



CONTRACT DOCUMENTS

Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

City Project No. 18-046 (ED1503, RTA1601)

EDA Project No. 05-01-05793

Published: June 15, 2018

Bid Opening Deadline: July 9, 2018 at 10:00:00 AM

**Mandatory Pre-Bid Meeting: June 20, 2018 at 1:30 PM
Department of Public Works Conference Room**

Department of Public Works/Planning

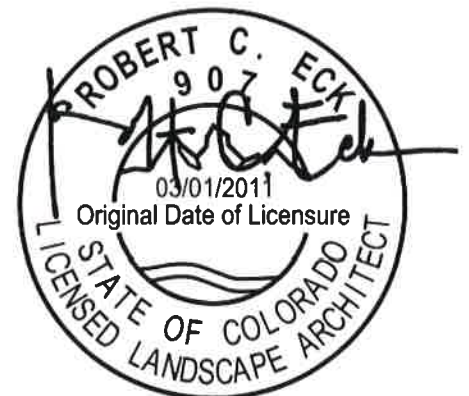
211 East "D" Street

Pueblo, CO 81003

Purchasing Department

230 South Mechanic Street

Pueblo, CO 81003



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The [Standard Construction Specifications and Standard Details for City of Pueblo, Colorado](#), adopted March 28, 2005, are hereby included by reference and all provisions thereof shall be applicable. By submitting a bid, the Contractor acknowledges possession of a copy of said document.

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MANDATORY SUBMITTALS

Deliver all submittals to: City of Pueblo Purchasing Department
230 S. Mechanic Street
Pueblo, Colorado 81003

Outside of package must be clearly marked with the following information:

Project No: 18-046 (ED1503, RTA1601), EDA Project No. 05-01-05793

Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

Submittal Deadline: July 9, 2018 at 10:00:00 AM

Submittals

Submitted

NOTE: ALL submittals requiring a signature must be signed.

- 1. Article 1 (A-H), Article 2-Special Provisions, Article 2A-1 – Labor Provisions, Article 3– General Provisions, Article 4 (A-E), and Article 5–Technical Specifications in their entirety.
- 2. Bid Bond
- 3. Acknowledgement of Affirmative Action Plan Requirement (signed)
- 4. P.E.R.A. Questionnaire (signed)
- 5. Any Addenda acknowledgement sheets *

* It is the proposer’s responsibility to verify whether any Addenda were issued prior to submitting proposal. Addenda are available on the City’s website, www.pueblo.us/purchasing, or the Rocky Mountain E-Purchasing System (RMEPS) website, www.bidnetdirect.com/colorado.

The undersigned having carefully read the contract documents for the above-referenced project, acknowledges that all required submittals are included in this bid proposal. **Failure to include all required submittals may result in rejection of bid.**

Business Name: _____

Business Address: _____

Signature: _____

Printed Name and Title: _____

DUNS Number: _____

E-mail address: _____

Office Phone: _____ Fax: _____ Cell Phone: _____

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ACKNOWLEDGEMENT OF AFFIRMATIVE ACTION PLAN REQUIREMENT

Project No: 18-046 (ED1503, RTA1601), EDA Project No. 05-01-05793

Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

In accordance with Article 2A-1: Labor Provisions, Section 3: Municipal Contract Provisions, the bidding company named below hereby acknowledges that it has a written affirmative action plan which declares that the Contractor and its Subcontractor(s) do not discriminate on the basis of race, color, religion, creed, national origin, sex or age. I further understand that the written program must be submitted to the City of Pueblo Director of Purchasing (and the applicable federal agency in the case of Federally funded projects) within ten (10) days of the award of contract.

Neither the receipt by the City of this completed form, nor of any Affirmative Action Plan submitted by any bidder, contractor, or subcontractor, shall constitute any determination by the City of the adequacy of any Affirmative Action Plan.

Signature: _____

Printed Name: _____

Title: _____

Company: _____

Date: _____

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COLORADO PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

**SUPPLEMENTAL QUESTIONNAIRE TO BE ANSWERED BY
ANY BUSINESS PERFORMING SERVICES FOR THE CITY OF PUEBLO**

Pursuant to section 24-51-1101(2), C.R.S., salary or other compensation from the employment, engagement, retention or other use of a person receiving retirement benefits (Retiree) through the Colorado Public Employees Retirement Association (PERA) in an individual capacity or of any entity owned or operated by a PERA Retiree or an affiliated party by the City of Pueblo to perform any service as an employee, contract employee, consultant, independent contractor, or through other arrangements, is subject to employer contributions to PERA by the City of Pueblo. Therefore, as a condition of contracting for services with the City of Pueblo, this document must be completed, signed and returned to the City of Pueblo:

(a) Are you, or do you employ or engage in any capacity, including an independent contractor, a PERA Retiree who will perform any services for the City of Pueblo? Yes___, No___. (If you answered “no” please proceed to signature section at bottom of this page.)

(b) If you answered “yes” to (a) above, please answer the following question: Are you an individual, sole proprietor or partnership, or a business or company owned or operated by a PERA Retiree or an affiliated party? For purposes of responding to this question, an “affiliated party” includes (1) any person who is the named beneficiary or cobeneficiary on the PERA account of the PERA Retiree; (2) any person who is a relative of the PERA Retiree by blood or adoption to and including parents, siblings, half-siblings, children, and grandchildren; (3) any person who is a relative of the PERA Retiree by marriage to and including spouse, spouse’s parents, stepparents, stepchildren, stepsiblings, and spouse’s siblings; and (4) any person or entity with whom the PERA Retiree has an agreement to share or otherwise profit from the performance of services for the City of Pueblo by the PERA Retiree other than the PERA Retiree’s regular salary or compensation. Yes ____, No_____.

If you answered “yes” please state which of the above entities best describes your business:

(c) If you answered “yes” to both (a) and (b), you agree to reimburse the City of Pueblo for any employer contribution required to be paid by the City of Pueblo to PERA for salary or other compensation paid to you as a PERA Retiree or paid to any employee or independent contractor of yours who is a PERA Retiree performing services for the City of Pueblo. You further authorize the City of Pueblo to deduct and withhold all such contributions from any moneys due or payable to you by the City of Pueblo under any current or future contract or other arrangement for services between you and the City of Pueblo.

Please provide the name, address, and social security number of each such PERA Retiree. If more than two, please attach a supplemental list.

Name	Address	Social Security Number
Name	Address	Social Security Number

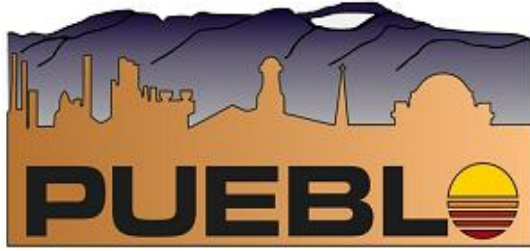
Failure to accurately complete, sign and return this document to the City of Pueblo may result in you being denied the privilege of doing business with the City of Pueblo.

Company Name: _____

Authorized Signature: _____ Title: _____

Printed Name: _____ Date: _____

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Pueblo Regional Building Department
830 N Main St. Suite 100
Pueblo, CO 81003
719-543-0002 fax 719-543-0062

www.prbd.com

To Whom It May Concern:

The law requires that licensed contractors perform all construction work. It is a violation of the law to perform construction without a license and it is equally a violation to hire someone to perform construction unless the party hired is a licensed contractor or is on the payroll of the company hiring as an employee.

Basic license categories are General Contractor A, B, and C; Electrical Contractor, Plumbing Contractor, and HVAC Contractor A and C. In addition, there are Contractor D single trade licenses, which are the type used by the majority of sub-contractors. Those trades requiring licenses include, but are not limited to:

Awning Installation	Concrete
Demolition	Drywall
Elevators	Excavation
Framing	House Moving
Masonry	Ornamental Iron
Asphalt Paving	Roofing
Utility Cont. Fire Main	Plumbing Lawn Sprinkler
Systems	Utility Cont. Sewer
Utility Cont. Water	Siding
Sign Erection	Stucco
Structural Steel	U Occupancy (garages, sheds, etc.)
Mechanical A Unlimited	Mechanical C Limited (any 2 of 3)
Mechanical Gas Work	Mechanical C Refrigeration
Mechanical C Sheet Metal	Journeyman Gas Fitter
Journeyman Refrigeration	Journeyman Sheet Metal
Plumbing Swimming Pool	Utility Cont. Sewer & Water
Plumbing Water Connected appliances	

If you have any questions, feel free to contact our office 719-543-0002.

PLEASE NOTE

SALES AND/OR USE TAX INFORMATION

CITY OF PUEBLO SALES OR USE TAX –

The Contractor and any Subcontractors shall pay all applicable City of Pueblo Sales or Use taxes. All General Contractors and Subcontractors are mandated to be licensed with the City of Pueblo Sales Tax Office. Please refer any questions on City Sales or Use Taxes to the City of Pueblo, Department of Finance. Their telephone number is (719) 553-2659.

Please note, there are NO tax-exempt projects within the City of Pueblo.

STATE OF COLORADO SALES OR USE TAX –

The exemption of building materials from State Sales or Use Tax in Colorado Revised Statutes applies only to the State of Colorado Sales or Use Taxes. Please refer any questions on State Taxes to the State of Colorado, Department of Revenue.

PUEBLO COUNTY SALES OR USE TAX –

The State of Colorado collects all sales or use tax for the County of Pueblo; therefore, any exemption allowed by the State applies to the County.

ARTICLE 1

A. ADVERTISEMENT FOR BIDS

TO WHOM IT MAY CONCERN:

The City of Pueblo will receive sealed bids up to the hour of 10:00:00 AM (MT) on the 9th day of July 2018, at the City's Purchasing Department, 230 South Mechanic Street, Pueblo, Colorado, 81003, 719-553-2350, for the following:

PROJECT NO.: 18-046 (ED1503, RTA1601), EDA Project No. 05-01-05793

PROJECT NAME: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

MANDATORY PRE-BID MEETING: June 20, 2018 at 1:30 PM in the Department of Public Works Conference Room, 211 E. "D" Street, Pueblo, CO 81003

In general, this project will consist of Site Demolition, Grading and Drainage, Stormwater, Concrete Site Walls and Pavements, Electrical and Lighting, Site Furnishings, and Landscape and Irrigation related to the construction as detailed in the plans and specifications for this project.

Proposers shall inform themselves of the conditions of the project site and the requirements of the project's scope of work before submitting their proposal. No allowances shall be made by reason of any matter or thing concerning which they might not have been fully informed prior to the bidding. No Proposer will be heard after the opening of proposals to assert that there was any misunderstanding as to the nature of the operation expected in this solicitation. If a pre-bid meeting is held, Proposers should make every effort to attend. If the pre-bid meeting is **mandatory** and the Proposers cannot attend, it is imperative that someone else attend as a representative of the company, otherwise, their bid will not be accepted at the time of bid opening.

Invitation for Bid (IFB) documents (including plans and specifications) can be obtained on the City website at www.pueblo.us/purchasing or via the Rocky Mountain E-Purchasing System (RMEPS) website www.bidnetdirect.com/colorado. **Downloaded plans/drawings must be printed as "Actual Size"; scaling is NOT correct when printed using other options.** It is the Proposers' sole responsibility to ensure plans are printed correctly and to inform third-party printers of this information. The City is not responsible for bidding errors resulting from Proposers' failure to follow this requirement.

Please be advised that electronic submissions (i.e. emails, fax, etc.) will not be accepted. Addenda will be posted on the City Purchasing Department and RMEPS websites. Addenda will also be emailed to those parties on the plan holders list; however, **it is the bidder's responsibility to verify, via one of these websites, whether any addenda were issued.**

Each bid must be accompanied by a certified check, cashier's check, money order or bid bond in the amount of five (5) percent of the grand total bid, payable to the City of Pueblo as a guarantee that if the bid is accepted, the bidder will execute and file the proposed contract and bond within ten (10) days from the date of the award of the contract by City Council.

All bids must be received at the City's Purchasing Department before the time specified and be enclosed in a sealed envelope plainly marked with the above referenced Project Number and Name. Only bids that are made out upon the City-prepared forms will be considered. Any correction on the bid forms must be initialed by the person signing the bid.

Proposers must follow the submittal procedures outlined in the documents. The bid form must not be separated from the required proposal submittal packet as defined in the Mandatory Submittals checklist. The City reserves the right to reject any or all bids for any or all items covered in the Invitation for Bid, to waive informalities or defects in bids, or to accept such bids as it shall deem to be in its best interest.

GENERAL

This project will be partially funded with Federal funds from the United States Department of Commerce, Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that project. The project shall be referred to as Project No. 18-046 Historic Arkansas Riverwalk of Pueblo Gateway Plaza. Proposers must comply with all applicable standards, orders, and regulations issued pursuant to the Clean Water Act of 1970 and the Federal Water Pollution Control Act. Proposers must comply with Title VI of the Civil Rights Act of 1964, the Davis-Bacon Act, the Anti-Kickback Act, and the Contract Work Hours and Safety Standards Act and shall sign the Certification of Non-Segregated Facilities. The City will provide the most current prevailing wages pursuant to the Davis-Bacon Act ten (10) days prior to bid opening and issue an addendum if the wages have changed.

EQUAL EMPLOYMENT OPPORTUNITY

Pursuant to Executive Orders 11246, as amended, and 11375 on Equal Employment Opportunity, Part 60-4, Construction Contractor Affirmative Action Requirements, and Section 3 of the Housing and Urban Development Act of 1968, as amended, a prime contractor and subcontractor who signs a contract on a Federally assisted construction project are required to take affirmative action toward equal employment opportunity and are required to implement the Colorado Statewide Plan. At pre-construction conferences, the successful bidder and his subcontractors shall be required to present and discuss the approach to be taken by the successful bidder and his subcontractors to implement the requirements of affirmative action for equal employment and training in accordance with Executive Orders 11246, as amended, and 11375.

Published: June 15, 2018

Naomi C. Hedden, CPPO
Director of Purchasing, City of Pueblo, Colorado

ARTICLE 1

B. REQUEST FOR QUOTATIONS

PROJECT NO.: 18-046 (ED1503, RTA1601)

PROJECT NAME: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

All proposals shall be prepared on this form; all blank spaces must be completed for each item of the work or materials required.

The undersigned hereby proposes to furnish all of the labor, materials, tools, equipment, and all utility/transportation service necessary to perform and complete, in a workmanlike manner, construction in accordance with the plans and specifications as prepared by or for the City of Pueblo, Colorado, for the sums set forth in the following schedule:

EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
E-C-1	MOBILIZATION	1	L.S.	\$	\$
E-C-2	TRAFFIC CONTROL	1	L.S.	\$	\$
E-C-3	RIGHT OF WAY RESTORATION	1	L.S.	\$	\$
E-C-4	SITE PREPARATION (DEMOLITION)	1	L.S.	\$	\$
E-C-5	TEMPORARY WATER AND EROSION CONTROL	1	L.S.	\$	\$
E-C-6	EARTHWORK IMPORT (COMPLETE IN PLACE)	3,100	C.Y.	\$	\$
E-C-7	AGGREGATE BASE COURSE (8" DEPTH)	550	S.Y.	\$	\$
E-C-8	ASPHALT PAVING (4" WITH GEOGRID)	550	S.Y.	\$	\$
E-C-9	7" 4,000 PSI CONCRETE PAVING WITH FIBER MESH ON 4" ABC	469	S.Y.	\$	\$
E-C-10	12" RIBBON CURB W/ 6" CLASS VI BASE COURSE	153	L.F.	\$	\$
E-C-11	TYPE 2 VERTICAL CURB W/ 6" CLASS VI BASE COURSE	198	L.F.	\$	\$
E-C-12	6" MEDIAN CURB W/ 6" CLASS VI BASE COURSE	121	L.F.	\$	\$
E-C-13	STANDARD CITY of PUEBLO PEDESTRIAN RAMPS	2	EA.	\$	\$
E-C-14	ADJUST RIM ELEVATION FIBER OPTIC BOX, STORM & SEWER MANHOLES	1	L.S.	\$	\$
E-C-15	6'x8'4" SPECIAL REINFORCED AREA INLET W/ 30" PEDESTRIAN GRATE	2	EA.	\$	\$

EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
E-C-16	PRECAST STORM MANHOLE TYPE 1-B	2	EA.	\$	\$
E-C-17	12" AREA DRAIN BASIN W/ (INLET/SOLID) COVER	1	EA.	\$	\$
E-C-18	12" AREA DRAIN BASIN W/ PEDESTRIAN GRATE	1	EA.	\$	\$
E-C-19	6" TRENCH DRAIN WITH SLOTTED COVER	70	L.F.	\$	\$
E-C-20	6' TYPE S PRECAST STORM DRAIN INLET	1	EA.	\$	\$
E-C-21	8' WATER QUALITY INLET	1	EA.	\$	\$
E-C-22	CDOT TYPE C INLET	1	EA.	\$	\$
E-C-23	12" HDPE PIPE	111	L.F.	\$	\$
E-C-24	18" HDPE PIPE	221	L.F.	\$	\$
E-C-25	24" HDPE PIPE	165	L.F.	\$	\$
E-C-26	19"X30" RCP ELLIPTICAL PIPE	110	L.F.	\$	\$
E-C-27	24"X30" RCP ELLIPTICAL PIPE	23	L.F.	\$	\$
E-C-28	HAWK PEDESTRIAN SIGNAL CROSSING	1	L.S.	\$	\$
E-C-29	EDA PROJECT SIGN	1	EA.	\$	\$
E-C-30	ROADWAY SIGNS	6	EA.	\$	\$
E-L-1	STANDARD CONCRETE PAVING, 6" DEPTH	3,380	SF	\$	\$
E-L-2	COLORED CONCRETE PAVING, 6" DEPTH	4,342	SF	\$	\$
E-L-3	CONCRETE PAVING, 6" DEPTH, VISTA RIDGE SANDSCAPE	9,541	SF	\$	\$
E-L-4	CONCRETE PAVING, 6" DEPTH, CAPITOL HILL SANDSCAPE	19,262	SF	\$	\$
E-L-5	RELOCATED BRICK PAVING	1,667	SF	\$	\$
E-L-6	CONCRETE PLANTER CURB, STANDARD GRAY	221	LF	\$	\$
E-L-7	CONCRETE PLANTER CURB, VISTA RIDGE SANDSCAPE	440	LF	\$	\$
E-L-8	COLORED CONCRETE BAND	135	LF	\$	\$

EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
E-L-9	CONCRETE CIRCULAR PLANTER, STANDARD GRAY	19	EA	\$	\$
E-L-10	CONCRETE CIRCULAR PLANTER AT STEPS, STANDARD GRAY	2	EA	\$	\$
E-L-11	CONCRETE RETAINING SEAT WALL, STANDARD GRAY	300	FF	\$	\$
E-L-12	CONCRETE FREESTANDING SEAT WALL, CAPITOL HILL SANDSCAPE	300	FF	\$	\$
E-L-13	CONCRETE OVERLOOK RETAINING WALL, CAPITOL HILL SANDSCAPE	500	FF	\$	\$
E-L-14	CONCRETE CHEEK WALLS, STANDARD GRAY	250	FF	\$	\$
E-L-15	CONCRETE CHEEK WALLS, CAPITOL HILL SANDSCAPE	28	FF	\$	\$
E-L-16	CONCRETE STAIRS, STANDARD GRAY	418	LFR	\$	\$
E-L-17	CONCRETE STAIRS, CAPITOL HILL SANDSCAPE	24	LFR	\$	\$
E-L-18	STAIR HANDRAIL	47	LF	\$	\$
E-L-19	ORNAMENTAL METAL RAILING	134	LF	\$	\$
E-L-20	TREE GRATES	4	EA	\$	\$
E-L-21	BENCH, 6' LENGTH	4	EA	\$	\$
E-L-22	TRASH RECEPTACLE	5	EA	\$	\$
E-L-23	TABLES	19	EA	\$	\$
E-L-24	CHAIRS	76	EA	\$	\$
E-L-25	REMOVABLE BOLLARDS	6	EA	\$	\$
E-L-26	DECIDUOUS SHADE TREE, 4" CAL.	29	EA	\$	\$
E-L-27	EVERGREEN TREE, 8' HT.	6	EA	\$	\$
E-L-28	EVERGREEN TREE, 12' HT.	4	EA	\$	\$
E-L-29	ORNAMENTAL TREE, 4" CAL.	16	EA	\$	\$
E-L-30	LARGE DECIDUOUS SHRUB, 8' HT.	4	EA	\$	\$

EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
E-L-31	SMALL DECIDUOUS SHRUB (5 GAL)	411	EA	\$	\$
E-L-32	EVERGREEN SHRUB (5 GAL)	32	EA	\$	\$
E-L-33	GROUNDCOVER (5 GAL.)	84	EA	\$	\$
E-L-34	ORNAMENTAL GRASSES (5 GAL)	321	EA	\$	\$
E-L-35	PERENNIALS (1 GAL)	300	EA	\$	\$
E-L-36	IRRIGATION SYSTEM - DRIP	14,344	SF	\$	\$
E-L-37	PLANTER BACKFILL MIX	125	CY	\$	\$
E-L-38	SHRUB BED GRAVEL MULCH	14,344	SF	\$	\$
E-L-39	WEED BARRIER FABRIC	12,684	SF	\$	\$
E-L-40	SANDSTONE BOULDERS	16	TON	\$	\$
E-L-41	SANDSTONE SLABS	10	TON	\$	\$
EDS FUNDED BID ITEMS:					
E-E-1	IN-GROUND UPLIGHTING	58	EA.	\$	\$
E-E-2	SINGLE-GLOBE PEDESTRIAN LIGHTING	31	EA.	\$	\$
SUBTOTAL EDA-FUNDED BID ITEMS					\$

NON-EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
N-C-1	MOBILIZATION	1	L.S.	\$	\$
N-C-2	TRAFFIC CONTROL	1	L.S.	\$	\$
N-C-3	RIGHT OF WAY RESTORATION	1	L.S.	\$	\$
N-C-4	SITE PREPARATION (DEMOLITION)	1	L.S.	\$	\$
N-C-5	TEMPORARY WATER AND EROSION CONTROL	1	L.S.	\$	\$
N-C-6	12" AREA DRAIN BASIN W/ (INLET/SOLID) COVER	2	EA.	\$	\$
N-C-7	6' TYPE S PRECAST STORM DRAIN INLET	1	EA.	\$	\$
N-C-8	12" HDPE PIPE	35	L.F.	\$	\$

NON-EDA FUNDED BID ITEMS:					
BID ITEM NO.	DESCRIPTION OF BID ITEM	QUANTITY	PAY UNIT	UNIT PRICE	TOTAL COST OF BID ITEM
N-C-9	24" HDPE PIPE	120	L.F.	\$	\$
N-C-10	12" RIBBON CURB W/ 6" CLASS VI BASE COURSE	137	L.F.	\$	\$
N-C-11	TYPE 2 VERTICAL CURB W/ 6" CLASS VI BASE COURSE	36	L.F.	\$	\$
N-L-1	CONCRETE PAVING, 6" DEPTH, CAPITOL HILL SANDSCAPE	4,996	SF	\$	\$
N-L-2	REMOVABLE BOLLARDS	7	EA	\$	\$
N-L-3	GROUND COVER (5 GAL.)	74	EA	\$	\$
N-L-4	IRRIGATION SYSTEM - DRIP	1,100	SF	\$	\$
N-L-5	SHRUB BED GRAVEL MULCH	1,100	SF	\$	\$
SUBTOTAL NON-EDA-FUNDED BID ITEMS					\$
GRAND TOTAL BID					\$

(_____ Dollars)

The contract shall be awarded to the responsible bidder submitting the lowest and most responsive bid on the basis of the Grand Total Bid. Award shall be at the sole discretion of the City.

The sum of the Grand Total Bid shall be the basis for establishing the Bid Bond amount. The sum of the Grand Total Bid shall be the basis for establishing the amount of the Payment and Performance Bonds for this contract.

Quantities shown are subject to additions or reductions. The City reserves the right to adjust the required quantities as necessary. Additional quantities shall be furnished by Contractor at the unit price quoted. The time allowed for construction shall be adjusted in direct proportion to the difference of the adjusted quantities to the estimated quantities.

Proposals must be signed correctly and in ink; proposals signed by an agent must include legal notice granting such authority and stating that the signature is binding upon the firm or corporation.

The undersigned has examined the quantities shown against the plans and specifications and accepts the said quantities as substantially correct, both as to classification and amount, and as correctly listing the work to be completed. **Downloaded plans/drawings must be printed as "Actual Size"; scaling is NOT correct when printed using other options.** It is the Proposers' sole responsibility to ensure plans are printed correctly and to inform third-party printers of this information. The City is not responsible for bidding errors resulting from Proposers' failure to follow this requirement.

The undersigned, if awarded the contract, agrees to complete and file the Contract Agreement and Payment and Performance bonds within ten (10) days of the date of Notice of Award, and further agrees to complete the work within three hundred sixty-five (365) calendar days. Liquidated damages will be assessed in accordance with Section 3.54 of ARTICLE 3 – GENERAL PROVISIONS

Bidders shall not add any conditions or qualifying statements to this bid. If such items are added the bid may be declared nonresponsive.

Contractor shall be subject to all applicable City, County, State, and Federal Taxes in the performance of this contract.

Firm Name: _____

Business Address: _____

By: _____

Title: _____

Date: _____

Telephone No.: _____

Fax No.: _____

E-Mail: _____

Contractor's Federal Identification Number: _____

ARTICLE 1

C. BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____,
of _____, as Principal,
and _____, as Surety, are held and
firmly bound unto the City of Pueblo, Colorado, as Obligee, in the full and just sum of
_____ Dollars
(\$_____), lawful money of the Unites States, for the payment of which sum,
well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns,
jointly and severally, firmly by these presents:

WHEREAS, the said Principal is herewith submitting its proposal dated _____, 20____, for:

PROJECT NO.: 18-046 (ED1503, RTA1601)
PROJECT NAME: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

and said Obligee has required as a condition for receiving said proposal that the Principal deposit specified Proposal Guaranty in the amount of not less than five percent (5%) of the amount of said proposal, conditioned that in event of failure of the Principal to execute the Contract Agreement for such construction and furnish required Payment and Performance Bonds if the Contract is awarded him, that said sum be paid immediately to the Obligee as liquidated damages and not as penalty for the Principal's failure to perform.

The condition of this obligation is such that if the aforesaid Principal, shall within the period specified therefore, on the prescribed form presented to him for signature, enter into a written Contract Agreement with the Obligee in accordance with his bid as accepted, and give required Payment and Performance Bonds with good and sufficient surety or sureties, upon the form prescribed by the Obligee, for the faithful performance and the proper fulfillment of said Contract, or in the event of withdrawal of said bid within the time specified, or upon the payment to the Obligee of the sum determined upon herein as liquidated damages, and not as penalty in the event the Principal fails to enter into said Contract and give such Payment and Performance Bonds within the time specified, then the obligation shall be null and void, otherwise to remain in full force and effect.

(Signature Page Follows)

Signed, sealed and delivered this _____ day of _____, 20____.

ATTEST:

By _____
Secretary

Principal

(SEAL)

By _____

Surety

ATTEST:

By _____,

By _____
Attorney-in-fact

(SEAL)

ARTICLE 1

D. NOTICE OF AWARD

City of Pueblo, Colorado

(Date)

To: _____

Ref: **Project No.: 18-046 (ED1503, RTA1601)**
Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

The City of Pueblo hereby accepts your proposal submitted on _____ for the construction of referenced project. It appears that your proposal in the amount of \$_____ \$_____ for _____ is fair, equitable, and in the best interest of the City.

In accordance with the terms of the Contract Documents, you are required to execute the formal Contract Agreement and furnish the required Payment and Performance bonds, within ten (10) business days from and including the date of this notice.

The Proposal Guaranty submitted with your proposal will be returned upon execution of the Contract Agreement and the furnishing of the Payment and Performance Bonds. In the event you should fail to execute the Contract Agreement and furnish the Payment and Performance Bonds within the time specified, said Proposal Guaranty will be retained by said City as liquidated damages and not as penalty, for the delay and extra work caused thereby.

City of Pueblo
Director of Purchasing

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ARTICLE 1

E. CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20____, by and between the City of Pueblo, a Municipal Corporation, hereinafter referred to in the Contract Documents as the “City”, and _____, hereinafter referred to in the Contract Documents as “Contractor”.

WITNESSETH, in consideration of the sum to be paid by the City to the Contractor at the time and in the manner hereinafter provided, the said Contractor has agreed, and does hereby agree, to furnish all labor, tools, equipment, and material and to pay for all such items, and to construct complete in every detail, To-Wit:

Project No.: 18-046 (ED1503, RTA1601)
Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

At the prices bid on the Request for Quotations Form, in accordance with the drawings and specifications, and all Contract Documents for this project which are on file and available for inspection in the office of the Director of Public Works of Pueblo, all to the satisfaction of the Director of Public Works for the City of Pueblo.

AND FOR SAID CONSIDERATION, IT IS FURTHER AGREED BY AND BETWEEN THE PARTIES TO THIS AGREEMENT AS FOLLOWS:

1. Construction and installation of the above enumerated work for the City shall be completed and ready for use in accordance with the time of completion described in the Request for Quotations of this Contract. This time shall be extended only for those periods set forth in the Contract Documents and in accordance with the requirements same.
2. The work and material for the project covered by the Contract Documents shall be completely installed and delivered to the City within the time above stated, clear and free from any and all liens, claims and demands of any kind.
3. The full compensation to be paid to the Contractor by the City, pursuant to the terms of this Contract, shall be payable as provided in the Contract Documents.
4. This Contract consists of the following components, parts, and documents, all of which taken together constitute and are referred to as the Contract Documents, and the same are incorporated as part of the Contract as if set out herein verbatim, whether the same have been attached hereto or not:

Mandatory Submittal Sheet

- | | |
|--------------|---|
| Article 1 | A. Advertisement for Bids |
| | B. Request for Quotations |
| | C. Bid Bond |
| | D. Notice of Award |
| | E. Contract (This Instrument) |
| | F. Performance Bond |
| | G. Payment Bond |
| | H. Notice to Proceed |
| Article 2 | Special Provisions |
| Article 2A-1 | Labor Provisions |
| Article 3 | General Provisions |
| Article 4 | A. EDA Contracting Provisions for Construction Projects |
| | B. EDA Construction Site Sign Specifications |
| | C. Davis-Bacon Wage Rates |
| | D. Requirements for Affirmative Action (EEO) |
| | E. Lobbying Certification and Restriction Form (CD-512) |

(Contract Agreement)

Article 5	Technical Specifications		
Contract Drawings	Sheets	Title:	Sheet No.
	C100	Title Sheet	1
	C101	General Notes	2
	C102	Demolition Plan	3
	C103	Site Plan	4
	C104-C105	Horizontal Control Plan	5-6
	C106-C107	Grading & Erosion Control Plan	7-8
	C108-C109	Storm Sewer Plan & Profile	9-10
	C110-C113	Detail Sheet	11-14
	L100-L101	Site Improvements Plan	15-16
	L102-L105	Site Improvements Details	17-20
	L106-L107	Landscape Plan	21-22
	L108	Landscape Details	23

The *Standard Construction Specifications and Standard Details for City of Pueblo, Colorado*, adopted March 28, 2005, are hereby included by reference and all provisions thereof shall be applicable. By submitting a bid, the Contractor acknowledges that he/she possesses a copy of said document.

Addenda No. _____, _____, _____

5. Title XII, Chapter 2, of the 1971 Code of Ordinances, City of Pueblo, adopted by Ordinance No. 3476, and amended by Ordinance No. 4476 and 5229, shall be considered a part of this contract.
6. Title I, Chapter 8, of the 1971 Code of Ordinances, City of Pueblo, adopted by Ordinance No. 4479, shall be considered a part of the contract.
7. All of the covenants and agreements set forth in the Contract Documents shall inure to the benefit of and be binding upon City and Contractor and their respective heirs, legal successors and assigns and shall be governed by the laws of the State of Colorado.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed as the day and year first above written.

CONTRACTOR

By _____

Title _____

PUEBLO, A MUNICIPAL CORPORATION

By _____

Director of Purchasing

ATTEST:

City Clerk

BALANCE OF APPROPRIATION EXISTS FOR
THIS CONTRACT AND FUNDS ARE AVAILABLE:

Director of Finance

APPROVED AS TO FORM:

City Attorney

ARTICLE 1

F. PERFORMANCE BOND

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

That we _____ a _____ hereinafter called "Principal" and

Surety

of _____, State of _____, hereinafter called the "Surety",
are held and firmly bound unto the City of Pueblo, a Municipal Corporation, hereinafter called "City", in
the penal sum of:

_____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the City dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

Project No.: 18-046 (ED1503, RTA1601)
Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof (including all warranty periods), and any extensions thereof which may be granted by the City, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the City from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any way effect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the City and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

(Signature Page Follows)

IN WITNESS WHEREOF, this instrument is executed this the ____ day of _____, 20__.

Principal

ATTEST:

By _____
Principal Secretary

By _____

Title _____

(SEAL)

(Address)

By _____
(Witness as to Principal)

(Address)

Surety

ATTEST:

By _____
(Surety) Attorney-In-Fact

By _____
Attorney-In-Fact

(SEAL)

(Address)

By _____
(Witness as to Surety)

(Address)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners shall execute the bond.

ARTICLE 1

G. PAYMENT BOND

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

That we _____ a _____ hereinafter called "Principal" and

Surety

of _____, State of _____, hereinafter called the "Surety", are held and firmly bound unto the City of Pueblo, a Municipal Corporation, hereinafter called "City", in the penal sum of:

_____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the City dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

Project No.: 18-046 (ED1503, RTA1601)
Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, supplies, lubricants, oil, gasoline, rental machinery, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractors or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or to the specifications accompanying the same shall in any way effect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the City and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

(Signature Page Follows)

IN WITNESS WHEREOF, this instrument is executed this the ____ day of _____, 20__.

ATTEST:

By _____
Principal Secretary

(SEAL)

By _____
(Witness as to Principal)

(Address)

Principal

By _____

Title _____

(Address)

Surety

ATTEST:

By _____
(Surety) Attorney-In-Fact

(SEAL)

By _____
(Witness as to Surety)

(Address)

By _____
Attorney-In-Fact

(Address)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners shall execute the bond.

ARTICLE 1

H. NOTICE TO PROCEED

City of Pueblo, Colorado

(Date)

To: _____

Ref: **Project No.: 18-046 (ED1503, RTA1601)**
Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

You are hereby authorized to proceed on _____, 20____, or within three (3) consecutive calendar days with construction of above referenced project as set forth in the Contract Documents.

The Bid Bond submitted with your Proposal may now be cancelled by your Surety.

City of Pueblo
Director of Public Works

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ARTICLE 2

SPECIAL PROVISIONS

Project No.: 18-046 (ED1503, RTA1601)

Project Name: Historic Arkansas Riverwalk of Pueblo Gateway Plaza Project

2.00 GENERAL INSTRUCTIONS

All specifications included in the Special Provisions shall have precedence over and will govern in the event of a conflict with other sections contained in this document.

2.01 FEDERAL PARTICIPATION DISCLOSURE

This project will be partially funded with Federal funds from the United States Department of Commerce, Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that program.

2.02 PERFORMANCE OF WORK

Contractor must be capable of, and shall be required to, self-perform at least thirty percent (30%) of the actual labor or trade work (not supervision) required to complete the project. By submitting a bid, Contractor certifies that Contractor's own employees shall be utilized to meet the self-performance requirement. Supervision of subcontractors is not considered self-performance. Failure to meet this requirement may result in the bid being deemed non-responsive. Documented confirmation that Contractor is meeting this requirement during the performance of the work will be required.

2.03 STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS

The [Standard Construction Specifications and Standard Details for Pueblo, Colorado](#), adopted March 28, 2005, shall control the construction and quality of materials for this project except where specifically modified by the Special Provisions. The Standard Construction Specifications and Standard Details are not included in this bid package but are available on the City of Pueblo's website.

2.04 SPECIFICATION LANGUAGE

Specifications may be written in abbreviated style with incomplete sentences. Omission of words such as "The General Contractor shall", "Conforming to", "shall be", etc., are intentional; omitted words shall be supplied by inference. Where words "approved", "satisfactory", "directed", "submitted", etc., are used it shall be assumed that the words "Project Manager" follows, such as "approved by the Project Manager".

2.05 APPROVED EQUAL

An approved equal, where noted, may be considered by the City. For consideration as an approved equal, a complete manufacturer's submittal must be presented to the Project Manager at least two (2) weeks prior to Bid Opening. If approved, an addendum will be issued that lists all approved equal products or materials. City will also allow submittal of any "post-bid" approved equals within 10 days of "Notice to Proceed" for consideration provided it does not affect the bid amount.

2.06 INCONSISTENCIES

Any inquiries regarding seeming inconsistencies between the Plans and Specifications for this project must be made at least 72 hours (excluding weekends and holidays) prior to bid opening.

2.07 STATE IMPOSED MANDATES PROHIBITING ILLEGAL ALIENS FROM PERFORMING WORK UNDER THIS CONTRACT (ARTICLE 3, SECTION 3.69)

Contractors shall familiarize themselves with the provisions of Section 3.69 of ARTICLE 3 – GENERAL PROVISIONS and shall be aware of the consequences associated with violation of said section. After award but prior to the time for execution of contract, Contractor shall provide a written certification that they do not knowingly employ or contract with an illegal alien who will perform work under this contract and that they will participate in the “E-Verify Program”. Certification shall be submitted to the Purchasing Agent at the time of award.

2.08 PREPAYMENT OF CITY SALES AND USE TAX

(This section applies only to public improvement construction projects \$1,000,000 and over.)

The Contractor shall make application for, and prepayment of, City sales and use tax on the estimated percentage basis being forty percent (40%) of the total Project bid as awarded. Application and prepayment shall be made within fourteen (14) days of the date authorized to proceed with construction of the Project as set forth in the Notice to Proceed. All applications and prepayments shall be coordinated directly with City’s Division of Sales and Use Tax, Attention: Tax Audit Manager, 1 City Hall Place, Pueblo, Colorado 81003.

Finance Department policy sets the threshold at \$1,000,000. Any contractual obligations below this amount will not generally be required to make a pre-payment of Use Tax.

2.09 PERA LIABILITY

Contractor shall reimburse the City for the full amount of any employer contribution required to be paid by the City of Pueblo to the Public Employees’ Retirement Association (“PERA”) for salary or other compensation paid to a PERA retiree performing contracted services for the City under this Agreement. Contractor shall fill out the questionnaire at the front of these contract documents and submit the completed form to City as part of the bid submittal.

2.10 CONTRACTOR EVALUATION

Pursuant to Ordinance No. 6510, dated February 14, 2000, the Department of Public Works shall evaluate the performance of Contractor using the Contractor/Consultant Satisfaction Program form. This form is available to view at <https://www.pueblo.us/1737/Information> and is included by reference in this contract. The evaluation shall be utilized to review Contractor performance, increase communication, and foster positive business relationships. Evaluation shall also record documentation of Contractor’s overall performance. Material failure to perform in accordance with the terms of one or more contracts, or materially unsatisfactory performance of one or more contracts, may be justification for disqualifying future bids by Contractor.

2.11 SITE INVESTIGATION

By submitting a bid, Contractor acknowledges the nature and location of the work, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, uncertainties of weather, physical conditions at the site, the character/quality of surface and subsurface materials to be encountered, the character of equipment and facilities needed prior to and during the work, and all other matters which can in any way affect the work

or the cost thereof under this contract. Failure by Contractor to acquaint himself with all the available information concerning these conditions will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work.

