PRODUCTS

2.1 MANUFACTURERS

Each bidder is required to identify their intended bridge supplier as part of the bid submittal. Qualified suppliers must have at least 5 years experience fabricating these type structures.

Pre-approved Manufacturers:

Continental Bridge
8301 State Highway 29 North
Alexandria, MN 56308
1-800-328-2047

Bridge America, Inc.
316 Broadway, Suite 100
P.O. Box 907
Alexandria, MN 56308
1-888-946-4711

Eagle Span Steel Structures, Inc.
102 W 4th Street
Loveland, CO 80537
1-970-593-0596

Echo Bridge, Inc.
123 Institution Road
P.O. Box 89
Elmira, NY 14901
1-888-327-4343

Steadfast Bridges
119 40th Street NE
Ft. Payne, Alabama 35867
1-800-749-7515

Big R Manufacturing and Distributing
P.O. Box 1290
Greeley, CO 80632-1290
1-800-234-0734

Suppliers other than those listed above may be used provided the engineer or owner's agent evaluates the proposed supplier and approves the supplier 5 days prior to bid.

The contractor must provide the following documentation, for any proposed supplier who is not pre-approved, at least 10 days prior to bid:

- * Product Literature

- * All documentation to insure the proposed substitution will be in compliance with these specifications. This shall include:
 - Representative design calculations
 - Representative drawings
 - Splicing and erection procedures
 - Warranty information
 - Inspection and Maintenance procedures
 - AISC Shop Certification
 - Welder Qualifications

- * Proposed suppliers must have at least five (5) years experience designing and fabricating these type structures and a minimum of five (5) successful bridge projects, of similar construction, each of which has been in service at least three (3) years. List the location, bridge size, owner, and a contact for reference for each project.

The engineer will evaluate and verify the accuracy of the submittal prior to bid. If the engineer determines that the qualifying criteria have not been met, the contractor's proposed supplier shall be rejected. The engineer's ruling shall be final.

2.2 MATERIALS

A Steel

1 Unpainted Weathering Steel

Bridges which are not to be painted shall be fabricated from high strength, low alloy, atmospheric corrosion resistant ASTM A847 cold-formed welded square and rectangular tubing and/or ASTM A588, or ASTM A242, ASTM A606 plate and structural steel shapes (Fy = 50,000 psi)(345mpa). The minimum corrosion index of atmospheric corrosion resistant steel, as determined in accordance with ASTM G101, shall be 5.8.

B Bolts

Field splices shall be fully bolted with ASTM A325 type 3 high strength bolts in accordance with the "Specifications for Structural Joints Using ASTM A325 or A490 Bolts".

C Decking

1 Hardwood Decking

All decking shall be full thickness planks unless approved otherwise.

- 1A Wood decking shall be nominal 2"x 8"(50mmx200mm) naturally durable hardwood Ipe (Tabebuia Spp) Lapacho Group or Cumaru (Dipteryx Odorta). All planks shall be partially air dried to a moisture content of 15% to 20%, and shall be supplied S4S (surfaced four sides) with one face "hit or miss" allowed up to 10% of the total length, E4E (eased four edges), with the edges eased to a radius of 1/8"(3mm). Measured at 30% moisture content, the width and thickness shall not vary from specified dimensions by more than ± 0.04 inches(1mm). All planks shall be supplied with the end sealed with "Anchorseal" Mobil CER-M or an equal aqueous wax log sealer.

All planks shall be graded as FEQ-CAH (First Export Quality -Clear All Heart) or F1F

(First One Face) grading rules, defined as follows:

- * Lumber shall be graded both faces and both edges.
- * Lumber shall be straight grained and parallel cut without heart center.
- * Lumber shall be all heartwood.
- * Lumber shall be in sound condition.
- * Allowable Imperfections are:
All faces: Natural drying checks, Discoloration caused by weathering or chemical reaction, Maximum bow or spring of 0.08 inch(2mm) per 6 ft(1.83m) of timbers length.
On one face only: Firm sapwood, Worm holes not going through to the other face, Closed knots with maximum of one knot per 4 foot(1.21m) of timber length, Rowy grain, and Tear out.
- * Imperfections Not Allowed:
 Longitudinal heart cracks, Internal cracks, Soft sap wood, Splits, End splits, Ring shades, Fungi affects (blue to gray, brown to red, white to yellow, or incipient decay), Deformation (twisting or cupping) which cannot be removed using normal installation methods and tools.

All planks shall meet or exceed the following mechanical properties (based on the 2”(50mm) standard) as defined by the U.S. Forest Products Laboratory publications and testing data:

<u>MC%</u>	<u>Modulus of Rupture</u>	<u>Modulus of Elasticity</u>	<u>Max. Crush Strength</u>
12%	27,270 psi(188mpa)	3,030,000 psi(20,890mpa)	13,720 psi(95mpa)

Janka side hardness is 3540 lbs.(1605kg) at 12% moisture content
 Average air-dry density is 62 to 81 pcf.
 Basic specific gravity is 0.80 - 0.91.

