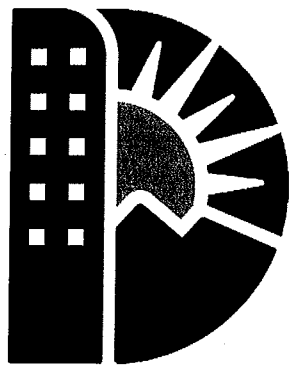


CITY AND COUNTY OF DENVER

STATE OF COLORADO



DENVER[®]
THE MILE HIGH CITY

DEPARTMENT OF PUBLIC WORKS / ENGINEERING DIVISION

BID DOCUMENTS PACKAGE

Contract No. 201102839

**INCA ST. BIKE/PED BRIDGE OVER 38TH AVE
UNDERPASS**

September 30, 2011



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Division

Capital Projects Management – Dept. 506
Right-of-Way Services – Dept. 507
Policy and Planning – Dept. 509
Traffic Engineering Services – Dept. 508

201 West Colfax Avenue
Denver, CO 80202
www.Work4Denver.com

NOTICE OF APPARENT LOW BIDDER

Keene Concrete, Inc.
30263 County Road 8
Keenesburg, CO 80643

The MANAGER OF PUBLIC WORKS has considered the Bids submitted on **November 10, 2011**, for work to be done and materials to be furnished in and for:

CONTRACT NO 201102839
INCA ST. BIKE/PEDESTRAIN BRIDGE OVER 38TH AVE UNDERPASS

as set forth in detail in the Contract Documents for the City and County of Denver, Colorado. It appears that your Bid is fair, equitable, and to the best interest of the City and County; therefore, said Bid is hereby accepted at the bid price contained herein, subject to the approval and execution of the Contract Documents by the City in accordance with the Charter of the City and County of Denver, and to your furnishing the items specified below. The award is based on the total bid items: **201-00000 through 700-70589 (Sixty [62]) total bid items**, the total estimated cost thereof being: **Eight Hundred Fourteen Thousand Eight Hundred Ninety Seven Dollars and Twenty Four Cents (\$814,897.24)**.

It will be necessary for you to appear forthwith at the office of the Department of Public Works, Contract Administration, 201 W. Colfax Ave., Dept 614, Denver, Colorado 80202, to receive the said Contract Documents, execute the same and return them to the Department of Public Works, Contract Administration within the time limit set forth in the Bid Proposal.

In accordance with the requirements set forth in the Contract Documents, you are required to furnish the following documents:

- a. Insurance Certificates: General Liability and Automotive Liability, Workman's Compensation and Employer Liability;
- b. One original plus two copies of the Power of Attorney relative to Performance and/or Payment Bond; and,

All construction Contracts made and entered into by the City and County of Denver are subject to Affirmative Action and Equal Opportunity Rules and Regulations, as adopted by the Manager of Public Works, and each contract requiring payment by the City of one-half million dollars (\$500,000.00) or more shall first be approved by the City Council acting by ordinance and in accordance with Section B1.12.2 of the Charter of the City and County of Denver.

Prior to issuance of Notice to Proceed, all Equal Opportunity requirements must be completed. Additional information may be obtained by contacting the Director of Contract Compliance at (720-913-1700).



Protecting the Present & Building the Future
Accountability, Innovation, Empowerment, Performance, Integrity,
Diversity, Teamwork, Respect, Excellence, Safety

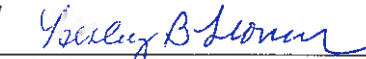
NOTICE OF APPARENT LOW BIDDER
PROJECT NO. 201102839
Page 2

The Bid Security submitted with your Bid, will be returned upon execution of the Contract and furnishing of the Performance Bond. In the event you should fail to execute the Contract and to furnish the performance Bond within the time limit specified, said Bid Security will be retained by the City and County of Denver as liquidated damages, and not as a penalty for the delay and extra work caused thereby.

Dated at Denver, Colorado this 9th day of January 2012.

CITY AND COUNTY OF DENVER

By



George Delaney
Manager of Public Works

GD/joa

cc: H. Woods (CAO), Gallagher (AUD), Schellinger (Treasury/Tax Compliance), DSBO Inbox, Kim Blair, Rob Merritt (PW-Aud), File.

