

DEPARTMENT OF THE ARMY
Omaha District, Corps of Engineers
106 South 15th Street
Omaha, Nebraska 68102-1618

:NOTICE: Failure to acknowledge : Solicitation No. DACW45 03 B 0014
:all amendments may cause rejec- :
:tion of the bid. See FAR : Date of Issue: 19 May 2003
:52.214-3 of Section 00100 : Date of Opening: 26 Jun 2003

Amendment No. 0004
17 June 2003

SUBJECT: Amendment No. 0004 to Specifications and Drawings for Construction of
FLOOD PROTECTION PROJECT, VAN BIBBER CREEK, ARVADA, CO
Solicitation No. DACW45 03 B 0014.

TO: Prospective Bidders and Others Concerned

1. The specifications and drawings for subject project are hereby modified as follows (revise all specification indices, attachment lists, and drawing indices accordingly).

a. Specifications. (Descriptive Changes.)

(1) Page 00010-1, item 11, delete "730 calendar days" and substitute "850 calendar days"

(2) Section 00800 Page 3, line 4, delete "730 calendar days" and substitute "850 calendar days"

(3) Section 00800 Page 7, add the following new paragraph:

"1.11.1 The Contractor shall be responsible for obtaining the following no-cost permits from the City of Arvada Engineering Department (see attachments).

- General Public Improvement Permit
- Electrical, Plumbing, HVAC Permit

The Contractor shall be responsible for obtaining all applicable county and state permits.

1.11.2 Interim lighting shall comply with requirements of the City of Arvada Land Development Code Section 6.7 (see attachment)."

(4) Section 01200 Page 3, paragraph 1.3, add the following to the end of the paragraph, "In order to protect existing facilities, the Contractor is responsible for coordination with local utility companies to ensure all utilities are accurately identified and located prior to beginning any intrusive work".

(5) Section 01200 Page 3, paragraph 1.3.2, add the following to the end of the paragraph:

"All existing buildings and facilities being used by others shall have utility

service at all times. Should the Contractor need to briefly interrupt utility or communications service for switch-over to temporary power/communication, the Contractor shall submit written notification not less than 15 calendar days in advance of each interruption of each utility and communication service. The time and duration of all switchover outages will be coordinated and approved in writing with the Using Agency and by the Contracting Officer. The Contractor shall pay all costs related to utility switch-over."

(6) Section 01355 Page 10, add the following new paragraph:

"1.11 ENVIRONMENTAL COORDINATION, PERMITS, NOTICES, REVIEWS AND/OR APPROVALS

The Contractor shall be responsible for contacting the appropriate Federal, State, Regional, and local environmental agencies to identify all required environmental permits (construction and operating), notices, reviews, and approvals required for the project. Once the requirements are identified, the Contractor shall be responsible for coordinating the requirements with the Contracting Officer in regard to implementation for the project. The Contractor shall ensure that all coordination, permits, notices, reviews and/or approvals are completed with each applicable phase of the design prior to construction starting for that phase. The Contractor shall be responsible for any contract delays resulting from failure to obtain environmental permits, notices, reviews and/or approvals when required.

1.11.1 Applications, Supporting Documents, and Fees

The Contractor shall obtain and complete all environmental permit applications and notices including any documents required for any modification for an existing permit held by the Government. The Contractor is responsible for preparing all supporting documents, including but not limited to engineering reports, emission surveys, diagrams, pollutant load calculations, etc. If, in lieu of permits, the governing agency requires review and approval of the design, the Contractor shall submit and obtain approval of the design and associated documents. The Contractor shall be responsible for all fees associated with the permits, applications, reviews, approvals, and notices.

1.11.2 Environmental Permits, Notices, Reviews, and/or Approvals

The following is a listing of permits, notices, reviews, and/or approvals which **may be** required for this project. This listing and requirements are not to be considered all-inclusive by the Contractor, but is provided as information to be used in successfully accomplishing the environmental compliances.

a. In the State of Colorado, **EPA** has authority for the National Pollutant Discharge Elimination System (NPDES). **If** construction activities results in the disturbance of 1 acre of land or more, coverage under the EPA Storm Water General Permit For Construction Activities (Colorado Permit No. COR-030000) is required. NOTE: The requirement changes from 5 acres to 1 acre of disturbed land effective 10 March 2003. The Contractor shall be responsible for editing and applying Specification Section 01568 (NON-FEDERAL FACILITIES COLORADO) NPDES PERMIT REQUIREMENTS FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITES."

(7) Section 02241 Page 5, paragraph 2.1.3,

- a) Gradation Table, for the percentage passing for the No. 200 sieve delete "3-15" and substitute "3-10".
- b) Add the following to the end of the paragraph, "Crushed aggregate base course shall also meet requirements of specification Section 02552, paragraph 3.8.1".