2.12 PRE-CONSTRUCTION CONFERENCE

The Contractor shall attend a pre-construction conference with the Project Manager, City employees, representatives of the utility companies, and/or other interested parties prior to any construction. **Preconstruction meeting will be scheduled 7-10 days after notice of award is issued.**

2.13 SAFETY REGULATIONS

The Contractor shall be aware of and shall comply with all State and Federal Safety regulations which are applicable to the work included under this contract. Enforcement will be by the proper State and Federal regulatory agencies.

If any construction activity is deemed to be unsafe for inspection, Contractor shall, upon notification, discontinue work until the deficiencies are corrected and the job can be properly inspected.

2.14 EMERGENCY REPAIR OR PROTECTIVE WORK BY THE CITY OF PUEBLO

As referenced in Sections 3.64 and 3.65 of the General Provisions, it is the Contractor's responsibility to provide adequate barricades, protective devices and safety measures, and to employ other precautionary means for the adequate protection of the public, the work, and public/private property from injury or loss. Should the City become aware of any condition or circumstance arising from the work, or with respect to any excavation or areas disturbed by Contractor which, in the opinion of the Project Manager, creates or results in any imminent or unreasonable risk to the health/safety of the public or to public/private property, the City may undertake emergency work or repairs. Such work may include, by way of illustration, provision of barricades, traffic control devices or flagmen, deployment or warning signs, repair of lines under construction, repair of collapsed excavations or sinkholes, placement of sandbags or dams, and other emergency efforts. The determination of the necessity during the construction and warranty periods for the City to do any such emergency work or repairs shall rest entirely with the Project Manager. The cost of emergency work done by the City, including the actual cost of labor, equipment, and materials, plus 100 percent, shall be deducted from any amounts otherwise owed to Contractor, or may be invoiced to Contractor, or the same amount shall be recovered from Contractor's performance bond.

2.15 REPRESENTATIVE AVAILABLE FOR EMERGENCY CALLS

The Contractor shall provide the name, address and phone number of a representative who may be reached at any time during the life of the contract regarding repairs, detours, barricading, etc. This information shall be furnished in writing to the Project Manager.

2.16 DUST PREVENTION

During construction and until final acceptance by the Project Manager, Contractor shall be responsible for controlling dust emissions in the construction area. No earthwork activities shall be performed when the wind speed exceeds thirty (30) miles per hour. All fill areas shall be compacted on a daily basis to 95% minimum compaction. Any mud or dirt carry out onto paved surfaces shall be cleaned up on a daily basis. Contractor shall promptly comply with all directives from the Project Manager relating to dust control. If Contractor fails to comply or provide adequate means to control dust, a stop-work order will be issued until the problem is corrected.

2.17 SITE RESTORATION AND CLEANUP

Contractor shall maintain and/or repair any damage done to all existing properties, public or private, adjacent to site improvements, including but not limited to, asphalt, base course, utilities, sod, irrigation systems and landscaped areas. In general, disturbed areas shall be replaced to the lines, grades, thickness, and like materials of the existing conditions unless otherwise stated on the plans. Restoration shall be consistent with that of areas adjacent to the limits of construction. Grass and other plant areas shall be restored, maintained, and irrigated until final acceptance by the Project Manager. Fabric shall be installed under all rock landscape areas. Any landscape material salvaged by Contractor for reuse will not be acceptable if contaminated by dirt or different landscape material. Slopes to match from the new improvements to existing improvements shall not exceed a 4:1 slope.

All work to relocate existing irrigation sprinklers which conflicts with the new construction shall be considered site restoration. The accuracy of information furnished regarding existing irrigation systems is not guaranteed. The locations are approximate and may not include all irrigation system components. Contractor shall determine the exact location of all irrigation systems before commencing work and shall be fully responsible for any damage resulting from failure to locate and protect all irrigation systems.

Site restoration and cleanup will not be measured or paid separately but shall be included in the unit prices for each bid item. Partial payments will not be made on any bid item until the restoration and cleanup associated with that item is satisfactorily complete and acceptable to the Project Manager.

2.18 UTILITY LOCATIONS

The accuracy of information furnished in regard to underground utilities is not guaranteed. The utility locations are approximate and may not include all utilities. Contractor shall determine the exact location of all utilities before commencing work. Contractor shall be fully responsible for any damage which might occur due to Contractor's failure to locate and protect all utilities. Contractor shall repair or have repaired, at no cost to the City, any damage to utilities.

Existing utilities include gas, water, service lines, meters, meter cans, buried telephone cables, buried power lines, pedestals, utility poles, sanitary sewer, manholes and services, and any other existing utility.

2.19 ABANDONED UTILITIES

If during construction an abandoned utility is encountered Contractor shall contact and coordinate with the Project Manager to arrange for the removal of the utility. If Contractor elects to remove the utility without contacting the Project Manager, Contractor shall do so at no cost to the City.

2.20 OVERHEAD AND/OR UNDERGROUND HIGH VOLTAGE POWER LINES

Unless danger against contact with high voltage overhead and/or underground lines has been effectively guarded against, Contractor shall not perform any function/activity upon any land, building, highway, or other premises if at any time during the performance of any function/activity it could move or be placed within ten (10) feet of any high voltage overhead and/or underground line. If work is to be performed within ten (10) feet of high voltage overhead and/or underground lines, the public utility must first be notified to arrange for safety provisions. Contractor may perform the work only after arrangements, including coordination and payment of fees, if applicable, have been made with the utility company.

2.21 COORDINATION OF CONSTRUCTION ACTIVITIES

Contractor and subcontractors shall coordinate work with all other construction activities and contractors; and cooperate with them to facilitate general progress of the work. Each trade shall afford other trades every reasonable opportunity for installation and storage of materials.

2.22 COMPLETE WORK ON TIME

Failure to complete the work by the allotted three hundred sixty-five (365) calendar days shall result in the assessing of liquidated damages according to ARTICLE 3 – GENERAL PROVISIONS.

2.23 LAYING OUT WORK

Contractor shall locate all general reference points and take such action as necessary to prevent their destruction. Contractor shall lay out his own work and be responsible for all lines, elevations, and measurements of the building, grading, utilities, and other work executed under this contract. Contractor shall exercise proper precaution to verify figures shown on the drawing before laying out work and will be responsible for any error resulting from failure to exercise such precautions.

2.24 CONSTRUCTION STAKING

The City shall provide the construction staking for all curb and gutter and crossspan replacement. Contractor shall protect all stakes from damage during construction and shall be responsible for the cost of replacing any stakes that are damaged. The City shall replace stakes at a cost of **\$50.00 per stake** which may be deducted from the final payment to Contractor.

2.25 HOURS OF WORK

The Project Manager and the Inspection Division are available from 7:00 a.m. to 12:00 p.m. and 1:00 p.m. to 4:00 p.m., Monday through Friday, excluding holidays. Any work done outside of these hours must be approved by the Project Manager.

2.26 MOBILIZATION

This item shall consist of mobilizing of personnel, equipment, and supplies to the project site in preparation for work on the project. Item shall include all costs incurred which must be performed prior to beginning the other items.

Partial payments for mobilization will be made each month as the work progresses. These payments will be made as follows:

- 1) When ten percent (10%) of the project bid amount is earned, fifty percent (50%) of the amount bid for mobilization will be paid.
- 2) When fifty percent (50%) of the project bid amount is earned, one hundred percent (100%) of the amount bid for mobilization will be paid.
- 3) The sum of all payments shall not exceed the original amount bid for the item, regardless of the fact that Contractor may have, for any reason, shut down the work on the project or moved equipment away and then back again.

Note: Payments for materials on hand will be included as a percent of original project bid amount earned until said materials have been incorporated into the work and accepted and paid for by the City.

2.27 CONSTRUCTION TRAFFIC CONTROL

Contractor shall submit a traffic control plan prepared by a Certified Traffic Control Supervisor at the preconstruction conference for approval by the City's Traffic Engineer.

Where possible, crosspans may be constructed full width with proper street closures; however, the time of closure must be kept to a minimum. To expedite the curing, the minimum 28-day compressive strength shall be increased to 4500 psi (increased to seven (7) sacks per cubic yard). The additional cost for the added cement shall be paid by the Contractor.

All traffic control procedures, signing, lighting and barricades shall conform to the latest edition of the *Manual on Uniform Traffic Control Devices*, and shall be set up and maintained by a Certified Traffic Control Supervisor.

Construction traffic control shall be paid as "Traffic Control." Periodic payments for this item shall be based upon the percentage of work completed compared to the original bid amount.

2.28 TRAFFIC CONTROL SUPERVISOR

The Traffic Control Supervisor shall be certified as a Worksite Traffic Supervisor by the American Traffic Safety Services Association (ATSSA) or Colorado Contractors Association (CCA). A copy of the Traffic Control Supervisor's Certification shall be provided to the Project Manager at the project pre-construction conference.

2.29 TRAFFIC CONTROL DEVICES – SIGNS

Contractor shall be responsible for all permanent traffic control devices (signs) within the construction area. If permanent devices conflict with construction activities, Contractor shall be responsible for placement of temporary traffic control devices and the removal/reinstallation of permanent devices.

All work shall be in accordance with the Manual of Uniform Traffic Control Devices. All regulatory signs (Stop, Yield, One Way, Do Not Enter, etc.) shall be maintained in either a temporary or permanent manner. Temporary devices shall be in place prior to the removal of permanent devices. Contractor shall be held fully responsible for any claims resulting from negligence in failing to act or maintain any traffic control device.

Contractor shall be responsible for maintaining the condition of any sign that is temporarily removed. Should there be any damage to devices (signs, poles, bases, and hardware) Contractor shall be financially responsible to the City for replacement of said devices.

Contractor shall contact Traffic Maintenance at (719) 553-2300 for approval of the specific location in which the devices are to be reinstalled. Contractor shall obtain underground utility locates prior to reinstalling devices.

The Traffic Engineer or designee will evaluate existing signage for replacement with new materials. If required, the City will provide all replacement materials to the Contractor prior to reinstallation. Where new devices are required per the construction drawings all signs, posts, bases, and hardware shall be supplied by the City. Contractor shall contact the Traffic Engineer at (719) 553-2722 to order signs providing the City at least two-week notification to obtain the necessary material.

2.30 PRESERVATION OF HISTORIC STREET NAME CURB STAMPS

Older areas within the City may have street names stamped into the top of the concrete curb at street intersections where new curb ramps are to be constructed. Contractor shall preserve the portion of concrete curb with the historic street name and reinstall it behind the new curb and gutter.

Prior to any demolition, the Contractor shall verify if any street names are stamped in the existing curb head. If any street names exist the Contractor shall notify the Construction Inspector for documentation of the curb stamp and condition. If the condition of the existing concrete curb allows, the Contractor shall neatly saw cut the portion of curb containing the street name as needed to remove the portion intact. The Contractor shall reinstall the portion of curb with the street name directly behind the new curb and gutter adjacent to the new curb ramp.

2.31 PROTECTION OF CONCRETE FROM TRAFFIC AND VANDALISM

All concrete shall be protected from traffic for a period of fourteen (14) days, or as directed by the Project Manager. The Contractor shall provide necessary supervision and/or barriers to protect all concrete from traffic or vandalism. Any concrete damaged by traffic and/or vandalism will be rejected. Replacement of damaged concrete shall be paid for entirely by the Contractor.

2.32 ASPHALT AND CONCRETE REMOVAL

Asphalt and concrete shall be removed to the lines and grades established by the Project Manager. Any removal outside those lines and grades not approved by the Project Manager, will not be paid for by the City. Contractor shall properly dispose of all removed items from the construction site.

Saw cutting to remove asphalt and concrete to a neat line shall not be paid for separately but shall be included in the cost of the asphalt and concrete removal bid item.

2.33 CURB AND GUTTER CONSTRUCTION AND PAYMENT

Contractor shall schedule his work to minimize the inconvenience to the public. Property owners shall be notified well in advance of any work that interferes with access to private driveways. Access to driveways shall be restored no later than fifteen (15) days after the concrete is placed.

Sections of curb and gutter shall not be considered for partial payment until backfill and restoration (if applicable) are completed.

Under the bid item labeled "Const. Curb and Gutter", the Contractor shall construct curb and gutter to match existing type (6" Std. 9"x30" pan, Roll top, etc.). Payment for all types of curb and gutter will be the unit price in the Bid Schedule.

2.34 TACTILE BAND FOR CURB RAMPS

The base of the curb ramp area only shall include a Tactile Band. The Tactile Band shall be cast iron castings containing truncated domes. Castings shall meet the requirements of Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Accessible Public Rights-of-Way. Castings shall be cast-in-place truncated dome tactile system, Neenah R-4984, East Jordan Iron Works 7005, or approved equal at the sizes shown on the plans. Radial castings shall be East Jordan Iron Works 7006-20 (20' radius), 7006-25 (25' radius), 7006-30 (30' radius) or approved equal, placed as shown on the plans. All work associated with this item shall be paid for under the "Install Tactile Band" bid item.

2.35 EROSION AND SEDIMENT CONTROL

Contractor shall be responsible for all necessary costs associated with submitting and complying with an Erosion and Sediment Control Plan. This plan is considered incidental to the construction and shall not be paid for separately. Contractor shall take this into consideration in preparing his bid.

To comply with current state and federal permit regulations the City must meet minimum requirements for all construction sites less than one (1) acre to provide necessary Best Management Practices (BMPs) and prevent illicit discharges from the site. The minimum requirements which the Contractor must provide and comply with are as follows:

- 1) Provide an Erosion and Sediment Control Plan that shall include the minimum following items:
 - a) Stockpile BMPs protection.
 - b) Concrete washout BMPs.
 - c) Vehicle tracking control BMPs.
 - d) Site sediment containment BMPs.
 - e) Downstream secondary defense BMPs, if applicable.
 - f) Any additional BMPs required due to site specific conditions.
- 2) Prior to any construction, including site grading and excavation, an approved Erosion and Sediment Control Plan shall be posted on site and all required BMPs installed.
- 3) Contractor shall maintain and update the Erosion and Sediment Control Plan as construction dictates. The current and correct plan shall remain on-site and be readily accessible to the City Stormwater Inspector at all times.
- 4) Contractor or the Contractor's representative shall, at a minimum, inspect the site every two (2) weeks and within twenty-four (24) hours of any precipitation or snowmelt event that causes surface erosion. (i.e., that results in stormwater running across the ground).
- 5) Contractor shall be responsible for maintaining all required BMPs to prevent erosion and sediment from leaving the construction site.
- 6) Failure to comply with the requirements to prevent illicit discharges from the construction site is unlawful and a municipal offense which may result in the issuance of a summons and complaint to the Pueblo Municipal Court. Persons who are convicted of violating any provision of the Pueblo Municipal Code are subject to fines of up to one thousand dollars (\$1,000) and/or one (1) year imprisonment for each day the violation continues.
- 7) Information regarding acceptable BMPs and proper installation can be found in the [Urban Drainage and Flood Control District \(UDFCD\) Urban Storm Drainage Criteria Manual Volume 3](#), [CDOT Erosion Control & Stormwater Quality Guide](#), and City of Pueblo approved details.

2.36 BUILDER'S RISK INSURANCE

Builder's Risk Insurance will be required for any buildings or structures on this project. **The insurance shall include both existing buildings/structures and new construction.** Contractor shall submit to the City proof of Builder's Risk Insurance as per ARTICLE 3 - GENERAL PROVISIONS, SECTION 3.22 (d).

2.37 DEFINITION OF ENGINEER

The term “Engineer” as used in Sections 3.51(a) and (b) of Article 3, General Provisions, shall mean Matrix Design Group, the “(Consulting Engineer or Architect”) with respect to all questions relating to the conformance of the work with the technical requirements of the plans and specifications, interpretation of the technical requirements of the plans and specifications, and with respect to the rejection of work and materials which do not conform. With respect to all other uses of the term “Engineer” in Section 3.51, the term shall mean the Director of Public Works. In Sections 3.75, 3.76, 3.77 and 3.85 of Article 3, General Provisions, all references to Engineer shall mean the Director of Public Works. All other references to Engineer in Article 3 not specifically addressed in this section shall mean the Consulting Engineer.

2.39 CONCRETE MIX DESIGN

All Concrete Paving, Curbs, Planters, Seat Walls, and Retaining Walls shall use the seven (7) sack mix design as shown in the Standard Construction Specifications and Standard Details for Pueblo, Colorado.

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ARTICLE 2A-1

LABOR PROVISIONS

1. CONTRACTOR BONDS

Payment and performance bonds are required to be filed prior to issuance of Notice to Proceed. The specific requirements for such bonds are set forth in Section 3.124 of the General Provisions.

2. NONDISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

In accordance with §1.8 of the Pueblo Municipal Code (entire Code included by reference), all contractors shall meet and comply with the following provisions which shall be contained in all municipal contracts:

a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, ancestry, disability, age, or national origin. The contractor will take affirmative action in all areas of employment to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to race, color, religion, sex, sexual orientation, ancestry, disability, age, or national origin. Areas of employment shall mean and include, but shall not be limited to, the following: initial employment, upgrading, demotion, transfer, recruitment, recruitment advertising, layoffs, terminations, rates of pay, terms of compensation and selection for training, including apprenticeship. The contractor will post in conspicuous places, available to employees and applicants for employment, notices to be provided by the City setting forth the provisions of this nondiscrimination and equal employment opportunity paragraph. Failure to subscribe to and accept the nondiscrimination and equal employment requirements of this Chapter shall render a bidder ineligible for a municipal contract award and ineligible to participate in the work for which a municipal contract award is made. (§§1.8.3 and 1.8.4 of the PMC; Ord. No. 4479, 5-22-78)

b. It is the policy of the City to provide equal opportunity in employment without regard to race, color, religion, sex, sexual orientation, ancestry, disability, age, or national origin. It is hereby deemed and declared to be for the public welfare and in the best interests of the City to require bidders and contractors furnishing and providing work, services, supplies and materials to the City under municipal contracts not to discriminate in the hiring and promoting of employees in order to further equal employment opportunities for members of minority groups and women. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, ancestry, disability, age, or national origin. (§1.8.3 of the PMC; Ord. No. 4479, 5-22-78; Ord. No. 8453 §2, 2-27-12)

c. Contractor will meet or comply with the letter and spirit of Chapter 8, Title 1 of the Pueblo Municipal Code (as amended) and applicable State statutes. If the municipal contract involves construction work or the providing of supplies or materials in excess of ten thousand dollars (\$10,000.00) in the building and construction trades industry, Contractor shall have adopted and file with the City a copy of the Contractor's complying Affirmative Action Program. A complying Affirmative Action Program shall be a written affirmative action program meeting all the requirements of Chapter 60 of Title 41, Code of Federal Regulations (41 CFR, Chapter 60), including all parts and subparts thereof. This requirement applies regardless of whether Federal financial assistance has been provided for this project.

d. In the event of Contractor's non-compliance with the requirements of Chapter 8, Title 1 of the Pueblo Municipal Code (as amended), the contract may be cancelled, terminated, or suspended, in whole or in part, and Contractor may be declared ineligible for further contracts with the City of Pueblo.

e. Contractor will include the provisions of the above listed paragraphs (a) through (d) in every sub-contract entered in to by Contractor to provide and furnish work, services, supplies, or materials under a City project.

3. COMPLIANCE REVIEW

a. The City of Pueblo shall have the power to review, upon not less than five (5) days notice, and during normal business hours, the employment practices of Contractor during the performance of every such City project, and of subcontractors during the performance of every sub-contract awarded thereunder, to obtain information relating to compliance or non-compliance with non-discrimination and equal employment requirements.

b. When a written complaint is filed and an investigation by the City indicates that there has been a violation of this provision, or when a compliance review by the City indicates that a contractor or subcontractor has violated this provision, the City shall issue and cause to be served on said contractor or subcontractor a Notice of Violation. Such notice shall specify the violations and shall direct the contractor or subcontractor to respond in writing within ten (10) days to show cause why the sanctions of the provision should not be imposed. The City shall forward a copy of the Notice of Violation and the response of the contractor or subcontractor to the City Manager within thirty (30) days from the date of such notice.

c. The City Manager or authorized City representative shall review the Notice of Violation and response and shall determine whether any violations have occurred. If the City representative has determined that a violation has occurred, he may impose such sanctions as deemed appropriate, including, but not limited to, suspending or terminating the contract involved or any portion or portions thereof, or causing to be removed from the list of eligible pre-qualified contractors the names of contractors or subcontractors found to be in noncompliance with the non-discrimination and equal employment opportunity requirements of the provision and the provision of any such contract or subcontract awarded thereunder until such time as the City is satisfied that such contractors or subcontractors are in compliance with said requirements.

4. FEDERAL REQUIREMENTS GOVERN

Federal requirements govern. Whenever the provisions and requirements of this Chapter, or of the bidding specifications, conflict in any way or to any degree with the nondiscrimination and equal employment opportunity requirements of the United States and any such contract under consideration is funded in whole or in part by the United States or is otherwise subject to requirements having the force of law of the United States, such requirements of the United States shall govern and control. (Ord. No. 4479, 5-22-78)

5. By submitting a bid Contractor agrees to abide by the provisions herein set forth and will require any and all subcontractors to comply with said provisions

ARTICLE 3
GENERAL PROVISIONS
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ARTICLE 3

GENERAL PROVISIONS

3.00 GENERAL

The provisions of the Article are of a general nature and are intended to apply to contract work of all types. Whenever any of these provisions do not apply to a specific contract, the exceptions are noted in Article 2 Special Provisions.

3.10 BIDDING AND CONTRACT EXECUTION

3.101 DEFINITIONS

The following terms, as used in these contract documents, are respectively defined as follows:

- (a) “City” City of Pueblo, Colorado
- (b) “Closing Time” The scheduled closing time for the receipt of bids and the opening thereof.
- (c) “Contractor” The person, persons, firm, or corporation to whom the within contract is awarded by the City and who is subject to the terms of said contract. Also, the agents, employees, workmen, or assignees of said Contractor.
- (d) “Engineer” Unless otherwise stated in Article 2, Engineer shall mean the Director of Public Works of Pueblo, Colorado, or his authorized agents.
- (e) “Work” All work contemplated by the Contract Documents and Specifications including materials, labor, supervision, and use of tools necessary to complete the project in full compliance with the terms of the contract.
- (f) “Notice” Where in any section of the Contract Document there is any provision in respect to the giving of any notice, such notice shall be deemed to have been given (as to the City) when written notice shall be delivered to the Engineer or shall have been placed in the United States Mails addressed to the City Manager at the place where the bids, or proposals for the contract were opened; (as to the Contractor) when a written notice shall be delivered to the chief representative of the Contractor at the site of the project to be constructed under the contract or when such written notice shall have been placed in the United States mails addressed to the Contractor at the place stated in the papers prepared by him to accompany his proposal as the address of his permanent place of business; (as to the Surety) on the performance and payment bonds when a written notice is placed in the United States mails addressed to the Surety at either the home office of such Surety or when such notice is placed in the United States mails addressed to the Commissioner of Insurance of the State of Colorado.
- (g) “Project” The entire improvement proposed by the City to be constructed in whole or in part pursuant to the within contract.
- (h) “Subcontractor” A person, firm, or corporation, other than the Contractor, supplying labor and materials, or labor only, on work at the site of the project, having a

direct contract with the Contractor and including one who furnishes material worked to a special design according to the plans and specifications of this work, but not including one who merely furnishes material not so worked.

- (i) "Surety" The person, firm, or corporation that has executed, as surety, the Contractor's Performance and Payment Bonds.

3.102 SITE EXAMINATION

- (a) Bidders shall inform themselves of the conditions under which the work is to be performed, concerning the site of the work, the structure of the ground, obstacles which may be encountered, availability of labor and all other relevant matters concerning the work to be performed. Where soil reports or test boring logs indicating underground conditions are provided or shown on the plans, such information shall be considered only as indicative of conditions as observed at the time and place indicated, and the City in no way warrants the accuracy or reliability of said reports or boring logs and is not responsible for any deduction, interpretation or conclusion drawn therefrom by the Contractor. Contractor acknowledges that the City shall not be held responsible for any variance in conditions or unforeseen conditions encountered at the time of actual construction. It shall be the responsibility of the Contractor to satisfy himself by such methods as he deems necessary prior to the letting as to underground conditions, structures, and obstacles to be encountered.
- (b) The Contractor to whom a contract is awarded will not be allowed any extra compensation by reason of any matter or thing concerning which he might fully have informed himself, prior to the bidding. Misunderstanding as to the amount of work, availability of materials or labor shall be no cause for failure to enter into the contract or to perform the same.
- (c) The successful Contractor will be required to employ, so far as possible, such methods and means in the carrying out of his work as will not cause any interruption or interference with any other Contractor.

3.103 SPECIFICATION REQUIREMENTS

- (a) The bidder is expected to base his bid on materials and equipment complying fully with the plans and specifications, and in the event he names in his bid, materials or equipment which do not conform, he will be responsible for furnishing materials and equipment which fully conform at no change in his bid price.
- (b) Before submitting a proposal, each Contractor should read the complete specifications and plans, including all related documents contained herein, all of which contain provisions applicable not only to the successful bidder, but also to his subcontractors.

3.104 STATEMENT OF BIDDER'S PLANT AND FINANCIAL CONDITION

- (a) Each bidder shall be prepared to submit the following data within seven (7) days upon demand of the Purchasing Agent.
 - (1) A statement that the bidder maintains a permanent place of business and address thereof;
 - (2) A statement of the equipment which the bidder proposes to use on the project, together with a statement identifying that equipment previously mentioned which the bidder owns and that which he does not own, but is certain he will be able to rent or otherwise procure for use on the project;

- (3) A financial statement, duly sworn to and in form approved by the City, listing assets and liabilities;
- (4) Statement listing projects of similar nature which the bidder has constructed or in the construction of which the bidder was actively engaged in a responsible capacity;
- (5) A statement that the bidder: (i) is not presently debarred or suspended by the Colorado State purchasing director or the head of any Colorado purchasing agency, (ii) is not listed on any federal government list of debarments, suspensions or voluntary exclusions, including but not limited to, the List of Parties Excluded From Federal Procurement or Nonprocurement Programs maintained by the General Services Administration, and (iii) neither bidder nor any person or firm who has an interest in bidder's firm is a person or firm ineligible to be awarded a federal government contract by virtue of any provision of federal law. In the event bidder cannot truthfully make the required statement, bidder shall furnish a detailed statement indicating the reasons therefore.

(b) By submitting a bid, bidder authorizes the City to obtain information concerning bidder's performance on other projects it has performed during the prior five (5) years, including those listed by bidder and those not listed which City may become aware of. The bidder also waives and releases all claims against owners, architects, and engineers, and their agents and representatives, relating to or arising from the furnishing of such information to the City concerning bidder's performance on prior projects. In order to effectuate the intent of this clause, bidder may be required by City to execute information release authorization forms.

(c) Any bidder may be required by the City to submit additional data to satisfy the City that such bidder is prepared to fulfill the contract if it is awarded to him.

(d) The failure of bidder to furnish any information which is or may be required to be furnished under this section shall be grounds for determining bidder not responsible.

3.105 CONDITIONS IN A BIDDER'S PROPOSAL

A bidder shall not stipulate in his proposal any conditions not contained in the Contract Documents.

3.106 QUANTITIES

Bidders must satisfy themselves by personal examination of the locations of the proposed work and by such other means as they may prefer as to the correctness of any quantities listed in the proposal and shall not after submission of their proposal, dispute or complain of such estimate, nor assert that there was any misunderstanding in regard to the nature or amount of work to be done.

3.107 COPIES OF DOCUMENTS

Bid documents (including plans and specifications) can be obtained on the City website at www.pueblo.us/purchasing or via the Rocky Mountain E-Purchasing System (RMEPS) website www.bidnetdirect.com/colorado. All proposals must be made in the complete copy of specifications and related documents.

Proposers must follow the submittal procedures outlined in the documents. The bid form must not be separated from the required proposal submittal packet as defined in the Mandatory Submittals checklist.

3.11 BIDS

3.111 DATA SHEETS

Where data sheets concerning equipment to be furnished are included in the Specification Documents as a part of the proposal, the bidder shall furnish the required information by filling in the data sheets complete in every detail. In the event that such data sheets are insufficient, or do not readily lend themselves to the correct description of the equipment, the bidder shall file with the bid additional statements setting out the necessary information. Failure to furnish such information as is required on the data sheets will be considered as grounds for rejecting the bid.

3.112 SUBMISSION AND CONSIDERATION OF BIDS

- (a) Each proposal shall be firmly sealed in an envelope labeled as designated in the Advertisement for Bids and delivered to the office of the Purchasing Agent, City of Pueblo.
- (b) All bids are to be made only on forms of proposal furnished by the City and included in this volume. Total bid prices are to be written both by words and by figures; in case of conflict, former will apply. Unit bids may be made by figures only. No bid will be accepted which does not contain an adequate or reasonable price for each and every item named in the bidding schedule on the contract bid form.
- (c) Only proposals which are made out upon the regular proposal forms attached hereto will be considered. The proposal forms must not be separated from the attached volume. Any correction on the proposal form must be initialed by the same person signing the bid.
- (d) The City reserves the right to waive any informality in bids.
- (e) The City reserves the right to reject any or all bids, or any or all parts of bids
- (f) Omitted – not applicable to this project.

3.113 BID SECURITY

- (a) No proposal will be received unless accompanied by a certified check, cashier's check, money order, bid bond or other suitable collateral, as set forth in the Request for Bids, payable to the City as a guarantee that if the bid is accepted, the bidder will execute and file the proposed contract and bonds within ten (10) business days from the date of the award of the contract. On failure of the successful bidder to execute the contract and furnish bonds, he shall forfeit the deposit as agreed as liquidated damages, and the acceptance of the bid will be contingent upon the fulfillment of this requirement by the bidder.
- (b) The bid security of the three lowest formal bidders for each contract may be held until the contract is executed and approved and then returned to the bidders. The balance of bid securities submitted will be returned within seven (7) days after the opening of bids.

3.114 SIGNING OF BIDS

- (a) Bids which are not signed by individuals making them should have attached thereto a power of attorney evidencing authority to sign the bid in the name of the person for whom it is signed.
- (b) Bids which are signed for a co-partnership should be signed by all of the co-partners or by an attorney-in-fact. If signed by an attorney-in-fact, there should be attached to the bid a power of attorney evidencing authority to sign the bid.

(c) Bids which are signed for a corporation should have the correct corporate name thereof signed in handwriting or typewritten and the signature of the president or other authorized officer of the corporation should be manually written below the written or typewritten corporate name following the words "by": _____, _____.
Name Title

(d) If bids are signed for any other legal entity, the authorization of the person signing for such legal entity should be attached to the bid.

3.115 MODIFICATION OF BIDS

Modification of bids already submitted will be permitted, provided such modification be in writing and transmitted to the Purchasing Agent of the City prior to closing time. Such modification shall not reveal the total amount of the original or revised bid.

3.116 WITHDRAWAL OF BIDS

Any bidder may withdraw his bid any time prior to the closing time, but no bid shall be withdrawn for a period of one hundred (100) days after closing time. Negligence or mistake on the part of the bidder shall not constitute a right to withdraw after closing time. Any bid received after closing time will be rejected.

3.117 DUPLICATION OF BIDS

If more than one bid be offered by one party, all such bids shall be returned unopened. If duplicate bids are not discovered until after opening, such duplication shall be cause for immediate rejection of such bids. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or from submitting a direct bid on his own behalf.

3.118 OMITTED – NOT APPLICABLE TO THIS PROJECT

3.119 SUPPLEMENTAL UNIT PRICES

(a) On a lump sum contract, or partial lump sum contract, the City reserves the right to reject any or all supplemental unit prices which it deems to be excessive or unreasonable.

(b) In cases where any part or all of the bidding is to be received on a unit price basis, the quantities stated are not intended to govern. The quantities stated, on which unit prices are to be invited are approximate only, and each bidder will be required to make his own estimates of amounts, and to calculate his unit price bid accordingly. Bids will be compared on the basis of the stated number of units in the proposal form. Such estimated quantities, while made from the best information available, are approximate only. Payment on the contract will be based on actual number of units installed on the completed work. In the event of an error in the extension of prices, the unit price bid shall govern.

3.12 CONTRACTS

3.121 AWARD OF CONTRACT

(a) The contract shall be awarded to the responsible bidder submitting the lowest and most responsive bid on the basis of the Grand Total Bid within one hundred twenty (120) days from the date of opening of said bids.

(b) Subject to execution of the Contract Agreement by the Director of Finance certifying that a balance of appropriation exists and funds are available, the amount of money appropriated is equal to

or in excess of the Contract price; provided, however, that if construction is phased and subject to annual appropriation, funds only in the amount of initial appropriation are available and contractor shall confirm availability of funds before proceeding with work exceeding initial and subsequent annual appropriations.

3.122 DEFINITION OF AWARD

The contract shall be deemed to have been awarded when formal Notice of Award shall have been duly served upon the intended awardee (i.e., the bidder to whom the City contemplates awarding the contract) by the Purchasing Agent of the City.

3.123 EXECUTION OF CONTRACTS AND BONDS

(a) The successful bidder shall enter into a written contract agreement with the City on the form attached hereto. The bidder must comply with all State and Federal Laws as to provision of Workers' Compensation. Such contract agreement shall be subject to the Charter of Pueblo, the Code of Ordinances, City of Pueblo, and the Ordinance, if any, creating any Special Improvement District formed to carry out this project.

(b) Each contract shall be executed in one (1) original counterpart, unless instructed otherwise in Notice of Award, and there shall be executed original counterparts of the Contractor's Performance Bond and Payment Bond in equal number to the executed original counterparts of the contract. Not less than two (2) copies of such executed documents will be retained by the City and one (1) copy will be delivered to the Contractor. The successful contractor must provide workers' compensation insurance and public liability and property damage insurance as outlined in the General Conditions of the Contract. The costs of executing the bonds and contract and insurance, including all notarial fees and expense, are to be paid by the Contractor to whom the contract is awarded.

3.124 CONTRACT SECURITY

The Contractor shall furnish a good and sufficient Performance Bond and Payment Bond on the forms attached hereto each in an amount not less than the full amount of the Contract price, as security for the faithful performance of the contract and for the payment of all persons performing labor and furnishing material in connection with the work. Said bonds shall be executed by a corporate surety duly authorized to issue bonds in the State of Colorado. Said bonds shall also be complete surety for all guarantees of materials and workmanship required by any provision of the Contract Documents or the specifications. If at any time during the continuance of the contract a Surety on either of the Contractor's bonds becomes irresponsible or insolvent the City shall have the right to require additional and sufficient sureties which the Contractor shall furnish within ten (10) days after written notice to do so.

3.125 VERBAL AGREEMENTS

No verbal agreements or conversations with any agent or employee of the City, either before or after execution of the Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising said contract.

3.126 SCHEDULE OF UNIT PRICES

(a) Promptly following the execution of the contract documents for all lump sum contracts, the Contractor shall prepare and transmit to the Engineer two copies of an itemized breakdown showing the unit quantities of each major construction item and the corresponding unit prices. Such unit prices shall contain all costs including profit, of each item complete in place. The total cost of all the items shall equal the contract price for the project. This breakdown when approved by the Engineer, will be used primarily in determining payment due the Contractor on periodical estimates. If, in the opinion

of the Engineer, any unit price submitted by the Contractor is unbalanced, a detailed breakdown of the items contained in the unit will be required.

(b) For contracts bid on a unit price basis, unit bid prices for substantially completed work will be used in determining payment due the Contractor on periodical estimates. Partially completed units may be paid for in periodical estimates.

3.13 SUBCONTRACTS

3.131 SUBCONTRACTORS

(a) The Contractor shall as soon as possible after the execution of the Contract, notify the City in writing of the names of the subcontractors proposed on the Contract, and shall not employ any subcontractor that the City objects to as incompetent or unfit. Additionally, Contractor shall not employ in the work any subcontractor, nor obtain materials from any supplier, who is (1) debarred or suspended by the State of Colorado purchasing director or head of any Colorado purchasing agency or (2) listed on any federal government list of debarments, suspensions, or voluntary exclusions, including but not limited to, the List of Parties Excluded from Federal Procurement or Nonprocurement Programs maintained by the General Services Administration.

(b) The Contractor agrees to be fully responsible to the City for the acts or omissions of his subcontractors and of any one employed directly or indirectly by him or them and this contract obligation shall be in addition to the liability imposed by law upon the contractor.

(c) Nothing contained in the contract documents shall create any contractual relationship between any subcontractor and the City.

(d) The Contractor agrees to bind every subcontractor (and every subcontractor of a subcontractor) by the terms of the General Provisions and the Special Provisions of the Contract, Plans and Specifications as far as applicable to his work, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the City.

3.132 ASSIGNMENT OF CONTRACT

No assignment by the contractor of any principal construction contract or any part thereof or of the funds to be received thereunder by the contractor, will be recognized unless such assignment has had the written approval of the City and the Surety has been given due notice of such assignment and has furnished written consent thereto. Such written approval by the city shall not relieve the contractor of the obligations incurred by him under the terms of this contract. In addition to the usual recitals in assignment contracts, the following language must be set forth:

"It is agreed that the funds to be paid to the assignee under this assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations."

3.133 OTHER CONTRACTS

The City may award other contracts for additional work, at the site of the project (or other locations) and the Contractor shall fully cooperate with such other contractors and carefully fit his own work to that provided under other contracts as may be directed by the City. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor.

3.2 INDEMNITY AND INSURANCE

3.21 INDEMNITY

The contractor and his sureties shall indemnify, defend and save harmless the City of Pueblo and all of its officers, agents and employees from all suits, actions or claims of any character, name and description brought for or on account of any injuries or damage received or sustained by any person or persons or property, on account of any negligent act or fault of the Contractor, his agents or employees, in performance of said contract; or on account of the failure of the Contractor to provide necessary barricades, warning lights or signs; and shall forthwith pay any judgment, with costs, which may be obtained against the City, its officers, agents or employees, growing out of such injury or damage.

3.22 CONTRACTORS INSURANCE

The Contractor shall not commence work under this contract until he has obtained at his own expense and without cost to the City all insurance required under this paragraph and such insurance has been approved by the City Attorney, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. The Contractor shall maintain such insurance until the final acceptance by the City of all construction covered by the contract.

(a) Commercial General Liability Insurance

The Contractor shall secure and maintain during the period of this contract and for such additional time as work on the project is being performed, Commercial General Liability Insurance issued to and covering the liability of the contractor with respect to all work performed by him and all his subcontractors under the contract, to be written on a Commercial General Liability policy form CG 00 01. This insurance shall be written in amounts not less than \$1,000,000 for each occurrence and aggregate for personal injury including death and bodily injury and \$1,000,000 for each occurrence and aggregate for property damage. This policy of insurance shall be endorsed naming the City of Pueblo, its agents, officers, and employees as additional insureds. To the extent that Contractor's work, or work under his direction, may require blasting, explosive conditions, or underground operations, the commercial general liability coverage shall contain no exclusion relative to blasting, explosion, collapse of building, or damage to underground property. The policy shall also provide coverage for contractual liability assumed by Contractor under the provisions of the Contract, and "Completed Operations and Projects Liability" coverage.

(a) Comprehensive Automobile Liability Insurance

The Contractor shall procure and maintain during the period of the contract and for such additional time as work on the project is being performed, Comprehensive Automobile Liability Insurance. This insurance shall be written with limits of liability for and injury to one person in any single occurrence of not less than \$350,000 and for any injury to two or more persons in any single occurrence of not less than \$1,000,000. This insurance shall include uninsured/underinsured motorist coverage and shall protect the Contractor from any and all claims arising from the use both on and off the site of the project of automobiles, trucks, tractors, backhoes, and similar equipment whether owned, leased, hired, or used by Contractor.