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

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This Checklist is provided solely for the assistance of the bidders, and need not be returned by Bidders with your BID FORM PACKAGE.

BIDDER'S CHECKLIST

These forms comprise the Bid Form and Submittal Package. Designated forms must be completed and turned in at the time of Bid Opening. Bidders should refer to the Contract Documents, particularly the Instructions to Bidders, accompanying this package, in completing these forms.

FORM/ PAGE NO.	COMMENTS	COMPLETE
BF-4 – BF-5	a.) Acknowledgment signature and attestation required.	<input checked="" type="checkbox"/>
BF-6 - BF 6.6	a.) Fill in individual bid item dollars and totals in Numerical figures only	<input checked="" type="checkbox"/>
	b.) Complete all blanks	<input checked="" type="checkbox"/>
BF-7	a.) Write out bid total or bid totals in words and figures in the blank form space(s) provided	<input checked="" type="checkbox"/>
BF-8	a.) List all subcontractors who are performing work on this project	<input checked="" type="checkbox"/>
BF-9 – BF-10	a.) Fully complete List of Proposed Disadvantaged Business Enterprise Bidders, Subcontractors, Suppliers, Manufacturers, or Brokers – check appropriate boxes.	<input checked="" type="checkbox"/>
BF-11	a.) Complete all blanks	<input checked="" type="checkbox"/>
	b.) If Addenda have been issued, complete bottom section.	<input checked="" type="checkbox"/>
BF-12	a.) Complete appropriate sections - signature(s) required.	<input checked="" type="checkbox"/>
	b.) If corporation, then corporate seal required.	<input checked="" type="checkbox"/>
BF-13	a.) Fully complete Commitment to DBE Participation	<input checked="" type="checkbox"/>
BF-16	a.) If applicable, fully complete Joint Venture Affidavit	<input checked="" type="checkbox"/>
BF-17 – BF-19	a.) If applicable, fully complete Joint Venture Eligibility Form	<input checked="" type="checkbox"/>

BF-20	a.) Fill in all Bid Bond blanks b.) Signatures required c.) Corporate Seal if required d.) Dated e.) Attach Surety Agents Power of Attorney or Certified or cashier's check made out to the Manager of Revenue referencing Bidder's Company and CE Number.	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
BF-21 - BF-23	a.) Per form Instructions, fully complete the Bidder/Contractor/Vendor/Proposer Disclosure form as required by IB-24.	<input checked="" type="checkbox"/>
BF-24- BF-28	Complete all DBE forms, including: a.) Contractors Performance Capability Statement b.) Anti-Collusion Affidavit c.) Assignment of Anti-Trust Claims d.) Underutilized DBE Bid Conditions Assurance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BID FORM AND SUBMITTAL PACKAGE ACKNOWLEDGMENT

CONTRACT NO. 201102839
FEDERAL AID PROJECT NO.: AQC M320 067
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

BIDDER: Keene Concrete Inc

ADDRESS: 30263 WCR 8
Keenesburg CO
80643

The undersigned bidder states that the undersigned bidder has received and had an opportunity to fully and thoroughly examine a complete set of the Contract Documents for CONTRACT NO. 201102839, INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS, made available to the undersigned bidder pursuant to Notice of Invitation for Bids dated September 30, 2011.

The undersigned bidder acknowledges that a complete and final set of the Contract Documents for the referenced Project, the components of which are identified below, are bound and maintained as the record set of Contract Documents by the Contract Administration Division of the Department of Public Works and that this Record Set is available for examination by the undersigned bidder.

The undersigned bidder, having thoroughly examined each of the components identified below and contained in Contract Documents, HEREBY SUBMITS THIS BID FORM AND SUBMITTAL PACKAGE, fully understanding that the Contract Documents, as defined in Paragraph 1 of the contract, including this executed Bid Form and Submittal Package, constitute all of the terms, conditions and requirements upon which this submission is based and further understanding that, by submission of this Bid Form and Submittal Package, the City shall rely on the representations and commitments of the undersigned bidder contained herein.