(8) Section 02552 Page 5, paragraph 3.8.1, add the following to the end of the paragraph, "Crushed aggregate base course shall also meet requirements of specification Section 02241, paragraph 2.1.3".

(9) Section 03301 Page 15, paragraph 2.18, Add the following to the end of the paragraph, "The Contractor shall submit a proposed "earth tone" color in accordance with requirements in paragraph 1.2, Submittals".

b. Specifications (New and/or Revised and Reissued). Delete and substitute or add specification pages as noted below. The substituted pages are revised and reissued with this amendment.

<u>Pages Deleted</u>	<u>Pages Substituted or Added</u>
General Decision No CO020012 Dated 01/10/2003	General Decision No CO020012 Dated 06/13/2003

c. Drawings (Not Reissued). The following drawing sheets are revised as indicated below with latest revision date of 17 June 2003. These drawings are not reissued with this amendment.

Downstream Segment

(1) Sheet C-7, (Phase 1 Excavation Plan), Note 8: Add the following to the end of the note, "Interim lighting shall comply with requirements of the City of Arvada Land Development Code Section 6.7 (see Section 01200, para 1.11.2 & subsequent attachment)."

(2) Sheet C-11, (Phase 3 Excavation and Restoration Plans),
 a) Excavation Plan Note 5: Delete the existing note and replace with the following:
 "5. The City of Arvada will remove and relocate all traffic signals for the Contractor. The Contractor shall notify Joe Resseguie with the City of Arvada Traffic Engineering Department at least 30 calendar days prior to the required removal or relocation of any traffic signal."

b) Excavation Plan Note 10: Delete the existing note and replace with the following:
 "10. Interim parking lot lighting during construction phases shall be provided by the Contractor. The Contractor shall coordinate lighting requirements with local property owners. The City of Arvada Engineering Department can provide a list of property owners upon request. Interim lighting shall comply with requirements of City of Arvada Land Development Code Section 6.7 (see attachment)."

(3) Sheet C-29, (Catch Basin Details), Standard Inlet Grate Detail: Delete "Standard Inlet Grate" shown and replace with CDOT "close mesh grate" meeting requirements of CDOT standard M-604-10, Inlet Type C, or approved equal (see attachment).

(4) Sheet U-2, (Utility Relocations, Sheet 2), Note 10: Add the

following to the end of the note, "The Contractor shall coordinate with Xcel Energy to determine the point of connection and required size of temporary electrical service to be provided to Block Buster Video".

2. This amendment is a part of the bidding papers and its receipt shall be acknowledged on the Standard Form 1442. All other conditions and requirements of the specifications remain unchanged. If the bids have been mailed prior to receiving this amendment, you will notify the office where bids are opened, in the specified manner, immediately of its receipt and of any changes in your bid occasioned thereby.

a. Hand-Carried Bids shall be delivered to the U.S. Army Corps of Engineers, Omaha District, Contracting Division (Room 301), 106 South 15th Street, Omaha, Nebraska 68102-1618.

b. Mailed Bids shall be addressed as noted in Item 8 on Page 00010-1 of Standard Form 1442.

3. Bids will be received until 2:00 p.m., local time at place of bid opening, 26 June 2003.

Attachments:

General Wage Decision No. CO020012 dated 6/13/2003

Permits listed in 1.a. above

Dwgs. details listed in 1.c. above

U.S. Army Engineer District, Omaha
Corps of Engineers
106 South 15th Street
Omaha, Nebraska 68102-1618

17 June 2003
MFS/4411

GENERAL DECISION CO030012 06/13/03 CO12

General Decision Number CO030012

Superseded General Decision No. CO020012

State: Colorado

Construction Type:
HEAVY

County(ies):

ADAMS	DOUGLAS	MESA
ARAPAHOE	EL PASO	PUEBLO
BOULDER	JEFFERSON	WELD
DENVER	LARIMER	

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	06/13/2003

COUNTY(ies):

ADAMS	DOUGLAS	MESA
ARAPAHOE	EL PASO	PUEBLO
BOULDER	JEFFERSON	WELD
DENVER	LARIMER	

ASBE0028A 01/01/2003

	Rates	Fringes
ASBESTOS WORKERS/INSULATORS (Includes application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems)	18.57	5.95

BRCO0007F 01/01/2002

	Rates	Fringes
ADAMS, ARAPAHOE, BOULDER, DENVER, DOUGLAS, AND JEFFERSON COUNTIES		
BRICKLAYERS	21.27	6.60

BRCO0007G 05/01/2002

	Rates	Fringes
EL PASO AND PUEBLO COUNTIES		
BRICKLAYERS	21.27	6.60

CARP2834A 05/01/2003

	Rates	Fringes
MILLWRIGHTS	24.49	6.66

ELEC0012D	09/01/2002		
		Rates	Fringes
PUEBLO COUNTY			
ELECTRICIANS:			
Electrical work where the total cost is \$200,000 or less		18.98	7.94
Electrical work where the total cost is over \$200,000		23.74	7.94