(b) Workers' Compensation Insurance

The Contractor shall procure and maintain during the period of this contract and for such additional time as work on this project is being performed, Workers' Compensation Insurance, including Occupational Disease Provisions, fully complying with the provisions of the Workers' Compensation Act, as amended, of the State of Colorado. Such insurance shall be obtained notwithstanding that Contractor may have no employees as defined under said Act or that Contractor might otherwise avail itself of an exemption under the Act from any legal requirement to obtain such coverage. Such insurance shall cover all employees of Contractor performing work on the project irrespective of whether such employees may be shareholders, managers, partners or owners of Contractor or exempt employees under the Act.

If any class of employees engaged in hazardous work under this contract at the site of the project is not protected by the Workers' Compensation Statute, the Contractor shall provide, and similarly shall cause each subcontractor to provide, special insurance for the protection of such employees not otherwise protected. Workers' Compensation policy shall contain an endorsement waiving subrogation against the City.

(d) Builder's Risk Insurance

When specified in Article 2, Special Provisions, the Contractor shall secure and maintain during the period of this Contract, Builder's Risk "All-Risk" Completed Value Insurance coverage (including vandalism) upon 100% of the cost of the entire project which is the subject of this Contract and including completed work, work in progress, and materials delivered to the site for incorporation therein. Such insurance shall include as additional named insureds, the City, its officers, agents and employees, and any other person with an insurable interest designated by the City as an Additional Named Insured. Such insurance may have a \$2,500 maximum deductible clause, which deductible amount shall be the responsibility of the Contractor. In the event the project site is located within the floodway or floodplain, or located within 500 feet of any lake, stream, river or other natural watercourse, the policy shall contain a flood endorsement.

(e) Any Subcontractor Performing Work for the Contractor

Any subcontractor performing work for the Contractor under the contract shall provide certificates of insurance protection to the Contractor and to the City of Pueblo, Colorado, of the same type and in the same amounts as required by the Contractor.

(f) The Insurance Coverage

The insurance coverage enumerated in the above subparagraphs constitutes the minimum requirements and said enumeration shall in no way lessen or limit the liability of the Contractor under the terms of the contract. The Contractor shall procure and maintain, at his own cost and expense, any additional kinds and amounts of insurance that, in his own judgement, may be necessary for his proper protection in the prosecution of the work.

(g) Certificates of Insurance

Certificates of Insurance for Workers' Compensation Insurance, Commercial General Liability Insurance, and Comprehensive Automobile Liability Insurance shall be filed with the City prior to the execution of the contract. Certificates for Builder's Risk Insurance shall also be filed with the City when such insurance is required for the project. Said insurance shall not thereafter be canceled, permitted to expire, or be changed without 30 days advance written notice to the City.

3.3 GUARANTEES, PATENTS, PERMITS

3.31 GUARANTEES

(a) All work shall be constructed in compliance with applicable building and construction codes, and must be guaranteed for a period of two (2) years from the date of final acceptance, or for such other period as may be required in the Special Provisions.

(b) In placing orders for equipment, the Contractor shall purchase same only under a written guarantee from the respective manufacturer that the equipment supplied will function satisfactorily as an integral part of the completed project in accordance with the plans and specifications. Furthermore, the Contractor shall require that the manufacturer agree in writing at the time the order for equipment is placed, that he will be responsible for the proper functioning of the equipment in cooperation with the Contractor, and that whenever necessary during the installation period or tuning up period following construction period the manufacturer will supply, without additional cost to the City, such superintendence and mechanical labor and any additional parts and labor needed to make the equipment function satisfactorily, even if same was not shown on approved shop drawings.

(c) The provisions of this section concerning guarantee by Contractor shall be construed in a manner consistent with the requirements and limitations of 23 CFR § 635.413.

3.32 PERMITS, SURVEYS, AND COMPLIANCE WITH LAWS

(a) Except as may otherwise be indicated in the contract documents, the Contractor shall procure at his own expense all permits, licenses, and bonds necessary for the prosecution of his work, and/or required by Municipal, State, and Federal regulations and laws, including, but not limited to, permits for transportation of materials and equipment, blasting, environmental permits, and any other permit required for the project or contractor's operations, regardless of whether the necessity for such permit is disclosed in the plans and specifications.

(b) The City will furnish all site surveys, easements, and rights of way necessary for construction of any permanent works required in the specifications, where such work is to be done on property other than the City's.

(c) The Contractor shall give all notices, pay all fees and taxes, including City Sales and Use Taxes, and comply with all Federal, State and Municipal laws, ordinances, rules, and regulations and building and construction codes bearing on the conduct of the work. This contract as to all matters not particularly referred to and defined herein shall notwithstanding be subject to the provisions of all pertinent ordinances of the Municipality within whose limits the work is constructed, which ordinances are hereby made part hereof with the same force and effect as if specifically set out herein.

(d) This contract is specifically subject to the provisions of the Charter of Pueblo, all applicable portions of the 1971 Code of Ordinances of Pueblo, Colorado, and of the ordinance, resolution or order of the City Council authorizing this improvement. The aggregate payment on this contract may not exceed the estimates of the Engineer nor the amount budgeted for the project. If the cost of the improvement to be constructed under this contract is to be assessed upon the owners of land benefited by such improvements, upon complaint of any such landowner that the improvement in not being constructed in accordance with the contract, the Council may consider the complaint and make such order in the premises as shall be just, and such order shall be final and conclusive.

3.33 DEFENSE OF CLAIMS OR SUITS BY REASON OF PATENT INFRINGEMENT

The Contractor shall pay for all royalties and patents for any patented product used by him or incorporated in the work, and shall defend all claims or suits for infringement of any patent right brought against

himself thereof; except such claims or suits arising by reason of patent infringements or unauthorized use of patented processes where such is the direct result of specification requirements (as distinguished from patented articles, apparatus, or equipment).

3.34 LICENSE OR ROYALTY FEES

If the project is designed so as to require or permit the use of a process or processes (as distinguished from articles, apparatus, or equipment) for which license or royalty fees will be charged, such fees for the use of such processes will be paid by the Contractor to the Patentee, Licensee or owner of such process, and bidder shall include shall fees in their bid.

3.4 PLANS AND SPECIFICATIONS

3.41 PLANS AND SPECIFICATIONS

- (a) All work shall be executed in strict conformity with the plans and specifications, and the Contractor shall do no work without proper drawings and instructions.
- (b) The City will furnish to the Contractor one (1) complete set of contract documents, including drawings. Additional copies of same or any part thereof shall be furnished at the expense of the Contractor.
- (c) Figured dimensions on the plans shall be taken as correct but shall be checked by the Contractor before starting construction. Any errors, omissions, or discrepancies shall be brought to the attention of the Engineer and his decision thereon shall be final. All notes on the plans shall be followed. Corrections of errors, or omissions on the drawings or specifications may be made by the Engineer when such correction is necessary for the proper execution of the work.

3.42 INTENT OF CONTRACT DOCUMENTS

- (a) The sections of the contract documents and the contract plans are complementary, and what is called for by any one shall be binding as if called for by all. The intention of the contract documents is to include in the contract price the cost of all labor and materials, water, fuel, tools, plant, equipment, light, transportation, and all other expense as may be necessary for the proper execution of the work.
- (b) Any work shown on the plans and not covered in the specifications, or included in the specifications and not shown on the plans shall be executed by the Contractor as though shown both on the plans and included in the specifications. If the plans and specifications should be contradictory in any part, the specifications shall govern.
- (c) If the Contractor, in the course of the work, finds any discrepancy between the plans and the physical layout, or any errors or omissions in plans or layout, he shall immediately so inform the Engineer, and the Engineer shall promptly verify them. Any work done after such discovery without written consent of the Engineer authorizing same shall be done at the Contractor's risk.
- (d) Any minor items not specifically called for in the plans and specifications, but which are necessary to complete the work ready for use in accordance with the requirements of good practice, as determined by the Engineer, shall be included as a part of the Contractor's bid price and furnished at no additional cost to the City.
- (e) In interpreting the contract documents, words describing materials or work which have a well-known technical or trade meaning, unless otherwise specifically defined in the contract documents, shall be constructed in accordance with such well-known meaning recognized by architects, engineers, and the trade.

3.43 INTERPRETATION OF CONTRACT DOCUMENTS

If any person contemplating submitting a bid for this contract is in doubt as to the true meaning of any part of the plans, specifications, or other contract documents, he may submit to the Engineer a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the documents will be made only prior to closing time and by written addendum duly issued or delivered to each person receiving a set of such documents. The City will not be responsible for any other explanations or interpretations of the documents.

3.44 STANDARD MANUFACTURER

Wherever the terms "standard", "recognized" or "reputable" manufacturer are used, they shall be construed as meaning manufacturers who have been engaged in the business of fabricating materials, equipment, or supplies of the nature called for by the specifications for a reasonable period of time prior to the date set for opening of bids, and who can demonstrate to the satisfaction of the City that said manufacturer has successfully installed equipment, materials, or supplies of the type proposed to be furnished in at least three instances and that the performance of such materials, equipment, or supplies for a period of over twelve months prior to the date fixed for opening bids shall, prima facie, be deemed to have been engaged in such business for a reasonable length of time.

3.45 "OR EQUAL" CLAUSE

Whenever in any section of the contract documents, plans or specifications, any article, material, or equipment is defined by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal" if not inserted, shall be implied. The specific article, material, or equipment mentioned shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired and shall not be construed in such a manner as to exclude manufacturers products of comparable equality, design, and efficiency.

3.46 MATERIALS AND WORKMANSHIP

(a) The Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, heat, transportation, and other facilities necessary for the execution and completion of the contract. Unless otherwise stipulated in the specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this Contract are to be new and of the best grade of their respective kinds for their purpose. The Contractor shall furnish to the Engineer, for his approval, the name of the manufacturer of machinery, mechanical and other equipment, which he contemplates installing, together with their performance capacities and other pertinent information.

(b) If not otherwise provided, material or work called for in this contract shall be furnished and performed in accordance with well-known established practice and standards recognized by architects, engineers, and the trade in so far as possible.

(c) When required by the specifications, or when called for by the Engineer, the Contractor shall furnish for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection. All materials and workmanship shall be guaranteed by the Contractor and Surety for a period of two (2) years from date of final acceptance, or for such period as may be required in the Special Provisions.

(d) No material of any kind shall be installed in the project until it has been inspected and approved by the Engineer. All material rejected shall be immediately removed from the site of the work and not again offered for inspection. Any materials or workmanship found at any time to be defective shall be remedied at once regardless of previous inspections.

(e) At any time during the course of construction of this project when in opinion of the Engineer, provisions of the plans, specifications, or contract provisions are being violated by the Contractor or his employees, the Engineer shall have the right and authority to order all construction to cease or material to be removed, until arrangements satisfactory to the Engineer are made by the Contractor for resumption of the work in compliance with the provisions of the contract.

3.47 SHOP DRAWINGS

(a) The Contractor, as soon as possible after approval of the source and the purchase of items of materials and equipment, shall submit to the Engineer all shop or setting drawings and schedules required for the work, including those pertaining to structural and reinforcing steel. The Contractor shall make any corrections in the drawings required by the Engineer and resubmit same without delay.

(b) Three final copies of all shop or setting drawings shall be submitted to the Engineer, who after checking will retain two copies and return one copy to the Contractor. The Engineer's approval of shop drawings of equipment and material shall extend only to determining the conformity of such equipment and materials with the general features of the design drawings prepared by the Engineer. Shop drawings are not part of the Contract Documents and do not modify the Contract Specifications. It shall be the responsibility of the Contractor to determine the correctness of all dimensions and minor details of such equipment and materials so that when incorporated in the work correct operations will result.

3.5 ENGINEER, INSPECTION, AND TESTING

3.51 AUTHORITY OF ENGINEER

(a) The Engineer shall decide all questions which may arise as to the fulfillment of the contract on the part of the Contractor and his decision thereon shall be final and conclusive. He shall have authority to reject all work and materials which do not conform to the contract and to decide questions which arise in the execution of the work.

(b) If, in the opinion of the Engineer, the work being done by the Contractor is in violation in any way with the terms of the contract, he shall forthwith notify the Contractor to cease said violation.

(c) The Engineer shall, upon presentation to him, make prompt decisions in writing on all claims of the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract documents. All such decisions of the Engineer shall be final and conclusive.

(d) The Contractor shall submit schedules which shall show the order in which the Contractor proposes to carry on the work, but the right to stipulate the order in which the contract shall be carried out is reserved to the Engineer.

(e) In the event either City or Contractor remains dissatisfied with the final decision of the Engineer hereunder, the City or Contractor may seek judicial review thereof pursuant to Rule 106, C.R.C.P. In no event shall the Contractor slow or stop the work while a determination is pending under this section 3.51, and the City will continue to make payment in accordance with the contract documents except as to any amount in dispute.

3.52 TESTING OF MATERIALS

(a) Attention of the Contractor is directed to the materials tests required on this contract. All laboratory tests shall be approved by an approved testing laboratory. The specific test requirements are set forth in the sections of these specifications which describe the materials or apparatus to be tested. The Contractor shall furnish the Quality Control materials to be tested and shall pay transportation charges and costs of testing on any samples required to be submitted to the laboratory.

(b) Where certified test reports are required to be furnished by the manufacturer, the Contractor shall furnish duplicate copies of the reports before the material will be approved for use.

3.53 STAKING WORK

(a) The Engineer will set control stakes for general layout and all necessary grade stakes for construction work. The protection and care of such stakes shall be the responsibility of the Contractor. The Contractor may, at the discretion of the Engineer, be required to pay the cost of replacing stakes which are lost or destroyed. The detail layout of structures and staking of individual items shall be done by the Contractor subject to verification by the Engineer as to compliance with the contract plans and specifications. In any case, the Contractor shall be responsible for the correctness and accuracy of the detail layout of finished structures.

(b) Any personnel engaged in the surveying work on the project by the Contractor or his subcontractors, who is judged by the Engineer to be incompetent shall be removed from the work and replaced by competent personnel.

3.54 FAILURE TO COMPLETE WORK ON TIME

In case the Contractor shall fail to fully perform and complete the work in conformity with the provisions and conditions of the contract within the specified time limit set forth in the Proposal Form or within such further time as, in accordance with the provisions of this agreement shall be fixed or allowed for such performance and completion, the Contractor shall and will pay to the City of Pueblo for each and every day of the additional time in excess of the contract time and any granted extensions thereof, the sum given in the following schedule which said sum per calendar day is agreed upon, fixed and determined by the parties hereto. The amounts shown are considered to be liquidated damages to reimburse the City for the additional costs caused by delayed completion and in no case constitute a penalty. The amounts set forth below may be reduced or supplemented for project specific considerations as provided for in Article 2 – Special Provisions.

ORIGINAL CONTRACT AMOUNT	AMOUNT OF LIQUIDATED DAMAGES PER DAY
Less than \$49,999	\$200.00
\$50,000 to \$99,999	\$250.00
\$100,000 to 249,999	\$300.00
\$250,000 to \$499,999	\$400.00
\$500,000 to \$999,999	\$500.00
\$1,000,000 and above	\$1,000.00 plus any additional amount specified in Article 2 – Special Provisions

3.55 INSPECTION

- (a) The Engineer and his authorized representatives shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide proper and safe facilities for such access and for inspection.
- (b) The Engineer shall have the right to reject materials and workmanship which are defective, or require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the City. If the Contractor does not correct such condemned work and remove rejected materials within a reasonable time fixed by written notice, the City may remove them and charge the expense to the Contractor.
- (c) Should it be considered necessary or advisable by the Engineer at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any material respect due to fault of the Contractor or his subcontractors he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus fifteen (15) percent, will be allowed the Contractor.
- (d) All materials to be incorporated in the work, all labor performed, all tools, appliances, and methods used shall be subject to the inspection and approval or rejection of the Engineer.
- (e) If the Engineer shall point out to the Contractor, his foreman or agent any neglect or disregard of the contract provisions, such neglect or disregard shall be remedied and further defective work shall be at once discontinued.
- (f) The Contractor shall execute the work only in the presence of the Engineer or authorized inspectors, unless provision has been made for the work to proceed without complete engineering supervision or inspection. The presence of the Engineer or Inspector shall in no way relieve the Contractor of the responsibility of this contract, or be any warrant for the furnishing of bad material or poor workmanship.
- (g) The inspection and supervision of the work by the Engineer is intended to aid the Contractor in applying labor, materials, and workmanship in compliance with the contract provisions. Such inspection and supervision, however, shall not operate to release the Contractor from any of his contract obligations.

3.6 CONTRACTOR'S WORKING CONDITIONS

3.61 SUPERINTENDENCE

- (a) The Contractor shall give his personal superintendence to the work or have at the site of the work at all times a competent foreman, superintendent, or other representative satisfactory to the Engineer and having authority to act for the Contractor. All directions given to him shall be as binding as if delivered to the Contractor. Such directions shall be confirmed upon written request to the Engineer by the Contractor or his superintendent.
- (b) In so far as it is practicable and except in the event of discharge by the Contractor or in the event of proven incompetence, the individual who has been designated to represent the Contractor shall so act, and shall follow without delay instructions of the Engineer in the prosecution of the work in conformity with the contract.

3.62 LABOR

(a) The Contractor shall employ none but competent and skilled workmen and foremen in the conduct of work on this contract. The Contractor shall at all times enforce strict discipline and good order among his employees. The Engineer shall have the authority to order removal from the work of any Contractor's employee who refuses or neglects to observe any of the provisions of these plans or specifications, or who is incompetent, unfaithful, abusive, threatening, or disorderly in his conduct, and any such person shall not again be employed on this project without permission of the Engineer.

(b) Colorado labor shall be employed to perform the work to the extent of not less than eighty percent (80%) of each type of class of labor in the several classifications of skilled and common labor employed on this project, as required and defined in Article 17 of Title 8 of C.R.S.; provided, however that this subsection (b) shall be suspended and of no effect to the extent prohibited or inconsistent with a requirement of federal law or regulation or the terms and conditions of any grant or cooperative agreement to which the City is a party and which concerns the Project.

3.63 USE OF JOB SITE AND PRIVATE LAND

(a) The Contractor shall confine his equipment, apparatus, the storage of materials and operations of his workmen to limits indicated by law, ordinances, permits or directions of the City and shall not encumber the premises with his materials.

(b) The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce the Engineer's instructions regarding signs, advertisements, fires, and smoke.

(c) The Contractor shall not use any vacant lot or private land as a plant site, depository for materials, or as a spoil site without the written authorization of the owner (or his agent) of the land, a copy of which authorization shall be filed with the City. The Contractor shall not interrupt, constrict, or alter established drainage ways on vacant lots or private land without first obtaining permission from the Engineer and the property owner.

3.64 PROTECTION OF THE PUBLIC, WORK, AND PROPERTY

(a) The Contractor shall provide and maintain all necessary watchmen, barricades, red lights, and warning signs and take all necessary precautions for the protection of the public. He shall continuously maintain adequate protection of all work from damage, and shall take all reasonable precautions to protect the City's property from injury or loss arising in connection with the contract. He shall make good any damage, injury, or loss to his work and to the property of the City, except such as may be due to errors in the contract documents, or caused by agents or employees of the City.

(b) The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the City's and adjacent property from injury arising from or in connection with this contract.

(c) The Contractor will be responsible for any and all damage to property, public or private, that may be caused by his operations in the performance of this contract, and the Contractor shall defend any suit that may be brought against himself or the City on account of damage inflicted by his operations, and shall pay any judgements awarded to cover such damage; provided, however, that if either party to this contract should suffer injury or damages in any manner because of any wrongful act or neglect of the

other party or of anyone employed by him, then he shall be reimbursed by the other party for such damage. Notice of pending claim for such reimbursement shall be made in writing to the party responsible within a reasonable time of the first observance of such damage, and the claim shall be filed and adjusted prior to the time of final payment.

3.65 ACCIDENT PREVENTION

Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable local ordinances, State, and Federal laws, and building and construction codes shall be observed. Machinery, equipment, and all hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law.

3.66 INTERFERENCE WITH TRAFFIC

In executing the work on this project the Contractor shall not unnecessarily impede or interfere with traffic on public highways or streets. Any question as to what constitutes unnecessary interference with traffic or a hazard to traffic shall be determined by the Engineer and the Traffic Engineer of the City. The Contractor shall confer with and keep Police and Fire Departments of the City fully informed as to street or alleys which are to be closed to traffic for construction purposes. The Contractor shall be responsible for coordination of his work with all affected utilities.

3.67 SANITARY CONVENIENCES

The Contractor shall provide and maintain at the site of the construction work at all times, suitable sanitary facilities for use of those employed on this contract without committing any public nuisance. Pit type toilets shall be of proper design and fly tight. All toilet facilities shall be subject to the approval of the Pueblo City-County Health Department.

3.68 WORK IN BAD WEATHER

No construction work shall be done during stormy, freezing or inclement weather, except such as can be done satisfactorily, and in a manner to secure first class construction throughout, and then only subject to the permission of the Engineer.

3.69 STATE-IMPOSED MANDATES PROHIBITING ILLEGAL ALIENS FROM PERFORMING WORK UNDER THIS CONTRACT

(a) At or prior to the time for execution of this Contract, Contractor shall submit to the Purchasing Agent of the City its certification that it does not knowingly employ or contract with an illegal alien who will perform work under this Contract and that the Contractor will participate in either the "E-Verify Program" created in Public Law 208, 104th Congress, as amended and expanded in Public law 156, 108th Congress, as amended, that is administered by the United States Department of Homeland Security or the "Department Program" established pursuant to section 8-17.5-102(5)(c), C.R.S. that is administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Contract.

(b) Contractor shall not:

(i) Knowingly employ or contract with an illegal alien to perform work under this Contract;

- (ii) Enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract.
- (c) The following state-imposed requirements apply to this Contract:
 - (i) The Contractor shall have confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Contract through participation in either the E-Verify Program or Department Program.
 - (ii) The Contractor is prohibited from using either the E-Verify Program or Department Program procedures to undertake pre-employment screening of job applicants while this Contract is being performed.
 - (iii) If the Contractor obtains actual knowledge that a subcontractor performing work under this contract knowingly employs or contracts with an illegal alien to perform work under this Contract, the Contractor shall be required to:
 - A. Notify the subcontractor and the Purchasing Agent of the City within three (3) days that the Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and
 - B. Terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required pursuant to subparagraph (c)(iii)A. above, the subcontractor does not stop employing or contracting with the illegal alien; except that the Contractor shall not terminate the contract with the subcontractor if, during such three (3) days, the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.
 - (iv) The Contractor is required to comply with any reasonable request by the Colorado Department of Labor and Employment (hereinafter referred to as "CDLE") made in the course of an investigation that CDLE is undertaking pursuant to its authority under §8-17.5-102(5), C.R.S.
- (d) Violation of this Section by the Contractor shall constitute a breach of contract and grounds for termination. In the event of such termination, the Contractor shall be liable for City's actual and consequential damages.
- (e) Nothing in this Section shall be construed as requiring the Contractor to violate any terms of participation in the E-Verify Program.

3.7 CLEANUP AND FINAL COMPLETION

3.71 CLEANING UP AND FINAL INSPECTION

- (a) The Contractor shall at all times keep the site of the work free from accumulations of waste materials or rubbish caused by his employees or work and at the completion of the work he shall remove all his rubbish from and about the work and all his tools, equipment, scaffolding and surplus materials and shall leave his work clean and ready to use. In case of dispute, the City may remove the rubbish and surplus materials and charge the cost to the Contractor. This requirement shall not apply to property used for permanent disposal of rubbish or waste materials in accordance with permission of such disposal granted to the Contractor by the City therefore.

(b) All sewers, conduits, pipes and appurtenances and all tanks, pump wells, chambers, buildings, and other structures shall be kept clean during construction; and as the work or any part thereof approaches completion, the Contractor shall systematically and thoroughly clean and make any needed repairs to them. He shall furnish at his own expense, suitable tools and labor for removing all water and cleaning out all dirt, mortar, and foreign substances. Any undue leakage of water into the structures such as to make the work, in the opinion of the Engineer, fall short of first class work, shall be promptly corrected by the Contractor at his own expense. Cleaning and repairs shall be arranged, so far as practical, to be completed upon finishing the construction work. Notice to begin the final cleaning, and repairing, if such is needed, will be given by the Engineer, who at the same time will make his final inspection of the work. The Engineer will not approve the final estimate of any portion of the work until after the final inspection is made and the work found satisfactory.

3.72 CUTTING AND PATCHING

(a) The Contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts fit together or to receive the work of other contractors shown upon, or reasonably implied by, the plans and specifications of the completed project.

(b) Any cost caused by defective or ill-timed work shall be borne by the party responsible therefore.

(c) The Contractor shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of any other contractor without the consent of the Engineer.

3.73 FINAL TESTS

After completion of the work the Contractor shall make any and all tests required by the specifications or by municipal or state regulations, and where so provided in said regulations shall furnish the City with certificates of inspection by the municipal or state regulatory bodies. The Contractor shall also make all tests required by the National Board of Fire Underwriters for the purpose of determining insurance rates or other protection of City or the Public.

3.74 CORRECTION OF WORK AFTER FINAL PAYMENT

Neither the final payment nor any provision in the contract documents shall relieve the Contractor of the responsibility for negligence or faulty materials or workmanship, whether latent or patent, within the extent and period provided by law.

3.75 TERMINATION FOR CAUSE

(a) In the event the Contractor shall be adjudged a bankrupt, or shall make a general assignment for the benefit of his creditors, or a receiver shall be appointed on account of his insolvency, or if he shall persistently or repeatedly refuse or should fail to supply enough properly skilled workmen or proper materials, or shall fail to maintain required insurance, or shall fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, or ordinances or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provisions of the contract, the City may serve written notice upon the Contractor and the Surety of its intention to terminate the contract, and unless within ten days after the serving of such notice upon the Contractor, such violation shall cease and satisfactory arrangement for correction be made, the contract shall, upon the expiration of said ten days cease and terminate. In the event of any such termination, the City shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the contract; provided, however, that if the Surety does not commence performance thereof within thirty days from the date of the mailing to such Surety of a notice of termination, the City may take over the work and prosecute the same to completion for the account and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the City for any excess cost thereby

occasioned the City. If the unpaid balance of the contract price shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. The expense incurred by the City herein provided, and the damages incurred through the Contractor's default, shall be determined by the Engineer whose decision thereon shall be final and conclusive.

(b) Where the contract has been terminated by the City, said termination shall not affect or terminate any of the rights of the City as against the Contractor and his Surety then existing or which may thereafter accrue because of such default. Any retention by the City of the moneys due the Contractor under the terms of the contract shall not release the Contractor or his Surety from liability for his default.

3.76 FINAL ACCEPTANCE OF THE WORK

(a) The contract shall be deemed as having been finally accepted by the City upon authorization of final payment issued by the Engineer.

(b) Use of part of the improvement by the City before completion of the entire project is not to be construed by the Contractor as an acceptance by the City of that part so used.

3.77 COMMENCEMENT AND COMPLETION OF WORK

(a) The Contractor shall commence work within three (3) calendar days of the date of execution of the contract (unless otherwise stated in the Proposal Form), and complete the contract within the number of calendar days from the date of the Notice of Award as stated in the Proposal Form.

(b) The dates fixed for commencement and completion of the work shall be extended for a period equivalent to the time lost because of severe and unusual weather, non-delivery of properly ordered materials, or other cause over which the Contractor is not responsible. The Contractor shall document reasons for requesting any such extensions in a letter to the Engineer, and the Engineer shall fix the period of extensions, if any, his decision being binding upon both parties. If satisfactory execution and completion of the Contract shall require work or materials in substantially greater amounts or quantities than those set forth in the contract, then the contract time shall automatically be increased in the same proportions as the cost of the additional work bears to the original contracted for. No allowance will be made for delays or suspension of the prosecution of the work due to the fault of the Contractor or his subcontractors or suppliers.

3.78 LIQUIDATED DAMAGES

(a) In the event that the contract has not been completed within the specified time (including any approved time extensions as described in Paragraph 3.77) the amounts set forth in Paragraph 3.54 will be deducted from the amount paid the Contractor, as liquidated damages.

(b) No other liquidated damages will be charged for noncompletion within the specified time unless specifically stated in the Special Provisions.

3.79 WAIVER OF STATUTORY LIMITATIONS AND CONDITIONS

The rights and remedies available to City under the Contract Documents, including the City's right to recover liquidated damages, are in addition to, and not limited by, any rights, remedies and limitations provided under law. By bidding upon and entering into this Contract, the Contractor specifically waives all provisions of Chapter 8 of Article 20 of Title 13, Colorado Revised Statutes including, without limitations, those relating to defects in the work under the Contract, limitation of damages and notice of claim process.

3.8 MEASUREMENT AND PAYMENT

3.81 MEASUREMENT OF WORK

- (a) If the proposal for the work under this contract is on a unit price basis, the actual number of units of each item of work to be constructed may be more or less than the corresponding number given in the proposal sheet or plans, but no variation will be made in the contract unit prices on the account. No extra measurement of any kind will be allowed in measuring the units of work under this contract, but the actual units of work shall be considered and all lengths will be measured on the centerline of the work, whether straight or curved. The Contractor will be paid the contract price for each unit of work done, which price will include the cost of all work described in the unit specifications.
- (b) The method of measurement shall be as described in that part of the specifications covering the particular units of work or materials furnished.

3.82 PAYMENTS

- (a) The Contractor shall prepare and submit to the Engineer a detailed estimate of the work performed during the preceding calendar month, and at the time of completion of the work under the Contract, the Contractor shall prepare and submit to the Engineer a detailed estimate of the work performed since the last calendar month for which he has submitted an estimate, such estimates to be used after approval as a basis for periodical and final payments. When approved, one copy of such estimate will be returned to the Contractor.
- (b) Not later than the 21st day after approval of periodic estimate and receipt of all other required payment submittals as detailed in Article 2 – Special Provisions, the City will make partial payment to the Contractor on the basis of a duly certified and approved estimate of the work performed by the Contractor during the preceding calendar month. The City, at its discretion, may include in such monthly estimates payment for materials that will eventually be incorporated in the project, provided that such material is suitably stored on the site of the project at the time of submission of the estimate for payment. Payment for materials on hand but not in place, unless otherwise provided in the Special Provisions, shall be based on the Contractor's cost of such materials stored at the job site, as evidenced by material bills and freight bills. No additional allowances will be made for handling or drayage by the Contractor's forces, nor overhead, insurance, profit, or other incidental costs. The Contractor shall, if required by the Engineer, present certified copies of receipted bills and freight bills for such materials. Such material when so paid for by the City shall become the property of the City, and in case of default on the part of the Contractor, the City may use or cause to be used by others these materials in construction of the project.
- (c) The City will retain a percentage of the amount of each periodical estimate until the final completion and acceptance by the City of all work included in this contract. Unless otherwise specified in Article 2 - Special Provisions, the percentage retained shall be 10%, except that the retainage on the periodic estimate considered to be the final estimate may be reduced by the Engineer to an amount deemed by him sufficient to complete minor work, effect minor repairs or perform minor cleanup, provided, however, that in no event may retainage be reduced to less than five percent (5%) of the original contract amount. Nothing in this section shall be construed to limit or restrict the City's right to withhold additional amounts pursuant to Section 3.83 of these General Provisions.
- (d) Final payment of the percentage retained by the City on the monthly periodical estimates and on the final estimate will be paid to the Contractor not more than thirty (30) days after final acceptance by the City of the work on this contract and publication of the statutorily required Notice of Final Settlement.

3.83 WAIVER OF STATUTORY RETENTION LIMITS

Contractor acknowledges that the City will retain up to 10% of each periodical estimate as set forth in paragraph 3.82(c) above. By bidding upon and entering into this Contract, the Contractor knowingly and voluntarily waives any and all right or entitlement it may have for a lesser percentage to be retained from payments pursuant to Section 24-91-103(1)(a) of the Colorado Revised Status.

3.84 CITY'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATIONS THEREOF

(a) The City may withhold, in addition to retained percentages, from any payment to the Contractor, such an amount or amounts as may be necessary to cover:

- (1) Claims filed with the City for labor or materials furnished in connection with the work;
- (2) Correction of defective work not promptly remedied by Contractor;
- (3) Amounts owed to his suppliers, subcontractors, and workers;
- (4) An amount sufficient to ensure completion if a reasonable basis exists to believe that the contract cannot be completed for the balance then unpaid;
- (5) Damage caused by Contractor to another contractor or public or private property;
- (6) Excess cost of field engineering and inspection;
- (7) City Sales and Use Tax to which the City is entitled;
- (8) Liquidated damages.

(b) The City may disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therefrom. The City will render to the Contractor a proper accounting of all such funds disbursed in behalf of the Contractor.

(c) Neither the final payment nor any part of the retained percentage shall become due until 30 days after publication of Notice of Final Settlement on the Project and after the Contractor shall have delivered to the City a complete release for himself and all materialmen and subcontractors of all claims or liens arising out of the contract, or receipt in full in lieu thereof. The Contractor may, however, furnish a bond, satisfactory to the City Attorney, to indemnify the City against any claim or lien. If any claim or lien remains unsatisfied after all payments are made, the Contractor and his Surety shall be liable to the City for all moneys that the latter may be compelled to pay in discharging such claim or lien, including all costs and reasonable attorney's fees.

3.85 UNCORRECTED WORK

All work performed incorrectly or of incorrect materials shall be replaced before final payment. Final payment will be withheld until such corrections have been accomplished.

3.86 CHANGE ORDERS

(a) The Engineer, in writing, may direct that changes be made in the work to be performed or the materials to be furnished pursuant to the provisions of this contract. A written change order which

causes any increase in the original Contract Price shall include a statement that lawful appropriations have been made sufficient to cover the costs of the change order.

(b) Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change shall be determined by one or more of the following methods:

(1) By unit prices contained in the Contractor's original bid and incorporated in this construction contract;

(2) By a supplemental schedule of prices contained in the Contractor's original bid and incorporated in this construction contract; or by schedule of unit prices approved by Engineer pursuant to Section 3.126 of this Article;

(3) By an acceptable lump sum proposal from the Contractor;

(4) On a cost-plus-limited basis not to exceed a specified limit (defined as the cost of labor, materials, and insurance plus a specified percentage of the cost of such labor, materials, and insurance; provided the specified percentage does not exceed fifteen (15) percent of the aggregate cost of such labor, materials, and insurance and shall in no event exceed a specified limit). Provided, however, that the aggregate payment of all work shall in no case exceed the estimate of the Engineer.

(c) No claims for an addition to the contract sum shall be valid unless authorized in writing as aforesaid.

(d) In cases where a lump sum proposal is submitted by the Contractor in excess of \$500.00 (Five Hundred Dollars) and the Engineer considers the proposal so submitted is excessive or unreasonable for the changes or added work contemplated, the City reserves the right to request a proposal for the same changed items from other contractors. If a proposal for such added work is obtained from other contractors at a lesser amount, the City reserves the right to make an award for such work to another contractor unless the Contractor on this contract agrees to do the added or changed work for the price named by the other contractor.

(e) It shall be expressly understood and hereby agreed to by the Contractor that no claim for extra work will be recognized by the City unless claim for such added work has been filed by the Contractor within ten (10) days after such alleged extra work was performed.

3.87 SIGNIFICANT CHANGES IN CHARACTER OF THE WORK

(a) The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the Contract nor release the surety, and the Contractor agrees to perform the work as altered.

(b) If the alterations or changes in quantities significantly change the character of the work under the Contract, whether such alternations or changes are in themselves significant changes to the character of the work, or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding loss of anticipated profit, will be made to the Contract Price. The basis for adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon for any reason what so ever, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

(c) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the Contract, the altered work will be paid for as provided elsewhere in the Contract.

(d) As used in this section, the term “significant change” shall be construed to apply only to the following circumstances:

(1) When the character of the work as altered differs substantially and materially in kind or nature from that involved or included in the original proposed construction, or

(2) When a major item of work is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed. A major item is defined to be any item having an original contract value in excess of 10 percent of the original contract amount.

3.9 CONTRACTOR'S RIGHT TO TERMINATE

3.91 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work should be stopped under an order of any court, or other public authority, for a period of three (3) months, through no act or fault of the Contractor or of anyone employed by him, or if the Engineer should fail without cause to issue any estimate within thirty (30) days after it is due, then the Contractor may, upon ten (10) days written notice to the City of Pueblo, stop work or terminate the contract and recover from the City payment for all work executed plus any loss sustained upon any plant or material plus reasonable profit and damages.

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**U. S. DEPARTMENT OF COMMERCE ECONOMIC
DEVELOPMENT ADMINISTRATION**



EDA CONTRACTING PROVISIONS FOR CONSTRUCTION PROJECTS

These EDA Contracting Provisions for Construction Projects (EDA Contracting Provisions) are intended for use by recipients receiving federal assistance from the U. S. Department of Commerce - Economic Development Administration (EDA). They contain provisions specific to EDA and other federal provisions not normally found in non-federal contract documents. The requirements contained herein must be incorporated into all construction contracts and subcontracts funded wholly or in part with federal assistance from EDA.

Article 4 – A. EDA Contracting Provisions for Construction Projects

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Article 4 – A. EDA Contracting Provisions for Construction Projects

1. **DEFINITIONS**

Agreement – The written instrument that is evidence of the agreement between the Owner and the Contractor overseeing the Work.

Architect/Engineer - The person or other entity engaged by the Recipient to perform architectural, engineering, design, and other services related to the work as provided for in the contract.

Contract – The entire and integrated written agreement between the Owner and the Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

Contract Documents – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents.

Contractor – The individual or entity with whom the Owner has entered into the Agreement.

Drawings or Plans – That part of the Contract Documents prepared or approved by the Architect/Engineer that graphically shows the scope, extent, and character of the Work to be performed by the Contractor.

EDA - The United States of America acting through the Economic Development Administration of the U.S. Department of Commerce or any other person designated to act on its behalf. EDA has agreed to provide financial assistance to the Owner, which includes assistance in financing the Work to be performed under this Contract. Notwithstanding EDA's role, nothing in this Contract shall be construed to create any contractual relationship between the Contractor and EDA.

Owner – The individual or entity with whom the Contractor has entered into the Agreement and for whom the Work is to be performed.

Project – The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

Recipient – A non-Federal entity receiving a Federal financial assistance award directly from EDA to carry out an activity under an EDA program, including any EDA-approved successor to the entity.

Specifications – That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

Subcontractor – An individual or entity having direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

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Work – The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

2. APPLICABILITY

The Project to which the construction work covered by this Contract pertains is being assisted by the United States of America through federal assistance provided by the U.S. Department of Commerce - Economic Development Administration (EDA). Neither EDA, nor any of its departments, entities, or employees is a party to this Contract. The following EDA Contracting Provisions are included in this Contract and all subcontracts or related instruments pursuant to the provisions applicable to such federal assistance from EDA.

3. FEDERALLY REQUIRED CONTRACT PROVISIONS

(a) All contracts in excess of the simplified acquisition threshold - currently fixed at \$150,000 (*see* 41 U.S.C. §§ 134 and 1908) must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.

(b) All contracts in excess of \$10,000 must address termination for cause and for convenience by the Recipient including the manner by which it will be effected and the basis for settlement.

(c) All construction contracts awarded in excess of \$10,000 by recipients of federal assistance and their contractors or subcontractors shall contain a provision requiring compliance with Executive Order 11246 of September 24, 1965, *Equal Employment Opportunity*, as amended by Executive Order 11375 of October 13, 1967, and Department of Labor implementing regulations at 41 C.F.R. part 60.