The following completed documents comprising this Bid Form and Submittal Package will be included with and, by this reference, are expressly incorporated into the Contract Documents specified at Paragraph 1 of the Contract:

- Bid Form and Submittal Package Acknowledgment Form
- Bid Form
- List of Proposed Disadvantaged Business Enterprise(s)
- Commitment to Disadvantaged Business Enterprise Participation
- DBE Letter(s) of Intent
- Joint Venture Affidavit (if applicable)
- Joint Venture Eligibility Form (if applicable)
- Bid Bond
- Bidder / Contractor / Vendor / Proposer Disclosure Form

The following designated documents constitute that portion of the Contract Documents made available by the Notice of Invitation for Bids, but not included in the Bid Form and Submittal Package:

- Notice of Invitation for Bids
- Instructions to Bidders
- Addenda (as applicable)
- Equal Employment Opportunity Provisions (Appendix A and Appendix F)
- Contract Form
- General Contract Conditions
- Special Contract Conditions
- Performance and Payment Bond
- Notice to Apparent Low Bidder
- Notice to Proceed
- Contractor's Certification of Payment Form
- Final/Partial Lien Release Form
- Final Receipt
- Change Orders (as applicable)
- Federal Requirements (as applicable)
- Prevailing Wage Rate Schedule(s)
- Technical Specifications
- Contract Drawings
- Accepted Shop Drawings
- Insurance Provision

The undersigned bidder expressly assumes responsibility for the complete contents of these designated documents as bound together with the Bid Form and Submittal Package submitted herewith and designated the Contract Documents.

IN WITNESS WHEREOF, the undersigned bidder has signed personally or by duly authorized officer or agent and duly attested.

BIDDER: Keene Concrete Inc.

Name: Chris C. Bailey

By: Chris C. Bailey

Title: President

ATTEST:

By: Gail Darnell
Gail Darnell

[SEAL]

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BID FORM

CONTRACT NO. 201102839
FEDERAL AID PROJECT NO.: AQC M320 067

INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

TO: The Manager of Public Works
City and County of Denver
c/o Contract Administration
201 West Colfax, Dept. 614
Denver, Colorado 80202

BIDDER Keene Concrete Inc.

The Undersigned Bidder, having examined the plans, technical specifications, and remainder of the proposed Contract Documents as designated and enumerated in the General and Special Contract Conditions and any and all addenda thereto; having investigated the location of and conditions affecting the proposed Work; and being acquainted with and fully understanding the extent and character of the Work covered by this bid, and all factors and conditions affecting or which may be affected by Work, **HEREBY SUBMITS THIS BID**, pursuant to an advertisement of a Notice of Invitation for Bids as published on **September 30, 2011**, to furnish all required materials, tools, appliances, equipment and plant; to perform all necessary labor and to undertake and complete: **AQC M320 067 CITY OF DENVER CONTRACT NO. 201102839, INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS** in Denver, Colorado, in full accordance with and conformity to the Plans, Technical Specifications, and Contract Documents hereto attached or by reference made a part hereof, at and for the following price(s) set forth on this Bid Form.

The following documents, which taken as a whole constitute the Contract Documents for this Project, and which are incorporated herein, by reference, were made available to the Bidder as provided in the Advertisement of Notice of Invitation for Bids, were received by the bidder, and form the basis for this bid:

Advertisement of Notice of Invitation for Bids
Instructions to Bidders
Bid Bond
Addenda (as applicable)
DBE Documents
Equal Employment Opportunity Provisions
(Appendices A, B, E and F)
Bid Form
Commitment to DBE Participation
Contract Form
General Contract Conditions
Special Contract Conditions
Performance and Payment Bond
Notice to Apparent Low Bidder
Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Final Receipt
Change Orders (as applicable)

Federal Requirements
Contractors Performance Capability Statement
Anti-Collusion Affidavit
Assignment of Anti-Trust Claims
Underutilized DBE Bid Conditions Assurance
On-the-Job Training (where applicable)
Required Contract Provisions Federal Aid
Construction Contracts
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings
Certificate of Insurance