ELEC0068A	06/01/2002		
		Rates	Fringes
ADAMS, ARAPAHOE, BOULDER, DENVER, DOUGLAS, JEFFERSON, LARIMER, AND WELD COUNTIES			
ELECTRICIANS		26.91	8.64

ELEC0111A	09/01/2002		
		Rates	Fringes
LINE CONSTRUCTION:			
Lineman		27.36	20.75%+2.30
Groundman		14.05	20.75%+2.30

ELEC0113C	01/01/2003		
		Rates	Fringes
EL PASO COUNTY			
ELECTRICIANS		24.10	3%+10.59

ELEC0969B	06/01/2000		
		Rates	Fringes
MESA COUNTY			
ELECTRICIANS		20.35	4%+5.14

ENGI0009A	05/01/2003		
		Rates	Fringes
POWER EQUIPMENT OPERATORS:			
Blade:			
Rough		20.62	5.77
Finish		20.92	5.77
Bulldozer		20.62	5.77
Cranes:			
50 tons and under		20.77	5.77
51 to 90 tons		20.92	5.77
91 to 140 tons		21.07	5.77
141 tons and over		21.83	5.77
Forklift		20.27	5.77
Mechanic		20.77	5.77
Oiler		19.92	5.77

Roller:		
Self-propelled, rubber tires under 5 tons	20.27	5.77
Self-propelled, all types over 5 tons	20.62	5.77
Scraper:		
Single bowl under 40 cubic yards	20.77	5.77
Single bowl, including pups 40 cubic yards and over and tandem bowls	20.92	5.77
Trackhoe	20.77	5.77

IRON0024F 08/01/2002

	Rates	Fringes
IRONWORKERS:		
Structural	22.00	7.61

LABO0086A 05/01/2003

	Rates	Fringes
LABORERS:		
Pipelayer	16.29	4.25

PLUM0003E 07/01/2002

	Rates	Fringes
ADAMS, ARAPAHOE, BOULDER, DENVER, DOUGLAS (Northern half), JEFFERSON, LARIMER AND WELD COUNTIES		
PLUMBERS	26.52	6.64

PLUM0020B 07/01/2002

	Rates	Fringes
PUEBLO COUNTY		

PLUMBERS & PIPEFITTERS:

Free Zone - 0 to 40 miles	19.85	6.81
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Zone 1 - 40 miles and over: \$19.85 per hour + \$32.00 per day per diem will be paid on projects over 40 miles (Zone 1) measured in practical driving miles by the shortest route, beginning at 5th and Main Streets in Pueblo, Colorado, when the employee stays overnight or drives their own vehicle.

Hazardous pay: Add \$2.20 per hour to base rate.
Hazardous pay applies to projects at chemical plants, steel mills, cement plants, power generator plants, process piping at manufacturing plants, food processing plants, and all projects which may present a health hazard or serious personal injury.

PLUM0058B	07/01/2002		
		Rates	Fringes
EL PASO AND DOUGLAS (Southern half) COUNTIES			
PLUMBERS & PIPEFITTERS		24.95	7.40

PLUM0145B	05/01/2002		
		Rates	Fringes
MESA COUNTY			
PLUMBERS & PIPEFITTERS		21.28	6.45

PLUM0208J	07/01/2002		
		Rates	Fringes
ADAMS, ARAPAHOE, BOULDER, DENVER, DOUGLAS (Northern half), LARIMER AND WELD COUNTIES			
PIPEFITTERS		26.62	6.54

SHEE0009B	07/01/2002		
		Rates	Fringes
SHEET METAL WORKERS			
		24.94	9.65

SUCO1033A	12/20/2001		
		Rates	Fringes
BOILERMAKERS			
		17.60	
CEMENT MASONS/CONCRETE FINISHERS			
		17.31	2.85
CARPENTERS:			
Form Building and Setting		16.97	2.74
All Other Work		15.14	3.37
IRONWORKERS, Reinforcing			
		18.83	3.90
LABORERS:			
Common		11.22	2.92
Landscape		12.56	3.21
Flagger		8.91	3.80
PAINTERS:			
Brush, Roller & Spray		15.81	3.26
POWER EQUIPMENT OPERATORS:			
Backhoe		16.36	2.48
Front End Loader		17.24	3.23
Skid Loader		15.37	4.41