(d) All prime construction contracts in excess of \$2,000 awarded by Recipients must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3148) as supplemented by Department of Labor regulations at 29 C.F.R. part 5. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations at 29 C.F.R. part 3.

(e) All contracts awarded by the Recipient in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704 (the Contract Work Hours and Safety Standards Act) as supplemented by Department of Labor regulations at 29 C.F.R. part 5.

(f) All contracts must include EDA requirements and regulations that involve a requirement on the contractor or sub-contractor to report information to EDA, the Recipient or any other federal agency.

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- (g) All contracts must include EDA requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.
- (h) All contracts must include EDA requirements and regulations pertaining to copyrights and rights in data.
- (i) All contracts and subgrants in excess of \$150,000 must contain a provision that requires compliance with all applicable standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. § 7401 *et seq.*) and the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1251 *et seq.*), and Executive Order 11738, *Providing for Administration of the Clean Air Act and the Federal Water Pollution Control Act With Respect to Federal Contracts, Grants, or Loans*.
- (j) Contracts must contain mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201).
- (k) Contracts must contain a provision ensuring that contracts are not to be made to parties on the government wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. part 180.
- (l) Contracts must contain a provision ensure compliance with the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352) under which contractors that apply or bid for an award of \$100,000 or more must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.
- (m) If the Recipient is a state agency or agency of a political subdivision of a state, any contract awarded must contain a provision ensuring compliance with section 6002 of the Solid Waste Disposal Act (42 U.S.C. § 6962), as amended by the Resource Conservation and Recovery Act related to the procurement of recovered materials.

4. REQUIRED PROVISIONS DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion of correction.

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5. INSPECTION BY EDA REPRESENTATIVES

The authorized representatives and agents of EDA shall be permitted to inspect all work, materials, payrolls, personnel records, invoices of materials, and other relevant data and records.

6. EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS

(a) The Owner, EDA, or the Comptroller General of the United States, or any of their duly authorized representatives shall, generally until three years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders that do not exceed \$10,000.

(1) The periods of access and examination in paragraphs (a) and (b) above for records relating to appeals under the disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the Owner, EDA, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

7. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule. The Contractor also shall furnish the Owner (a) a detailed estimate giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only to determine the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

8. CONTRACTOR'S TITLE TO MATERIAL

No materials, supplies, or equipment for the work shall be purchased by the Contractor or by any subcontractor that is subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants and guarantees that he/she has good title to all work, materials, and equipment used by him/her in the Work, free and clear of all liens, claims, or encumbrances.

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9. INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the completion of the Work shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. Materials of construction, particularly those upon which the strength and durability of any structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for intended uses.

10. "OR EQUAL" CLAUSE

Whenever a material, article, or piece of equipment is identified in the Contract Documents by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard. Any material, article, or equipment of other manufacturers and vendors that will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Architect/Engineer, of equal substance and function. However, such substitution material, article, or equipment shall not be purchased or installed by the Contractor without the Architect/Engineer's written approval.

11. PATENT FEES AND ROYALTIES

(a) Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Architect/Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.

(b) To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner and the Architect/Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

12. CLAIMS FOR EXTRA COSTS

No claims for extra work or cost shall be allowed unless the same was done in pursuance of a written order from the Architect/Engineer approved by the Owner.

Article 4 – A. EDA Contracting Provisions for Construction Projects

13. CONTRACTORS AND SUBCONTRACTORS INSURANCE

(a) The Contractor shall not commence work under this Contract until the Contractor has obtained all insurance reasonably required by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her subcontract until the insurance required of the subcontractor has been so obtained and approved.

(b) Types of insurance normally required are:

- (1) Workmen's Compensation
- (2) Contractor's Public Liability and Property Damage
- (3) Contractor's Vehicle Liability
- (4) Subcontractors' Public Liability, Property Damage and Vehicle Liability
- (5) Builder's Risk (Fire and Extended Coverage)

(c) **Scope of Insurance and Special Hazards:** The insurance obtained, which is described above, shall provide adequate protection for the Contractor and his/her subcontractors, respectively, against damage claims that may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him/her and also against any of the special hazards that may be encountered in the performance of this Contract.

(d) **Proof of Carriage of Insurance:** The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of applicable insurance policies.

14. CONTRACT SECURITY BONDS

(a) If the amount of this Contract exceeds \$150,000, the Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and also a payment bond in an amount equal to one hundred percent (100%) of the Contract price or in a penal sum not less than that prescribed by State, Territorial, or local law, as security for the payment of all persons performing labor on the Work under this Contract and furnishing materials in connection with this Contract. The performance bond and the payment bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by EDA. If the amount of this Contract does not exceed \$150,000, the Owner shall specify the amount of the payment and performance bonds.

(b) All bonds shall be in the form prescribed by the Contract Documents except as otherwise provided in applicable laws or regulations, and shall be executed by such sureties as are named in the current list of *Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies* as published in Treasury Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act. Surety companies executing the bonds must also be authorized to transact business in the state where the Work is located.

Article 4 – A. EDA Contracting Provisions for Construction Projects

15. LABOR STANDARDS - DAVIS-BACON AND RELATED ACTS
(as required by section 602 of PWEDA)

(a) Minimum Wages

(1) All laborers and mechanics employed or working upon the site of the Work in the construction or development of the Project 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 issued by the Secretary of Labor under the Copeland Act at 29 C.F.R. part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor, which is attached hereto and made a part hereof, regardless of any contractual relationship that may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 C.F.R. § 5.5(a)(1)(iv); also, 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 29 C.F.R. § 5.5(a)(4). 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. The wage determination (including any additional classification and wage rates determined under 29 C.F.R. § 5.5(a)(1)(ii) and the Davis- Bacon poster (WH-1321) 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.

(2) (i) Any class of laborers or mechanics to be employed under the Contract, but not listed in the wage determination, shall be classified in conformance with the wage determination. EDA shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (A) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (B) The classification is utilized in the area by the construction industry; and
- (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

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(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and EDA or its designee 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 EDA or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and EDA or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), EDA or its designee shall refer the questions, including the views of all interested parties and the recommendation of EDA or its designee, to the Administrator for determination.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(2)(ii) or (iii) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(3) 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as 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.

(b) Withholding

EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor 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 so 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 in the construction or development of the Project, all or part of the wages required by the Contract, EDA or its designee may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the

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suspension of any further payment, advance, or guarantee of funds until such violations have ceased. EDA or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(c) Payrolls and basic records

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the Work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the Work in the construction or development of the Project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of 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. Whenever the Secretary of Labor has found under 29 C.F.R. § 5.5(a)(1)(iv) 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 shall maintain records which show that the commitment to provide such benefits is enforceable, the plan or program is financially responsible, and the plan or program has been communicated in writing to the laborers or mechanics affected, and provide records that show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) For each week in which Contract work is performed, the Contractor shall submit a copy of all payrolls to the Owner for transmission to EDA or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 C.F.R. part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose. It may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402; or downloaded from the U.S. Department of Labor's website at <https://www.dol.gov/whd/forms/wh347.pdf>. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under 29 C.F.R. § 5.5(a)(3)(i) and that such information is correct and complete;

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(B) That each 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 29 C.F.R. part 3; and

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(iii) 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 15(c)(2)(ii) of this section.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of Title 18 and section 3729 of Title 31 of the U.S. Code.

(3) The Contractor or subcontractor shall make the records required under paragraph 15(c)(1) of this section available for inspection, copying, or transcription by authorized representatives of EDA or its designee or the Department of Labor, 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, EDA or its designee may, after written notice to the Contractor or Owner, take such action 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 C.F.R. § 5.12.

(d) **Apprentices and Trainees.**

(1) **Apprentices.** 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 U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training (Bureau), or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or 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. The allowable ratio of apprentices to journeymen 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 worker 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 on 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

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registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor 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's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. 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 journeymen 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 determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. 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 will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) **Trainees.** Except as provided in 29 C.F.R. § 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 that has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman's 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 wage rate on the wage determination which provides for less than full fringe benefits for apprentices. 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. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor 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.

(3) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, *Equal Employment Opportunity*, as amended, and 29 C.F.R. part 30.

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(e) Compliance with Copeland Anti-Kickback Act Requirements. The Contractor shall comply with the Copeland Anti-Kickback Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations (29 C.F.R. part 3, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States”). The Act provides that the Contractor and any subcontractors shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which they are otherwise entitled. The Owner shall report all suspected or reported violations to EDA.

(f) Subcontracts. The Contractor and any subcontractors will insert in any subcontracts the clauses contained in 29 C.F.R. §§ 5.5(a)(1) through (10) and such other clauses as EDA or its designee may require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 C.F.R. § 5.5.

(g) Contract termination; debarment. The breach of the contract clauses in 29 C.F.R. § 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a subcontractor as provided in 29 C.F.R. § 5.12.

(h) Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 C.F.R. parts 1, 3, and 5 are herein incorporated by reference in this contract.

(i) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 C.F.R. parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and EDA or its designee, the U.S. Department of Labor, or the employees or their representatives.

(j) Certification of Eligibility.

(1) By entering into this Contract, the Contractor certifies that neither it nor any person or firm that has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(2) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

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16. **LABOR STANDARDS - CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(a) **Overtime requirements.** No Contractor or subcontractor contracting for any part of the Contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which that person is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(b) **Violation; liability for unpaid wages, liquidated damages.** In the event of any violation of the clause set forth in paragraph (a) of this section, the Contractor and any subcontractor responsible therefore shall be liable for the 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 or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

(c) **Withholding for unpaid wages and liquidated damages.** EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor 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 (b) of this section.

(d) **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (c) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (c) of this section.

17. **EQUAL EMPLOYMENT OPPORTUNITY**

(a) The Recipient hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 C.F.R. chapter 60, which is paid for in whole or in part with funds obtained from EDA, the following equal opportunity clause:

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During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: 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. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by EDA and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

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(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph 17(a)(1) and the provisions of paragraphs 17(a)(1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as EDA or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by EDA or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

(9) The Recipient further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally- assisted construction work. Provided, however, that if the Recipient so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government that does not participate in work on or under the Contract.

(10) The Recipient agrees that it will assist and cooperate actively with EDA and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish EDA and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist EDA in the discharge of the EDA's primary responsibility for securing compliance.

(11) The Recipient further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by EDA or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the Recipient agrees that if it fails or refuses to comply with these undertakings, EDA may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this EDA financial assistance; refrain from

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extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(b) Exemptions to Above Equal Opportunity Clause (41 C.F.R. chapter 60):

(1) Contracts and subcontracts not exceeding \$10,000 (other than Government bills of lading, and other than contracts and subcontracts with depositories of Federal funds in any amount and with financial institutions which are issuing and paying agents for U.S. savings bonds and savings notes) are exempt. The amount of the Contract, rather than the amount of the federal financial assistance, shall govern in determining the applicability of this exemption.

(2) Except in the case of subcontractors for the performance of construction work at the site of construction, the clause shall not be required to be inserted in subcontracts below the second tier.

(3) Contracts and subcontracts not exceeding \$10,000 for standard commercial supplies or raw materials are exempt.

18. CONTRACTING WITH SMALL, MINORITY AND WOMEN'S BUSINESSES

(a) If the Contractor intends to let any subcontracts for a portion of the work, the Contractor shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services.

(b) Affirmative steps shall consist of:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(4) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises;

(5) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies;

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- (6) Requiring each party to a subcontract to take the affirmative steps of this section; and
- (7) The Contractor is encouraged to procure goods and services from labor surplus area firms.

19. HEALTH, SAFETY, AND ACCIDENT PREVENTION

(a) In performing this contract, the Contractor shall:

- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to their health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
- (2) Protect the lives, health, and safety of other persons;
- (3) Prevent damage to property, materials, supplies, and equipment; and
- (4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:

- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 C.F.R. part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701 – 3708); and
- (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this Contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 C.F.R. part 1904.

(d) The Owner shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the Work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as EDA, or the Secretary of Labor shall direct as a means of enforcing such provisions.

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20. CONFLICT OF INTEREST AND OTHER PROHIBITED INTERESTS

(a) No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof.

(b) No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

(c) The Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the Contract Documents has a corporate or financial affiliation with the supplier or manufacturer.

(d) The Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, may be involved. Such a conflict may arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in the Contractor. The Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors, or anything of monetary value from the Contractor or subcontractors.

(e) If the Owner finds after a notice and hearing that the Contractor, or any of the Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the Owner or EDA in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, the Owner may, by written notice to the Contractor, terminate this Contract. The Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which the Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

(f) In the event this Contract is terminated as provided in paragraph (e) of this section, the Owner may pursue the same remedies against the Contractor as it could pursue in the event of a breach of this Contract by the Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, the Owner may pursue exemplary damages in an amount (as determined by the Owner) which shall not be less than three nor more than ten times the costs the Contractor incurs in providing any such gratuities to any such officer or employee.

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21. RESTRICTIONS ON LOBBYING

(a) This Contract, or subcontract is subject to 31 U.S.C. § 1352, regarding lobbying restrictions. The section is explained in the common rule, 15 C.F.R. part 28 (55 FR 6736-6748, February 26, 1990). Each bidder under this Contract or subcontract is generally prohibited from using federal funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with this EDA Award.

(b) **Contract Clause Threshold:** This Contract Clause regarding lobbying must be included in each bid for a contract or subcontract exceeding \$100,000 of federal funds at any tier under the EDA Award.

(c) **Certification and Disclosure:** Each bidder of a contract or subcontract exceeding \$100,000 of federal funds at any tier under the federal Award must file Form CD-512, *Certification Regarding Lobbying – Lower Tier Covered Transactions*, and, if applicable, Standard Form- LLL, *Disclosure of Lobbying Activities*, regarding the use of any nonfederal funds for lobbying. Certifications shall be retained by the Contractor or subcontractor at the next higher tier. All disclosure forms, however, shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(d) **Continuing Disclosure Requirement:** Each Contractor or subcontractor that is subject to the Certification and Disclosure provision of this Contract Clause is required to file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person. Disclosure forms shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(e) **Indian Tribes, Tribal Organizations, or Other Indian Organizations:** Indian tribes, tribal organizations, or any other Indian organizations, including Alaskan Native organizations, are excluded from the above lobbying restrictions and reporting requirements, but only with respect to expenditures that are by such tribes or organizations for lobbying activities permitted by other federal law. An Indian tribe or organization that is seeking an exclusion from Certification and Disclosure requirements must provide EDA with the citation of the provision or provisions of federal law upon which it relies to conduct lobbying activities that would otherwise be subject to the prohibitions in and to the Certification and Disclosure requirements of 31 U.S.C. § 1352, preferably through an attorney's opinion. Note, also, that a non-Indian subrecipient, contractor, or subcontractor under an award to an Indian tribe, for example, is subject to the restrictions and reporting requirements.

Article 4 – A. EDA Contracting Provisions for Construction Projects

22. HISTORICAL AND ARCHAEOLOGICAL DATA PRESERVATION

The Contractor agrees to facilitate the preservation and enhancement of structures and objects of historical, architectural or archaeological significance and when such items are found and/or unearthed during the course of project construction. Any excavation by the Contractor that uncovers an historical or archaeological artifact shall be immediately reported to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the State Historic Preservation Officer (SHPO) for recovery of the items. See the National Historic Preservation Act of 1966 (54 U.S.C. § 300101 *et seq.*, formerly at 16 U.S.C. § 470 *et seq.*) and Executive Order No. 11593 of May 31, 1971.

23. CLEAN AIR AND WATER

Applicable to Contracts in Excess of \$150,000

(a) **Definition.** “Facility” means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by the Contractor or any subcontractor, used in the performance of the Contract or any subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the United States Environmental Protection Agency (EPA) determines that independent facilities are collocated in one geographical area.

(b) In compliance with regulations issued by the EPA, 2 C.F.R. part 1532, pursuant to the Clean Air Act, as amended (42 U.S.C. § 7401 *et seq.*); the Federal Water Pollution Control Act, as amended (33 U.S.C. § 1251 *et seq.*); and Executive Order 11738, the Contractor agrees to:

- (1) Not utilize any facility in the performance of this contract or any subcontract which is listed on the Excluded Parties List System, part of the System for Award Management (SAM), pursuant to 2 C.F.R. part 1532 for the duration of time that the facility remains on the list;
- (2) Promptly notify the Owner if a facility the Contractor intends to use in the performance of this contract is on the Excluded Parties List System or the Contractor knows that it has been recommended to be placed on the List;
- (3) Comply with all requirements of the Clean Air Act and the Federal Water Pollution Control Act, including the requirements of section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, and all applicable clean air and clean water standards; and
- (4) Include or cause to be included the provisions of this clause in every subcontract and take such action as EDA may direct as a means of enforcing such provisions.

Article 4 – A. EDA Contracting Provisions for Construction Projects

24. USE OF LEAD-BASED PAINTS ON RESIDENTIAL STRUCTURES

(a) If the work under this Contract involves construction or rehabilitation of residential structures over \$5,000, the Contractor shall comply with the Lead-based Paint Poisoning Prevention Act (42 U.S.C. § 4831). The Contractor shall assure that paint or other surface coatings used in a residential property does not contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight. For purposes of this section, “residential property” means a dwelling unit, common areas, building exterior surfaces, and any surrounding land, including outbuildings, fences and play equipment affixed to the land, belonging to an owner and available for use by residents, but not including land used for agricultural, commercial, industrial or other non-residential purposes, and not including paint on the pavement of parking lots, garages, or roadways.

(b) As a condition to receiving assistance under PWEDA, recipients shall assure that the restriction against the use of lead-based paint is included in all contracts and subcontracts involving the use of federal funds.

25. ENERGY EFFICIENCY

The Contractor shall comply with all standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201) for the State in which the Work under the Contract is performed.

26. ENVIRONMENTAL REQUIREMENTS

When constructing a Project involving trenching and/or other related earth excavations, the Contractor shall comply with the following environmental constraints:

- (1) **Wetlands.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert wetlands.
- (2) **Floodplains.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency (FEMA) Floodplain Maps, or other appropriate maps, i.e., alluvial soils on Natural Resource Conservation Service (NRCS) Soil Survey Maps.
- (3) **Endangered Species.** The Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of the Contractor, the Contractor will immediately report this evidence to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the U.S. Fish and Wildlife Service.

Article 4 – A. EDA Contracting Provisions for Construction Projects

27. DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSIONS

As required by Executive Orders 12549 and 12689, *Debarment and Suspension*, 2 C.F.R. Part 180 and implemented by the Department of Commerce at 2 C.F.R. part 1326, for prospective participants in lower tier covered transactions (except subcontracts for goods or services under the \$25,000 small purchase threshold unless the subrecipient will have a critical influence on or substantive control over the award), the Contractor agrees that:

- (1) By entering into this Contract, the Contractor and subcontractors certify, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Contract by any federal department or agency.
- (2) Where the Contractor or subcontractors are unable to certify to any of the statements in this certification, the Contractor or subcontractors shall attach an explanation to this bid.

See also 2 C.F.R. part 180 and 2 C.F.R. § 200.342.

28. EDA PROJECT SIGN

The Contractor shall supply, erect, and maintain in good condition a Project sign according to the specifications provided by EDA. To the extent practical, the sign should be a free standing sign. Project signs shall not be located on public highway rights-of-way. Location and height of signs will be coordinated with the local agency responsible for highway or street safety in the Project area, if any possibility exists for obstructing vehicular traffic line of sight. Whenever the EDA site sign specifications conflict with State law or local ordinances, the EDA Regional Director will permit such conflicting specifications to be modified so as to comply with State law or local ordinance.

29. BUY AMERICA

To the greatest extent practicable, recipients are encouraged to purchase American-made equipment and products with funding provided under EDA financial assistance awards.

Article 4 – B. EDA Construction Site Sign Specifications

EDA PROJECT SIGN

The Contractor shall supply, erect, and maintain in good condition a project sign according to the specifications set forth below:

EDA SITE SIGN SPECIFICATIONS

Size: 4' x 8' x 3/4"

Materials: Exterior grade/MDO plywood (APA rating A-B)

Supports: 4" x 4" 12' posts with 2" x 4" cross branching

Erection: Posts shall be set a minimum of three feet deep in concrete footings that are at least 12" in diameter.

Paint: Outdoor enamel

Colors: Jet Black, Blue (PMS300), and Gold (PMS7406). Specifically, on white background the following will be placed:

The U. S. Department of Commerce seal in blue, black, and gold;

“EDA” in blue;

“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT

ADMINISTRATION” in black;

“In partnership with” in blue;

(Actual name of the) “EDA Grant Recipient” in black;

Lettering: Specific fonts are named below; positioning will be as shown on the attached illustration.

“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT

ADMINISTRATION” use Bank Gothic Medium - **BANK GOTHIC MED**

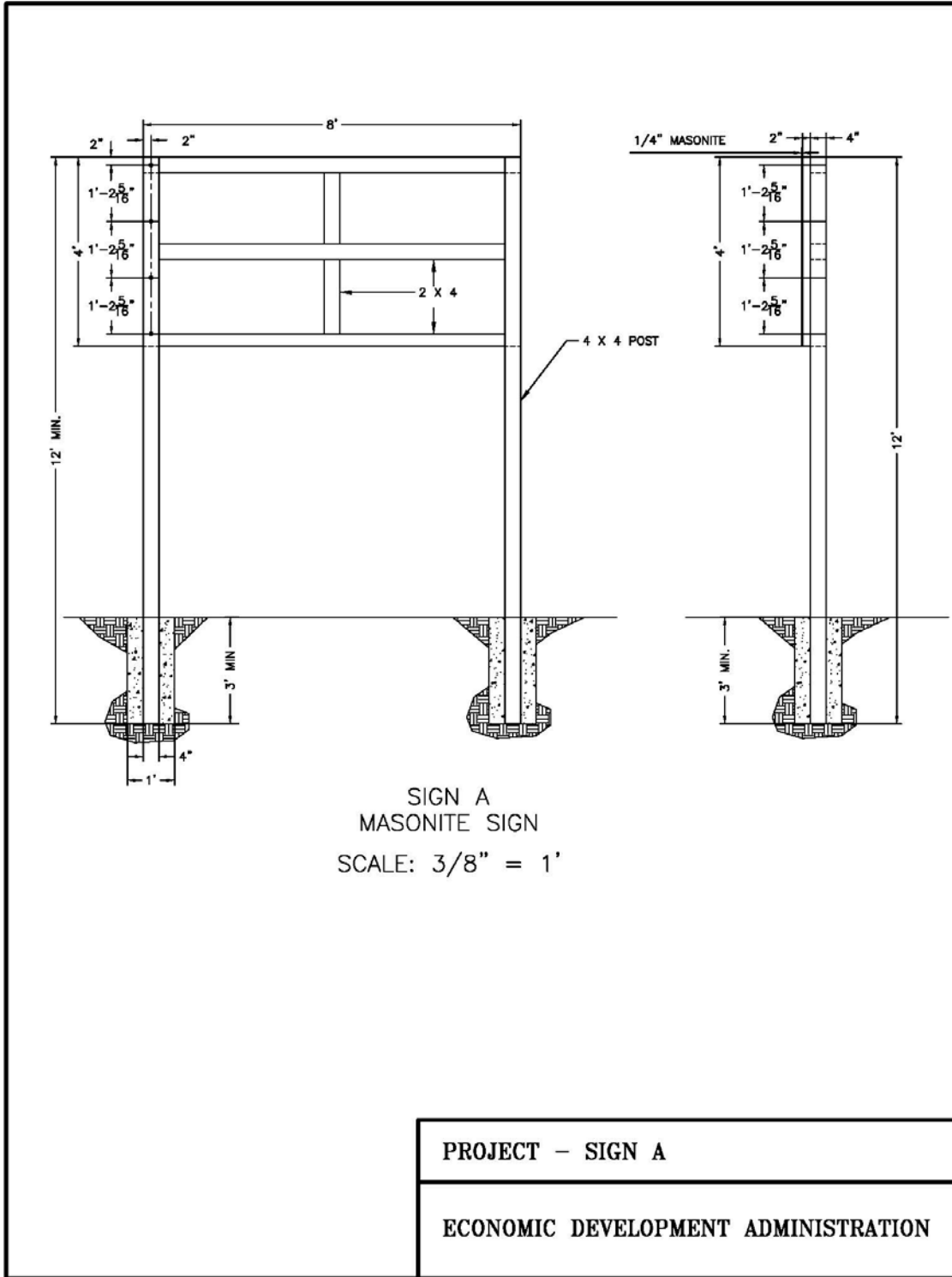
“In partnership with” use Univers™ 55 Oblique - *Univers 55*

(Name of) “EDA Grant Recipient” use Univers™ ExtraBlack 85 **Univers 85**

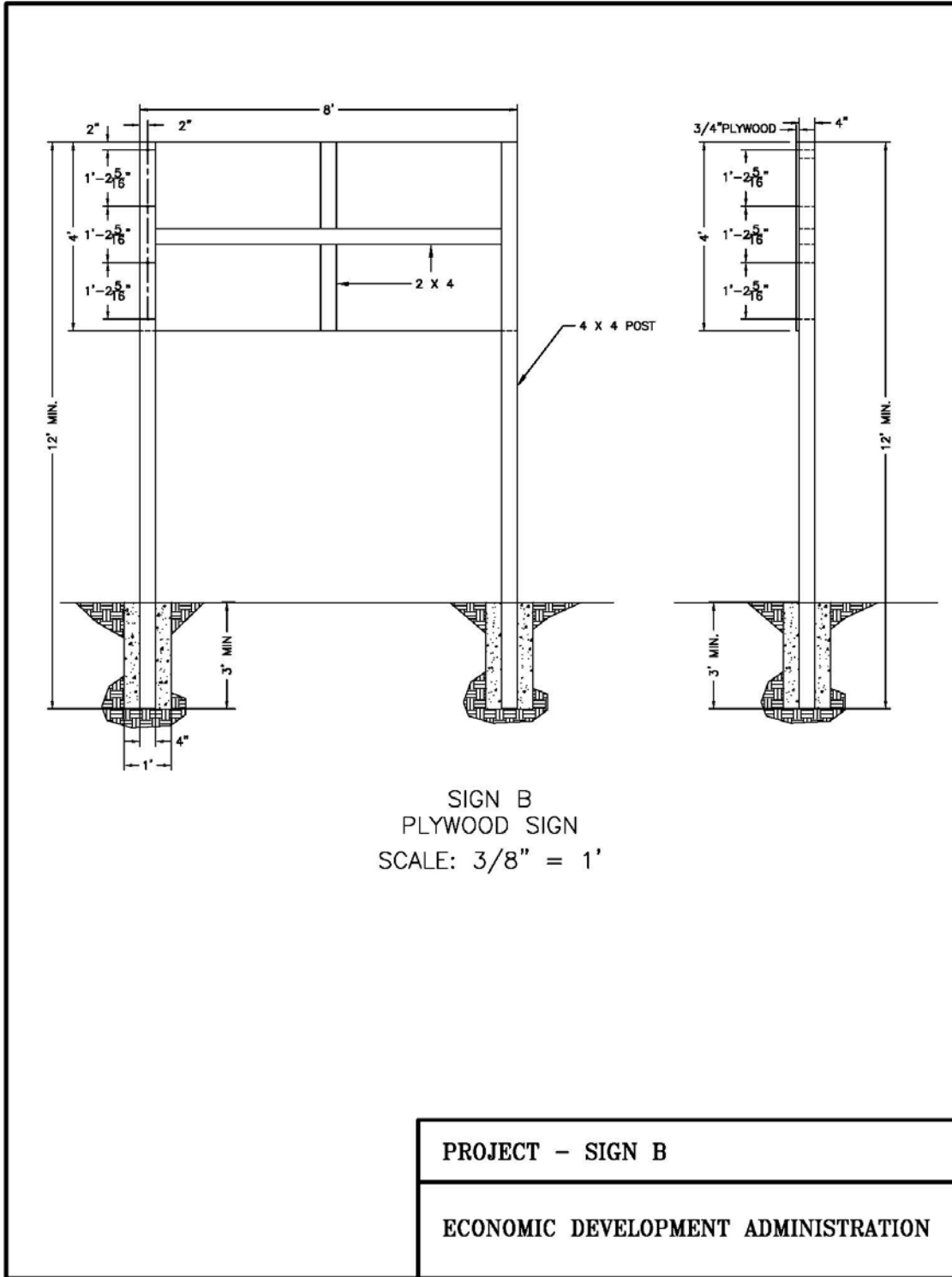
Project signs will not be erected on public highway rights-of-way. If any possibility exists for obstruction to traffic line of sight, the location and height of the sign will be coordinated with the agency responsible for highway or street safety in the area.

The EDA Regional Director may permit modifications to these specifications if they conflict with state law or local ordinances.

Article 4 – B. EDA Construction Site Sign Specifications



Article 4 – B. EDA Construction Site Sign Specifications



Article 4 – B. EDA Construction Site Sign Specifications



EDA

U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION

In partnership with

<EDA Grant Recipient Name>

Article 4 – B. EDA Construction Site Sign Specifications



Article 4 – C. Davis-Bacon Wage Rates

General Decision Number: CO180018 02/02/2018 CO18

Superseded General Decision Number: CO20170018

State: Colorado

Construction Type: Highway

Counties: El Paso, Pueblo and Teller Counties in Colorado.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	02/02/2018

ELEC0012-009 10/01/2017

PUEBLO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 28.15	12.04

* ELEC0113-009 01/01/2018

EL PASO AND TELLER COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 31.00	15.48

ENGI0009-009 05/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
(3)-Drill Rig Caisson (smaller than Watson 2500 and similar).....	\$ 27.60	10.10
(4)-Crane (50 tons and under).....	\$ 27.75	10.10
(5)-Drill Rig Caisson		

Article 4 – C. Davis-Bacon Wage Rates

(Watson 2500 similar or larger), Crane (51-90 tons).....	\$ 27.92	10.10
(6)-Crane (91-140 tons).....	\$ 28.55	10.10

SUCO2011-003 09/15/2011

	Rates	Fringes
CARPENTER		
Excludes Form Work.....	\$ 24.15	6.25
Form Work Only		
El Paso, Teller.....	\$ 19.06	5.84
Pueblo.....	\$ 19.00	5.88
CEMENT MASON/CONCRETE FINISHER		
El Paso, Teller.....	\$ 17.36	3.00
Pueblo.....	\$ 17.74	3.00
FENCE ERECTOR.....	\$ 13.02	3.20
GUARDRAIL INSTALLER.....	\$ 12.89	3.20
HIGHWAY/PARKING LOT STRIPING:Painter.....		
	\$ 12.62	3.21
IRONWORKER, REINFORCING (Excludes Guardrail Installation)		
El Paso, Teller.....	\$ 20.49	1.65
Pueblo.....	\$ 16.69	5.45
IRONWORKER, STRUCTURAL (Excludes Guardrail Installation).....		
	\$ 18.22	6.01
LABORER		
Asphalt Raker.....	\$ 17.54	3.16
Asphalt Shoveler.....	\$ 21.21	4.25
Asphalt Spreader.....	\$ 18.58	4.65
Common or General		
El Paso.....	\$ 17.05	3.69
Pueblo.....	\$ 16.29	4.25
Teller.....	\$ 16.88	3.61
Concrete Saw (Hand Held)....	\$ 16.29	6.14
Landscape and Irrigation....	\$ 12.26	3.16
Mason Tender-		
Cement/Concrete.....	\$ 16.29	4.25
Pipelayer.....	\$ 18.72	3.24
Traffic Control (Flagger)....	\$ 9.55	3.05
Traffic Control (Sets Up/Moves Barrels, Cones, Install Signs, Arrow Boards and Place Stationary Flags)(Excludes Flaggers).....	\$ 12.43	3.22
PAINTER (Spray Only).....	\$ 16.99	2.87
POWER EQUIPMENT OPERATOR:		
Asphalt Laydown.....	\$ 22.67	8.72
Asphalt Paver.....	\$ 21.50	3.50
Asphalt Roller		
El Paso.....	\$ 24.42	6.96

Article 4 – C. Davis-Bacon Wage Rates

Pueblo.....	\$ 23.67	9.22
Teller.....	\$ 24.42	6.96
Asphalt Spreader.....	\$ 22.67	8.72
Backhoe/Trackhoe		
El Paso.....	\$ 23.31	5.61
Pueblo.....	\$ 21.82	8.22
Teller.....	\$ 23.32	5.50
Bobcat/Skid Loader.....	\$ 15.37	4.28
Boom.....	\$ 22.67	8.72
Broom/Sweeper		
El Paso, Teller.....	\$ 23.43	8.04
Pueblo.....	\$ 23.47	9.22
Bulldozer		
El Paso.....	\$ 26.56	7.40
Pueblo, Teller.....	\$ 26.11	6.92
Drill.....	\$ 17.59	3.45
Forklift.....	\$ 15.91	4.68
Grader/Blade		
El Paso.....	\$ 22.83	8.72
Pueblo.....	\$ 23.25	6.98
Teller.....	\$ 23.22	8.72
Guardrail/Post Driver.....	\$ 16.07	4.41
Loader (Front End)		
El Paso.....	\$ 23.61	7.79
Pueblo.....	\$ 21.67	8.22
Teller.....	\$ 23.50	7.64
Mechanic		
El Paso.....	\$ 22.35	6.36
Pueblo.....	\$ 24.02	8.43
Teller.....	\$ 22.16	6.17
Oiler		
El Paso.....	\$ 23.29	7.48
Pueblo.....	\$ 23.13	7.01
Teller.....	\$ 22.68	7.11
Roller/Compactor (Dirt and Grade Compaction)		
El Paso.....	\$ 16.70	3.30
Pueblo, Teller.....	\$ 18.43	4.62
Rotomill.....	\$ 16.22	4.41
Scraper.....	\$ 24.28	4.83
Screed		
El Paso, Teller.....	\$ 25.22	5.74
Pueblo.....	\$ 23.67	9.22
Tractor.....	\$ 13.13	2.95
TRUCK DRIVER		
Distributor		
El Paso, Teller.....	\$ 17.98	3.97
Pueblo.....	\$ 18.35	3.85
Dump Truck		
El Paso, Teller.....	\$ 16.85	4.83
Pueblo.....	\$ 16.87	4.79
Lowboy Truck.....	\$ 17.25	5.27
Mechanic.....	\$ 26.69	3.50
Multi-Purpose Specialty & Hoisting Truck.....		
Pickup and Pilot Car.....	\$ 13.93	3.68
Semi/Trailer Truck.....	\$ 16.00	2.60
Truck Mounted Attenuator....	\$ 12.43	3.22
Water Truck		

Article 4 – C. Davis-Bacon Wage Rates

El Paso.....	\$ 17.24	4.15
Pueblo.....	\$ 20.93	4.98
Teller.....	\$ 17.31	4.07

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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 (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey.

Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is

Article 4 – C. Davis-Bacon Wage Rates

derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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

Article 4 – C. Davis-Bacon Wage Rates

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, DC 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, DC 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, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Article 4 – D. Requirements for Affirmative Action (EEO)

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246 AND 41 CFR PART 60-4)

The following Notice shall be included in, and shall be a part of all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000.

The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for 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 for each trade
	27.5%	6.9%

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. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 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 its 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 its 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.

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.

As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is:

State of Colorado
County of Pueblo
City of Pueblo

Article 4 – E. Lobbying Certification and Restriction Form (CD-512)

FORM CD-512
(REV 12-04)

U.S. DEPARTMENT OF COMMERCE

**CERTIFICATION REGARDING LOBBYING
LOWER TIER COVERED TRANSACTIONS**

Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that

(1) 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 agency, 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.

(2) 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 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.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

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 section 1352, title 31, U.S. Code. 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 occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT

AWARD NUMBER AND/OR PROJECT NAME

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

SIGNATURE

DATE

ARTICLE 5 – TECHNICAL SPECIFICATIONS

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 011100

SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and Contract Documents.

1.02 PROJECT DESCRIPTION:

- A. The major elements of the project are described as follows:
 - 1. Demolition and removal of the existing site construction and surface elements as indicated on the Demolition Plan that is included with the construction drawings. The required project demolition will change depending on the bid alternatives that are accepted (if any).
 - 2. Concrete Plaza Paving as indicated on the Construction Drawings.
 - 3. Cast-in-Place Concrete planters, retaining walls, seat walls, stairs, and planter curbs as indicated on the Construction Drawings.
 - 4. Site furnishings including trash receptacles, benches, tables, chairs, tree grates, and project lighting as shown on the Construction Drawings.
 - 5. An ornamental metal railing at the back of the overlook retaining wall.
 - 6. Plantings as shown on the construction drawings.
 - 7. Irrigation systems as shown on the construction drawings to support the plantings that are included in the project.

1.03 CONTRACTOR USE OF PREMISES:

- A. Confine operations on the site to the areas within the construction limits and staging areas indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
- B. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials to areas within the construction limits and staging areas.
- C. The Contractor shall gain access to the project area from the existing public streets that intersect Central Main Street or S. Santa Fe Avenue.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

END OF SECTION 011100

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SECTION 012200

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION:

A. GENERAL:

1. All measurements and payments will be based on work completed in strict accordance with the plans and specifications for the project.
2. The method of measurement and basis of payment described are for work itemized in the Proposal Form and in the sections of the specifications. Items may include work within a single section or in more than one section. Where relevant, the primary section is referenced below the item number.
3. This section supersedes all measurement and payment descriptions appearing elsewhere in these specifications and referenced documents.
4. For the purpose of this specification, the term "original contract amount" shall mean the amount bid or negotiated prior to award for the relevant construction item on the Bid Schedule.

B. MEASUREMENT:

1. Unless otherwise specified, all longitudinal measurements will be made horizontally, and computations will be based on the dimensions shown on drawings and details.
2. Quantities with a nominal value of 10 or more will be rounded off to the nearest whole number. Quantities with a nominal value less than 10 may be rounded off to the nearest tenth.

C. PAYMENT:

1. Unit bid prices, as quoted in the Proposal Form, shall constitute full compensation for labor, materials, equipment, rentals, overhead, profit, and incidentals to complete all work for each pay item; and for all risk, loss, damage, or expense of whatever nature arising from the nature of the work or the prosecution thereof.
2. Work or materials that are essential to the work, but for which there are no pay items, will not be measured or paid separately, but shall be included in other items of work. All requirements of Division I such as project coordination and preparation of submittals for which there is no specific bid item shall be considered incidental to other bid items.

1.02 EDA-FUNDED BID ITEMS:

BID ITEM E-C-1 -- MOBILIZATION

- A. Measurement: Payment for Mobilization shall be as a lump sum item.
- B. Payment: Payment for Mobilization shall include the mobilization of personnel, equipment, and supplies at the project site in preparation for work on the project. This item shall also include the establishment and maintenance for the duration of the Contract of the Contractor's sanitary facilities, protective fencing and barricades not included elsewhere,

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other necessary facilities, and all other costs incurred for labor and operations which must be performed prior to beginning the other items under Contract. The Contractor may maintain a field office for the duration of construction. The cost of providing a field office as detailed in the Technical Specifications will be considered incidental to the cost of Mobilization. This item also includes provision of required bonds, insurance, preparation of the Project Schedule and shop drawings, and demobilization. Partial payments for Mobilization will be made as the work progresses.

- C. Partial payments for Mobilization shall adhere to the following schedule:
1. At the first monthly pay draw, 50% of the bid amount for Mobilization will be paid.
 2. When 50% of the original contract amount is earned, a further 30% of the amount bid for this item will be paid.
 3. At the last monthly pay draw, 20% of the bid amount for Mobilization will be paid.