All planks shall be naturally fire resistant without the use of any fire resistant preservatives to meet NFPA Class A and UBC Class I.

Planks shall be supplied that meet or exceed the Static Coefficient of Friction for both Neolite and leather shoes in accordance with ASTM Test Method C1028-89.

<u>SHOE MATERIAL</u>	<u>FORCE IN POUNDS</u>	
	<u>DRY</u>	<u>WET</u>
Neolite	0.73	0.69
Leather	0.55	0.79

For transverse wood decking, wheel loads shall be assumed to act on one plank only. The wheel loads shown in Section 3.1.3 shall be distributed on the plank along a length equal to the tire print width (W). The plank shall be designed for shear and bending in accordance with the support conditions and spacing. For design, the following unfactored allowable values shall be used:

Allowable Bending	=	3700 psi(25.5mpa)
Allowable Shear	=	320 psi(2.2mpa)
Modulus of Elasticity	=	3,000,000 psi(20684.2mpa)

1B Wood Decking Attachment

- * At time of installation, planks are to be placed tight together with no gaps.

- * Every plank must be attached with at least one fastener at each end.
- * All end fasteners to be 1/4"(6mm) stainless steel bolts. Hex-head bolts, with a steel plank holddown, are to be used at the ends of planks. Self-tapping screws (zinc plated) or carriage bolts are to be used as interior connection fasteners when required. Power actuated fasteners will not be allowed.
- * Planks are to be drilled prior to installation of bolts and/or screws.
- * In addition to at least one fastener at each end of every plank (typical for all installations), planks for bridges with widths of 72"(1830mm) to 120"(3050mm) shall be attached with a minimum of two fasteners at a location approximately near the center of the bridge width. Bridges wider than 120"(3050mm) are to have two fasteners located at a minimum of two interior stringer locations, approximately at the third points of the bridge width.

NOTE: Attachments at the ends of the planks may be modified as required when obstructions, such as interior safety system elements, prevent installation of the specified holddown system.

2.3 COMPONENTS

A Bearing Devices

Bridge bearings shall consist of a steel setting or slide plate placed on the abutment or grout pad. The bridge bearing plate which is welded to the bridge structure shall bear on this setting plate. One end of the bridge will be fixed by fully tightening the nuts on the anchor bolts at that end. The opposite end will have finger tight only nuts to allow movement under thermal expansion or contraction.

The bridge bearings shall sit in a recessed pocket on the concrete abutment. Minimum 28-day strength for the abutment concrete shall be 4,000 PSI(25.2mpa). The bearing seat shall be a minimum of 16"(405mm) wide. The step height (from bottom of bearing to top-of-deck) shall be determined by the bridge manufacturer.

Bridges in excess of 100 feet(30m) in length or bridges with dead load reactions of 15,000 pounds (6800kg) or more (at each bearing location) shall have teflon on teflon or stainless steel on teflon slide bearings placed between the bridge bearing plate and the setting plate. The top slide plate shall be large enough to cover the lower teflon slide surface at both temperature extremes.

2.4 FABRICATION

A General Requirements

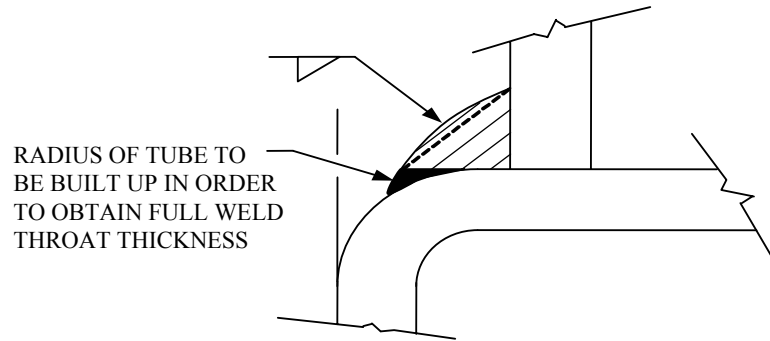
1A Drain Holes

When the collection of water inside a structural tube is a possibility, either during construction or during service, the tube shall be provided with a drain hole at its lowest point to let water out.

2A Welds

Special attention shall be given to developing sufficient weld throats on tubular members. Fillet weld details shall be in accordance with AWS D1.1, Section 3.9 (See AWS Figure 3.2). Unless

determined otherwise by testing, the loss factor “Z” for heel welds shall be in accordance with AWS Table 2.8. Fillet welds which run onto the radius of a tube shall be built up to obtain the full throat thickness (See Figure 7.1). The maximum root openings of fillet welds shall not exceed 3/16”(5mm) in conformance with AWS D1.1, Section 5.22. Weld size or effective throat dimensions shall be increased in accordance with this same section when applicable (i.e. fit-up gaps > 1/16”(5mm)).