TEAM0435A	05/01/2000		
		Rates	Fringes

TRUCK DRIVERS:		
Pickup	14.21	5.27
Tandem/Semi and Water	14.93	5.27

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

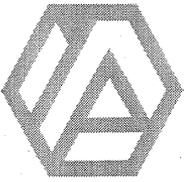
Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.
END OF GENERAL DECISION



CITY OF ARVADA
 ENGINEERING DIVISION
 8101 RALSTON ROAD
 ARVADA, CO 80002
 PHONE: (720)898-7640
 FAX: (720)898-7603

Office Use Only

GENERAL PUBLIC IMPROVEMENT PERMIT

License No. _____ Permit No. _____

Issued _____ Pmt. Type _____ Fee Pd \$ _____

Job Address _____ Subdivision _____

Contractor _____ Address: _____ Phone# _____

Work is Supervised By: _____ City _____ Zip _____ 24 Hr Phone# _____

Work is Scheduled to start: _____ Schedule Inspection Date: _____ Time: _____

Work is Scheduled to end: _____ Letter of credit or cash: Yes _____ No _____

Traffic Control Plan Required: _____ Developer or Utility Company: _____
 Yes _____ No _____ Approved By _____

IMPROVEMENT	License Class	QTY Length/Unit	FEE	MISCELLANEOUS	PERMIT FEE
** Storm Sewer	A	LF	\$.50*		\$ _____
** Irrigation	A	LF	\$.50*		\$ _____
** Sewer Main	A	LF	\$.50*		\$ _____
** Water Main	A	LF	\$.50*		\$ _____
** Fire Line	A	LF	\$.50*	Util _____ Size _____ Pvmt Contractor _____	\$ _____
Sewer Service New/Repair -- Yard / Street	A, S1	EA	\$25.00*	Util _____ Size _____ Pvmt Restore _____	\$ _____
Water Service New/Repair -- Yard / Street	A, S1	EA	\$25.00*	Util _____ Size _____	\$ _____
Irrigation Sprinkler Service	A, S1	EA	\$25.00*	Util _____ Size _____	\$ _____
Water/Reg/Special Demolition Disconnect	A	EA	\$25.00*	Util _____ Pvmt Restore _____	\$ _____
Sewer/Reg/Special Demolition Disconnect	A	EA	\$25.00*	Util _____ Pvmt Restore _____	\$ _____
** Street Subgrade/Fill (New/Patch)	A, B, S5	SY	\$.15*	Fill Supplier _____	\$ _____
** Street Subbase (New/Patch)	B, S5	SY	\$.15*		\$ _____
** Street Surfacing (New/Patch)	B, S5	SY	\$.15*	Paving Permit # _____	\$ _____
** Structure (Surface Area)	C	SF	\$1.20*		\$ _____
Combination C, G, & Walk (New/Replacement)	C, S4	LF	\$.40*		\$ _____
Vertical Curb & Gutter (New/Replacement)	C, S4	LF	\$.40*		\$ _____
Detached Walk/Bike Trail (New/Replacement)	C, S4	LF	\$.40*		\$ _____
Crosspan/Curb Cut/ Driveway (New/Replacement)	C, S4	EA	\$60.00		\$ _____
** Inlets/Vaults	C	EA	\$50.00		\$ _____
Other _____		EA	\$50.00		\$ _____
Tree trimming	S8	EA	\$50.00		\$ _____
Street Degredation Fee (Trench length plus 20LF)		LF	\$6.60		\$ _____
Surcharge for work without permit/license (\$250 or double permit fee) whichever is greater		EA			\$ _____
Subtotal *					\$ _____
Pavement Restoration by City Forces		SF	\$15.00	(Minimum fee \$50.00)	\$ _____
Total					\$ _____
Adjustment for Pavement Restoration				Amount DUE / REFUND	
Inspector's Qty _____ SF		SF	\$15.00	_____ Date Notified Streets	\$ _____
Less Permit Qty _____ SF = _____ SF					
Adjustment for Street Degredation				Amount DUE/ REFUND	
Inspector's Qty _____ LF		LF	\$6.60		\$ _____
Less Permit Qty _____ LF = _____ LF					
Reinspection Fee		EA	\$60.00		\$ _____

Applicant hereby agrees to comply with all the provisions of the City of Arvada Building Code, Standard Specifications and Drawings for Design and Construction, approved plans or any other Ordinance, Law, Rule, or Regulation including EROSION CONTROL, and that this Permit shall be invalid if, during the performance of the work, a violation of any of the above ensued. Should violation occur and correction directives are not followed, this permit shall be deemed to be canceled and the improvements shall be made to conform with these provisions or they shall be removed.

Contractor Representative _____

*By signing this form the applicant or its contractor agrees they are not delinquent in payments due to City of Arvada on prior work.