BID ITEM E-C-2 -- TRAFFIC CONTROL

- A. Measurement: Traffic Control shall be paid as a lump sum item.
- B. Payment: Payment for this bid item shall include all labor, equipment and materials necessary to provide adequate traffic and pedestrian control in accordance with the Manual on Uniform Traffic Control Devices and the requirements of City of Pueblo, HARP Authority as set forth in these Contract Documents. Regardless whether or not the Contractor actually performed any work associated with Traffic Control in any one month, the Contractor shall still receive a payment for Traffic Control according to the following schedule:
1. When 25% of the original contract amount is earned, 1/3 of the bid amount will be paid.
 2. When 50% of the original contract amount is earned, another 1/3 of the bid amount will be paid.
 3. When 75% of the original contract amount is earned, the final 1/3 of the bid amount will be paid.

BID ITEM E-C-3 -- RIGHT OF WAY RESTORATION

- A. Measurement: Right-of-Way Restoration shall be paid as a lump sum item.
- B. Payment: Payment for this bid item shall include all labor, equipment and materials necessary to repair, to a condition prior to construction, those areas of the project, construction easement, access and haul routes, permanent right-of-way and all adjacent area which are altered in some way or form during construction. This work shall include but not necessarily be limited to the following items not included elsewhere: replacement of any asphalt and base course, concrete paving, curb and gutter, fences, gates, trees, native grass, landscaping, sod, irrigation lines, riprap, grouted rock, drainage pans, swales, pipelines, culverts, and any other items damaged during construction and not covered under another bid item.

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BID ITEM E-C-4 -- SITE PREPARATION (DEMOLITION)

- A. Measurement: Site Preparation (Demolition) shall be paid as a lump sum item.
- B. Payment: Payment for this bid item shall include demolition, cleanup, and disposal of any concrete or asphalt streets and sidewalk, existing trails, pads and foundations, and structures not covered by other demolition bid items. Partial payment will be made based on the estimated percentage of demolition approved by the Owner that has been actually completed.

BID ITEM E-C-5 -- TEMPORARY WATER AND EROSION CONTROL

- A. Measurement: Control of water and erosion shall be paid as a lump sum item, regardless of the amount of water, frequency of flooding, erosion control measures implemented, facilities constructed, or damage caused by flooding.
- B. Payment: Payment for this bid item shall include all earthwork, well installation and materials, pumps and associated energy costs, sediment control means and devices, inlets, pipes, temporary culverts, check dams, and all other material, equipment and operations necessary for control of all ground, surface, and irrigation water. This bid item specifically includes installation of all erosion control measures required by the contract documents and removal of erosion control measures when the project is complete. Partial payments for Control of Water and Erosion will be made as the work progresses. These partial payments will be made as follows:
 - 1. When 25% of the original contract amount is earned, 1/3 of the bid amount will be paid.
 - 2. When 50% of the original contract amount is earned, another 1/3 of the bid amount will be paid.
 - 3. When 75% of the original contract amount is earned, the final 1/3 of the bid amount will be paid.

BID ITEM E-C-6 -- EARTHWORK IMPORT (COMPLETE IN PLACE)

- A. Measurement: The quantity of Earthwork Import (Complete in Place) shall not be measured but shall be the quantities designated in the Contract Documents per cubic yard. The total volume in cubic yards from the existing grade to the finished grade or subgrade in areas to receive riprap, paving, or other structural surface treatment as shown on the plans. The contract document quantities are based on a composite volume comparison of the existing terrain and the proposed finished grade or subgrade. No measurement for payment will be made for excavation such as structural, culvert and pipe excavation, and for the excavation of any materials which are classified as material to be removed under clearing and grubbing, topsoil, or demolition paid under other items of the Specifications. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies on the plans in an amount of at least plus or minus five percent of the plan cubic yardage quantity.

Earthwork Import (Complete in Place) shall be in accordance with Article 9 Earthwork, of the Standard Construction Specifications for City of Pueblo.

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- B. Payment: The unit price bid per cubic yard for Earthwork Import (Complete in Place) shall include all the Contractor's costs of whatsoever nature to perform the placement to the finished grade or subgrade as shown on the Drawings. The bid price shall include excavation and placement of this material in embankment construction and filling operations or hauling off-site; stockpiling (if necessary); disposal of debris; density and moisture control; safety measures; and all other related and necessary materials work and equipment required to perform the excavation in accordance with the Drawings and Specifications.

BID ITEM E-C-7 -- AGGREGATE BASE COURSE (8" DEPTH)

- A. Measurement: Measurement shall be made of the number of square yards of Aggregate Base Course (8" Depth) placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.

Aggregate Base Course (8" Depth) shall be in accordance with Article 8 of the Standard Construction Specifications for City of Pueblo.

- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of the Aggregate Base Course, labor, material, equipment, hauling, subgrade preparation, patching, compaction, and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-8 -- ASPHALT PAVING (4" WITH GEOGRID)

- A. Measurement: This work generally consists of the construction of a 2" top mat over 2" base mat placed over 8" of compacted base material and Geogrid, complete and in place. The asphalt paving for the 2" base mat shall meet CDOT Standards for HMA (Grading S). The asphalt paving for the 2" top mat shall meet CDOT Standards for HMA (Grading SX). Measurement shall be made of the number of square yards of asphalt pavement placed and accepted at the location and depth shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. The Geogrid shall not be measured but will be considered incidental to the placement of the aggregate base and pavement.

Asphalt Paving (4" with Geogrid) construction specifications shall be in accordance with Article 10 of the Standard Construction Specifications for the City of Pueblo and with Section 403 of the CDOT Standard Specifications for Road and Bridge Construction.

- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of asphalt, subgrade preparation, patching, compaction, and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Plans and Specifications.

BID ITEM E-C-9 -- 7" 4,000 PSI CONCRETE PAVING WITH FIBERMESH ON 4" ABC

- A. Measurement: Measurement shall be made of the actual number of square yards of 7" thick 4,000 PSI Concrete Paving With Fibermesh on 4" ABC placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.

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7” thick 4,000 PSI Concrete Paving construction specifications shall be in accordance with Article 4 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit price bid per square yard and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-10 -- 12” RIBBON CURB W/ 6” CLASS VI BASE COURSE

- A. Measurement: Measurement for this item shall be the number of lineal feet as measured along the face of the 12” Ribbon Curb w/ 6” Class VI Base Course and accepted at the location shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Specifications.

12” Ribbon Curb construction specifications shall be in accordance with Article 5 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit bid price and shall include full compensation for all labor, equipment, tools, materials and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. The excavation, backfill and compaction necessary to construct the curb shall be considered incidental to the cost of this bid item.

BID ITEM E-C-11 -- TYPE 2 VERTICAL CURB W/ 6” CLASS VI BASE COURSE

- A. Measurement: Measurement for this item shall be the number of lineal feet as measured along the face of the Type 2 Vertical Curb w/ 6” Class VI Base Course and accepted at the location shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Specifications.

Type 2 Vertical Curb construction specifications shall be in accordance with Article 5 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit bid price and shall include full compensation for all labor, equipment, tools, materials and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. The excavation, backfill and compaction necessary to construct the curb shall be considered incidental to the cost of this bid item.

BID ITEM E-C-12 -- 6” MEDIAN CURB W/ 6” CLASS VI BASE COURSE

- A. Measurement: Measurement for this item shall be the number of lineal feet as measured along the face of the 6” Median Curb w/ 6” Class VI Base Course and accepted at the location shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Specifications.

6” Median Curb construction specifications shall be in accordance with Article 5 of the Standard Construction Specifications for the City of Pueblo.

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- B. Payment: Payment shall be made at the unit bid price and shall include full compensation for all labor, equipment, tools, materials and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. The excavation, backfill and compaction necessary to construct the curb shall be considered incidental to the cost of this bid item.

BID ITEM E-C-13 -- STANDARD CITY of PUEBLO PEDESTRIAN RAMPS

- A. Measurement: Measurement shall be made of the actual number of Standard City of Pueblo Pedestrian Ramps placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.

Standard City of Pueblo Pedestrian Ramps construction specifications shall be in accordance with Article 16 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of materials, formwork, fibermesh reinforcing, truncated domes, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-14 -- ADJUST RIM ELEVATION FIBER OPTIC BOX, STORM & SEWER MANHOLES

- A. Measurement: Adjust Rim Elevation Fiber Optic Box, Storm & Sewer Manholes shall be paid as a lump sum item.

Storm & Sewer Manhole construction specifications shall be in accordance with Article 11.3.18 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit price bid and shall include but not limited to: furnishing and installation of materials, excavation, bedding, backfill, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-15 -- 6' x 8'-4" SPECIAL REINFORCED AREA INLET W/ 30" PEDESTRIAN GRATE

- A. Measurement: The quantity to be paid shall be the actual number of 6' x 8'-4" Special Reinforced Area Inlet w/ 30" Pedestrian Grate at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications. If the Contractor places excess material, due to over-excavation, incorrect installation of forms, or misinterpretation of the plans and specifications, no additional measurement will be made, unless previously agreed in writing by the Owner.

6' x 8'-4" Special Reinforced Area Inlet w/ 30" Pedestrian Grate construction specifications shall be in accordance with Article 13 Storm Sewers of the Standard Construction Specifications for the City of Pueblo.

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- B. Payment: Payment for these bid items shall include structure excavation, disposal or reuse of excavated material as required, structure backfill, backfill, transitional grading, dewatering, purchase and delivery of reinforcing steel, bending, placing, tie wire, chairs and other miscellaneous items to aid in placement and fastening of the reinforcing steel, purchase and transport of the concrete to the site, purchase of forms, forming and form removal, crack control joints, purchase of concrete, placement and compaction of the concrete, purchase and installation of all embedded items, finishing of formed surfaces, concrete curing, and all other work, materials, equipment and workmanship required to construct this structure to the dimensions and grades shown on the plans. Provide for cold weather placement or hot weather placement of concrete as required and outlined in Division 3, Concrete and in Section 01510. Concrete finish shall be as outlined in Division 3, Concrete.

BID ITEM E-C-16 -- PRECAST STORM MANHOLE TYPE 1-B

- A. Measurement: Measurement shall be made of the actual number of Precast Storm Manhole Type 1-B placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications. Precast Storm Manhole Type 1-B shall be in accordance with City of Pueblo Storm Manholes Detail Sheet SD15.

Precast Storm Manhole Type 1-B construction specifications shall be in accordance with Article 13 Storm Sewers of the Standard Construction Specifications for the City of Pueblo

- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications. Bolt-on manhole lids will not be paid for separately but shall be included as a part of the work at manhole locations which require such a lid as shown on the construction plans.

BID ITEM E-C-17 -- 12" AREA DRAIN BASIN W/ (INLET/SOLID) COVER

- A. Measurement: Measurement shall be made of the actual number of 12" Area Drain Basins w/ (Inlet/Solid) Covers placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-18 -- 12" AREA DRAIN BASIN W/ PEDESTRIAN GRATE

- A. Measurement: Measurement shall be made of the actual number of 12" Drain Basins w/ Pedestrian Grate placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.

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- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-19 -- 6” TRENCH DRAIN WITH SLOTTED COVER

- A. Measurement: Measurement shall be made of the actual number of lineal feet measured horizontally of 6” Trench Drain with Slotted Cover placed and accepted at the locations shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-20 -- 6’ TYPE S PRECAST STORM DRAIN INLET

- A. Measurement: Measurement shall be made of the actual number of 6’ Type S Precast Storm Drain Inlet placed and accepted at the locations shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Plans and Specifications. 6’ Type S Precast Storm Drain Inlet shall be in accordance with City of Pueblo Cast -In-Place Type “S” Inlet Detail Sheet SD13.1.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-21 -- 8’ WATER QUALITY INLET

- A. Measurement: Measurement shall be made of the actual number of 8’ Water Quality Inlets placed and accepted at the locations shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM E-C-22 -- CDOT TYPE C INLET

- A. Measurement: Measurement shall be made of the actual number of CDOT Type C Inlets placed and accepted at the locations shown on the Drawings or as directed by the Owner’s Representative, and in accordance with the Plans and Specifications. CDOT Type C Inlet shall be in accordance with Section 604 of the Colorado Department of Transportation Standard Specifications, and with the Revision to Section 604 – Manholes, Inlets, and Meter Vaults.
- B. Payment: Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to

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complete the work. Payment for CDOT Type C Inlet shall include excavation, backfill, grates, subdrain connections, and inlet ditch paving.

BID ITEM E-C-23 -- 12” HDPE PIPE

- A. Measurement: The quantity to be paid shall be the actual number of lineal feet measured horizontally of 12” HDPE Pipe installed in accordance with Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM E-C-24 -- 18” HDPE PIPE

- A. Measurement: The quantity to be paid shall be the actual number of lineal feet measured horizontally of 18” HDPE Pipe installed in accordance with Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM E-C-25 -- 24” HDPE PIPE

- A. Measurement: The quantity to be paid shall be the actual number of lineal feet measured horizontally of 24” HDPE Pipe installed in accordance with Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM E-C-26 -- 19x30” RCP ELLIPTICAL PIPE

- A. Measurement: The quantity of 19”x30” RCP Elliptical Pipe to be paid for will be determined by measurement of the number of lineal feet constructed to face of structure accepted by the Engineer as complying with the plans and specifications. Concrete collar closures that may be required to join pipes together shall be incidental to the linear foot installation of pipe.

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- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM E-C-27 -- 24"x30" RCP ELLIPTICAL PIPE

- A. Measurement: The quantity of 24"x30" RCP Elliptical Pipe to be paid for will be determined by measurement of the number of lineal feet constructed to face of structure accepted by the Engineer as complying with the plans and specifications. Concrete collar closures that may be required to join pipes together shall be incidental to the linear foot installation of pipe.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM E-C-28 -- HAWK PEDESTRIAN SIGNAL CROSSING

- A. Measurement: Measurement for the HAWK Pedestrian Signal Crossing shall be paid as a lump sum item.
- B. Payment: Payment shall include: furnishing and installation of all materials and equipment complete in place and functioning to the satisfaction of the City of Pueblo Traffic Engineer. Equipment shall include, but is not limited to, conduit, meter pedestals, control cabinets, pull boxes, traffic and pedestrian poles and foundations, light and signal fixtures and signage. Traffic Control will be paid for separately under Item Number C-3.

BID ITEM E-C-29 -- EDA PROJECT SIGN

- A. Measurement: Measurement shall be made of the actual number of EDA Project Signs placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.
- B. Payment: Payment for this bid item shall include all work necessary to erect a project sign at each location requested by the Owner and shall be at the unit price for "Project Sign." No additional or separate payment will be made if the Contractor is required by the progress of the work to relocate a project sign. Price shall also include work necessary to dispose of project signs at the conclusion of the work. Project shall be constructed and erected in accordance with the EDA requirements which are provided in the Project Manual.

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BID ITEM E-C-30 -- ROADWAY SIGNS

- A. Measurement: Measurement shall be made of the actual number of Roadway Signs placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-1 – STANDARD CONCRETE PAVING, 6" DEPTH

- A. Measurement: Measurement shall be made of the actual number of square feet of 6" thick standard concrete paving placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid per square foot and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-2 – COLORED CONCRETE PAVING, 6" DEPTH

- A. Measurement: Measurement shall be made of the actual number of square feet of 6" thick colored concrete paving placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid per square foot and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-3 – CONCRETE PAVING, 6" DEPTH, VISTA RIDGE SANDSCAPE

- A. Measurement: Measurement shall be made of the actual number of square feet of 6" depth Vista Ridge SandScape concrete paving placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-4 – CONCRETE PAVING, 6" DEPTH, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement shall be made of the actual number of square feet of 6" depth Capitol Hill SandScape concrete paving placed and accepted at the locations shown

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on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.

- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-5 – RELOCATED BRICK PAVING

- A. Measurement: Measurement shall be made of the actual number of square feet of Brick paving placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-6 – CONCRETE PLANTER CURB, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Concrete Planter Curb placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-7 - CONCRETE PLANTER CURB, VISTA RIDGE SANDSCAPE

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Vista Ridge Sandscapes Concrete Planter Curb placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-8 – COLORED CONCRETE BAND

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Colored Concrete Band placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill,

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finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-9 – CONCRETE CIRCULAR PLANTER, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of circular planters placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-10 – CONCRETE CIRCULAR PLANTER AT STEPS, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of circular planters placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-11 – CONCRETE RETAINING SEAT WALL, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Concrete Retaining Seat Wall placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-12 – CONCRETE FREESTANDING SEAT WALL, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Capitol Hill Sandscape Concrete Freestanding Seat Wall placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping,

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and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-13 – CONCRETE OVERLOOK RETAINING WALL, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Capitol Hill Sandscape Concrete Overlook Retaining Wall placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-14 – CONCRETE CHEEK WALLS, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Concrete Cheek Wall placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-15 – CONCRETE CHEEK WALLS, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Capitol Hill Sandscape Concrete Cheek Wall placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-16 – CONCRETE STAIRS, STANDARD GRAY

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of riser of Concrete Stairs placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

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BID ITEM NO. E-L-17 – CONCRETE STAIRS, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of riser of Capitol Hill Sandscape Concrete Stairs placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-18 – STAIR HANDRAIL

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Stair Handrail placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, finishing, painting, joints, protective coatings, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-19 – ORNAMENTAL METAL RAILING

- A. Measurement: Measurement for this item shall be of the actual number of lineal feet of Ornamental Metal Railing placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the unit price bid and shall include furnishing and installing materials, finishing, painting, joints, protective coatings, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-20 – TREE GRATES

- A. Measurement: Measurement shall be made of the actual number of tree grates placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-21 – BENCH, 6' LENGTH

- A. Measurement: Measurement shall be made of the actual number of benches placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

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BID ITEM NO. E-L-22 – TRASH RECEPTACLE

- A. Measurement: Measurement shall be made of the actual number of trash receptacles placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-23 – TABLES

- A. Measurement: Measurement shall be made of the actual number of tables placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-24 – CHAIRS

- A. Measurement: Measurement shall be made of the actual number of chairs placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-25 – REMOVABLE BOLLARDS

- A. Measurement: Measurement shall be made of the actual number of removable bollards placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-26 THROUGH E-L-35 - PLANTING TREES, SHRUBS, ORNAMENTAL GRASSES, GROUNDCOVERS, AND PERENNIALS

- A. Measurement: Measurement shall be made of the actual number of plants installed, complete, in place, and conditionally accepted. Minimum sizes shall be as indicated.
- B. Payment: Payment for this item shall include all labor, material and equipment necessary for installation of the plant material in accordance with the Drawings and Specifications.

BID ITEM NO. E-L-36 – IRRIGATION SYSTEM - DRIP

- A. Measurement: Measurement of this bid item shall be of the actual number of square feet irrigated and shall include all materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the

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Specifications. No other measurement for payment shall be made of any of the work, materials and equipment required to complete installation of the irrigation system.

- B. Payment: Payment shall be made at the square foot price bid and shall include all labor materials and equipment necessary to provide the drip irrigation system as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-37 – PLANTER BACKFILL MIX

- A. Measurement: Measurement for this item shall be made of the actual number of cubic yards of planter backfill mix placed and accepted in the landscape areas shown on the drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the cubic yard bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-38 – SHRUB BED GRAVEL MULCH

- A. Measurement: Measurement for this item shall be made of the actual number of square feet of gravel mulch placed and accepted at the landscape areas shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the square foot bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-39 – WEED BARRIER FABRIC

- A. Measurement: Measurement for this item shall be made of the actual number of square feet of weed barrier fabric placed and accepted at the landscape areas shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the square foot bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-40 – SANDSTONE BOULDERS

- A. Measurement: Measurement for this item shall be made of the actual number of tons of sandstone boulders placed and accepted at the landscape areas shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.
- B. Payment: Payment shall be made at the per ton bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-L-41 – SANDSTONE SLABS

- A. Measurement: Measurement for this item shall be made of the actual number of tons of sandstone slabs placed and accepted at the landscape areas shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications.

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- B. Payment: Payment shall be made at the per ton bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-E-1 – IN-GROUND UPLIGHTING

- A. Measurement: Measurement of this bid item shall be made of the actual number of uplights placed and accepted as shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. No other measurement for payment shall be made of any of the work, materials and equipment required for in-ground uplighting.
- B. Payment: Payment shall be made at the unit price bid and shall include all labor, materials and equipment necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. E-E-2 – SINGLE-GLOBE PEDESTRIAN LIGHTING

- A. Measurement: Measurement of this bid item shall be made of the actual number of single-globe pedestrian lights placed and accepted as shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. No other measurement for payment shall be made of any of the work, materials and equipment required for pedestrian lighting.
- B. Payment: Payment shall be made at the unit price bid and shall include all labor, materials and equipment necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

1.03 NON-EDA FUNDED BID ITEMS:

BID ITEM N-C-1 -- MOBILIZATION

- A. Measurement: Payment for Mobilization shall be as a lump sum item. This bid item is only for the play area subsurface drainage and the non-EDA funded Richmond Improvements, as shown on the plans.
- B. Payment: Payment for Mobilization shall include the mobilization of personnel, equipment, and supplies at the project site in preparation for work on the project. This item shall also include the establishment and maintenance for the duration of the Contract of the Contractor's sanitary facilities, protective fencing and barricades not included elsewhere, other necessary facilities, and all other costs incurred for labor and operations which must be performed prior to beginning the other items under Contract. The Contractor may maintain a field office for the duration of construction. The cost of providing a field office as detailed in the Technical Specifications will be considered incidental to the cost of Mobilization. This item also includes provision of required bonds, insurance, preparation of the Project Schedule and shop drawings, and demobilization. Partial payments for Mobilization will be made as the work progresses.
- C. Partial payments for Mobilization shall adhere to the following schedule:
 - 1. At the first monthly pay draw, 50% of the bid amount for Mobilization will be paid.

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2. When 50% of the original contract amount is earned, a further 30% of the amount bid for this item will be paid.
3. At the last monthly pay draw, 20% of the bid amount for Mobilization will be paid.

BID ITEM N-C-2 -- TRAFFIC CONTROL

- A. Measurement: Traffic Control shall be paid as a lump sum item. This bid item is only for the play area subsurface drainage and the non-EDA funded Richmond Improvements, as shown on the plans.
- B. Payment: Payment for this bid item shall include all labor, equipment and materials necessary to provide adequate traffic and pedestrian control in accordance with the Manual on Uniform Traffic Control Devices and the requirements of City of Pueblo, HARP Authority as set forth in these Contract Documents. Regardless whether or not the Contractor actually performed any work associated with Traffic Control in any one month, the Contractor shall still receive a payment for Traffic Control according to the following schedule:
 1. When 25% of the original contract amount is earned, 1/3 of the bid amount will be paid.
 2. When 50% of the original contract amount is earned, another 1/3 of the bid amount will be paid.
 3. When 75% of the original contract amount is earned, the final 1/3 of the bid amount will be paid.

BID ITEM N-C-3 -- RIGHT OF WAY RESTORATION

- A. Measurement: Right-of-Way Restoration shall be paid as a lump sum item. This bid item is only for the play area subsurface drainage and the non-EDA funded Richmond Improvements, as shown on the plans.
- B. Payment: Payment for this bid item shall include all labor, equipment and materials necessary to repair, to a condition prior to construction, those areas of the project, construction easement, access and haul routes, permanent right-of-way and all adjacent area which are altered in some way or form during construction. This work shall include but not necessarily be limited to the following items not included elsewhere: replacement of any asphalt and base course, concrete paving, curb and gutter, fences, gates, trees, native grass, landscaping, sod, irrigation lines, riprap, grouted rock, drainage pans, swales, pipelines, culverts, and any other items damaged during construction and not covered under another bid item.

BID ITEM N-C-4 -- SITE PREPARATION (DEMOLITION)

- A. Measurement: Site Preparation (Demolition) shall be paid as a lump sum item. This bid item is only for the play area subsurface drainage and the non-EDA funded Richmond Improvements, as shown on the plans.
- B. Payment: Payment for this bid item shall include demolition, cleanup, and disposal of any concrete or asphalt streets and sidewalk, existing trails, pads and foundations, and structures

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not covered by other demolition bid items. Partial payment will be made based on the estimated percentage of demolition approved by the Owner that has been actually completed.

BID ITEM N-C-5 -- TEMPORARY WATER AND EROSION CONTROL

- A. Measurement: Control of water and erosion shall be paid as a lump sum item, regardless of the amount of water, frequency of flooding, erosion control measures implemented, facilities constructed, or damage caused by flooding. This bid item is only for the play area subsurface drainage and the non-EDA funded Richmond Improvements, as shown on the plans.
- B. Payment: Payment for this bid item shall include all earthwork, well installation and materials, pumps and associated energy costs, sediment control means and devices, inlets, pipes, temporary culverts, check dams, and all other material, equipment and operations necessary for control of all ground, surface, and irrigation water. This bid item specifically includes installation of all erosion control measures required by the contract documents and removal of erosion control measures when the project is complete. Partial payments for Control of Water and Erosion will be made as the work progresses. These partial payments will be made as follows:
 - 1. When 25% of the original contract amount is earned, 1/3 of the bid amount will be paid.
 - 2. When 50% of the original contract amount is earned, another 1/3 of the bid amount will be paid.
 - 3. When 75% of the original contract amount is earned, the final 1/3 of the bid amount will be paid.

BID ITEM N-C-6 -- 12" AREA DRAIN BASIN W/ (INLET/SOLID) COVER

- A. Measurement: Measurement shall be made of the actual number of 12" Drain Basins w/ (Inlet/Solid) Covers placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications. This bid item is only for the 12" area drains for the play area subsurface drainage, as shown on the plans.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM N-C-7 -- 6' TYPE S PRECAST STORM DRAIN INLET

- A. Measurement: Measurement shall be made of the actual number of 6' Type S Precast Storm Drain Inlet placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Plans and Specifications. 6' Type S Precast Storm Drain Inlet shall be in accordance with City of Pueblo Cast -In-Place Type "S" Inlet Detail Sheet SD13.1. This bid item is only for the 6' Type S Precast Storm Drain Inlets in the non-EDA funded Richmond Improvements area, as shown on the plans.

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- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM N-C-8 -- 12" HDPE PIPE

- A. Measurement: The quantity to be paid shall be the actual number of lineal feet measured horizontally of 12" HDPE Pipe installed in accordance with Plans and Specifications. This bid item is only for the 12" area drains for the play area subsurface drainage, as shown on the plans.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM N-C-9 -- 24" HDPE PIPE

- A. Measurement: The quantity to be paid shall be the actual number of lineal feet measured horizontally of 24" HDPE Pipe installed in accordance with Plans and Specifications. This bid item is only for the 24" HDPE Pipe in the non-EDA funded Richmond Improvements area, as shown on the plans.
- B. Payment: Payment shall be made at the applicable contract unit price bid and shall include excavation, disposal or reuse of excavated materials, dewatering, purchase and transportation of bedding to the site, purchase and transportation to the site of pipe and bends and fittings, installation of pipe, making and finishing joints, backfill, compaction, testing, and all other items necessary to provide for an operational reinforced concrete pipeline. Payment for this bid item shall specifically include bedding to the limits described in the technical specification for trenching, bedding, backfill and compaction.

BID ITEM N-C-10 -- 12" RIBBON CURB W/ 6" CLASS VI BASE COURSE

- A. Measurement: Measurement for this item shall be the number of lineal feet as measured along the face of the 12" Ribbon Curb w/ 6" Class VI Base Course and accepted at the location shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. This bid item is only for the 12" Ribbon Curb in the non-EDA funded Richmond Improvements area, as shown on the plans.

12" Ribbon Curb construction specifications shall be in accordance with Article 5 of the Standard Construction Specifications for the City of Pueblo.
- B. Payment: Payment shall be made at the unit bid price and shall include full compensation for all labor, equipment, tools, materials and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. The excavation, backfill and compaction necessary to construct the curb shall be considered incidental to the cost of this bid item.

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BID ITEM N-C-11 -- TYPE 2 VERTICAL CURB W/ 6" CLASS VI BASE COURSE

- A. Measurement: Measurement for this item shall be the number of lineal feet as measured along the face of the Type 2 Vertical Curb w/ 6" Class VI Base Course and accepted at the location shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. This bid item is only for the Type 2 Vertical Curb in the non-EDA funded Richmond Improvements area, as shown on the plans.

Type 2 Vertical Curb construction specifications shall be in accordance with Article 5 of the Standard Construction Specifications for the City of Pueblo.

- B. Payment: Payment shall be made at the unit bid price and shall include full compensation for all labor, equipment, tools, materials and any other incidental work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. The excavation, backfill and compaction necessary to construct the curb shall be considered incidental to the cost of this bid item.

BID ITEM NO. N-L-1 – CONCRETE PAVING, 6" DEPTH, CAPITOL HILL SANDSCAPE

- A. Measurement: Measurement shall be made of the actual number of square feet of 6" depth Capitol Hill SandScape concrete paving placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. This bid item is only for the Concrete Paving, 6" depth, Capitol Hill SandScape in the non-EDA funded Richmond Improvements area, as shown on the plans.

- B. Payment: Payment shall be made at the unit price bid and shall include: furnishing and installation of materials, formwork, reinforcing, studs, subgrade preparation, backfill, finishing, joints, connections to existing paving, protective coatings, curing, sweeping, and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. N-L-2 – REMOVABLE BOLLARDS

- A. Measurement: Measurement shall be made of the actual number of removable bollards placed and accepted at the locations shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. This bid item is only for the Removable Bollards in the non-EDA funded Richmond Improvements area, as shown on the plans.

- B. Payment: Payment for this item shall be made at the unit price bid and shall include furnishing and installing materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. N-L-3 – GROUND COVER (5 GAL.)

- A. Measurement: Measurement shall be made of the actual number of plants installed, complete, in place, and conditionally accepted. Minimum sizes shall be as indicated. This bid item is only for the Groundcovers in the non-EDA funded Richmond Improvements area, as shown on the plans.

- B. Payment: Payment for this item shall include all labor, material and equipment necessary for installation of the plant material in accordance with the Drawings and Specifications.

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BID ITEM NO. N-L-4 – IRRIGATION SYSTEM - DRIP

- A. Measurement: Measurement of this bid item shall be of the actual number of square feet irrigated and shall include all materials, labor, equipment and any other work necessary to complete the work as shown on the Drawings and in accordance with the Specifications. No other measurement for payment shall be made of any of the work, materials and equipment required to complete installation of the irrigation system. This bid item is only for the Irrigation System - Drip in the non-EDA funded Richmond Improvements area, as shown on the plans.
- B. Payment: Payment shall be made at the square foot price bid and shall include all labor materials and equipment necessary to provide the sprinkler irrigation system as shown on the Drawings and in accordance with the Specifications.

BID ITEM NO. N-L-5 – SHRUB BED GRAVEL MULCH

- A. Measurement: Measurement for this item shall be made of the actual number of square feet of gravel mulch placed and accepted at the landscape areas shown on the Drawings or as directed by the Owner's Representative, and in accordance with the Specifications. This bid item is only for the Shrub Bed Gravel Mulch in the non-EDA funded Richmond Improvements area, as shown on the plans.
- B. Payment: Payment shall be made at the square foot bid price and shall include all materials, labor, and equipment required to complete the work as shown on the Drawings and in accordance with the Specifications.

PART 2 – PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

END SECTION 012200

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SECTION 013119

PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
 - 1. Pre-Construction Conference.
 - 2. Coordination Meetings.
 - 3. Weekly Progress Meetings.
- B. Construction schedules are specified in Section 013300: SUBMITTALS

1.02 PRE-CONSTRUCTION CONFERENCE

- A. Owner will schedule a pre-construction conference and organizational meeting at the project site or other convenient location no later than 15 days after Contract Award and prior to commencement of construction activities.
- B. Attendees: The Owner, Engineer and the Contractor and its superintendent shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
- C. The pre-construction conference will be chaired by the designated construction manager.
- D. Agenda: Be prepared to discuss items of significance that could affect progress including such topics as:
 - 1. Tentative construction schedule.
 - 2. Critical Work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.
 - 5. Procedures for processing Applications for Payment.
 - 6. Distribution of Contract Documents.
 - 7. Submittal of Shop Drawings, Product Data and Samples.
 - 8. Preparation of record documents.
 - 9. Use of the premises.
 - 10. Office, Work and storage areas.
 - 11. Safety Procedures.
 - 12. First aid.
 - 13. Working hours.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- E. Reporting: The designated construction manager will prepare and distribute minutes of the pre-construction conference.

1.03 COORDINATION MEETINGS

- A. Conduct Project coordination meetings as necessary at scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Reporting: The designated construction manager will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.04 WEEKLY PROGRESS MEETINGS

- A. The Contractor shall attend progress meetings at the project site at regularly scheduled times. The contractor shall coordinate preparation of payment requests with dates of meetings.
- B. Progress meetings will be conducted during normal business hours.
- C. Attendees: In addition to representatives of the Owner, Engineer and Contractor, other entities concerned with current progress or involved in planning, coordination or performance of future activities may attend these meetings. However, persons attending project meetings shall be familiar with the Project and authorized to conclude matters relating to progress.
- D. Progress meetings will be chaired by the designated construction manager.
- E. Agenda: Agenda for each progress meeting will follow the designated construction manager's outline and include the following:
 - 1. Attendance
 - 2. Progress to Date.
 - 3. Status of Proposed Changes.
 - 4. Status of Change Orders.
 - 5. Construction Schedule Review.
 - 6. New business.
- F. Reporting: The designated construction manager will prepare and distribute minutes of the previous progress meeting. Designated construction manager will distribute copies of minutes of the meeting to each party present. The Contractor is responsible for reviewing minutes of the previous progress meeting and notifying the designated construction manager of any corrections. Review other items of significance that could affect the

ARTICLE 5 – TECHNICAL SPECIFICATIONS

progress.

PART 2 – PRODUCTS

(Not Applicable)

PART 3 – EXECUTION

(Not Applicable)

END OF SECTION 013119

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 013300

SUBMITTALS

PART 1 - GENERAL

1.01 CONSTRUCTION PROGRESS SCHEDULE AND SEQUENCE OF OPERATIONS

- A. Project Schedule: The Contractor shall submit to the designated construction manager, within seven (7) days after the effective date of the Notice to Proceed, seven (7) copies of the construction schedule.
- B. The schedule shall contain sufficient information to describe the construction methods to be used and to enable the designated construction manager to evaluate the schedule and supporting analysis for validity and practicability. If the schedule or written explanation is rejected by the designated construction manager, the Contractor shall resubmit the schedule within seven (7) days after rejection.
- C. Revisions to the Schedule: A revised schedule shall be submitted when one or more of the following conditions occurs:
 - 1. When a change order revises the contract completion date or the sequence of activities.
 - 2. When the progress of any scheduled activity falls behind the scheduled progress by more than three days.
 - 3. When delay on a non-critical activity is of such magnitude as to change the course of the original or revised schedule.
- D. The revised analysis shall be made in the same form and detail as the original submittal and shall be accompanied by an explanation of the reasons for the revisions.

1.02 SUBMITTALS AND SAMPLES

- A. The Contractor shall provide printed copies of all submittals to the designated construction manager. Samples, when required, will be delivered to the construction site. Five (5) copies will be required for each submittal of printed material, one (1) copy will be required for each submittal of a sample or test panel except for paint, and two (2) copies will be required for each paint sample, or as indicated in specific individual sections of these Specifications. The number of copies provides for two copies of printed material and no copies of samples to be returned to the Contractor. Should the Contractor want more copies to be returned, he should revise the initial submittal number accordingly.
- B. The Contractor shall be responsible for the prompt submission of all printed matter and samples in accordance with the submittal table and the technical specifications so that there shall be no delay to the project. The designated construction manager will return to the Contractor, within seven (7) working days after receipt, reviewed copies of the submittals. If the submittals are rejected, the designated construction manager shall require a similar seven working day period for review after review of each submittal.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

Neither the Designated construction manager nor the Engineer will be held liable for damages to the Contractor which may allegedly result from the length of review time, unless the review time exceeds seven working days.

- C. Shop drawings illustrating the number, grades, size, bending, and placement of reinforcing steel bars for all cast-in-place concrete structures shall be provided to the designated construction manager for review.
- D. No material shall be purchased or fabricated for this project until the required submittals have been submitted and reviewed as conforming to the contract requirements with no exceptions taken. All materials and work involved in this construction shall then be represented by said submittals.
- E. Only submittals which have been checked and corrected by the Contractor should be submitted to the designated construction manager.
- F. The designated construction manager's review of submittals will follow a general concept check made to ascertain conformance with the design concept and functional result of the project and compliance with the information given in the contract documents. The Contractor shall be responsible for dimensions to be confirmed at the job site; for information that pertains solely to the fabrication processes and techniques of construction; and for coordination of the work of all trades.
- G. Submittals shall be sent directly to the designated construction manager.
- H. The designated construction manager's review classifications are as follows:
 - 1. No Exception Taken
 - 2. Rejected
 - 3. Make Corrections Noted
 - 4. Revise and Resubmit
 - 5. Submit Specified Item
- I. The Contractor shall make any corrections required by the designated construction manager and shall return the required the required number of correct copies and resubmit until no exceptions are taken.
- J. At the time of each submission or resubmission, the Contractor shall direct specific attention, in writing, to deviations that the submittal or sample may have from the requirements of the contract or corrections required by the designated construction manager on previous submissions.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- K. The Contractor’s stamp of approval on the shop drawings and samples shall constitute a representation to the Designated construction manager that the Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data, or he assumes full responsibility for doing so, and that he has reviewed or coordinated each submittal and sample with the requirements of the contract documents.

- L. The designated construction manager’s indication of “No Exceptions Taken” on the submittals and samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the contract documents, unless the designated construction manager has been notified in writing, and has given his approval to such deviation, nor shall any approval by the designated construction manager relieve the Contractor from responsibility for errors and omissions in submittals.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

END OF SECTION 013300

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 014213

ABBREVIATIONS

PART 1 - GENERAL

1.01 REFERENCED STANDARDS

- A. The following list is of abbreviations, which may be used in the construction specifications, refer to the organizations or units of measurement.

AA	Aluminum Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors
AIA	American Insurance Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
APA	American Plywood Association
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association
CAPA	Colorado Asphalt Pavement Association
CDOT	Colorado Department of Transportation
CRSI	Concrete Reinforcing Steel Institute
CY	Cubic Yards
EL/ELEV	Elevation
FH	Fire Hydrant
FHWA	Federal Highway Administration
FL/F	Flow Line
FSS	Federal Specifications and Standards
FT	Foot or Feet
HMAP	Hot Mix Asphalt Pavements
INV	Invert
LF	Linear Feet
MAX	Maximum
MH	Manhole
MIN	Minimum
MGPEC	Metropolitan Government Pavement Engineer's Council
MUTCD	Manual of Uniform Traffic Control Devices
NLMA	National Lumber Manufacturers Association
OC	On Center
OD	Outside Diameter
OSHA	Occupational Safety and Health Administration
PC	Point of Curvature
PCA	Portland Cement Association
PCC	Point of Compound Curve or Portland Cement Concrete
PCI	Prestressed Concrete Institute
POC	Point of Curve
PRC	Point of Reverse Curve

ARTICLE 5 – TECHNICAL SPECIFICATIONS

PT	Point of Tangent
Q	Rate of Flow
R	Radius
RCP	Reinforced Concrete Pipe
SAN	Sanitary
SF	Square Feet
SHT	Sheet
STA	Station
SY	Square Yard
SSPC	Steel Structures Painting Council
UDFCD	Urban Drainage and Flood Control District
V	Velocity of Flow
VC	Vertical Curve
VERT	Vertical
YD	Yard
UBC	Uniform Building Code
WPCF	Water Pollution Control Federation

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

END OF SECTION 014213

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 014500

QUALITY CONTROL

PART 1 - GENERAL

1.01 FIELD TESTING

- A. The Contractor shall provide such equipment and facilities as the designated construction manager may require for conducting field tests and for collecting and forwarding samples. The Contractor shall not use any materials or equipment represented by samples until tests, if required, have been made and the materials or equipment have been found to be acceptable. Any product which becomes unfit for use after approval thereof shall not be incorporated into the work.
- B. All materials proposed to be used may be tested at any time during their preparation or use. The Contractor shall furnish the required samples without charge and shall give sufficient notice of the placing of orders to permit the testing. Products may be received at the work site.
- C. Tests shall be made by an accredited testing laboratory. Except as otherwise provided, sampling and testing of all material and the laboratory methods and testing equipment shall be in accordance with the latest standards and testing methods of the American Society of Testing and Materials (ASTM) or of the American Association of State Highway and Transportation Officials (AASHTO).
- D. Where additional specific information concerning testing methods, sample sizes, etc., is required, such information is included under the applicable sections of the Specifications.