Item No.	Description and Price	Estimated Quantity	Estimated Cost
201-00000	CLEARING AND GRUBBING at the unit price of \$ <u>5,500.00</u> per LUMP SUM.	1 LS	\$ <u>5,500.00</u>
202-00010	REMOVAL OF TREE at the unit price of \$ <u>500.00</u> per EACH.	4 EA	\$ <u>2,000.00</u>
202-00019	REMOVAL OF INLET at the unit price of \$ <u>1,000.00</u> per EACH.	3 EA	\$ <u>3,000.00</u>
202-00021	REMOVAL OF MANHOLE at the unit price of \$ <u>1,000.00</u> per EACH.	1 EA	\$ <u>1,000.00</u>
202-00033	REMOVAL OF PIPE at the unit price of \$ <u>22.00</u> per LINEAR FEET.	228 LF	\$ <u>5,016.00</u>
202-00200	REMOVAL OF SIDEWALK at the unit price of \$ <u>8.00</u> per SQUARE YARD.	20 SY	\$ <u>160.00</u>
202-00203	REMOVAL OF CURB AND GUTTER at the unit price of \$ <u>6.00</u> per LINEAR FEET.	47 LF	\$ <u>282.00</u>
202-00220	REMOVAL OF ASPHALT MAT at the unit price of \$ <u>7.00</u> per SQUARE YARD.	1,498 SY	\$ <u>10,486.00</u>
202-04001	PLUG CULVERT at the unit price of \$ <u>510.00</u> per EACH.	2 EA	\$ <u>1,020.00</u>
203-01597	POTHOLING at the unit price of \$ <u>120.00</u> per HOUR.	16 HR	\$ <u>1,920.00</u>
206-00000	STRUCTURAL EXCAVATION at the unit price of \$ <u>18.00</u> per CUBIC YARD.	563 CY	\$ <u>10,134.00</u>
203-00100	MUCK EXCAVATION at the unit price of \$ <u>15.00</u> per CUBIC YARD.	155 CY	\$ <u>2,325.00</u>
206-00045	STRUCTURAL BACKFILL (CLASS 1) at the unit price of \$ <u>19.00</u> per CUBIC YARD.	1,069 CY	\$ <u>20,311.00</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
206-00360	MECHANICAL REINFORCEMENT OF SOIL at the unit price of \$ <u>13.40</u> per CUBIC YARD.	1,006 CY	\$ <u>13,480.40</u>
208-00025	CONSTRUCTION FENCE at the unit price of \$ <u>3.50</u> per LINEAR FEET.	567 LF	\$ <u>1,984.50</u>
208-00075	STABILIZED CONSTRUCTION STAGING AREA at the unit price of \$ <u>15.00</u> per SQUARE YARD.	285 SY	\$ <u>4,275.00</u>
208-00020	SILT FENCE at the unit price of \$ <u>1.50</u> per LINEAR FEET.	1,190 LF	\$ <u>1,785.00</u>
208-00045	CONCRETE WASHOUT STRUCTURE at the unit price of \$ <u>1,000.00</u> per EACH.	2 EA	\$ <u>2,000.00</u>
208-00051	STORM DRAN INLET PROTECTION (TYPE I) at the unit price of \$ <u>25.00</u> per LINEAR FEET.	169 LF	\$ <u>4,225.00</u>
208-00070	VEHICLE TRACKING CONTROL at the unit price of \$ <u>1,200.00</u> per EACH.	2 EA	\$ <u>2,400.00</u>
210-04015	MODIFY MANHOLE at the unit price of \$ <u>1,500.00</u> per EACH.	1 EA	\$ <u>1,500.00</u>
212-00004	SEEDING (NATIVE) at the unit price of \$ <u>4,400.00</u> per ACRE.	0.25 ACRE	\$ <u>1,100.00</u>
212-00047	SOIL PREPARATION at the unit price of \$ <u>6,100.00</u> per ACRE.	0.25 ACRE	\$ <u>1,525.00</u>
250-00010	ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT at the unit price of \$ <u>4,500.00</u> per LUMP SUM.	1 LS	\$ <u>4,500.00</u>
306-01000	RECONDITIOING at the unit price of \$ <u>8.00</u> per SQUARE YARD.	631 SY	\$ <u>5,048.00</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
403-00720	HOT MIX ASPHALT (PATCHING) (ASPHALT) at the unit price of \$ <u>135.00</u> per TON.	60 TON	\$ <u>8,100.00</u>
403-33721	HOT MIX ASPHALT (GRADING S) (75) (58-28) (7 INCH DEPTH) at the unit price of \$ <u>4.62</u> per SQUARE YARD/INCH.	4,417 SYI	\$ <u>20,406.54</u>
412-00800	CONCRETE PAVEMENT (8 INCH) at the unit price of \$ <u>48.00</u> per SQUARE YARD.	328 SY	\$ <u>15,744.00</u>
420-00000	GEOMEMBRANE at the unit price of \$ <u>8.25</u> per SQUARE YARD.	432 SY	\$ <u>3,564.00</u>
503-00024	DRILLED CAISSON (24 INCH) at the unit price of \$ <u>60.00</u> per LINEAR FEET.	151 LF	\$ <u>9,060.00</u>
504-04410	BLOCK FACING at the unit price of \$ <u>14.35</u> per SQUARE FEET.	5,334 SF	\$ <u>76,542.90</u>
514-00200	PEDESTRIAN RAILING (STEEL) at the unit price of \$ <u>120.00</u> per LINEAR FEET.	724 LF	\$ <u>86,880.00</u>