48 HOUR NOTICE REQUIRED TO SCHEDULE INSPECTION
NO PIPE IS TO BE COVERED UP WITHOUT VISUAL INSPECTION OF THE PIPE

* **MINIMUM PERMIT CHARGE OF \$50.00**

** **EROSION CONTROL MEASURES REQUIRED**

08/02 New permit form2002.xls

Inspector _____



CITY OF ARVADA

Department of Public Works • Building Inspection Division
Fax 720-898-7603 • Office 720-898-7620

ELECTRICAL, PLUMBING, HVAC PERMIT APPLICATION

JOB ADDRESS _____

OWNER _____ ADDRESS _____ PHONE _____

PRIMARY CONTRACTOR _____ LIC. NUMBER _____ PHONE _____

ELECTRICAL WORK

NEW SERVICE?: _____ REMODEL?: _____ CONSTRUCTION METER?: _____ SERVICE AMPERE RATING: _____

SERVICE CHANGE?: _____ ELECTRIC FURNACE? KW: _____ ELECTRIC WALL HEATER? KW: _____

DESCRIPTION: _____ CONTRACT VALUE: _____

NOTE: ADDITIONAL CIRCUITS MAY REQUIRE A SERVICE PANEL UPGRADE. A MODIFICATION OR CHANGE OF SERVICE PANEL REQUIRES AN OUTSIDE MEANS OF MAIN DISCONNECT 9ARVADA CITY CODE 7-133).

PLUMBING WORK

NEW SERVICE; WATER SIZE: _____ SEWER SIZE: _____ REMODEL?: _____ WATER HEATER (Gal.): _____ # BATHS: _____

FLOOR DRAIN: _____ GREASE TRAP SIZE: _____ FIRE SPRINKLER?: _____ ROOF DRAIN SIZE?: _____

LAWN SPRINKLER?: _____ BACKFLOW TYPE: _____ TAP SIZE: _____ CONTRACT VALUE: _____

DESCRIPTION: _____

NOTE: ULTRA LOW FLOW PLUMBING FIXTURES ARE REQUIRED.

HVAC WORK

REMODEL?: _____ GAS FORCED AIR (btu)?: _____ HOT WATER HEATER (Gal.): _____ HEAT PUMP?: _____

AIR CONDITIONER(btu / tons)?: _____ GREASE HOOD(cfm/size)?: _____ HOOD FIRE SUPPRESSION?: _____

EXHAUST FAN (cfm)?: _____ MAKE UP AIR (cfm)?: _____

DESCRIPTION: _____ CONTRACT VALUE: _____

COMMENTS:

ELEC VALUATION	_____
PLUM VALUATION	_____
HVAC VALUATION	_____
Use tax	_____
TOTAL	_____

THE ISSUANCE OF A PERMIT, INSPECTIONS, OR CERTIFICATE OF OCCUPANCY SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, NOR AN APPROVAL OF, ANY VIOLATION OF THE UNIFORM BUILDING OR OTHER CODE OR ORDINANCE ADOPTED BY THE CITY OF ARVADA. I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE ABOVE IS CORRECT AND AGREE NOT TO START THIS PROJECT UNTIL THIS APPLICATION IS APPROVED AND VALIDATED, AND SHALL COMPLY WITH THE LAWS OF THE STATE OF COLORADO AND TO THE ZONING REGULATIONS AND UNIFORM BUILDING CODE AS ADOPTED BY THE CITY OF ARVADA. ANY VIOLATION OF THE ABOVE NOTED TERMS WILL CAUSE IMMEDIATE REVOCATION OF THIS PERMIT.

BUILDING DEPT APPROVAL DATE

APPLICANT SIGNATURE DATE

6.7 Lighting

The provisions of this section shall apply to all land uses, other than single-family detached and duplex homes, in the Standard Zoning Districts, New Communities Sub-Districts, Clear Creek Sub-Districts, and PUD Districts. In the event there is any disagreement between the City and an Applicant as to whether proposed lighting meets the following standards, the City may require a photometric study of the proposed lighting at the Applicant's expense.

6.7.1 Intent

All site lighting should be designed and installed to maintain adequate lighting on site and provide security for people and property, through the use of fixtures that are durable and that promote a unified appearance throughout a development area, while prevent glare beyond the property line. All private lighting should follow the efficiency standards described in ASHRAE 90.1 or any replacement or successor document.

6.7.2 Parking Lot Lighting

- A. Location. Light fixtures shall be located to provide a relatively uniform level of lighting and to avoid extreme contrasts between levels of lighting, except as necessary to prevent glare onto adjacent properties. No light pole shall be located within 30 feet of a tree.
- B. Height. The maximum height of light poles shall be:
 - 1. 18 feet within 50 feet of areas containing residential uses,
 - 2. 25 feet within 50 feet outside the boundaries of areas containing residential uses, and
 - 3. 35 feet in all other areas.