1.02 CONCRETE TESTS

- A. Control tests of concrete work shall be made at the Owners expense at such times and in such number as directed by the designated construction manager.

1.03 FILL AND BACKFILL TESTS

- A. Control tests of fill and backfill shall be made at the Designated construction manager's **(Contractor's)** expense by a testing laboratory selected by the designated construction manager **(Contractor)**. The designated construction manager **(Contractor)** will make sufficient tests to assure himself that fill and backfill complies with material and compaction requirements in the specifications.
- B. The in-place density of compacted backfill shall be measured as per Soils Report.
- C. In addition to the above tests, proof rolling may be required by the designated construction manager. Should proof rolling be considered necessary by the designated construction manager, it shall be carried out by the Contractor at no additional cost.

1.04 ENVIRONMENTAL TESTING

- A. Environmental testing shall be performed by Terracon, Inc. as directed by the designated construction manager for the Owner. Environmental testing costs shall be at the Owner's

ARTICLE 5 – TECHNICAL SPECIFICATIONS

expense.

1.05 OTHER TESTING

- A. If required, the following testing shall be performed at the expense of the Contractor installing the material being tested:
 - 1. Material Substitution: Any tests of basic material or fabrication equipment offered as a substitute for specified item on which a test may be required in order to prove its compliance with the specifications.

1.06 TEST REPORTS

- A. Reports of all tests made by testing laboratories shall be distributed by the testing laboratory to the designated construction manager.

END OF SECTION 014500

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 015000

TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The work includes furnishing, installing, servicing, and removing temporary facilities including weather protection, heat, electrical power, water, sanitation facilities, fueling equipment, first aid, fire protection, barriers, staging area, and items needed by the Contractor to facilitate construction.

1.02 PRECAUTIONS AGAINST WEATHER

- A. During adverse weather conditions and against the possibility thereof, the Contractor shall take all necessary precautions so that the Work shall be properly done and be satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood and building paper shelter, or other approved means.
- B. During cold weather, materials shall be preheated, if required, and the materials and adjacent structure into which they are to be incorporated shall be made and kept sufficiently warm in order to avoid damage and so that proper installation, curing, aging, or drying will result. Ingredients for concrete and mortar shall be sufficiently heated so that the mixture shall be warm throughout when used.

1.03 TEMPORARY HEAT

- A. If temporary heat is required for the protection of the Work, the Contractor shall provide approved heating apparatus. Protected spaces shall be artificially heated by approved means, which shall result in a moist or a dry atmosphere according to the particular requirements of the work being protected. Temporary heating apparatus shall be installed and operated in such manner that the finished work will not be damaged.

1.04 ELECTRICAL POWER

- A. Provide power for storage facilities, ventilation, heating, cooling, and lighting as needed.
- B. Provide power for electrically operated tools, construction equipment, testing equipment.
- C. Provide electrical permits, easements, and service connections.

1.05 WATER SUPPLY

- A. The Contractor shall provide acceptable potable water for work under this Contract.
- B. Provide permits and service connections where necessary.

1.06 SANITARY FACILITIES

- A. The Contractor shall provide adequate sanitary facilities for the use of those employed for construction of the project.
- B. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

1.07 FUELING CONSTRUCTION EQUIPMENT

- A. The Contractor shall be required to fuel all construction equipment using a mobile fueling facility. **Fuel storage on-site for the purpose of fueling construction equipment will not be permitted.**

1.08 FIRST AID FACILITIES

- A. The Contractor shall maintain at his field office or other well known location on the job site, all articles necessary for giving first aid to injured personnel.
- B. The Contractor shall have a person who has completed the American Red Cross Standard First Aid Course or its equivalent on the site at all times during which construction activities are under way.
- C. The Contractor shall provide for transport of injured persons to a hospital or to a location where the injured person can receive a doctor's care.

1.09 FIRE PROTECTION

- A. Furnish temporary portable fire protection equipment throughout the construction period and have personnel familiar with its location and use on the site at all times during which construction activities are under way.

1.10 FENCING, SHORING, BARRIERS AND BARRICADES

- A. The Contractor shall provide adequate fencing, shoring, barricades and tree and plant protection (whether existing or recently planted) in order to ensure safety of the general public and security of work and property. Particular attention will be paid to areas left open due to excavation.
- B. Shoring, when required, shall be designed by a registered Professional Engineer in the State of Colorado. Shoring designs shall be submitted to the designated construction manager for review.
- C. Temporary fencing is required as show on the construction drawings.

1.11 AREAS FOR USE BY THE CONTRACTOR

- A. Limits of Project Construction: The Contractor shall confine his work within the area of the permanent right-of-way or construction limits indicated on the plans.

1.12 PAYMENT

- A. Prior to the time that the designated construction manager accepts the work being performed by the Contractors as being complete, the Contractor shall pay for all electricity, fuel, sanitary facilities, temporary structures and other utilities, services and facilities used during the project.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

- A. The products listed below can be used for temporary perimeter fencing.
 - 1. Conwed Multi-Purpose Utility Barrier
 - 2. Conwed Perimeter Fence
 - 3. Conwed Diamond Safety Fence
 - 4. Other products for temporary fencing may be submitted by the Contractor for review and acceptance.
- B. All temporary fencing shall be a minimum of 4-feet high.

PART 3 - EXECUTION

(Not Applicable)

END OF SECTION 015000

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 015526

TRAFFIC CONTROL

PART I - GENERAL

1.01 DESCRIPTION

- A. The work in this section shall include the furnishing, installation, maintaining, and removal of all temporary traffic control signs and devices, and the provision of traffic control flagpersons as necessary to construct the permanent improvements detailed in these contract documents.

1.02 SUBMITTALS

- A. A Traffic Control Plan with phasing for the entire duration of the project. The Contractor shall allow for review times indicated in this technical specification.

PART 2 - PRODUCTS

2.01 TRAFFIC CONTROL MATERIALS AND FLAGPERSONS

- A. All signs shall meet the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) and the requirements of City of Pueblo Public Works Department.
- B. All barricades and markers shall meet the requirements of the Manual on Uniform Traffic Control Devices, the M&S Standard plans of CDOT, and the requirements of the City of Pueblo.
- C. All flag persons shall be properly qualified, equipped and trained per the Manual on Uniform Traffic Control Devices.

PART 3 - EXECUTION

3.01 MINIMUM CAPACITY

- A. The Contractor is responsible for maintaining a minimum of twelve-foot lanes on Central Main Street and S. Santa Fe Avenue at all times during construction. Traffic may be disrupted through the use of flag persons to accommodate the safe movement of construction related vehicles in, out and across the through traffic lanes.

3.02 INSTALLATION

- A. The Contractor is responsible for developing the exact sequence that will be followed to complete the work. This includes the exact design of any shoring systems that the Contractor deems necessary.
- B. The Contractor shall submit a traffic control plan showing the temporary traffic control signs, devices, and barricades required by the Manual on Uniform Traffic Control Devices. The plan shall illustrate the traffic control devices for each stage of construction. All traffic control items shall be installed per M Standard Details of the Colorado Department of Transportation. As the work progresses, the traffic engineer for the City of Pueblo may determine that additional traffic control devices are required for

ARTICLE 5 – TECHNICAL SPECIFICATIONS

safety. The Contractor shall be compensated by change order for traffic control devices that are additional to the traffic control devices shown on an approved traffic control plan for each of the construction time periods.

- C. The Contractor shall designate a qualified and trained traffic control person (TCP) who will be responsible that all traffic control devices, signs, and when needed flag persons are in their required location for the completion of the work. The TCP shall check the jobsite at the end of each work period before leaving the job site.
- D. The Contractor shall provide flag persons as may be required due to construction traffic exporting material from or importing material or equipment to the site.
- E. Construction Parking Control:
 - 1. The Contractor shall control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, designated construction manager's operations, or construction operations.
 - 2. The Contractor shall monitor parking of construction personnel's private vehicles.
 - 3. Maintain free vehicular access to and through the parking area.

END OF SECTION 015526

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 015700

TEMPORARY CONTROLS

PART 1 - GENERAL

- 1.01 DESCRIPTION: The work of this section consists of providing temporary controls and disposal of construction wastes and debris. The Contractor shall pay for all disposal costs unless otherwise indicated in the Contract Documents.
- 1.02 SUBMITTALS:
- A. Location and Operator of the Contractor's Solid Waste Disposal Facility to be utilized for construction all materials disposed of off the project site.

PART 2 - PRODUCTS Not used.

PART 3 - EXECUTION

- 3.01 HOUSEKEEPING:
- A. Keep project neat, orderly, and in a safe condition at all times.
 - B. Provide enough refuse containers for collecting construction debris. Refuse containers shall be emptied as required to maintain a neat and orderly environment.
 - C. Wet down dry materials and rubbish to prevent blowing dust.
 - D. Keep volatile wastes in covered containers.
 - E. Utilize or remove excavated material as soon as possible.
- 3.02 DISPOSAL:
- A. Soil Evaluation: All soil materials excavated within the HARP area will be evaluated upon removal. Soil materials will be visually screened for debris and staining by the Engineer. The Contractor shall separate out all trash and debris for soils to be reused onsite.
 - B. All trash and debris encountered during excavation shall be stored separately or disposed of at a lawfully permitted landfill facility.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- C. Unless otherwise specified, all removed materials become the property of the Contractor and shall be properly disposed of offsite. The Contractor may contact the Pueblo City and County Health Department, 719 - 583 - 4300, to identify locations in Pueblo County, if any, where construction materials may be disposed of.
 - D. Immediately remove hazardous rubbish from project site. Place other construction debris in refuse containers at least daily. Dispose of refuse at least weekly, in a legal manner, at approved public or private dumping areas.
- 3.03 ITEMS IDENTIFIED TO BE REMOVED OR SALVAGED
- A. All items identified to be removed or salvaged shall be removed in a manner to minimize damage to the item to be salvaged.
- 3.04 AIR AND WATER POLLUTION CONTROL:
- A. Take all necessary reasonable measures to reduce air and water pollution by any material or equipment used during construction.
 - B. Do not dispose of any volatile wastes or oils in storm or sanitary drains.
 - C. Do not allow waste materials to be washed into streams or bodies of water.
 - D. Seed slopes, as specified in Section 02925, as soon as possible to prevent erosion. If it is impossible to prevent erosion, the City may require construction of sedimentation basins to prevent water pollution.
 - E. The Contractor shall comply with all of the State of Colorado Construction De-watering Permit requirements.
 - F. See Section 02400 - Control of Water and Erosion During Construction for additional requirements.
- 3.05 DUST PREVENTION
- A. During the construction and until final acceptance by the City, the Contractor shall be responsible for controlling dust emissions in the construction area.
 - B. No earthwork activities shall be performed when the sustained wind speed exceeds thirty (30) miles per hour.
 - C. All fill areas shall be compacted on a daily basis as required in the project.
 - D. Any mud or dirt carried out onto paved surfaces shall be cleaned up on a daily basis.
 - E. The Contractor shall promptly comply will all directives from the City relating to dust control. If the Contractor fails to comply or provide adequate means to control dust, a stop work order will be issued until the problems have been corrected.

END OF SECTION 015700

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 015713

WATER AND EROSION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Work consists of furnishing all labor, material and equipment necessary for completion of the following work during construction:
1. To temporarily provide, place and maintain ample means and devices with which to remove promptly and dispose of properly all water entering excavations or which may flow along or across the site.
 2. To protect excavation from the effects of cold weather or any water entering or leaving the excavation.
 3. To control the amount of sediment-laden water leaving the immediate construction area, which is created from excavation, backfilling and any other construction operations.
 4. To control all surface water and groundwater that impacts the construction site.

1.02 RELATED SECTIONS

- A. Section 015000: TEMPORARY FACILITIES
- B. City of Pueblo Standard Construction Specifications

1.03 PROJECT CONDITIONS

- A. The Contractor shall determine the methods by which he will temporarily divert, detain or otherwise control the diverted flow from drainage through the construction area. The Contractor shall also determine the means by which he will control alluvial or subsurface flow, springs, surface runoff, irrigation flow, excessive soil moisture, and any and all other forms of water which may occur during normal, drought, or flood conditions. Any controlling of water (surface water and/or groundwater) must be performed in such a manner that recently constructed portions of the project are not damaged by either normal or flood flows. Any such damage shall be deemed to be the result of the inadequate control measures taken by the Contractor and shall be repaired at no cost to the designated construction manager. Such repair shall include but not be limited to the re-establishment of soil, top soil, grading, sod or grass seed, replacement of damaged concrete work, or riprap and the removal of silt or debris which may be deposited within the project area by the flows of water.
- B. At no time during construction shall the Contractor affect existing drainage patterns of adjacent property. Any damage to adjacent properties which results from the Contractor's alteration of any drainage patterns, irrigation flows, alluvial or groundwater flows, or surface drainage shall be repaired by the Contractor, at no additional expense to the designated construction manager.
- C. The Contractor may employ 24-hour per day pumping for control of water if necessary. Noise emitted from the pumping operations shall be controlled to conform to local requirements.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

1.04 SUBMITTALS

- A. In accordance with Section 01300, the Contractor shall submit a Water and Erosion Control Plan to the designated construction manager prior to start of construction. The following information is offered as guidance in preparation of the Plan:
1. Describe the sequence of construction.
 2. Refer to the Erosion Control Details shown in the plans.
 3. Describe control facilities. Indicate the location of the vehicle tracking control areas, straw bales, sediment traps, silt fence, and other facilities.
 4. Describe inspection and maintenance. The Contractor should inspect the erosion control measures weekly during construction. He should remove excessive sediment deposition upstream of the silt fences and redistribute upslope from the silt fences. Silt fences that are deflected from the vertical position or are unstable should be re-established. The vehicle tracking erosion control measure should be maintained regularly by removing any gravel that has been moved out onto the streets and placing new gravel as may be required to insure that the gravel is functioning properly to remove mud from the tires of construction equipment.
 5. Dust Prevention - During construction and until final acceptance by the designated construction manager, the Contractor shall be responsible for controlling dust emissions in the construction area. No earthwork activities shall be performed when the wind speed exceeds thirty miles per hour (30MPH). Whenever conditions exist that create airborne soil particles, the Contractor shall at his expense, wet all disturbed areas as often as necessary to control the dust. All fill areas shall be compacted daily to the specified compaction. Any mud or dirt spilled onto paved surfaces shall be cleaned up daily or when directed by the designated construction manager. Failure by the Contractor to comply with the above may result in the Designated construction manager issuing a stop-work order until the problems are corrected. Any dust control or clean up done by designated construction manager will be back charged to the Contractor.
- B. Schedule - Submit a detailed schedule showing dates for implementation of the required erosion control practices as they relate to construction activities.

1.05 PERMITS

- A. The Contractor shall be required to obtain a 402 permit (Construction Dewatering Permit) from the Colorado Department of Health.
- B. Where required the Contractor shall obtain a discharge permit from the local governing entity.

1.06 WATER QUALITY MONITORING

- A. The Contractor shall monitor pumped construction dewatering activities for the following Water Quality parameters and Measurement Frequency.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

Effluent Parameter	Measurement Frequency (D.)	Sample Type (E.)
Flow (mgd)	Weekly	Instantaneous or Continuous
Total Suspended Solids (mg/l)	Twice Monthly	Grab
Oil and Grease (mg/l)	Weekly	Visual or Grab (F.)
pH (s.u.)	Monthly	Grab
Salinity (G.),(H.)	Quarterly	Grab

- B. Water Quality samples taken in compliance with the monitoring requirements specified above shall be taken at the point of discharge prior to entering waters of the State. The required measurement frequency will begin with the initiation of construction dewatering and follow the specified Measurement Frequency thereafter. Construction dewatering will be defined as the removal of water from a construction area by either pumping or diversion.
- C. The thirty (30) day average shall be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period. Samples shall not be used for more than one reporting period.
- D. The seven (7) day average shall be determined by the arithmetic mean of all samples taken on separate days in a seven (7) consecutive-day period. Samples shall not be used for more than one reporting period.
- E. This limitation shall be determined by a single sample or set of samples as required by Part I B.2, Sample Type.
- F. When the measurement frequency indicated is quarterly, the samples shall be collected during March, June, September and December, if a continual discharge occurs. If the discharge is intermittent, then samples shall be collected during the period that discharge occurs. If the permittee, using the approved analytical methods, monitors any parameter more frequently than required by this permit, then the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form or other forms as required by the division. Such increased frequency shall also be indicated.
- G. Definition of Sample Type
 1. A "composite" sample for monitoring requirements is a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.
 2. A "grab" sample, for monitoring requirements, is a single "dip and take" sample.
 3. An "instantaneous" measurement, for monitoring requirements, is a single reading, observation, or measurement performed on site.
 4. A "continuous" measurement, for flow monitoring requirements, is a measurement obtained from an automatic recording device which continually measures flow.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

5. A "visual" observation, for oil and grease monitoring requirements, is observing the discharge to check for the presence of a visible sheen or floating oil.
6. An "in-situ" measurement, for monitoring requirements, is defined as a single reading, observation or measurement taken in the field at the point of discharge.
- H. In the event of an oil sheen or floating oil is observed, a grab sample shall be collected, analyzed, and reported. In addition, corrective action shall be taken immediately to mitigate the discharge of oil and grease.
- I. Where based on a minimum of 5 samples, the permittee demonstrates, to the satisfaction of the Water Quality Control Division, that the level of Total Dissolved Solids (TDS) in the effluent can be calculated based upon the level of electrical conductivity, the permittee may measure and report TDS in terms of electrical conductivity.
- J. Total Dissolved Solids monitoring is required only for discharges to the Colorado River Basin. See specific facility certification rationale to determine whether TDS monitoring is required.
- K. Recording of Results
 1. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
 - a. The exact place, date, and time of sampling;
 - b. The dates the analyses were performed;
 - c. The person(s) who performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of all required analyses
 2. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified.
 3. Reporting of Construction Dewatering Monitoring Results: Monitoring results shall be submitted to the Colorado Department of Health each month during construction.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials necessary for the control of water and erosion shall be provided by the Contractor. These may include, but shall not be limited to, pumps and associated energy costs, well materials, sediment control materials and devices, inlets, pipe and other devices necessary to by-pass and control flow around or through the construction area.

PART 3 - EXECUTION

3.01 GENERAL

- A. The Contractor shall be required to temporarily relocate drainage ways, by-pass the flow, dewater excavated areas, or otherwise control the water so that the project can be constructed in accordance with the Drawings.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- B. All excavations shall be kept dry until the structures and appurtenances to be built therein have been completed to such an extent that they will not be damaged. At that time, the Contractor may remove such temporary means and devices utilized in the control of water.

END OF SECTION 015713

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 015813

PROJECT SIGN

PART 1 - GENERAL

1.01 TYPE OF SIGN

- A. The type of sign constructed by the contractor shall be in full compliance with requirements set forth in the Supplemental General Conditions set forth by EDA. Specific reference is made to Section S-25 of the EDA Supplemental General Conditions.

1.02 PLACEMENT OF THE SIGN

- A. The project sign shall be placed in full compliance with the Supplemental General Conditions set forth by EDA. Specific reference is made to Section S-25 of the EDA Supplemental General Conditions and as follows on the attached sheets.

END OF SECTION 015813

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 017000

PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. The work of this section consists of final cleanup, closeout submittals, and final inspection procedures.

1.02 SUBMITTALS:

- A. As specified in this and other sections.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

3.01 POSTED OPERATING INSTRUCTIONS:

- A. As specified in the individual sections. Furnish operating instructions attached to or posted adjacent to equipment. Include wiring diagrams, control diagrams, control sequence, start-up, adjustment, operation, lubrication, shutdown, safety precautions, procedures in the event of equipment failure, and other items of instruction recommended by the manufacturer.

3.02 CLEANING:

- A. Remove all tools, equipment, surplus materials, and rubbish. Restore or refinish surfaces of existing facilities that are marred, scratched, or damaged due to the work of this contract to match original condition. Remove grease, dirt, stains, foreign materials, and labels from interior and exterior finished surfaces. Do any required waxing and polishing. Sweep paved areas; rake grounds. At time of final inspection, project shall be thoroughly clean and ready for use.

3.03 PROJECT RECORD DRAWINGS:

- A. The contractor shall maintain an up to date set of redlined record drawings, which indicate all changes and revisions to the original design that, affect the permanent structures and will exist in the completed work. The contractor shall also reference all underground utilities to semi-permanent or permanent physical objects. Reference water, sewer, telephone, and electric lines to corners of buildings. Include schematic diagrams showing terminal numbers for all electrical equipment.
- B. Keep record drawings current. Inspection will be made monthly. Certification of accuracy and completeness will be required on monthly payment requisitions. Project record drawings are the property of the Owner and shall be delivered to the Owner before closeout.

3.04 CLOSEOUT SUBMITTALS:

- A. Submit before final inspection request
 - 1. Project Record Drawings: As specified above.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2. Guarantees and Bonds: As specified in individual sections.
3. Spare Parts and Materials: As specified in individual sections.
4. Operation and Maintenance Data: Provide four complete sets of the following data. Data shall be on 8½-inch by 11-inch sheets or manufacturers' standard catalogs, suitable for side binding. Include the following as applicable:
 - a. Replacement parts list
 - b. Wiring diagrams
 - c. Manufacturers' model numbers
 - d. Name, address, and telephone number of local representative
 - e. Basic operational features
 - f. Schedule of maintenance work
 - g. Lubricants
 - h. Emergency procedures
 - i. Starting, operating, and shutdown procedures
 - j. Seasonal shutdown procedures
 - k. Cleaning agents and methods
 - l. Color and texture designations.
5. Operating Tools: As specified in the individual sections.
6. Special Tools: One set of special tools required to operate, adjust, dismantle, or repair equipment. Special tools are those not normally found in possession of mechanics or maintenance personnel.

3.05 SUBSTANTIAL COMPLETION AND FINAL INSPECTION:

- A. Submit written certification that project, or designated portion of project, is substantially complete, and request in writing a final inspection. The Engineer will make an inspection within 10 days of receipt of request.
- B. When the Engineer determines that the work is substantially complete, he will prepare a list of deficiencies to be corrected before final acceptance and issue a Letter of Substantial Completion.
- C. If the Engineer determines that the work is not substantially complete, he will immediately notify the Contractor in writing, stating reasons. After completing work, Contractor shall resubmit certification and request a new final inspection.

3.06 ACCEPTANCE OF THE WORK:

- A. After all deficiencies have been corrected; a Letter of Acceptance will be issued.

3.07 POST-CONSTRUCTION INSPECTION:

- A. Before expiration of warranty period, the Owner will inspect the project and notify Contractor in writing of all deficiencies.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

END OF SECTION 017000

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 024113

SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section describes demolition of items specified herein and shown on the drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312000, Site Clearing and Earthwork

1.3 DEFINITIONS

- A. Demolish: Completely remove and legally dispose of off property.
- B. Pavement Removal: Asphalt and portland cement concrete (PCC) pavement, curbs, and sidewalks excavated full depth.
- C. Cold Plane Pavement Removal:
1. Asphalt concrete removed to a specified depth from existing pavement surface by cold planing.
 2. PCC removed to a specified depth from existing pavement surface by cold planing or grinding.

1.4 WORK ITEMS

- A. The work includes but is not limited to, demolition of the following:
1. Slabs:
 - a. Concrete slabs.
 - b. Concrete steps.
 2. Pavement:
 - a. Asphaltic or portland cement concrete surfacing and any associated base material.
 - b. Curbing.
 - c. Sidewalks, driveways, parking areas, etc.
 - d. Aggregate surfacing.
 3. Debris shall include but is not limited to:
 - a. Concrete, asphalt, stone, brick, tile, etc.
 - b. Building wood, glass, tar paper, metal, cloth, paper, etc.
 - c. Abandoned vehicles, and automotive parts, tires, boxes, crates, barrels, fencing, etc.
 - d. Be responsible for removing material dumped within the work areas during the time of the contract.
 4. Materials or structures called out by word description on the drawings or in the specifications shall be included as work items.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 GENERAL

- A. Demolish and remove all work items within area in the manner specified.
- B. Stones and/or concrete rubble 12 inches or larger shall be disposed of off property.

3.2 ENVIRONMENTAL CONSIDERATIONS

- A. Nuisance Dust Control:
 - 1. Demolition debris that contains dust or other material that could become airborne or create a nuisance shall either be removed from the work site daily, or shall be covered and secured with tarps or sheeting until removed from the site.
 - 2. Apply a water mist, or other means approved by the City, on debris to control or mitigate airborne dust or airborne nuisances, unless the material will become friable (i.e., crumble easily) or will dissolve in water. Friable material and material that may dissolve in water shall be securely covered with tarps or sheeting.
 - 3. Demolition debris that becomes friable when wetted or will dissolve in water shall be stored only on impervious surfaces, field-installed ground sheeting, or other barriers.
- B. Demolition Debris:
 - 1. Manage demolition material as hazardous waste or solid waste in accordance with these specifications.
 - 2. Unless specifically identified in the contract documents or approved by the City, no demolition debris shall be placed as fill material or otherwise disposed of on City property.
- C. The work area is defined as the area within the limits of the EDA boundaries defined on the plans.
- D. Cap and seal sewer, drainage, and water lines at a minimum of 2 feet below adjacent ground level.
- E. Brush and trees may be removed and or relocated per plans.

3.3 REMOVAL AND PLUGGING OF ABANDONED PIPES, CULVERTS, AND MISCELLANEOUS STRUCTURES

- A. Abandoned pipes or portions of other exposed items shall be removed a minimum of 2 feet back of face of slope or 2 feet below subgrade.
- B. Cap or plug the ends of partially removed pipes, culverts, and miscellaneous structures with concrete to produce a watertight seal.
- C. Contact the City for direction if unidentified utilities are uncovered during the work.
- D. Dispose of removed pipes, culverts, and miscellaneous structures off City property, at no added cost to the City.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.4 PAVEMENT REMOVAL

- A. Do not begin pavement removal until approved by the City.
- B. Remove pavement to the limits shown on the drawings. Replace pavement removed beyond the limits without City's approval as directed and at no added cost to the City.
- C. Cut pavement by methods approved by the City, except at those locations shown on the drawings which specifically designate saw cutting.
- D. Dispose of pavement removal off City property.

3.5 COLD PLANE PAVEMENT REMOVAL

- A. Using a cold planer or grinder, excavate to the limits and depths shown on the drawings.
- B. Leave the bottom of the removal area in a roughened condition.
- C. Sweep or vacuum the removal area to remove loose asphalt, rock, dirt, and other foreign materials.
- D. Dispose of swept and/or vacuumed material off City property.
- E. Dispose of cold planer cuttings and/or grindings off City property.

3.6 SITE RESTORATION

- A. Clear and scarify the surface of the work area to achieve a smooth and bare earth surface free of heavy growth of vegetation and cut natural growth and/or foreign material. Such surface may be obtained by dragging blade or bucket from demolition equipment over the work area.
- B. Standing brush and trees may be left in the work area at the Contractor's option.
- C. Grade fill material and borrow sites in a manner to avoid causing interference with existing drainage patterns and to avoid water ponding.
- D. Fill shall be made with existing earth from the site and compacted to the extent that it will support rubber-tired construction equipment.
- E. Concrete and aggregate may, at the Contractor's option, be used as fill material provided at least a 2-foot cover of earth is obtained over such material.
- F. See Section 312000, Site Clearing and Earthwork.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from the work site and dispose of them off City property in accordance with local, state, and federal laws and regulations.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn demolished materials.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 024113

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 033519

INTEGRAL CONCRETE COLORING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work of this section includes furnishing of all labor, material and equipment necessary to provide integral colored concrete for the portions of the concrete flatwork and cast-in-place concrete as shown on the drawings and specified herein.
- B. If this Section conflicts with Related Sections:
 - 1. This Section takes precedence for matters that affect concrete appearance.
 - 2. Related Sections take precedence for matters that do not affect concrete appearance.
 - 3. In case of conflicts, notify Architect for clarification.
- C. The following Concrete items require Integrally Colored Concrete:
 - 1. Designated Sidewalks
 - 2. Designated Plaza Paving
 - 3. Crosswalks
 - 4. Specialty Intersection Paving
 - 5. Concrete Bands
 - 6. Concrete Bands around Tree Grates
 - 7. Concrete Planter Curbs
 - 8. Any other areas as shown on plans

1.02 RELATED SECTIONS

- A. CONCRETE: Division 3 Sections and City of Pueblo Standard Construction Specifications

1.03 REFERENCES

- A. ACI 117 Tolerances for Concrete Construction and Materials
- B. ACI 301 Structural Concrete
- C. ACI 303.1 Cast-in-Place Architectural Concrete
- D. ACI 305.1 Hot Weather Concreting
- E. ACI 306.1 Cold Weather Concreting
- F. ACI 308R Curing Concrete
- G. ACI 318 Building Code Requirements for Structural Concrete
- H. ACI 347 Formwork for Concrete
- I. ASTM C 309 Liquid Membrane-Forming Compounds for Curing Concrete

ARTICLE 5 – TECHNICAL SPECIFICATIONS

J. ASTM C 979 Pigments for Integrally Colored Concrete

1.04 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301, ACI 303.1, ACI 305.1, ACI 306.1, ACI 318.
- B. Obtain each material from same source and maintain high degree of consistency in workmanship throughout Project.
- C. Installer Qualifications: Concrete work shall be by firm with minimum five years experience with work of similar scope and quality.
- D. The Contractor or his Subcontractor shall have had experience in the construction of not less than 10 successful free form structures using colored concrete with staining to imitate natural rock outcroppings. The designated construction manager shall view such existing structures prior to the award of the contract. The quality of the appearance in the designated construction manager's view shall constitute one, but not the only, determining factor in the award of the contract.
- E. Integrally Colored Concrete Mock-Up:
 - 1. Provide full-scale mock-up under Division 01 Section (Quality Requirements). Construct at least one month before start of other concrete work to allow concrete to cure before observation.
 - 2. At location acceptable to Architect, demonstrate methods used for construction, including forming and finishing conditions required for Project using materials, workmanship, joint treatments, form ties, patching techniques, and curing methods to be used throughout Project.
 - 3. Accepted mock-up provides visual standard for work of Section.

1.05 SUBMITTALS

- A. Product Data for the following:
 - 1. Color additives
 - 2. Curing products
 - 3. Form release agents
 - 4. Proprietary cleaning agents
 - 5. Surface retarders
- B. Shop Drawings: Indicate extent of each color of integrally colored concrete.
- C. Samples for verification: Submit sample chip of specified concrete colors indicating Davis color name.
- D. Qualification Data: For Installer

1.06 DELIVERY, STORAGE AND HANDLING

- A. Color Additive: Deliver, store, and handle in accordance with manufacturer's instructions.
- B. Concrete: Schedule delivery to provide consistent mix times from time color additive is

ARTICLE 5 – TECHNICAL SPECIFICATIONS

placed in mixture until placement of integrally colored concrete.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Refer to City of Pueblo Standard Construction Specifications for the concrete mix requirements.
- B. Integrally colored concrete used on the project shall be Davis Color, as noted on plans, and installed as per manufacturer's specifications.
- C. Coloring pigment added must be determined by weight. Visual bag splitting will not be permitted.
- D. All aggregate materials must be supplied from the same source and must be non-reactive.
- E. Cement for the entire project must be supplied from the same source and must be the same type and brand.
- F. For each specified color, maintain the same weight ratio pigment to cement for all colored concrete that is placed.
- G. The curing and sealing compound for colored concrete shall be of same manufacturer as colored admixture, for use with integrally colored concrete, and shall conform to ASTM C309.
- H. Water shall be clean and potable.
- I. Admixtures: Do not use calcium chloride admixtures.

2.02 COLOR ADDITIVES

- A. Manufacturer: Davis Colors
 - 1. Contact Information:
 - a. Phone: 800-356-4848 or 323-269-7311
 - b. E-mail: info@daviscolors.com
 - c. Web Site: www.daviscolors.com
 - 2. Substitutions: Comply with Division 01 (Substitution Procedures).
- B. Type:
 - 1. Concentrated pigments specially processed for mixing into concrete and complying with ASTM C979.
 - 2. Color additives containing carbon black are not acceptable.
- C. Color Additive Delivery:
 - 1. Automated Dispensing: Meter and dispense colors using computer-controlled automated color weighing and dispensing system. Use Davis Colors Chameleon liquid metering system and Hydrotint liquid color additives.
 - 2. Manual Dispensing: Use Davis Colors Mix-Ready powdered color additives in pre-measured disintegrating bags.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2.03 FORMED CONCRETE

- A. Forms and Form Facing Materials:
 - 1. Type: High density and non-vapor transmitting form face, free of rust or other defects deleterious to required finish, and with watertight joints.
- B. Form Ties: Corrosion-resistant tires, removable cones and plugs.
- C. Form Release: Use type that is non-staining and minimizes formation of bug-holes.
- D. Curing Compound for Formed Surfaces: Complying with ASTM C309 and approved by color additive manufacturer for use on integrally colored concrete. Do not use white-pigmented curing compounds.

2.04 CONCRETE FLATWORK

- A. Curing Compound for Flatwork: Davis Colors Color Seal II, tinted to match integrally colored concrete or W-1000 Clear Cure & Seal, complying with ASTM C309 and designed for use on integrally colored concrete.
- B. Moist Curing Blankets: Disposable curing blankets designed for use on colored or decorative concrete and to keep surface of concrete moist for seven days.

2.05 ACCESSORIES

- A. Reinforcing Bar Supports: Use corrosion-resistant types at locations contacting exposed surfaces.
- B. Joint Sealants:
 - 1. Color: to match integrally colored concrete.
- C. Cleaning Agents: Use products known to be compatible with integrally colored concrete.

2.06 MIXES

- A. Slump: 4 inches. If greater slump is required, use water-reducing or super-plasticizing admixture; do not add water.
- B. Color Additives: Mix in accordance with manufacturer's instructions. Mix until color additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.
- C. Do not retemper mix or add water in field.

2.07 CONCRETE COLORS

- A. Concrete colors shall be as shown on plan.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Do not place integrally colored concrete where standing water is present.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.02 INSTALLATION

- A. Comply with color admixture manufacturer's recommendations unless otherwise specified in this Section.

3.03 FORMED SURFACES

1. Structural Concrete:

1. Provide ACI 301 Surface Finish SF-3.0:

- a. Patch voids larger than 3/4 inch wide or 1/2 inch deep.
- b. Remove projections larger than 1/8 inch.
- c. Patch tie holes.

2. Match sample finish. Contractor must reproduce a mockup of the sample finish on an area at least 100 square feet.

3. Surface Tolerance: ACI 117"

- a. Class A (+1/8 inch maximum irregularities).
- b. Class B (+1/4 inch maximum irregularities).
- c. Class C (+1/2 inch maximum irregularities).
- d. Class D (+1 inch maximum irregularities).

2. Architectural Concrete:

1. As-Cast Finish: Form or form facing material shall be:

- a. Smooth.

3. Curing and Stripping:

a. Curing: Cure for duration recommended in ACI 308R. Maintain concrete between 65 and 85 degrees Fahrenheit during curing.

b. Leave forms in place for as long as practical, and do not strip until concrete has reached a consistent age.

c. Stripping: If forms are removed before required curing duration, apply curing compound for formed surfaces. To extent practical, integrally colored concrete throughout project should be cured using the same methods and for the same durations.

4. Repair:

a. Fill holes and defects in concrete surface within 48 hours of form removal.

b. Use patching materials and techniques approved in mock-up.

c. Make patches with stiff mortar made with materials from same sources as concrete. Adjust mortar mix proportions so dry patch matches dry adjacent concrete. Add white cement to mortar mix if necessary to lighten it.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.04 FLATWORK

B. Finishing:

1. Broom Finish: Pull broom across freshly floated concrete to produce medium texture in straight lines perpendicular to main line of traffic. Do not dampen brooms.

C. Curing:

1. Apply curing compound for flatwork in accordance with manufacturer's instructions. Apply curing at a consistent time for each pour.
2. Maintain concrete between 65 and 85 degrees Fahrenheit during curing.

3.05 APPEARANCE TOLERANCES

- #### A. Appearance: Minor variations in appearance of integrally colored concrete that are similar to natural variations in color and appearance of uncolored concrete are acceptable.

3.06 CLEANING

- #### A. Efflorescence: Remove efflorescence as soon as practical after it appears and as part of final cleaning.
- #### B. Use least aggressive cleaning techniques possible.
- #### C. If proprietary cleaning agents are used, pre-wet surface, test cleaning agent on small, inconspicuous area, and check effects prior to proceeding. At walls, begin cleaning at top and work down. Thoroughly rinse surface afterwards with clean water. Follow cleaner manufacturer instructions.
- #### D. Do not use muriatic or hydrochloric acid on integrally colored concrete.

END OF SECTION 033519

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 321316 DECORATIVE CONCRETE PAVING - SANDSCAPE®

PART I - GENERAL

1.01 SECTION INCLUDES

- A. Full depth *Sandscape®* Concrete flatwork.
- B. Cast-in-place concrete planter curbs with *Sandscape®* finish.
- C. Cast-in-place concrete stairs with *Sandscape®* finish.
- D. Cast-in-place concrete retaining wall with *Sandscape®* finish.
- E. Cast-in-place concrete freestanding seat wall with *Sandscape®* finish.

1.02 DESCRIPTION – *Sandscape®* Concrete Includes:

- A. Materials: concrete, integral color, surface treatment.
- B. Pressurized cleaning equipment
- C. Concrete placement and finish
- D. Surface treatment
- E. Sealer Application

1.03 SUBSTITUTIONS

- A. No substitutions will be allowed.

1.04 SUBMITTALS

- A. Submit samples, minimum 2' x2' as required showing color, finish and sealer
- B. Color chart for concrete
- C. Product data for surface treatment and sealer materials
- D. Concrete mix design

1.05 CONTRACTOR

- A. Cast-in-place *Sandscape®* Concrete is to be installed by a decorative concrete contractor with a minimum of 5 years experience installing *Sandscape®* Concrete and having installed a minimum of 50,000 s.f. within a 50 mile radius of the job site, in the last five years. The contractor shall submit a list of five prior installations, with photos of each for the customer to view in order to evaluate the overall level of quality and expertise demonstrated by the contractor.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- B. Contractor may be required to place an 8' x8' on-site reference sample indicating consistency, isolation joints, control joints and caulking. Said sample shall be retained for the duration of the job and used as the standard for installed work.