601-03040	CONCRETE CLASS D (BRIDGE) at the unit price of \$ <u>500.00</u> per CUBIC YARD.	76 CY	\$ <u>38,000.00</u>
601-03050	CONCRETE CLASS D (WALL) at the unit price of \$ <u>380.00</u> per CUBIC YARD.	87 CY	\$ <u>33,060.00</u>
601-40005	CUT STONE VENEER at the unit price of \$ <u>25.00</u> per SQUARE FEET.	452 SF	\$ <u>11,300.00</u>
601-40301	STRUCTURAL CONCRETE COATING at the unit price of \$ <u>2.60</u> per SQUARE FEET.	4,349 SF	\$ <u>11,307.40</u>
602-00020	REINFORCING STEEL (EPOXY COATED) at the unit price of \$ <u>1.50</u> per POUND.	11,465 LB	\$ <u>17,197.50</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
603-01175	15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING at the unit price of \$ <u>97.00</u> per LINEAR FEET.	77 LF	\$ <u>7,469.00</u>
603-01180	18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING at the unit price of \$ <u>107.00</u> per LINEAR FEET.	23 LF	\$ <u>2,461.00</u>
603-01240	24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING at the unit price of \$ <u>90.00</u> per LINEAR FEET.	135 LF	\$ <u>12,150.00</u>
604-16005	SINGLE NO. 16 INLET OPEN THROAT at the unit price of \$ <u>3,500.00</u> per EACH.	1 EA	\$ <u>3,500.00</u>
604-16020	SINGLE NO. 16 INLET VALLEY at the unit price of \$ <u>3,000.00</u> per EACH.	3 EA	\$ <u>9,000.00</u>
604-16025	DOUBLE NO. 16 INLET VALLEY at the unit price of \$ <u>4,500.00</u> per EACH.	2 EA	\$ <u>9,000.00</u>
604-30000	4' I.D. MANHOLE W/ CONCENTRIC CONE at the unit price of \$ <u>3,500.00</u> per EACH.	5 EA	\$ <u>17,500.00</u>
606-00705	GUARDRAIL TYPE 7 (Style CA) at the unit price of \$ <u>130.00</u> per LINEAR FEET.	70 LF	\$ <u>9,100.00</u>
608-00006	CONCRETE SIDEWALK (W/ FIBER)(6 INCH) at the unit price of \$ <u>34.00</u> per SQUARE YARD.	934 SY	\$ <u>31,756.00</u>
608-00010	CONCRETE CURB RAMP (TYPE 4)(W/ FIBER) at the unit price of \$ <u>69.00</u> per SQUARE YARD.	33 SY	\$ <u>2,277.00</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
609-21020	6" CURB AND GUTTER - 2' PAN (W/ FIBER) at the unit price of \$ <u>15.00</u> per LINEAR FEET.	315 LF	\$ <u>4,725.00</u>
609-21010	6" CURB AND GUTTER - 1' PAN (W/ FIBER) at the unit price of \$ <u>14.00</u> per LINEAR FEET.	30 LF	\$ <u>420.00</u>
609-21021	4" MOUNTABLE CURB (W/ FIBER) at the unit price of \$ <u>17.00</u> per LINEAR FEET.	35 LF	\$ <u>595.00</u>
609-24004	GUTTER TYPE 2 (4 FOOT) at the unit price of \$ <u>18.00</u> per LINEAR FEET.	513 LF	\$ <u>9,234.00</u>
614-00011	SIGN PANEL (CLASS I) at the unit price of \$ <u>35.00</u> per SQUARE FEET.	43 SF	\$ <u>1,505.00</u>
614-00216	STEEL SIGN POST (2X2 TUBING) at the unit price of \$ <u>18.00</u> per LINEAR FEET.	95 LF	\$ <u>1,710.00</u>
622-00270	BOLLARD at the unit price of \$ <u>300.00</u> per EACH.	4 EA	\$ <u>1,200.00</u>
625-00000	CONSTRUCTION SURVEY at the unit price of \$ <u>11,500.00</u> per LUMP SUM.	1 LS	\$ <u>11,500.00</u>
626-00000	MOBILIZATION at the unit price of \$ <u>40,000.00</u> per LUMP SUM.	1 LS	\$ <u>40,000.00</u>
627-00005	EPOXY PAVEMENT MARKING at the unit price of \$ <u>700.00</u> per GALLON.	2 GAL	\$ <u>1,400.00</u>
628-00001	BRIDGE GIRDER AND DECK UNIT (110 to 115 FEET) at the unit price of \$ <u>131,156.00</u> per EACH.	1 EA	\$ <u>131,156.00</u>
629-01041	SURVEY MONUMENT at the unit price of \$ <u>970.00</u> per EACH.	5 EA	\$ <u>4,850.00</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
629-01050	MONUMENT BOX at the unit price of \$ <u>750.00</u> per EACH.	5 EA	\$ <u>3,750.00</u>
630-00014	CONSTRUCTION TRAFFIC CONTROL at the unit price of \$ <u>50,500.00</u> per LUMP SUM.	1 LS	\$ <u>50,500.00</u>
700-70589	F/A ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT at the unit price of \$ <u>10,000.00</u> per FORCE ACCOUNT.	1 F/A	\$ <u>10,000.00</u>