6.7.3 Pedestrian Lighting

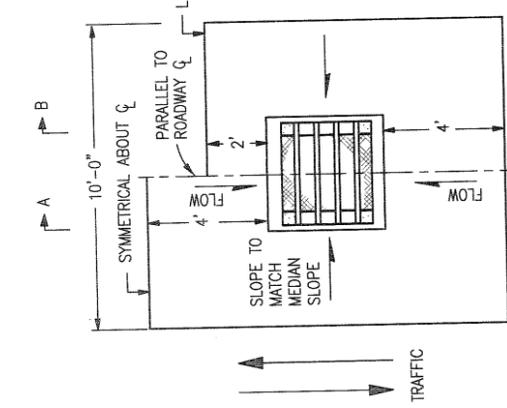
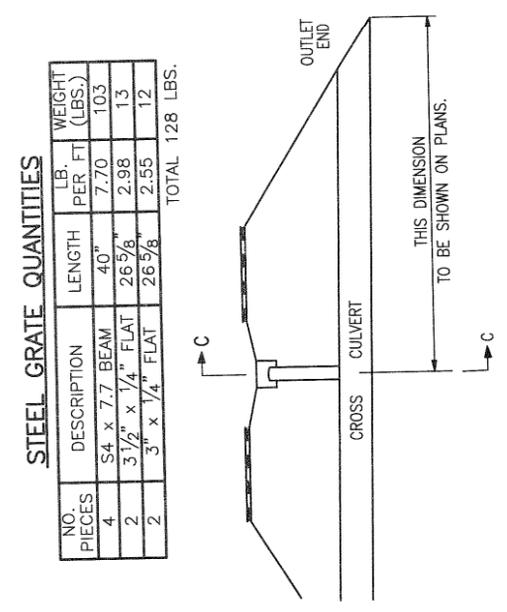
- A. Location. Pedestrian paths leading to primary building entries that are used by residents, employees, or the public after daylight hours shall be lighted if (a) they are longer than 30 feet or (b) they include steps or ramps. Pedestrian lighting should also be provided along commercial and mixed-use streets, open space paths, special parkways or streets, and open space areas designed for gatherings or events.
- B. Placement. Where pedestrian lights are used, they shall be placed (a) at least 3 feet away from the face of the curb (to avoid damage from car bumpers and door swings), (b) at least 5 feet from the point where a curb transitions into a driveway, curb cut, or alley, (c) at least 20 feet from the extended flow line of the nearest intersection, (d) to provide a relatively uniform level of lighting and to avoid extreme contrasts between levels of lighting, and (e) so as to prevent glare onto adjacent properties.
- C. Types. Pedestrian lighting shall have consistent fixtures, source colors, and illumination levels. Low, glare controlled light fixtures mounted on building or landscape walls, bollards, or low ground mounted landscape lights are preferred. Where light poles are used, fixtures shall have metal halide sources unless an alternative light type is approved during the development approval process. Where the light source is directly visible, the luminaries should incorporate elements to reduce glare, such as (a) translucent, obscure, or refracting lenses, (b) low wattage light sources, or (c) shielding devices. The use of solar powered lighting is encouraged.
- D. Height. Light poles or tree mounted structures shall be between 12 and 14 feet high. Bollard type lighting fixtures shall be between 3 and 4 feet high.

6.7.4 Building, Service, and Loading Area Lighting

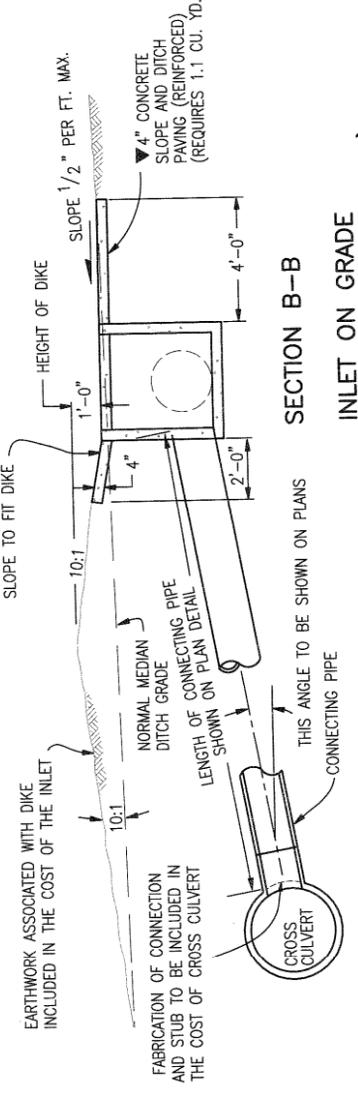
- A. Permitted Lighting. All lighting shall be designed and located so as to prevent glare onto adjacent properties. All lighting of a specific architectural feature, name, or logo designed to act as advertising devices calling attention to the building owner or tenant shall be considered as signage and shall be subject to restrictions on sign area and location contained in §6.17 (Signs).
 - 1. Non-Canopy Lighting. Building lighting may only be used to highlight important building entries or specific architectural features. General floodlighting of building facades is not permitted. Light fixtures shall not be designed or located where the light source is visible from a street or an area with residential uses.
 - 2. Canopy Lighting. All canopy lighting (a) shall use recessed luminaire fixtures as defined by the Illumination Engineering Society, and (b) shall not use highly reflective material on the underside.