PART 2 - PRODUCTS

2.01 CONCRETE

A. Mix Design

1. Concrete shall have a minimum of 4500 psi (per ACI 318) or as required by local building codes or industry standards, whichever is higher
2. Portland Cement shall conform to ASTM C150, C595 or C1157 depending on soil conditions.
3. Aggregate shall conform to ASTM C33
4. Air entrainment shall conform to ASTM C260

2.02 COLORING, TEXTURE AND SEALING MATERIALS

- A. The concrete shall be colored with the *Sandscape*® colors as shown on plans.
- B. CHI 027 Surface Treatment will be used to achieve the desired texture
- C. Slabs shall be sealed with a penetrating sealer in accordance with the manufacturer's recommendations. Submit sealer for approval.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The area to receive *Sandscape*® concrete shall have the sub-grade prepared as required as for any concrete slab on grade.
- B. The formwork shall be installed in accordance with the drawings. *Sandscape*® concrete shall be 6" thick. Walls to be per structural engineer's recommendations.
- C. Reinforcement shall include #4 rebar @18" o.c.e.w. and Fibermesh 300, if required according to drawings and specifications.
- D. Control joints and/or isolation joints shall be provided in accordance with the drawings and the guidelines established by the American Concrete Institute. As with any concrete slab, *Sandscape*® concrete usually contains construction joints, control joints and expansion joints. The contractor shall advise and work with the architect/engineer to determine the best location for these joints to minimize the visibility of the joints and to minimize unsightly cracking.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- E. All concrete flatwork shall be performed under the supervision of a craftsman who has completed the American Concrete Institute (ACI) Concrete Flatwork Finisher and Technician (ACICFFT) training and has five years of experience installing Sandscape®.
- F. The concrete shall be placed and screeded to the finished grade, and floated to a uniform surface using standard finishing techniques.
- G. All Sandscape® curb/wall/stairs work to be installed using smooth forms, stripped while concrete is workable and troweled smooth.
- H. Surface Treatment will be applied and cleaned off with proper equipment.
- I. After the initial curing period the surface of the slab shall be sealed.

3.02 INSTALLATION TOLERANCES

- A. Uniformly finish the concrete surface
- B. Uniformly apply the CHI 027 surface treatment
- C. Install control joints in a timely manner to minimize random cracking.
- D. Remove the surface down to the fine aggregate using pressurized equipment. Care shall be taken to not leave any deep or shallow inconsistencies in the overall *Sandscape*®.
- E. Evenly apply the recommended sealer
- F. Clean up project site

END OF SECTION 321316

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 321416

BRICK PAVING

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Work Included: Provide brick paving complete, as shown and as specified.
- B. Related Work:
 - 1. City of Pueblo Standard Specifications

1.02 REFERENCES:

- A. ANSI - American National Standards Institute, Inc.,
Specifications for Installation of Ceramic Tile
- B. ASTM - American Society for Testing and Materials

1.03 SUBMITTALS:

- A. Product Data: Manufacturers' current catalog cuts and printed Specifications of each of the following:
 - 1. Brick pavers
 - 2. Sealant and back-up material
 - 3. Expansion joint material
- B. Shop Drawings: Minimum 3/8 in. scale details in plans and sections, showing cuts, joints and interfaces with other work.
- C. Samples:
 - 1. Brick Pavers: Four (4) for each specified type and color, showing full range of color.
 - 2. Color Samples: Two (2) each for grout and expansion joint compounds.
- D. Test Report: Tests for brick's compressive strength, water absorption and friction factor.

1.04 QUALITY ASSURANCE:

- A. Qualifications: Show successful and continuous experience of not less than three (3) years experience in brick paving construction.
- B. Mock-ups: One (1) laid up, grouted, 2 ft. x 2 ft. panel for each type of brick and pattern.
- C. Batching: Supply brick from one manufacturer and single batch.
- D. Lines and Levels: Employ a licensed surveyor or registered civil engineer to lay out and establish lines, levels, grades and positions.

1.05 DELIVERY, STORAGE, AND HANDLING:

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- A. Packing and Delivery: Deliver bricks to the job in original grade-sealed cartons with legible labels and seals unbroken until ready for use.
- B. Storage: Keep bricks protected and dry. Remove from cartons only at time of installation.
- C. Protection: Protect bricks from staining or chipping. Replace damaged or defective bricks at no cost to Owner.

1.06 PROJECT/SITE CONDITIONS:

- A. Environmental Requirements: In cold weather, heat sand and water sufficiently to maintain the temperature of mortar above 50 degrees F. Provide adequate precaution against freezing.
- B. Existing Conditions: For protection of existing plants to remain, see Section 02233 - Existing Planting to Remain.

1.07 SEQUENCING AND SCHEDULING:

- A. Coordination: Coordinate with the work in other sections to insure the following:
 - 1. Sleeving and Electrical Conduits: Place sleeves and conduits prior to installing sand bed for brick paving.
 - 2. Drainage Structures: Cooperate with storm drainage contractor to set all inverts and rim elevations for drains to be located in brick paving.
 - 3. Handrails and Bollards: Set anchors or sleeves in place and pour footings prior to installing sand bed for brick paving.

PART TWO - PRODUCTS

2.01 BRICK:

- A. Type: ASTM C902, SW grade, Class SX, Type I. Water absorption shall not exceed 4%.
- B. Size: Wire-cut to dimensions shown on Drawings.
- C. Color: As specified on the drawings or by Landscape Architect.
- D. Friction Factor: Permanent wet leather/wet paver factor of 0.5 minimum.
- E. Manufacturer: Summit Brick Co., Pueblo, CO (719) 542-8278; or approved equal.

2.02 EQUIPMENT:

- A. Cutting Tools: Use masonry saw for cutting brick pavers to size. Do not score and break brick pavers.

2.03 ACCESSORIES:

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- A. Expansion Joint Materials:
 - 1. Pre-molded Joint Filler: ASTM D1751, non-extruding and bituminous type resilient filler, compatible with sealant and backer rod.
 - 2. Sealant Backer Rod: Compressible polyethylene foam rod or other flexible, permanent, durable non-absorptive material as recommended by joint sealer manufacturer for compatibility with joint sealer.
 - 3. Joint Sealer:
 - a. Type: Multi-component polyurethane sealant, FS TT-S-00227, Class A, type as recommended by manufacturer for exterior locations subject to foot traffic
 - b. Product: ASTM C290 non-sag sealant, "Dynatred" by Pecora Corporation, (214) 278-8158, or "Sonolastic Two-Part" by Sonneborn Building Products, (612) 835-3434, or approved equal.
 - c. Color: To match adjacent paving/grout.
- B. Water: Fresh, clean, non-alkaline and potable, as available from Owner. Transport as required.
- C. Herbicide: "Treflan 5G" by Elanco Products Co., (317) 261-3638, or "Chipco Ronstar G" by Rhone-Poulenc, Chemical Co., (201) 297-0100, or "Devrinol" by Stauffer Chemical Co., (415) 544-9610, or approved equal.
- D. Sand Base: Clean bank sand, free of clay content, dirt or organic matter.

PART THREE - EXECUTION

3.01 EXAMINATION:

- A. Verification of Conditions:
 - 1. Notify Landscape Architect of discovered conflicts and discrepancies on Drawings with conditions on the site which would prevent proper installation of brick work.
 - 2. Review the site and verify that other trades have completed their work and that the site is acceptable to receive the brick work.

3.02 PREPARATION:

- A. Controls: Lay brick work plumb and true to line and grade as indicated on the Drawings and in accordance with approved standards of brick paving construction. Be responsible for proper drainage on brick paving surfaces.
- B. Cleaning: Clean brick before setting by thoroughly scrubbing with fiber brushes and follow with a thorough drenching with clean water. Use only mild cleaning compounds containing no caustic or harsh fillers or abrasives.
- C. Setting Bed/Surface: Thoroughly clean up, sweep, brush down and scrub as required to generate an optimum substrate for accepting the brick work.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.03 INSTALLATION OF BRICK ON SAND BASE:

- A. Soil Sterilant: Apply solution over the entire area to be paved in accordance with the manufacturer's latest printed instructions.
- B. Sand Base: Place sand base to thickness indicated on the Drawings and thoroughly compact.
- C. Setting: Set pavers in patterns indicated on the Drawings.
- D. Joints: Set pavers snugly together with tight joints; tamp in place maintaining true line and grade.
- E. Sand Topping: Sweep joints full of sand. Sweep excess sand from bricks and remove.

3.05 TOLERANCES:

- A. Do not permit finished paving surfaces to vary more than 1/4 in. measured with a 10 ft. metal straightedge, except at grade changes.
- B. No "birdbaths" or other surface irregularities will be permitted. Correct irregularities to the satisfaction of Landscape Architect.

END OF SECTION 321416

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 323300

SITE FURNISHINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included: Work includes furnishing of all labor, material and equipment necessary for providing and installing site furniture as shown on the drawings, including but not limited to:

1. Trash Receptacles
2. Tables
3. Chairs
4. Benches
5. Bollards

1.02 RELATED SECTIONS

A. CONCRETE: City of Pueblo Standard Construction Specifications

1.03 SUBSTITUTIONS

A. Approved Equal Substitutions can be requested during bid period for all Site Furnishings, and shall be evaluated from the submittals outlined below and equivalence to specified product as shown on drawings.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions for each item required.

1.05 QUALITY ASSURANCE

A. General: Provide each type of site furnishing from one source and from a single manufacturer unless directed or specified otherwise.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store prefabricated components, sheets, panels, and other manufactured items so that they will not be damaged or deformed. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight ventilated covering. Store so that water accumulations will drain freely. Do not store sheets or panels in contact with other materials which might cause staining.

1.07 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions by field measurements and that furnishings may be installed in compliance with the original design.

PART 2 - PRODUCTS

2.01 FURNISHINGS

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- A. Supply and install trash receptacles.
 - 1. Trash receptacles shall be as shown on drawing, and in the quantity shown on drawings.
- B. Supply and install tables and chairs.
 - 1. Tables and chairs shall be as shown on drawings, and in the quantity shown on drawings.
- C. Supply and install benches.
 - 1. Benches shall be as shown on drawings, and in the quantity shown on drawings.
- D. Supply and install bollards.
 - 1. Bollards shall be as shown on drawings, and in the quantity shown on drawings.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Furnish setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, anchor bolts, and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- B. Coordinate delivery of trash receptacles, benches, tables, chairs, and bollards to project site.

3.02 INSTALLATION

- A. General: Locate each item of equipment accurately as indicated. Obtain field verification of location for each item from Architect before proceeding. Set units plumb, level, and free of warp or racking. Secure in position using anchors and devices recommended by the manufacturer.
- B. Install as shown on the drawings and as recommended by the manufacturer.

END OF SECTION 323300

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 328400

PLANTING IRRIGATION

PART 1 - GENERAL

- 1.01 WORK INCLUDED - Work of this Section generally includes provisions for the installation of an underground landscape irrigation system including the following:
- A. Static pressure verification and coordination of irrigation system installation with landscape material installation.
 - B. Trenching, stockpiling excavation materials, refilling and compacting trenches.
 - C. Complete irrigation system including but not limited to piping, backflow preventer assemblies, valves, fittings, heads, controllers and wiring, and final adjustments to insure complete coverage.
 - D. Water connections.
 - E. Replacement of unsatisfactory materials.
 - F. Clean-up, Consultant Reviews, and Project Acceptance.
 - G. Tests.
- 1.02 REFERENCES
- A. Perform Work in accordance with requirements of Conditions of the Contract and Division 01 - General requirements as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.
 - B. Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in Contract Documents.
 - 1. American Society for Testing and Materials (ASTM) - Specifications and Test Methods specifically referenced in this Section.
 - 2. Underwriters Laboratories (UL) - UL Wires and Cables.
 - 3. National Sanitation Foundation (NSF) – Piping and Backflow prevention.
 - 4. American Water Works Association - Piping and Backflow prevention.
- 1.03 QUALITY ASSURANCE
- A. Installer Qualifications - Installer shall have had considerable experience and demonstrate ability in the installation of irrigation system(s) of specific type(s) in a neat, orderly, and responsible manner in accordance with recognized standards of workmanship. To

ARTICLE 5 – TECHNICAL SPECIFICATIONS

demonstrate ability and experience necessary for this Project, and financial stability, submit if requested by Consultant, prior to contract award the following:

1. List of 3 projects completed in the last 2 years of similar complexity to this Project.
Description of projects shall include:
 - a. Name of project.
 - b. Location.
 - c. Owner.
 - d. Brief description of work and project budget.

B. Special Requirements:

1. Work involving substantial plumbing for installation of copper piping, backflow preventer(s), and related work shall be executed by licensed and bonded plumber(s). Secure a permit at least 48 hours prior to start of installation.
2. Tolerances - Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, compaction, and repair of finish grade treatment.
3. Coordination with Other Contractors - Protect, maintain, and coordinate Work with Work under other Section.
4. Damage To Other Improvements - Contractor shall replace or repair damage to grading, soil preparation, seeding, sodding, or planting done under other Sections during Work associated with installation of irrigation system at no additional cost to Owner.

C. Pre-Construction Conference - Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials, and systems used to perform the Work. Conference shall be scheduled not less than 10 days prior to commencement of Work. All parties required to be in attendance shall be notified no later than 7 days prior to date of conference. Contractor shall notify qualified representatives of each party concerned with that portion of Work to attend conference, including but not limited to Architect, Consultant, Contractor's Superintendent, and Installer.

1. Minutes of conference shall be recorded and distributed by Contractor to all parties in attendance within five days of conference.

1.04 SUBMITTALS

- A. Prepare and make submittals in accordance with conditions of the Contract and Division 1 Specification Sections.
- B. Materials List - Submit five copies if submitting in hard-copy format or one full electronic set of a complete materials list indicating manufacturer, model number, and description of all

ARTICLE 5 – TECHNICAL SPECIFICATIONS

materials and equipment to be used. Show appropriate dimensions and adequate detail to accurately portray intent of construction via cut sheets and/or shop drawings, as appropriate based on plans, details, and specification information contained within.

C. Record Drawings (As-Builts):

1. At onset of irrigation installation secure Autocadd files of original irrigation design from Owner. At the end of every day, revise as-built prints for work accomplished that day in red ink. As-built field prints shall be brought up-to-date at the close of the working day every Friday by a qualified draftsman. A print of record plan(s) shall be available at Project Site. Indicate zoning changes on weekly as-built drawings. Indicate non-pressure piping changes on as-built. Upon completion of Project, but prior to scheduling of substantial acceptance walk-through, submit for review a final set of as-built mylars and an Autocadd disk copy. Dimensions, from two permanent points of reference (building corners, sidewalk, road intersections or permanent structures), location of following items:
 - a. Connection to existing water lines.
 - b. Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
 - c. Sprinkler control valves.
 - d. Quick coupling valves.
 - e. Manual drains and stop and waste valves.
 - f. Drip line blow-out stubs.
 - g. Control wire routing if not with pressure mainline.
 - h. Gate valves.
 - i. Control wire and communication cable splices.
 - j. Water meters.
 - k. Locations of all sleeving including size, quantity and depth of sleeve,
 - l. Flow sensors.
 - m. Pressure regulating valves.
2. Owner's Representative will not certify any pay request submitted by the Contractor if the as-built drawings are not current, and processing of pay request will not occur until as-builts are up-dated.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- D. Operation Instructions - Submit 3 written operating instructions including winterization procedures and start-up, with cut sheets of products, and coordinate controller/watering operation instruction with Owner maintenance personnel.
1. Controller Charts:
 - a. Do not prepare charts until Consultant has reviewed record (as-built) drawings.
 - b. Provide one controller chart for each automatic controller installed.
 - i. Chart may be reproduction of record drawing, if scale permits fitting of controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.
 - ii. Chart shall be blueline print of actual "as-built" system, showing area covered by that controller.
 - c. Identify area of coverage of each remote control valve, using a distinctly different pastel color drawing over entire area of coverage.
 - d. Following review of charts by Consultant, they shall be hermetically sealed between two layers of 20-mm thick plastic sheet
 - e. Charts shall be completed and reviewed prior to final review of irrigation system.
- E. Provide documentation of construction and demolition waste debris recycling / salvage rates. See Section 01 74 19 - Construction Waste Management and Disposal

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Comply with General Conditions and Division 1 Section "Product Requirements".
- B. Deliver, unload, store, and handle materials, packaging, bundling, products in dry, weatherproof, condition in manner to prevent damage, breakage, deterioration, intrusion, ignition, and vandalism. Deliver in original unopened packaging containers prominently displaying manufacturer's name, volume, quantity, contents, instructions, and conformance to local, state, and federal law. Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, snow, ice, temperature extremes, fire, or jobsite damage.
- C. Handling of PVC Pipe - Exercise care in handling, loading and storing, of PVC pipe. All PVC pipe shall be transported in a vehicle that allows length of pipe to lie flat so as not to subject it to undue bending or concentrated external loads. All sections of pipe that have been dented or damaged shall be discarded, and if installed, shall be replaced with new piping.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

1.06 JOBSITE CONDITIONS

A. Protection of Property:

1. Preserve and protect all trees, plants, monuments, structures, and paved areas from damage due to Work of this Section. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to satisfaction of Owner, and all injury to living plants shall be repaired by Owner. All costs of such repairs shall be charged to and paid by Contractor.
2. Protect buildings, walks, walls, and other property from damage. Flare and barricade open ditches. Damage caused to asphalt, concrete, or other building material surfaces shall be repaired or replaced at no cost to Owner. Restore disturbed areas to original condition.

B. Existing Trees:

1. All trenching or other Work under limb spread of any and all evergreens or low branching deciduous material shall be done by hand or by other methods so as to prevent damage to limbs or branches.
2. Where it is necessary to excavate adjacent to existing trees use all possible care to avoid injury to trees and tree roots. Excavation, in areas where 2 inch and larger roots occur, shall be done by hand. Roots 2 inches or larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a trenching machine is operated close to trees having roots smaller than 2 inches in diameter, wall of trench adjacent to tree shall be hand trimmed, making clean cuts through roots. Trenches adjacent to trees shall be closed within 24 hours, and when this is not possible, side of trench adjacent to tree shall be kept shaded with moistened burlap or canvas.

C. Protection and Repair of Underground Lines:

1. Request proper utility company to stake exact location (including depth) of all underground electric, gas, or telephone lines. Take whatever precautions are necessary to protect these underground lines from damage. If damage does occur, Utility Owner shall repair all damage. Contractor shall pay all costs of such repairs unless other arrangements have been made.
2. Request Owner, in writing, to locate all private utilities (i.e., electrical service to outside lighting) before proceeding with excavation. If, after such request and necessary staking, private utilities that were not staked are encountered and damaged by Installer, Owner shall repair them at no cost to Installer. If Contractor damages staked or located utilities, they shall be repaired by Utility Owner at Contractor's expense unless other arrangements have been made.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- D. Replacement of Paving and Curbs - Where trenches and lines cross existing roadways, paths, curbing, etc., damage to these shall be kept to a minimum and shall be restored to original condition.

1.07 WARRANTY/GUARANTY

- A. Manufacturer shall warrant materials against defects for a period of one year from date of Substantial Completion. Installer(s) shall guaranty workmanship for similar period.
- B. Settling of backfilled trenches that may occur during guaranty period shall be repaired at no expense to Owner, including complete restoration of damaged property.
- C. Expenses due to vandalism before substantial completion shall be borne by Contractor.
- D. Owner will maintain turf and planting areas during warranty period, so as not to hamper proper operation of irrigation system.

1.08 MAINTENANCE

- A. Furnish the following maintenance items to Owner prior to final Acceptance:
 - 1. Two Sets of special tools required for removing, disassembling, and adjusting each type of sprinkler head and valve supplied on this Project.
 - 2. One eight foot valve key for operation of stop and waste valve.
 - 3. Two six foot valve keys for operation of gate valves.
 - 4. Two keys for each automatic controller.
 - 5. Two quick coupler keys and two matching hose swivels for each type of quick coupling valve installed.
 - 6. Two aluminum drain valve keys of sufficient length for operation of drain valves.
- B. Winterization - include cost in bid for winterizing complete system at conclusion of sprinkling season (in which system received final acceptance) within 3 days notification by the Owner. System shall be voided of water using compressed air or similar method reviewed by Consultant. Reopen, operate, and adjust system malfunctions accordingly during April of following season within 3 days of notification by Owner.

1.09 EXTRA STOCK - In addition to installed system furnish the following items to Owner:

- A. 30 Drip emitters of each type used.
- B. 10 Bubbler heads of each type used.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

PART 2 - PRODUCTS

2.01 MATERIALS

A. General Piping:

1. Pressure Supply Line (from tap on city mains to winterization tee or Stop and Drain valve prior to backflow prevention unit) – Type “K” Soft Copper (3/4” – 2 1/2”), and ductile iron (3” and larger).
2. Pressure Supply Line (from point of connection, winterization tee or Stop and Drain valve and through backflow prevention unit) - Type "K" Hard Copper (3/4” – 2 1/2”), and ductile iron (3” and larger).
3. Pressure Supply Lines (downstream of backflow prevention units) – Type "K" Hard Copper (3/4” – 2 1/2”), Class 200 PVC BE (1" - 2 1/2") and Class 200 PVC RT (3" and larger), as noted on plans and schedule.
4. Non-pressure Lines - Class 200 PVC BE, as noted on plans.
5. Sleeving - Class 160 PVC, as noted on plans and schedule. Drip Tubing - Toro Dura-Pol EHD 1645 3/4" with .050 inch wall thickness.
6. Emitter Tubing - As recommended by emitter manufacturer.

B. Copper Pipe and Fittings:

1. Copper Pipe - Type K, hard tempered or annealed coil.
2. Fittings - Wrought copper, solder joint type.
3. Joints - Soldered with solder, 45% silver, 15% copper, 16% zinc, and 24% cadmium and solidus at 1125~F and liquids at 1145~F.

C. Brass Pipe and Fittings:

1. Brass Pipe - 85% red brass, ANSI Schedule 40 screwed pipe.
2. Fittings - Medium brass, screwed 125-pound class.

D. Ductile Iron Pipe and Fittings:

1. Ductile Iron Pipe – Centrifugal cast ductile iron in metal molds for water pipe in accordance with ANSI C151 and AWWA A21.51 with asphaltic exterior coating and interior lining and coating in accordance with ANSI C151 and AWWA A21.
2. Fittings – Mechanical joint as supplied by the pipe manufacturer and rated for working pressures of 350 psi.
3. Gaskets – Furnish in accordance with ANSI C111 and AWWA A21.11.

E. Plastic Pipe and Fittings:

1. Identification Markings:
 - a. Identify all pipe with following indelible markings:
 - i. Manufacturer's name.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- ii. Nominal pipe size.
 - iii. Schedule of class.
 - iv. Pressure rating.
 - v. NSF (National Sanitation Foundation) seal of approval.
 - vi. Date of extrusion.
 2. Solvent Weld Pipe - Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454-B, Type 1, Grade 1.
 - a. Fittings - Standard Weight, Schedule 40, injection molded PVC; complying with ASTM D1784 and D2466, cell classification 12454-B.
 - i. Threads - Injection molded type (where required).
 - ii. Tees and ells - Side gated.
 - b. Threaded Nipples - ASTM D2464, Schedule 80 with molded threads.
 - c. Teflon Tape – All PVC male threaded fittings and nipples, excluding marlex fittings, shall receive wrapping of Teflon tape applied to threaded surfaces per pipe manufacturer’s recommendations.
 - d. Joint Cement and Primer - Type as recommended by manufacturer of pipe and fittings.
 3. Flexible Plastic Pipe - Manufactured from virgin polyethylene in accordance with ASTM D2239, with a hydrostatic design stress of 630 psi and designated as PE 2306.
 - a. Fittings – Insert type manufactured in accordance with ASTM D2609; PVC Type 1 cell classification 12454-B.
 - b. Clamps - All stainless steel worm gear screw clamps. Use 2 clamps per joint on 1-1/2 inch and 2 inch fittings.
- F. Drip, Sub-Surface Irrigation Systems and Bubblers:
1. Drip Tubing - Manufactured of flexible vinyl chloride compound conforming to ASTM D1248, Type 1, Class C, Category 4, P14 and ASTM D3350 for PE 122111C.
 2. Fittings - Type and diameter recommended by tubing manufacturer.
 3. Drip Valve Assembly - Type and size shown on Drawings.
 - a. Wye Strainer - Plastic construction with 150 mesh nylon screen and 1/2 inch blowout assembly.
 - b. Control Valve - 2 way, solenoid pilot operated type made of synthetic, non-corrosive material; diaphragm activated and slow closing. Include freely pivoted seat seal; retained (mounted) without attachment to diaphragm.
 - c. Pressure Reducing Valve - Plastic construction as detailed.
 4. Emitters - Single port, pressure compensating, press on type.
 5. Bubblers - Rainbird 1400 Series or approved equal.

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G. Gate Valves:

1. Gate Valves for 3/4 inch through 2-1/2 Inch Pipe - Brass construction; solid wedge, IPS threads, and non-rising stem with cross operating handle.
2. Gate Valves for 3 Inch and Larger Pipe - Iron body, brass or bronze mounted AWWA gate valves with a clear waterway equal to full nominal diameter of valve; rubber gasket or mechanical joint-type only. Valves shall be able to withstand a continuous working pressure of 200 psi and be equipped with a square operating nut and resilient wedge. Provide pipe restraints on gate valves 3 inches or larger as detailed.

H. Quick Coupling Valves - Brass two-piece body designed for working pressure of 125 PSI; operable with quick coupler. Equip quick coupler with locking rubber cover.

I. Valve Boxes:

1. Gate Valves, Quick Coupling Valves, Drain Valves, Drip Line Blow-out Stubs, and Wire Splice or Stub Box - Carson Brooks #910-10, box w/ Bolt Down Cover as detailed.
2. 1 inch through 2 inch Control Valves, Master Valves, Pressure Regulating Valves and Communication Cable Splice box, Sub-meters - Carson Brooks #1419-12 box, w/ Bolt Down Cover as detailed.
3. Drip Valve Assemblies and Flow Sensors - Carson Brooks #1220-12 box w/ Bolt Down Cover, Carson Brooks #1730-12 box, as detailed.

J. Electrical Control Wiring:

1. Low Voltage:
 - a. Electrical Control Wire - AWG UFUL approved No. 14 direct burial copper wire or larger, if required to operate system as designed.
 - b. Electrical Common Wire - AWG UFUL approved No. 14 direct burial copper wire or larger, if required to operate system as designed.
 - c. Wire Colors:
 - i. Control Wires - Red.
 - ii. Common Wires - White.
 - iii. Master Valve Wires - Blue.
 - iv. Drawing Spare Control Wires - Black.
 - v. Drawing Spare Common Wires - Yellow.
 - vi. Maintenance Spare Control Wires - Green.
 - vii. Maintenance Spare Common Wires - Brown.
 - d. If multiple controllers are utilized, and wire paths of different controllers cross each other, both common and control wires from each controller shall be different colors approved by Consultant.
 - e. Control Wire connections and splices shall be made with 3M DBY or King 600 DBY/R direct bury splice, or as required by the controller manufacturer.

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2. High Voltage - Type required by local codes and ordinances, of proper size to accommodate needs of equipment serviced.
- K. Electric Control Valves - Size and type shown on Drawings having manual flow adjustment, solenoids, and manual bleed nut.

PART 3 - EXECUTION

3.01 SITE CONDITIONS, LANDSCAPE PLAN REVIEW AND COORDINATION

- A. Contractor will be held responsible for coordination between landscape and irrigation system installation. Landscape material locations shown on the Landscape Plan shall take precedence over the irrigation system equipment locations. If irrigation equipment is installed in conflict with the landscape material locations shown on the Landscape Plan, the Contractor will be required to relocate the irrigation equipment, as necessary, at Contractor's expense.
- B. Contractor is responsible to notify Consultant of any field conditions that vary from the conditions shown on the Irrigation Construction Documents. If Contractor fails to notify Consultant of these conditions, Contractor will be held responsible for all costs associated with system adjustments required due to the change in field conditions.
- C. Comply with the requirements of Section 31 25 00, TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN for preparation and protection of the site.

3.02 STATIC PRESSURE VERIFICATION

- A. Contractor shall field verify the static pressure at the project site, prior to commencing work or ordering irrigation materials, and submit findings, in writing, to Consultant. If Contractor fails to verify static water pressure prior to commencing work or ordering irrigation materials, Contractor shall assume responsibility for all costs required to make system operational and the costs required to replace any damaged landscape material. Damage shall include all required material costs, design costs and plant replacement costs.

3.03 INSPECTION

- A. Examine areas and conditions under which Work of this Section is to be performed. Do not proceed with Work until unsatisfactory conditions have been corrected.
- B. Grading operations, with the exception of final grading, shall be completed and approved by Owner before staking or installation of any irrigation system begins.
- C. Underground Utilities shall be installed prior to installation of irrigation system. If irrigation installation takes place prior to utility installation, Contractor shall notify Owner of this condition in writing prior to commencement of irrigation installation.

3.04 PREPARATION:

- A. Staking shall Occur as Follows:
 1. Mark, with powdered lime, routing of pressure supply line and flag heads for first few zones. Contact Consultant 48 hours in advance and request review of staking. Proposed locations of all trees shall be field staked by Contractor and approved by Owner/Landscape Architect prior to Consultant review of irrigation staking. Consultant

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will advise installer as to the amount of staking to be prepared. Consultant will review staking and direct changes if required. Review does not relieve installer from coverage problems due to improper placement of heads after staking.

2. Contractor shall contact Consultant if field spacing varies by +/- 10% of the spacing shown on the irrigation plans. If Contractor fails to notify Consultant of variances exceeding 10%, Contractor assumes full responsibility for the costs associated with any required system modifications deemed necessary by the Consultant or Owner.
 3. If Project has significant topography, freeform planting beds, or other amenities, which could require alteration of irrigation equipment layout as deemed necessary by Consultant, do not install irrigation equipment in these areas until Consultant has reviewed equipment staking.
- B. Install sleeving under asphalt paving and concrete walks, prior to concreting and paving operations, to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with STM D1557.
- C. Trenching - Trench excavation shall follow, as much as possible, layout shown on Drawing. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris removed.
1. Clearances:
 - a. Piping 3 Inches and Larger - Make trenches of sufficient width (14 inches minimum) to properly assemble and position pipe in trench. Minimum clearance of piping 3 inches or larger shall be 5 inches horizontally on both sides of the trench.
 - b. Piping Smaller than 3 Inches - Trenches shall have a minimum width of 7 inches.
 - c. Line Clearance - Provide not less than 6 inches of clearance between each line and not less than 12 inches of clearance between lines of other trades.
 2. Pipe and Wire Depth:
 - a. Pressure Supply Piping – 24 inches from top of pipe minimum or as noted on plans.
 - b. PVC Sleeving – To match depth of sleeved material.
 - c. Non-pressure Piping (rotor) - 18 inches from top of pipe.
 - d. Non-pressure Piping (pop-up) - 14 inches from top of pipe.
 - e. Control Wiring/Communication Cable - Side of pressure main or at 18 inch depth if installed in a separate trench with no mainline piping.
 - f. Drip Tubing - 12 inches from top of pipe.
 - g. Emitter Tubing (Micro-tubing) - 8 inches from top of pipe.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3. Boring will be permitted only where pipe must pass under obstruction(s) which cannot be removed. In backfilling bore, final density of backfill shall match that of surrounding soil. It is acceptable to use sleeves of suitable diameter installed first by jacking or boring, and pipe laid through sleeves. Observe same precautions as though pipe were installed in open trench.
 4. Vibratory Plow - Non-pressure piping may be installed through use of vibratory plow method if consultant determines soil conditions are satisfactory for this method of installation. Vibratory plowing does not relieve installer of minimum pipe depths.
- 3.05 INSTALLATION - Locate other equipment as near as possible to locations designated. Consultant shall review deviations prior to installation.
- A. PVC Piping - Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40 degrees F. Place manual drain valves at low points and dead ends of pressure supply piping to insure complete drainage of system. When pipe installation is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform Work in accordance with good practices prevailing in piping trades.
 1. Solvent Weld PVC Pipe - Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations.
 2. Flexible Plastic (Polyethylene) Pipe - Lay pipe and assemble fittings following manufacturer's recommendations.
 - B. Drip Tubing:
 1. Make all fitting connections as per manufacturer's recommendations.
 2. Use only manufacturer provided or recommended hole punch when making penetrations in drip tubing for insert fittings. Use of any other hole punch shall be cause for immediate removal and replacement of all installed drip tubing.
 3. Install drip line blow-out stubs at all dead ends of drip tubing.
 - C. Control Wiring:
 1. Low Voltage Wiring:
 - a. Bury control wiring between controller and electric valves in pressure supply line trenches, strung as close as possible to main pipe lines with such wires to be consistently located below and to one side of pipe, or in separate trenches.
 - b. Bundle all 24 volt wires at 10 foot intervals and lay with pressure supply line pipe to one side of the trench.
 - c. Provide an expansion loop at every pressure pipe angle fitting, every electric control valve location (in valve box), and every 500 feet. Form expansion loop by wrapping wire at least 8 times around a 3/4 inch pipe and withdrawing pipe.
 - d. Make all splices and E.C.V. connections using 3M DBY, King 600 DBY/R direct bury connectors, or similar dry splice method.

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- e. Install all control wire splices not occurring at control valve in a separate splice valve box.
 - f. Install one control wire for each control valve.
 - g. Maintenance spare wires - In addition to spare wires labeled on drawings, extend two spare #14 AWG UFUL control wires and one spare #14 AWG UFUL common wire from controller pedestal to the end of each and every leg of mainline. Label maintenance spare wires at controller and wire stub box.
2. High Voltage Wiring for Automatic Controller:
- a. Provide 120 volt power connection to automatic controller.
 - b. All electric work shall conform to local codes, ordinances, and authorities having jurisdiction. All high voltage electrical work shall be performed by licensed electrician.
- D. Electric Control Valves - Install cross-handle four inches below finished grade where shown on Drawings as detailed. When grouped together, allow minimum of 12 inches between valve box sides. Install each remote control valve in a separate valve box. Install valve box flush with grade or when present flush with surfacing material (rock mulch). When parallel to roadway, sidewalk or other permanent element or structure, control valve and box to be installed perpendicular to element or structure, spaced equally.
- E. Quick Coupling Valves - Install quick couplers on swing-joint assemblies as indicated on construction details; plumb and flush to grade. Angled nipple relative to pressure supply line shall be no more than 45 degrees and no less than 10 degrees.
- F. Drip and Sub-Surface Valve Assemblies - Install valve assembly as detailed.
- G. Drip Emitters - Stake all surface emitters as detailed and staked with acceptable tubing stakes.
- H. Drain Valves - Install one manual drain valve on pressure supply line directly downstream of backflow preventer and at all low points in pressure supply line as detailed. Provide a three cubic foot drainage sump for drain valve as detailed.
- I. Valve Boxes:
1. Install one valve box for each type of valve installed as detailed. Valve box extensions are not acceptable except for master valves and flow sensors. Install gravel sump after compaction of all trenches. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
 2. Brand controller letter and station number on lid of each valve box. Letter and number size shall be no smaller than 1 inch and no greater in size than 1 1/2 inches. Depth of branding shall be no more than 1/8 inch into valve box lid.
 3. Concrete polymer boxes shall be labeled with branded inserts per manufacturer's recommendations.
- J. Gate Valves - Install where shown on Drawings as detailed.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- K. Backfilling - Do not begin backfilling operations until required system tests have been completed. Backfill shall not be done in freezing weather except with review by Consultant. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk-through of system by Consultant.
1. Materials - Excavated material is generally considered satisfactory for backfill purposes. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 1 inch in maximum dimension. Do not mix subsoil with topsoil. Material not suitable for backfill shall be hauled away. Contractor shall be responsible for providing suitable backfill if excavated material is unacceptable or not sufficient to meet backfill, compaction, and final grade requirements.
 2. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
 3. Compact backfill to 90% maximum density, determined in accordance with ASTM D155-7 utilizing the following methods:
 - a. Mechanical tamping.
 - b. Puddling or ponding. Puddling or ponding and/or jetting is prohibited within 20'-0" of building or foundation walls.
- L. Piping Under Paving:
1. Provide for a minimum cover of 18 inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete or concrete paving.
 2. Piping located under areas where asphalt or concrete paving will be installed shall be bedded with sand (a layer 6" below pipe and 6" above pipe).
 3. Compact backfill material in 6" lifts at 90% maximum density determined in accordance with ASTM D1557 using manual or mechanical tamping devices.
 4. Set in place, cap, and pressure test all piping under paving, in presence of Owner prior to backfilling and paving operations.
 5. Piping under existing walks or concrete pavement shall be done by jacking, boring, or hydraulic driving, but where cutting or breaking of walks and/or concrete is necessary, it shall be done and replaced at not cost to Owner. Obtain permission to cut or break walks and/or concrete from Owner.
- M. Water Supply and Point of Connection - Water supply shall be extended as shown from water supply lines.
- 3.06 FIELD QUALITY CONTROL:
- A. Flushing - After piping, risers, and valves are in place and connected, but prior to installation of sprinkler heads, quick coupler assemblies, and hose valves, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthest valves. Cap risers after flushing.
 - B. Pressure Testing - Conduct test in presence of Consultant. Arrange for presence of Consultant 48 hours in advance of testing. Supply force pump and all other test equipment. Compressed air shall not be used for pressure testing system.

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1. After backfilling, and installation of all control valves, fill pressure supply line with water, and pressurize to 40 PSI over the designated static pressure or 120 PSI, whichever is greater, for a period of 2 hours.
 2. Leakage, Pressure Loss - Test is acceptable if no loss of pressure is evident during the test period.
 3. Leaks - Detect and repair leaks.
 4. Retest system until test pressure can be maintained for duration of test.
 5. Before final acceptance, pressure supply line shall remain under pressure for a period of 48 hours.
 6. Pressure test shall be scheduled and passed prior to scheduling of Substantial Completion Walk-through.
- C. Walk-Through for Substantial Completion:
1. Arrange for Consultant's presence 48 hours in advance of walk-through.
 2. Entire system shall be completely installed and operational prior to scheduling of walk-through.
 3. Operate each zone in its entirety for Consultant at time of walk-through and additionally, open all valve boxes if directed.
 4. Generate a list of items to be corrected prior to Final Completion.
 5. Furnish all materials and perform all work required to correct all inadequacies of coverage due to deviations from Contract Documents.
 6. During walk-through, expose all drip emitters under operations for observation by Consultant to demonstrate that they are performing and installed as designed, prior to placing of all mulch material. Schedule separate walk-through if necessary.
 7. Supply Consultant with prints of irrigation as-builts prior to scheduling substantial completion walk-through.
- D. Walk-Through for Final Completion:
1. Arrange for Consultant's presence 48 hours in advance of walk-through.
 2. Show evidence to Consultant that Owner has received all accessories, charts, record drawings, and equipment as required before Final Completion walk-through is scheduled.
 3. Operate each zone, in its entirety for Consultant at time of walk-through to insure correction of all incomplete items.
 4. Items deemed not acceptable by Consultant shall be reworked to complete satisfaction of Consultant.
 5. If after request to Consultant for walk-through for Final Completion of irrigation system, Consultant finds items during walk-through which have not been properly adjusted, reworked, or replaced as indicated on list of incomplete items from previous walk-through, Contractor shall be charged for all subsequent walk-throughs. Funds will be withheld from final payment and/or retainage to Contractor, in amount equal to

ARTICLE 5 – TECHNICAL SPECIFICATIONS

additional time and expenses required by Consultant to conduct and document further walk-throughs as deemed necessary to insure compliance with Contract Documents.