Total Bid Amount of:

Eight Hundred Fourteen Thousand Eight Hundred Ninety Seven Dollars
And Twenty Four Cents.

Dollars (\$ 814,897.24)

[Total bid amount equals the sum of each estimated cost for item numbers 201-00000 through 700-70589 (Sixty-Two [62]) total bid items]

If the Manager mails a written Notice of Apparent Low Bidder, addressed to the Bidder's business address stated on this Bid Form, the Undersigned Bidder shall, in accordance with the Contract Documents, be ready to, and shall, within five (5) days after the date of the Notice: (i) execute the attached form of Contract in conformity with this bid; (ii) furnish the required proofs of insurance; and (iii) furnish the required bond in the sum of the full amount of this bid, executed by a surety company acceptable to the Manager.

The North American Specialty Ins. Co., a corporation of the State of New Hampshire, is hereby offered as Surety on said bond. If such surety is not approved by the Manager, another and satisfactory surety company shall be furnished.

Enclosed with this bid is a bid guarantee, as defined in the attached Instructions to Bidders, in the amount of 5% of total bid. The Undersigned Bidder agrees that the entire amount of this bid guarantee is to be paid to and become the property of the City as liquidated damages, and not as a penalty, if: (i) the bid is considered to be the best by the City; (ii) the City notifies the Undersigned Bidder that it is the Apparent Low Bidder; and (iii) the Undersigned Bidder fails to execute the Contract in the form prescribed or to furnish the required bond and proofs of insurance, within five (5) days after the date of such notification.

The following persons, firms or corporations are interested with the Undersigned Bidder in this bid: N/A

Name: _____ Name: _____

Address: _____ Address: _____


If there are no such persons, firms, or corporations, please so state in the following space: None

The Undersigned Bidder proposes to subcontract the following Work in accordance with General Contract Conditions, Title 5, SUBCONTRACTS, and represents that, to the greatest degree practical, all subcontractors known at the time of bid submittal have been identified.