STEEL GRATE QUANTITIES

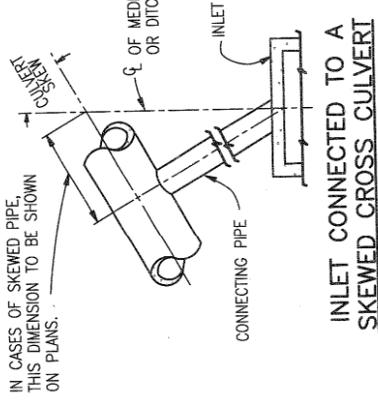
NO. PIECES	DESCRIPTION	LENGTH PER FT.	WEIGHT (LBS.)
4	S4 x 7.7 BEAM	40"	7.70
2	3 1/2" x 1/4" FLAT	26 5/8"	2.98
2	3" x 1/4" FLAT	26 5/8"	2.55
TOTAL			128 LBS.



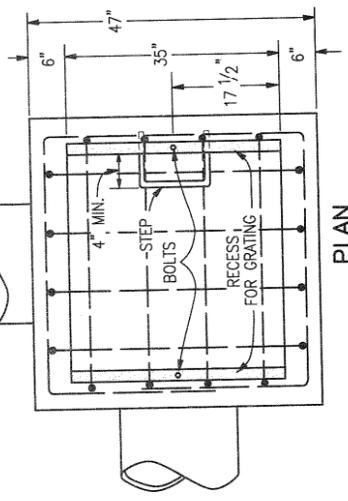
INLET WITH DITCH PAVING



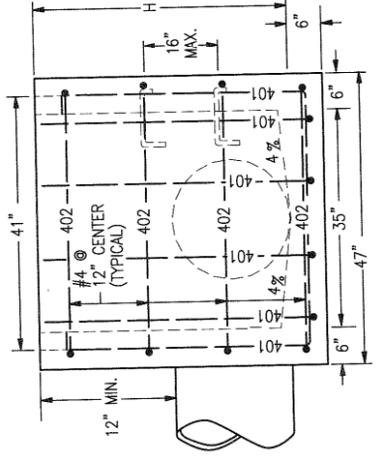
INLET CONNECTED TO A CROSS CULVERT



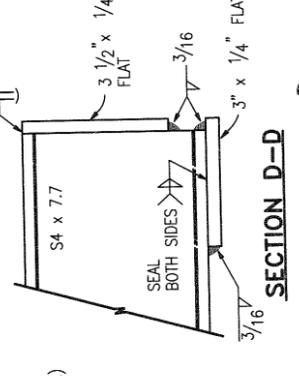
INLET CONNECTED TO A SKEWED CROSS CULVERT



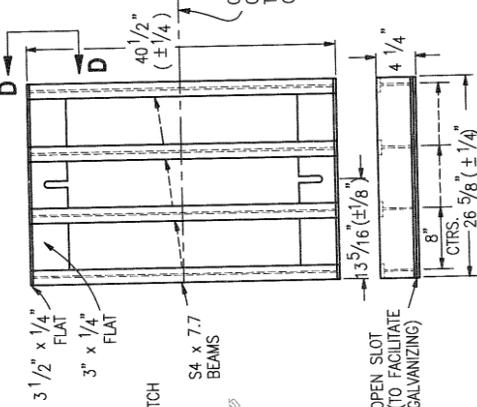
PLAN



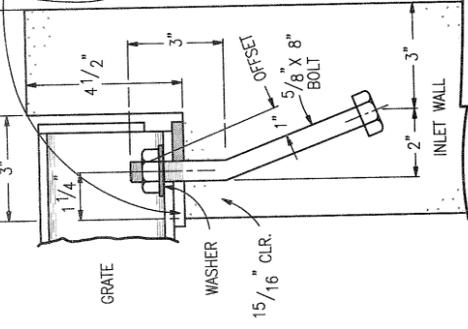
ELEVATION CONCRETE INLET



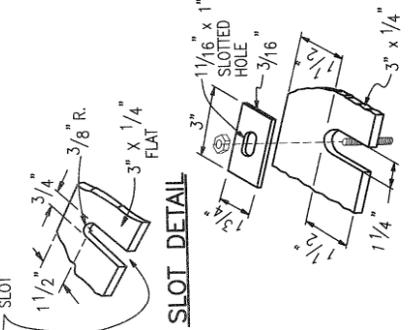
SECTION D-D



SECTION E-E



GRATE INSTALLATION DETAIL



SLOT DETAIL

ALTERNATE SLOT AND HOLD DOWN PLATE DETAIL

GENERAL NOTES

- CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
- REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE A MINIMUM 2" CLEARANCE.
- CONCRETE SLOPE AND DITCH PAVING SHALL CONFORM TO SECTION 507. REINFORCEMENT FOR CONCRETE SLOPE PAVING SHALL BE 6 X 6 - W1.4 X W1.4 OR 6 X 6 - W2.1 X W2.1.
- STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH 712.06.
- THE STANDARD INLET GRATES SHALL BE USED ON ALL TYPE C INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
- STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- SEE SHEET M-604-11, INLET, TYPE D, FOR REINFORCEMENT AROUND THE PIPE OPENING.