- 3.07 ADJUSTING - Upon completion of installation, fine-tune entire system by adjusting patterns and break-up pins, and setting pressure reducing valves at proper and similar pressure to provide optimum and efficient coverage. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways, and buildings as much as possible. Heads of same type shall be operating at same pressure +/- 10%.
- A. If it is determined that irrigation adjustments will provide proper coverage, and improved water distribution as determined by Consultant, contractor shall make such adjustments prior to Final Acceptance, as directed, at no additional cost to Owner. Adjustments may also include changes in nozzle sizes, degrees of arc, and control valve throttling.
 - B. All sprinkler heads shall be set perpendicular to finish grade unless otherwise noted on Construction Plans or directed by Consultant.
 - C. Areas which do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the Owner.
- 3.08 CLEANING - Maintain continuous cleaning operation throughout duration of work. Dispose of, off-site at no additional cost to Owner, all trash or debris generated by installation of irrigation system.
- A. Comply with the requirements of DIVISION 1, General Requirements, and Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for recycling and salvage of debris and waste.
 - B. Comply with the requirements of Section 31 25 00, TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN for preparation and protection of the site.

END OF SECTION 328400

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SECTION 329113

SOIL PREPARATION

PART 1 GENERAL

1.01 SUMMARY

- A. Work Included: Provide soil and soil amendments products, including imported topsoil as required to make up deficiencies in quantity of soil available on site. Execute labor to achieve soil preparation, complete, as shown and as specified.

1.02 DEFINITIONS

- A. Existing Soil: Area of undisturbed native soil where no rough grading is to be done. No topsoil is to be placed. Only surface cultivation and soil amending are included in this Section. See Drawings.
- B. Subgrade: Soil level resulting from the rough grading work under another Section. Cultivation of subgrade areas prior to amending is included in this section.
- C. Topsoil: Soil stockpiled for spreading over prepared subgrade.
 - 1. Stockpiled Native Topsoil: Topsoil stripped from the site prior to rough grading work under another Section, to be spread and amended as work under this Section.
 - 2. Imported Topsoil: Off site topsoil imported and stockpiled under this Section, to be spread and amended also as work under this Section.
- D. Weeds: Includes Goatheads, Bindweed, Twitch, Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Weed, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Broom Grass.

1.03 SUBMITTALS

- A. Comply with Section 01300. All submittals shall be accepted by the Architect in writing before planting commences.
- B. Topsoil Testing:
 - 1. Each off-site topsoil source, as well as on-site topsoil.
 - 2. Test soil from source for sand, silt and clay, NPK, Mg, soluble salt content, pH value, and organic matter. Test soil prior to transporting to site. A random sampling of material being delivered to the site will be tested, and the Contractor will be responsible to replace all material that does not conform to the original approved soil samples at his cost.
 - a. Submit 0.5 gallon sample of soil to testing laboratory and indicate present use, intended use, type of subsoil and quality of drainage. Prepare and ship sample in accordance with testing laboratory requirements.

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- b. Submit two copies of soil analysis and recommendations for correction to the Landscape Architect for approval prior to delivering any topsoil to the site.
 - c. Make initial textural amendments and all fertility amendments to imported soil mixture in accordance with soil analysis results for a period up to and including the maintenance period.
3. Deliver copies of all test reports and samples to landscape contractor and Landscape Architect.
- C. Certificates: Submit certificates of inspection as required by governmental authorities.

1.04 QUALITY ASSURANCE

- A. Qualifications:
- 1. Installer: Company with minimum five (5) years successful experience in the placing of topsoil similar in scope and size to this project.
 - 2. Testing Agency: Certified soils laboratory with capability to analyze materials for conformance to specification requirements (where applicable), appointed and paid for by the Contractor.

1.05 PROJECT/SITE CONDITIONS

- A. Existing Conditions: For protection of existing plants to remain, see Section 02110 - Site Clearing.
- B. Prior to placement of topsoil, verify that minimum soil depths can be achieved in accordance with paragraph 3.03 of this Section.

1.06 SCHEDULING OF WORK

- A. Schedule placing of soil and finish grading to permit planting operations under optimum conditions. Coordinate operations with irrigation contractor who will install an automatic irrigation system following installation of topsoil and prior to installation of the plant material.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Stockpiled Native Topsoil:
- 1. Quantity: The approximate quantity of stockpiled native topsoil will not be known until demolition and rough grading have been completed under Civil work.
 - 2. Stockpiling: Stripped topsoil shall have been stockpiled on the site under Civil work.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3. **Composition:** Fertile, friable, well-drained soil, of uniform quality, free of stones over 1 in. diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials.
 4. **Analysis:** Obtain an agricultural suitability analysis of the proposed topsoil from an accepted, accredited Testing Agency at Contractor's cost.
 5. **Test Results:** Request Testing Agency to send one (1) copy of test results direct to the Landscape Architect and one (1) copy to the Owner. Imported topsoil shall be amended per soils analysis report, per 1.03B.
- B. **Imported Topsoil:**
1. **Quantity:** Import topsoil as soon as an insufficient quantity of native soil is verified. Quantity of topsoil to complete the work shall be calculated by the Contractor.
 2. **Cost:** Paid for by the Owner on a unit price cost per cubic yard.
 3. **Stockpiling:** Stockpile on site as directed by Owner.
 4. **Composition:** Fertile sandy loam, taken from a well drained site and free from clay subsoil, stones, lumps, stolons, plants, roots, sticks, and seeds, high salt content and other materials/attributes harmful to plant life. Topsoil for all tree, shrub, and ground cover planting beds shall consist of the following:
 - a. 60% to 70% sand
 - b. 10% max. silt
 - c. 10% max. clay
 - d. minimum 12% organic matter
 - e. pH value of 5.0 to 6.0
 - f. Drainage minimum of $\frac{3}{4}$ inch/hr.
 5. Topsoil for all turf areas shall consist of the following:
 - a. 60% to 80% sand
 - b. 10% max. silt
 - c. 10% max. clay
 - d. minimum 5% organic matter
 - e. pH value of 5.0 to 6.0
 - f. Drainage minimum of $\frac{3}{4}$ inch/hr.
 6. **Samples:** The Landscape Architect reserves the right to take samples of the imported topsoil delivered to the site for conformance to the Specifications.
 7. **Rejected Topsoil:** Immediately remove rejected topsoil off the site at Contractor's expense.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2.02 SOIL MIXES

A. Tree/Shrub/Ground Cover Mix:

Amount per Cubic Yard

2 parts Topsoil

1 part Fine Sand

1 part Organic Matter

4 lbs. Fertilizer/1000sf

2.03 ACCESSORIES

A. Fine Sand:

1. Physical Properties (by dry weight basis):

<u>Percent Passing</u>	<u>Sieve Size</u>
100	4.76 mm(#4, 4 mesh)
95-100	1.00 mm (#18, 16 mesh)
65-100	500 micron (#35, 32 mesh)
0- 50	250 micron (#60, 60 mesh)
0- 20	105 micron (#140, 150 mesh)
0- 5	53 micron (#270, 270 mesh)

2. Chemical Properties: (by Saturation Extract Method):

- a. Soluble Salts/Salinity: Maximum conductivity of 3.0 millimhos/cm at 25 degrees C.
- b. Boron: Maximum concentration of 1.0 ppm.
- c. Sodium Absorption Ratio (SAR): Maximum 6.0.

B. Weed Herbicide: Round-up or approved equal.

C. Diammonium Phosphate: 18-46-0.

D. Water: Clean, fresh and potable, as available from Owner. Transport as required.

2.04 ORGANIC COMPONENTS

A. Acceptable Organic Matter:

1. Provide soil test no older than three months taken from the material being applied to this site.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2. Acceptable soil amendments shall be composed organic wood and manure based product with the following criteria:

Salts (mmhos/cm)	below 6
pH	6.0 to 8.0
Organic Matter percent	over 30%, if C:N ratio is OK
Carbon to Nitrogen ratio (C:N)	15:1 to 30:1

3. Amendments shall be free of objectionable odor, and free from all viable weed seeds, finely shredded to pass 70% through a 1/8 inch mesh screen.
4. Unacceptable organic material: mountain peat, sand, gypsum, bark, wood chips.
5. Peat Moss: (Mountain peat moss is not acceptable for use on the project)
 - a. Derived from partially decomposed fibrous or cellular stems and leaves of species of Sphagnum Mosses.
 - b. Elastic and homogenous, brown in color.
 - c. Free of wood and deleterious material that could prohibit growth.
 - d. Shredded particle minimum size: ¼”.

2.05 COMMERCIAL FERTILIZERS

A. Pre-Plant Fertilizer:

1. Type: Mixed by a commercial fertilizer supplier and consisting of the following percent by weight:
 - 6-20-20 (N-P-K) (General use)
 - 18-18-6 (N-P-K) (Sod Lawn areas)
2. Manufacturer: Sierra Chemical Co., (408) 263-8080 or W.R. Grace and Co., (800) 527- 1893.

2.06 CHEMICAL COMPONENTS: The following additives may or may not be used depending on the outcome of the soils report.

- A. Ground Limestone: Agricultural limestone containing not less than 85% of total carbonates, ground to such fineness that 50% will pass #100 sieve and 90% will pass #20 sieve.
- B. Dolomite Lime: Agricultural grade mineral soil conditioner containing 35% minimum magnesium carbonate and 49% minimum calcium carbonate, 100% passing #65 sieve. "Kaiser Dolomite 65 AG" by Kaiser, Inc. Mineral Products Department, or accepted equal.
- C. Gypsum: Agricultural grade product containing 80% minimum calcium sulphate.
- D. Iron Sulfate (Ferric or Ferrous): Supplied by a commercial fertilizer supplier, containing 20% to 30% iron and 35% to 40% sulphur.
- E. Sulphate of Potash: Agricultural grade containing 50% to 53% of water-soluble potash.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- F. Single Superphosphate: Commercial product containing 20% to 25% available phosphoric acid.
- G. Ammonium Sulphate: Commercial product containing approximately 21% ammonia.
- H. Ammonium Nitrate: Commercial product containing approximately 34% ammonia.
- I. Calcium Nitrate: Agricultural grade containing 15-1/2% nitrogen.
- J. Urea Formaldehyde: Granular commercial product containing 38% nitrogen.
- K. I.B.D.U. (Iso Butyldiene Diurea): Commercial product containing 31% nitrogen.
- L. Soil Sulfur: Agricultural grade sulfur containing a minimum of 96% sulfur.
- M. Iron Sequestrene: Geigy Iron Sequestrene 330 Fe, by Ciba-Geigy Corporation, (919) 292-7100, or equal.

PART 3 EXECUTION

3.01 SOIL MOISTURE CONTENT

- A. General: Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in air or that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting.
- B. Range: Maintain within 2 percent above or below optimum moisture content during the work.

3.02 CLEARING AND CULTIVATION

- A. Clearing: Clear planting areas of stones 2 in. diameter and larger, weeds, debris and other extraneous materials prior to soil preparation work.
- B. Cultivation of Existing Soil:
 - 1. Cultivation: Rip or cultivate areas of existing soil to receive planting to a depth of 12 in. immediately prior to applying soil amendments.
- C. Cultivation of Subgrade:
 - 1. Verification:
 - a. Verify that subgrades for installation of topsoil have been established under rough grading. Do not spread topsoil prior to acceptance of subgrade work.
 - b. Depth: Verify that subgrades are 6 in. minimum below finished grades, + 1 in. Report all variations.
 - 2. Cultivation: Rip or cultivate subgrade in planting areas to a depth of 12 in. immediately prior to spreading topsoil.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3.03 SPREADING OF TOPSOIL

- A. General: Spread Stockpiled topsoil over accepted subgrade prior to incorporating amendments.
- B. Restrictions: Do not commence spreading of topsoil prior to acceptance of soil cultivation above. Do not place topsoil under muddy or frozen conditions.
- C. Topsoil Depth: Minimum depth of 6 in. after natural settlement and light rolling conforming to finished grades shown on Drawings.
- D. For soil application around trees, see Section 02900.
- E. Manually spread soil mixture around trees, shrubs, and obstacles.

3.04 FINISH GRADING OF SOIL MIXTURE:

- A. Grade soil, eliminating uneven areas and low spots, ensuring positive drainage away from buildings and towards storm drainage systems. Remove soil contaminated with toxic materials. Remove surface debris, roots, vegetation, branches, stones in excess of 2” diameter, and all extraneous material. Dispose of removed materials. Eliminate rough spots and low areas to ensure positive drainage. Prepare loose friable bed by means of hand cultivation and subsequent raking. Following planting, mulch planted shrub beds with a depth of 3” specified mulch and rake smooth.

3.05 SOIL AMENDMENT

- A. Amending of Soil:
 - 1. Preparation: Do not commence amending of soil prior to acceptance of soil cultivation and rough grading, above. Do not work soils under muddy or frozen conditions.
 - 2. Irrigated Areas:
 - a. Spread 2 cubic yards per 1000 square feet of acceptable organic matter.
 - b. Spread 150 pounds of diammonium phosphate (18-46-0) per acre
 - c. Till above into soil to a depth of 6 inches.
 - 3. Minimally Irrigated Areas (naturalized grass areas):
 - a. Spread 150 pounds of diammonium phosphate (18-46-0) per acre
 - b. Till above into soil to a depth of 6 inches.
 - 4. Intent: The above amendments and quantities are approximate and are for bidding purposes only. Following an on-site topsoil analysis by Testing Agency, composition of amendments may change. Contract Price will be adjusted accordingly.
- B. Annual/Perennial Beds: Excavate and provide depth of 24 inches.

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3.06 HERBICIDE TREATMENT

- A. Apply herbicide after incorporating soil amendments.
- B. Confirm Architect's requirement to proceed with herbicide treatment of soil. Herbicide treatment must be completed during the growing season.
- C. If plant growth is evident, treat site with herbicide in accordance with manufacturers recommendations.
- D. Water subsoil 1/2" per week if natural precipitation does not supply this amount.
- E. Ten (10) days after herbicide application, review subsoil surface for evidence of plant growth.
- F. Repeat steps C, D, and E up to three (3) applications, until there is no evidence of plant growth after 10 day period.
- G. Obtain Architect's approval of subsoil fourteen (14) days after last herbicide application.
- H. Herbicide treatments beyond three full site applications shall be at the agreed to unit price.
- I. Remove plant debris from treated area.

3.07 FIELD QUALITY CONTROL

- A. Tests: Right is reserved to take samples of soil mixes or prepared soil for testing for conformity to Specifications.
- B. Rejected Materials: Remove off site at Contractor's cost. Pay cost of testing of materials, not meeting Specifications.

END OF SECTION 329113

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 329300

PLANTING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The work to be performed consists of furnishing all material, equipment, supplies, labor and transportation for the delivery and installation of plant materials and accessories, and appurtenances thereto, including layout and staking, tagging, transportation and delivery, placement, excavation, soil amendments and chemicals, wrapping, staking, mulching, maintenance, guarantee and miscellaneous items of work included on the Drawings and in these Specifications.

1.02 QUALIFICATIONS

- A. Landscape Contractors shall provide two previous project examples of similar size and scope with bids.
- B. Applicable Standards
 - 1. American Association of Nurserymen, current addition of "American Standard for Nursery Stock". Published by American Association of Nurserymen, Inc, and/or Colorado State Law, whichever is greater.
 - 2. Certificates of Inspection for Plants: All necessary State, Federal and other inspection certificates shall accompany the invoice for each shipment of plant material as may be required by law, and showing source or origin. Certificates shall be filed with the Owner's Representative prior to his acceptance of the material.
- C. Inspection and Approval
 - 1. All trees shall be inspected and approved by the Owner's Representative prior to and upon delivery. The Contractor shall give Owner's Representative 36 hours prior notice when the plants are ready for inspection at the supplier and upon delivery on-site.
 - 2. The Owner's Representative reserves the right to reject material before delivery, and, prior to final acceptance all materials which in the Owner's Representative's opinion fail to meet Specifications. Inspection of materials is primarily for quality, size, and variety, but other requirements are not waived even though visual inspection results in approval. Trees may be inspected where available; however, inspection at the places of supply shall not preclude the right of rejection at the site or at a later time prior to final acceptance. Rejected materials shall be removed from the site within 24 hours.
 - 3. The Contractor shall schedule inspection of all plants at the supplier to be completed in one visit.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

1.03 SUBMITTALS

- A. Procurement
 - 1. Within 15 days after the Notice to Proceed issued by the Owner, the Contractor shall furnish the Owner's Representative with copies of the supplying nurseries' confirmation for the Contractor's orders for all plant material required by the plans and specifications. The entering of a Proposal and execution of a Contract shall be evidence that the Contractor has made successful procurement arrangements for all plant materials as specified.
- C. The Contractor shall submit to the Owner's Representative their supplier specifications for the following products (3 weeks prior to delivery):
 - 1. Commercial Fertilizer
 - 2. Topsoil
 - 3. Organic Amendment Material
- D. The Contractor shall submit to the Owner's Representative samples of the following materials to be used on the project (3 weeks prior to delivery):
 - 1. Planting Bed Mulches
 - 2. Organic Amendment Material
 - 3. Plant Backfill Mix / Planting Soil
- E. The Contractor shall notify the Owner's Representative 24 hours in advance of planting of all plant types to allow the Owner's Representative the opportunity to examine planting pits before installation of material.
- F. Maintenance Instructions
 - 1. At completion of work, furnish four (4) copies of written maintenance instructions to Owner for maintenance and care of all planted areas throughout the year.
- G. Contractor shall have an agricultural soils test run on on-site topsoil for determination of nutrient additives and application rates. Submit test results to Owner's Representative not later than two (2) weeks prior to its scheduled use.

1.04 JOB CONDITIONS AND STANDARDS

- A. All planting work shall be performed under the direct supervision of a superintendent and laborers thoroughly experienced with the work of this Section and who shall be at the Project site for the duration of the work of this Section.
- B. No planting work shall take place during inclement weather or when the ground conditions are, in the opinion of the Owner's Representative, not in a condition to be properly worked.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- C. No planting work shall commence until the adjacent site and utility improvements, drainage improvements, pavements, and finish grading is completed, unless authorized by Owner's Representative.
- D. Erect barricades, fencing, hire temporary watchmen or whatever is deemed necessary by the Contractor to totally protect his work.
- E. The Contractor shall take all precautions to protect all existing plant material on the site, if any, during construction operations. The Contractor shall also provide temporary maintenance for all existing plant material within the Contract Limit Lines throughout the Construction period. Protection of the existing plant material shall be approved by Owner's Representative before grading operations commence.

PART 2 - PRODUCTS

2.01 GRAVEL MULCH

- A. Provide 3/8" minus red "Breeze" in all shrub planting beds as indicated on drawings.
 - 1. Mulch shall be free of seeds, seedlings, weeds, twigs, and branches.

2.02 PRE-EMERGENT HERBICIDE

- A. At Contractor's option, pre-emergence herbicide: Shall be "Treflan" as manufactured by Elanco Company or approved substitution. Apply as per manufacturer's recommendations for weed control.

2.03 POST-EMERGENT HERBICIDE

- A. For all turf planting beds, provide Roundup (Glyphosate) as manufactured by Monsanto Company or approved equal.

2.04 INSECTICIDE AND FUNGICIDE

- A. Insecticide and fungicide shall be approved by Owner's Representative.

2.05 TREE WRAPPING

- A. Tree wrapping material shall be first quality, 4-inch wide, bituminous impregnated tape, corrugated or crepe paper, brown in color, specifically manufactured for tree wrapping. The Contractor shall submit a sample for Owner's Representative approval a minimum of 3 weeks prior to delivery on-site.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2.06 STAKING AND GUYING MATERIAL

- A. Wire shall be 12 gauge, double strand, pliable galvanized steel wire.
- B. Nylon webbing shall be soft, wide (8-10cm.) strips with grommets at ends.
- C. Stakes shall be 2" x 2" x 8' wood stakes or approved equal.

2.07 FERTILIZERS

- A. Fertilizer shall be delivered to the site, mixed as specified, in the original unopened standard size bags showing weight, analysis and name of manufacturer. Containers shall bear the manufacturer's guaranteed statement of analysis and shall be furnished to the Landscape Architect. Store fertilizer in a weatherproof place and in such a manner that it shall be kept dry and its effectiveness shall not be impaired.
- B. Superphosphate: Soluble mixture of treated minerals, 16% to 20% available phosphoric acid.
- C. Commercial Fertilizer: Complete fertilizer containing the following percentages of available plant nutrients:
 - 1. Tablets: For trees and shrubs, provide tightly compressed long lasting, slow release tablets weighing 21 grams with an analysis of 20-10-5, and a potential acidity of not more than 5% by weight.
 - 2. Granular: For lawns, vines, flowers and groundcovers, provide a granular, slow release, commercial fertilizer with an analysis of 20-10-5.

2.08 ORGANIC SOIL AMENDMENT

- A. Organic soil amendment shall be a composted organic wood and manure based product with a carbon to nitrogen ratio between 15:1 and 30:1, with a pH of 6 to 8, and salt content below 6 mmhos/cm. Other materials such as mushroom compost, etc. may be considered for approval.
- B. The organic soil amendment shall be free of objectionable odor, and free from all viable weed seeds, finely shredded to pass 70% through a 1/8 inch mesh.

2.09 PLANT BACKFILL MIX / PLANTING SOIL FOR TREES, SHRUBS, AND PLANTERS

- A. Plant Backfill Mix / Planting Soil shall be a mixture of the following:
 - 1. Organic Matter: 33% by volume of backfill.
 - 2. Planting Pit excavated material: 67% by volume.
 - 3. Fertilizer Tablets: One 21 gram fertilizer tablet for each 1/2 inch of tree trunk caliper and one tablet per 12 inches height, or spread, whichever is greater, of each shrub.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

2.10 PLANT MATERIALS

- A. A list of plants to be provided is shown on the plans.
- B. All plants:
 - 1. Shall be the species designated on the plans. No substitutions shall be accepted without the prior written approval of the Owner's Representative.
 - 2. Shall be individually identified on legible, weatherproof labels securely attached to the plants. Tags will remain until after punch list inspection and then shall be removed by the Contractor. Labels shall include the correct genus, species, variety name and accepted common name of the plant as well as the size or grade of stock
 - 3. Shall have a well developed branch structure typical of the size and species.
 - 4. Shall have a well-branched and vigorous root system typical of size and species and free from "J" roots, roots girdling the trunk and other defects.
 - 5. Shall have healthy buds which are without mechanical, insect, or disease injury.
 - 6. Shall be healthy and vigorous plants free from visual defects, mechanical injuries, plant diseases and all forms of insect infestation until final acceptance.

2.11 GEOTEXTILE FABRIC

- A. Geotextile Fabric (Filter Fabric): Shall be Warren's Terrabond, Mirascape, DuPont Typar 3301 or approved substitution, install beneath all mulches, except in Perennial areas as shown on plans.

PART 3 - EXECUTION

3.01 LAYOUT AND IDENTIFICATION

- A. The Contractor will locate and stake all tree and shrub locations and sod limits according to locations shown on the plans. All planting locations shall be observed and approved by the Owner's Representative prior to planting operations.
- B. The Contractor shall make minor modifications in planting locations as directed by the Owner's Representative.

3.02 PLANT PROTECTION AND DELIVERY

- A. All plant material shall be protected from the time of digging, to the time of final acceptance from injury, excessive drying or winds, improper ventilation, overwatering, freezing, high temperatures, or any other condition damaging to the plant. Any plants showing evidence of poor care, or which are molded, mildewed, wilted or dried out shall be rejected.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- B. Plant materials shall be planted on the day of delivery or shall be placed in a temporary nursery, kept moist, shaded and protected from sun and wind. If balled and burlapped plants are not planted on the day of delivery, they shall be heeled in immediately in the temporary nursery, kept moist and protected with damp soil, moss, or other acceptable material.
- C. Plants shall not be bound with wire or rope that may damage the bark or break branches. Plants shall be lifted and handled from bottom of ball or container. Plants with balls that are loose, cracked, broken, man-made, or completely dry or plants with trunks loose in the ball before or during planting operations shall not be accepted and shall be removed from the site at Contractor's expense within 24 hours.

3.03 EXCAVATION OF PLANTING PIT

- A. All plant pits shall be centered on the location stake and shall be excavated in a cylindrical shape with vertical sides and flat bottom. The depth of the plant pit shall be measured from the finished grade of soil not mulch. The base of all soil balls shall be placed on compacted backfill fill.
- B. Trees: The diameter of all tree pits shall be a minimum of 24" larger than the diameter of the ball or spread of the roots. There shall be a minimum 3" clearance between the bottom of the root ball and the plant pit for balled and burlapped stock. Trees are to have wire baskets, bundling cords, and top 1/3 of burlap removed. Except for trees planted on slopes, the top surface of all root balls shall be flush with adjacent planting beds or with the subgrade below sod. It is important not to place tree balls too low.
- C. Shrubs: The diameter of all shrub pits shall be twice the diameter of the ball or spread of roots. There shall be a minimum 6" clearance between the bottom of the root ball and the plant pit.
- D. Vines and Ground Covers and Perennials: The diameter of all vine and ground cover pits shall be 6 inches greater than the spread of roots.

3.04 PLANT INSTALLATION PROCEDURE

- A. Planting and Staking
 - 1. Plants shall be set in the center of the pit on compacted backfill mix. Immediately after setting in the pit, all non-biodegradable materials shall be completely removed from the ball and trunk, including but not limited to plastic, metal, wire, wood, cardboard, paper, fiber, treated burlap and twine. The only exception shall be that the bottom (not sides) of fiber pots and plant handling shall be done in such a manner so as not to injure the plant root system, disturb the soil ball or in any way cause harm or stress to the plant. If the root system of a container-grown plant has become container-bound, the roots shall be gently vertically cut on four sides of the root ball prior to planting.
 - 2. All plants shall be placed and kept plumb and straight as the pit is filled with backfill

ARTICLE 5 – TECHNICAL SPECIFICATIONS

mix. Any plant which is not perfectly upright and plumb prior to final acceptance shall be adjusted by Contractor to plumb position. Trees and shrubs in non-irrigated areas to have saucers built around them at the drip line.

3. After placing plant in the pit, the hole around the plant root system shall be halfway backfilled with specified mix and any large air pockets removed by hand with the blunt, handle end of a shovel or other such hand tool. If the Owner's Representative determines that the ball is excessively dry, the Contractor shall then inset a deep watering device into the ball at a 45 degree angle every 8 inches for one minute. The pit shall then be completely filled with backfill mix and tamped again with the shovel. No mechanical compaction shall be allowed. The pit shall then be watered by thoroughly saturating the backfill with water to a minimum of 3 feet. No watering shall be done prior to this time. Watering shall be repeated once when all free water has disappeared. This second watering shall not be completed if the subgrade around the pit is already moist. After watering, the Contractor shall add the necessary soil to establish the finish grade level before adding specified mulch. All surplus soil and debris shall be removed by the Contractor. The Contractor shall stake and guy trees immediately after planting according to standard detail.
4. For trees in grass and planting beds, the Contractor shall drive stakes 3 feet vertically into firm soil outside the plant pit with blade on tree side. The Contractor shall run wire up to the tree trunk and through the nylon webbing around trunk at maximum 1/2 height of tree. Webbing and wire attachment between stake and tree shall be adjusted so the straps are under just enough tension to avoid visible sag in lines. Rigid guying shall not be accepted.
5. Contractor shall place stakes according to the construction detail.
6. For trees planted in tree grates, trees shall be guyed with approved wires and 1/2" diameter PVC, securely attached to eyebolts installed in concrete according to detail.
7. The Contractor shall return to the site and remove stakes one year from planting.

B. Spraying, Wrapping, Pruning, Watering and Mulching

1. All deciduous trees shall be wrapped by the Contractor between November 1 and November 15 of the year in which they are planted. Specified tree wrap shall be cut in a continuous strip of sufficient length to wrap the tree. This wrapping shall begin at the ground line with overlapping wraps of 1-1/2 inches terminating above the lowest main branch of the tree. Final wrap shall be secured with tape in a minimum of three places. The Contractor shall return to the site and remove wrap the following spring, after all danger of frost is past. The Contractor shall notify the Owner's Representative a minimum of 1 week prior to wrap removal.
2. After inspection, and with the approval of the Owner's Representative, the Contractor shall neatly prune plants as necessary to remove only dead, injured, diseased, or crossing branches. All cuts shall be made just outside of the flare of the branch base, leaving a slight stub. All pruning shall be executed so as to preserve the natural form and character of the plant. The Contractor shall return to the site one year from installation and prune all dead, diseased or injured branches from plants as specified above. The Contractor shall notify the Owner's Representative a minimum of 1 week prior to commencing pruning.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

3. After watering on day of planting, and throughout the maintenance period up to final acceptance, the Contractor shall ensure that plants are not overwatered by only watering when the Contractor's on-site testing of soil moisture indicates the root zone at 4 inch depth has begun to dry out.
4. Specified mulch shall be placed in all planting beds, shrub areas and at the base of each tree. The mulch shall be spread carefully and evenly to a minimum depth of three inches for shrub beds and individual trees, and two inches for perennial beds. The mulched areas shall be graded so that the top of the mulch will be flush with the top of the pavement, and 1 inch below the top of the curb.
5. Underground obstructions: The Contractor shall be responsible for damage to any underground utility, or other improvements. In the event a pipe, line, rock formation, or other obstruction interferes with a plant location, the Contractor shall notify the Owner's Representative to receive a new plant location.

3.05 SOIL PREPARATION

- A. Soil preparation and mulching for all landscape areas, including seed/sod areas:
 1. Rip existing soil to a depth of twelve (12) inches minimum in one direction using an approved ripper with lines spaced no further than eighteen (18) inches apart. Areas adjacent to walks, structures, curbs, etc., where the use of large mechanical equipment is difficult shall be worked with smaller equipment or by hand. Contractor shall secure the Owner's approval of the ripped soil prior to commencing with the soil amendments, fine grading and planting.
 2. Remove all rubble, stones and extraneous material over two (2) inches in diameter from the site.
 3. For planting areas, apply "Roundup" or equal short term herbicide to inhibit unwanted plant growth prior to ripping soil. Apply in accordance with manufacturer's recommendation for this purpose and sufficiently in advance of planting to avoid damage to new plants and grass.
 4. Spread approved topsoil and the following amendments over the entire area to receive sod and groundcover and incorporate into the top six (6) inches of soil by dicing or rototilling until a uniform mixture is obtained with no pockets of soil or amendments remaining and water thoroughly to activate the soil penetrate: (Irrigated sod and groundcover bed areas)
 - a. Organic Matter: Apply 3 cubic yards per 1000 sq. ft.
 - b. Commercial Fertilizer (20-10-5) 10 lbs. per 1,000 s.f.
 - c. Superphosphate: Apply 10 lbs. per 1000 sq. ft.
 - d. Substantiate quantities with delivery tickets and empty manufacturer bags on daily basis to Owner.
 5. Fine grade to restore smooth even finish grades and to insure positive surface drainage. Top of sod mat shall be established one-half (1/2) inch below paving surface. No planting shall take place until grade is accepted by the Owner.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

6. Moisten prepared sod/seed areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

3.06 SCHEDULE

- A. No planting work shall take place during freezing or excessively windy or wet weather or when the ground conditions are, in the opinion of the Owner's Representative, not in a condition to be properly worked. Contractor shall include time in his schedule to work stoppage due to inclement weather or ground conditions. Inclement weather or ground conditions shall not be cause for an extension of project completion date unless written approval has been obtained from Owner's Representative for an extension of the project completion date.
- B. No planting work shall commence until the adjacent site improvements, pavements, utility installation and finish grading is completed. The Contractor shall limit his use of heavy equipment on pavements and planted areas. In all cases, he shall be responsible for all damage to existing conditions.

3.07 CLEAN UP

- A. Materials brought into project area shall be neatly stockpiled upon completion of each planting day. Debris will be removed from the project area at completion of each day's work. No debris is allowed to accumulate so as to hinder movement of traffic.
- A. The Contractor shall remove from the site equipment, excess soil and other debris which was revealed in the planting process.

3.08 MAINTENANCE, ACCEPTANCE AND GUARANTEE

- A. Maintenance period shall begin immediately after each area is planted based on the following requirements:
 1. All planting shall be protected and maintained until final acceptance of all work. Maintenance shall include watering, weeding, cultivating, mulching, tightening and repairing of guys, removal of dead branches, resetting plants to proper grade or upright position, barricading the site and other necessary operations. The Contractor shall provide all water and equipment necessary for maintenance during the duration of the contract. Water is available at the planting site. After final acceptance, maintenance becomes the responsibility of the Owner.
 2. If during the duration of the contract prior to final acceptance, any of the plants die, or if they are, in the opinion of the Owner's Representative, in unhealthy or unsightly condition or if they have lost their natural shape due to dead branches or excessive pruning of branches, then the Contractor shall replace the material at his expense. This replacement shall be completed prior to final acceptance of the project and shall not void the one-year guarantee.
 3. Minor vandalism, theft, or other damage to the plantings or related work shall be the responsibility of the Contractor until all work receives final acceptance.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- B. Prior to final acceptance, the Contractor shall furnish four (4) copies of written maintenance instructions to Owner for maintenance and care of all new planted areas for the first 3 years after installation. These instructions shall include but not be limited to staking, pruning, insect and disease control and fertilizing.
- C. Guarantee
1. For a period of one year after final acceptance of all work and at no additional cost to the Owner, the Contractor shall replace any plants that have died or are partially dead due to unhealthy or unsightly condition, or have lost their natural shape due to dead branches or excessive pruning of dead branches. Adverse site conditions are natural causes for the purposes of this contract. Inadequate or improper maintenance by the Owner shall not be cause for replacement by the Contractor provided the Contractor shall have submitted throughout the guarantee period a bi-monthly letter of report to the Owner on improper or inadequate maintenance practices and recommended remedial actions. The Contractor shall apply a “new” one year guaranty period to each replacement plant that is installed.
 2. The Contractor shall guaranty all plants to be true to name and to meet all conditions of these specifications. Any plant which is not true to name as indicated by leaf, flower form, or fruiting characteristics revealed within guarantee period shall be replaced by Contractor, at Contractor's expense.
 3. All replacement planting under the guarantee provision shall be executed within one month of notice to replace such plants. Upon Owner's written approval, the Contractor shall replace rejected plants at a later date, mutually agreed upon, provided that the Contractor removes all rejected plants within seven days of the notice to replace such plants. If the rejected plants are not removed in 7 days, the Owner’s Representative may at his option remove these plants and the cost of such removal shall be charged to the Contractor.
 4. Replacement planting is to be in accordance with the original specifications and its cost considered to be included in the bid price. All areas damaged by tree or shrub planting or replacement operations are to be fully restored to their original condition as specified.

END OF SECTION 329300

ARTICLE 5 – TECHNICAL SPECIFICATIONS

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ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 329443

TREE GRATES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work includes furnishing of all labor, material and equipment necessary for supplying and installing tree grates and frames as shown on the drawings.

1.02 SUBMITTALS

- A. Contractor shall submit 1set of drawings of tree grates and frames for review by architect prior to purchase and installation.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 25 years tree grate manufacturing experience.
 - 1. Castings will be squared and flat, free of burrs, slag, air pockets, blow holes, flashing and grinding or welding on exposed surfaces. Excessive warping or shrinkage is not acceptable.
 - 2. All visible welds on installation frames to be ground smooth. Frames will be true to specified diameter.
- B. Installer qualifications: 2 years minimum experience installing tree grates and support frames.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Inspect material immediately upon delivery, noting on delivery receipt all damage and/or discrepancy between delivered material and packing slip
- B. Store product in manufacturer's packaging until ready to install.

1.05 WARRANTY

- A. Tree grates and frames shall be warranted by the Manufacturer against defects in materials and workmanship for a minimum of one (1) years

PART 2 - PRODUCTS

2.01 TREE GRATES AND FRAMES:

- A. Manufacturer: Tree Grates and Frames shall be as supplied by Neenah Enterprises Inc., 5621 e. 52nd Ave., Commerce City, CO 80222; 303-289-7192 or 866-924-2752, or approved equal
- B. Tree Grates shall be as shown on drawings.
- C. Tree Grate Frames shall be Type “U” Frames, for embedded installation into new concrete surround.

PART 3 - EXECUTION

3.01 EXAMINATION

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- A. Do not begin installation until site is properly prepared.
- B. If substrate preparation is the responsibility of another trade, please coordinate with and notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surface as needed to perform installation per manufacturer's recommendation.

3.03 INSTALLATION

- A. Install tree grates in relation to adjacent paving surface with uniformity of appearance, in locations as indicated on plans.
- B. Install tree grate frames by incorporating them into the tree pit forming material, taking care to insure that the frame is on an FLAT PLANE, and sufficient bracing is in place to prevent frame deformation during concrete pouring and curing.
- C. Clean concrete debris from tree grate frame.
- D. Install tree grate, grinding leveling pads and shimming as needed to hold tree grates level and prevent rocking. Gap between grate and frame in finished installation shall not exceed 1/8" on all sides.

END OF SECTION 329443

ARTICLE 5 – TECHNICAL SPECIFICATIONS

SECTION 329450

ROCKWORK

PART 1 - GENERAL

1.01 SCOPE

- A. Provide complete installation of natural boulders as shown on plans or as field-directed by Owner or Owner's Representative.

1.02 COORDINATION OF WORK

- A. Coordinate with other trades for placement and installation of their work as required for a complete and functioning installation.

1.03 SAMPLES/MOCK-UP

- A. Contractor shall submit natural boulder samples to the site in sufficient quantity to enable the engineer to approve quality, texture and color prior to delivering the quantity of such items as indicated on the plans.
- B. Construct mock-up for Architect's approval.

1.04 DELIVERY AND STORAGE

- A. Schedule deliveries to avoid delays and to prevent greater accumulation than can be suitably stored at the site.
- B. Arrange storage in approximate order of use to avoid excessive rehandling.

PART 2 - PRODUCTS

2.01 NATURAL ROCK MATERIALS

- A. Boulders: Selected and approved by engineer. Type, size and color shall determined by Landscape Architect. Boulders shall be approved by the Owner prior to delivery on site.
- B. Boulders shall be clean, uniform in type, and free of abrasions, marks, drill holes, and all other deteriorious marks.

PART 3 - EXECUTION

3.01 GENERAL

- A. Construct rockwork with natural rock, at locations shown on the drawings or as directed by the Owner.

ARTICLE 5 – TECHNICAL SPECIFICATIONS

- B. During installation, rockwork that does not meet the quality of the submittals or samples as determined by the Landscape Architect shall be removed by the Contractor and replaced at no additional cost to the Owner. Field modifications recommended by the Contractor and approved by the Architect shall be made without additional cost to the Owner.

3.02 PREPARATION, LAYOUT, AND INSTALLATION

- A. Field verify location for boulder placement prior to installation of boulders.
- B. Handle, hoist, anchor and otherwise place boulders in the location approved by the Owner.
- C. Boulders shall be installed with no more than $2/3$ of boulder height above grade.
- D. Boulders shall be placed so that top of boulder is no higher than 24” above adjacent street elevation.
- E. Contractor shall assume responsibility for proper alignment of completed work.

3.03 DEFECTIVE MATERIALS AND ROCKWORK

- A. Rockwork shall be considered defective if not constructed or placed in accordance with the requirements of the drawings and specifications as determined by the Architect. Natural boulders must be held securely in permanent position.
- B. Defective rockwork shall be removed and replaced with new rockwork acceptable to the Engineer, unless suitable correction of defects may be otherwise accomplished as authorized by the Engineer, and without additional cost to the Owner.

END OF SECTION 329450