**FIGURE 7.1
BUILD UP RADIUS WELD**

The fabricator shall have verified that the throat thickness of partial joint penetration groove welds (primarily matched edge welds or the flare-bevel-groove welds on underhung floor beams) shall be obtainable with their fit-up and weld procedures. Matched edge welds shall be “flushed” out when required to obtain the full throat or branch member wall thickness.

For full penetration butt welds of tubular members, the backing material shall be fabricated prior to installation in the tube so as to be continuous around the full tube perimeter, including corners. Backing may be of four types:

- * A “box” welded up from four (4) plates.
- * Two “channel” sections, bent to fit the inside radius of the tube, welded together with full penetration welds.
- * A smaller tube section which slides inside the spliced tube.
- * A solid plate cut to fit the inside radius of the tube.

Corners of the “box” backing, made from four plates, shall be welded and ground to match the inside corner radii of the chords. The solid plate option shall require a weep hole either in the chord wall above the “high side” of the plate or in the plate itself. In all types of backing, the minimum fit-up tolerances for backing must be maintained at the corners of the tubes as well as across the “flats”.

B Quality Certification

Bridge(s) shall be fabricated by a fabricator who is currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for the category “Simple Steel Bridges” as set forth in the AISC

Certification Program. Quality control shall be in accordance with procedures outlined for AISC certification.

2.5 FINISHES

A Blast Cleaning

1A Bare applications of enhanced corrosion resistant steels.

To aid in providing a uniformly “weathered” appearance, all exposed surfaces of steel shall be blast cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast Cleaning, SSPC-SP7 latest edition.

Exposed surfaces of steel shall be defined as those surfaces seen from the deck and from outside of the structure. Stringers, floor beams, lower brace diagonals and the inside face of the truss below deck and bottom face of the bottom chord shall not be blasted.

PART 3 EXECUTION

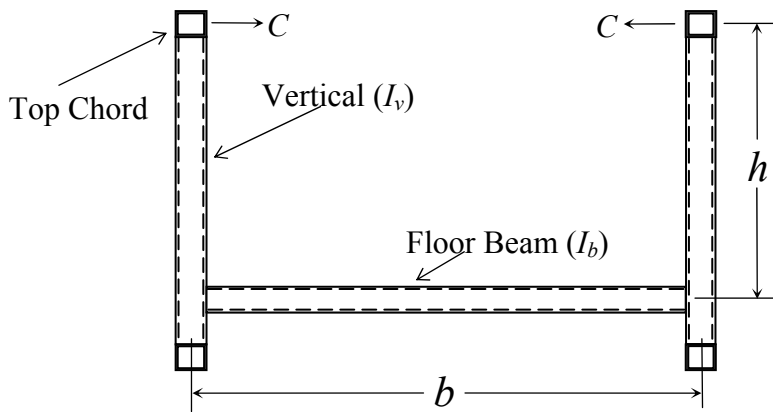
3.1 ERECTION

The manufacturer will provide detailed, written instruction in the proper lifting procedures and splicing procedures (if required). The method and sequence of erection shall be the responsibility of others. The bridge manufacturer shall provide written inspection and maintenance procedures to be followed by the bridge owner.

Appendix A

1/K FOR VARIOUS VALUES OF CL/P_c and n

1/K	n						
	4	6	8	10	12	14	16
1.000	3.686	3.616	3.660	3.714	3.754	3.785	3.809
0.980		3.284	2.944	2.806	2.787	2.771	2.774
0.960		3.000	2.665	2.542	2.456	2.454	2.479
0.950			2.595				
0.940		2.754		2.303	2.252	2.254	2.282
0.920		2.643		2.146	2.094	2.101	2.121
0.900	3.352	2.593	2.263	2.045	1.951	1.968	1.981
0.850		2.460	2.013	1.794	1.709	1.681	1.694
0.800	2.961	2.313	1.889	1.629	1.480	1.456	1.465
0.750		2.147	1.750	1.501	1.344	1.273	1.262
0.700	2.448	1.955	1.595	1.359	1.200	1.111	1.088
0.650		1.739	1.442	1.236	1.087	0.988	0.940
0.600	2.035	1.639	1.338	1.133	0.985	0.878	0.808
0.550		1.517	1.211	1.007	0.860	0.768	0.708
0.500	1.750	1.362	1.047	0.847	0.750	0.668	0.600
0.450		1.158	0.829	0.714	0.624	0.537	0.500
0.400	1.232	0.886	0.627	0.555	0.454	0.428	0.383



“U - Frame”

Where:
$$C = \frac{E}{h^2 [h/3I_v + b/2I_b]}$$

L = Length in inches of one truss panel

P_c = Buckling Load (= Top Chord Compression x F.S.)

n = Number of Panels

Reference: Galambos, T.V. (1988) “Guide to Stability Design Criteria for Metal Structures”, 4th Ed., PP 515-529. Copyright © 1988. Reprinted by permission of John Wiley and Sons, Inc.