CONCRETE SLOPE AND DITCH PAVING WILL BE REQUIRED WHEN SHOWN ON PLANS.

QUANTITIES FOR ONE INLET

H	CONCRETE # (CU. YDS.)	REINF. STEEL (LBS.)	NO. STEPS REQ'D.
2'-6"	0.9	75	0
3'-0"	1.0	80	0
3'-6"	1.2	96	0
4'-0"	1.3	101	1
4'-6"	1.4	116	2
5'-0"	1.5	122	2
5'-6"	1.7	137	2
6'-0"	1.8	142	3
6'-6"	1.9	158	3
7'-0"	2.0	163	3
7'-6"	2.2	179	4
8'-0"	2.3	184	4
8'-6"	2.4	199	4
9'-0"	2.5	205	5
9'-6"	2.7	220	5
10'-0"	3.0	235	6
11'-6"	3.4	251	6

* INCLUDES VOLUME OCCUPIED BY PIPES.

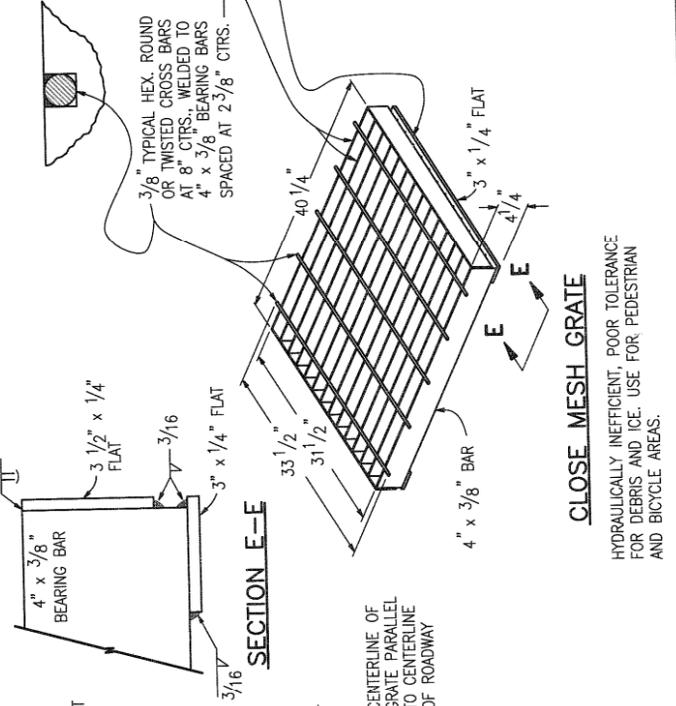
BAR LIST FOR H=2'-6" AND BENDING DIAGRAM

MARK	NO. REQ'D.	HGT.	LENGTH
401	2	2'-3"	7'-11"
401	6	2'-7"	8'-7"
402	3	2'-0"	15'-0"

ADD ONE BAR FOR EACH FOOT INCREASE OF "H" ABOVE 2'-6".

ALL BARS TO BE 1/2" DIA. CUT OR BEND AROUND PIPES AS REQUIRED.

402 BARS WILL BE EQUALLY SPACED FROM EACH OTHER.



CLOSE MESH GRATE

HYDRAULICALLY INEFFICIENT. POOR TOLERANCE FOR DEBRIS AND ICE. USE FOR PEDESTRIAN AND BICYCLE AREAS.

STANDARD INLET GRATE

STANDARD PLAN NO.
M-604-10

INLET, TYPE C

Sheet No. 1 of 1

Standard Plan Revised

Date:	Comments:

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Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083 FAX: (303) 757-9820

Project Development Branch

SD

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