Item of Work	Percent (%) of Total; Work	Proposed Subcontractor and Address
Pipe Work/Inlets	7.36	Blanco, Inc. 796 Poppy Dr. - Brighton, CO 80601
Hot Mix Asphalt	1.77	Chacon Paving, Inc. 1701 E. 114 th Place - Northglenn, CO 80233
Erosion Control/Seeding	.98	Brighton Landscaping, Inc. 397 S. 24 th Ave. - Brighton, CO 80601
Block Paving/Mech. Soil	12.10	Yenter Companies 20300 W. 72 nd - Arvada, CO 80007
Drilled Caisson	.85	Ludwig Caisson Drilling P.O. Box 1059 - Castle Rock, CO 80104
CRANE SERVICE	2.94	ERIK GRANE & Riggino 97741 Titan Park Cir. - Littleton, CO 80125
Traffic Control	4.29	Highway Technologies 2295 S. Lipan St - Denver, CO 80223
Pavement Markings	.25	Kolbe Striping, Inc. 550 Topeka Way - Castle Rock, CO 80109
Construction Survey	1.58	JONES Engineering Assoc., Inc. 2120 W. Littleton Blvd., Ste. 205 - Littleton, CO 80120
Structural Coating	1.26	Quality Linings & Paint 8250 E. 40 th Ave. - Denver, CO 80207

(Copy this page if additional room is required.)

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
 Engineering Division

 DENVER <small>THE MILE HIGH CITY</small>	List of Proposed MWBE or DBE Bidders, Subcontractors, Suppliers (Manufacturers) or Brokers			Office of Economic Development Division of Small Business Opportunity Compliance Unit 201 West Colfax Avenue, Dept. 907 Denver, CO 80202 Phone: 720-913-1999 Fax: 720-913-1803 DSSO@denvergov.org			
	City and County of Denver Contract No.: <u>201102839</u>						
The undersigned Bidder proposes to utilize the following MWBE or DBE for the project. All listed firms are CURRENTLY certified by the City and County of Denver. Only the level of MWBE or DBE participation listed at the bid opening will count toward satisfaction of the project goal. Only bona fide commissions may be counted for Brokers. MWBE or DBE prime bidders must detail their bid information below. Please copy and attach this page to list additional MWBE or DBE. <u>Keene Concrete Inc.</u>							
Address: <u>30263 WCR 8 Keenesburg CO 80643</u>		Contact Person: <u>Rob Brock</u>					
Type of Service: <u>Concrete Construction</u>		Dollar Amount: \$: <u>732,397.24</u>	Percent of Project: <u>90</u>				
MWBE or DBE Prime Bidder							
Business Name: <u>Blanco, Inc. RB</u>							
Address: <u>796 Poppy Dr. - Brighton, CO 80601</u>		Contact Person: <u>Juan Blanco</u> RB					
Type of Service: <u>Pipe Work / Inlets</u> RB		Dollar Amount: \$: <u>60,000.00</u> RB	Percent of Project: <u>7.36</u> RB				
Subcontractors, Suppliers Manufacturers or Brokers (check one box)							
<input checked="" type="checkbox"/>	Subcontractor (✓) RB	<input type="checkbox"/>	Supplier (✓)	<input type="checkbox"/>	Manufacturer (✓)	<input type="checkbox"/>	Broker (✓)
Business Name: <u>Blanco Blanco, Inc.</u>							
Address: <u>796 Poppy Dr. - Brighton, CO 80601</u>		Type of Service: <u>Pipe / Inlet</u>					
Contact Person: <u>JUAN BLANCO</u>		Dollar Amount: \$: <u>60,000.00</u>	Percent of Project: <u>7.36</u>				
<input checked="" type="checkbox"/>	Subcontractor (✓)	<input type="checkbox"/>	Supplier (✓)	<input type="checkbox"/>	Manufacturer (✓)	<input type="checkbox"/>	Broker (✓)
Business Name: <u>CHACON PAVING, INC.</u>							
Address: <u>1701 E. 114th Pl. - Naetglem, CO 80233</u>		Type of Service: <u>HOT Mix Asphalt</u>					
Contact Person: <u>TIM Dougherty</u>		Dollar Amount: \$: <u>14,500.00</u>	Percent of Project: <u>1.77</u>				
<input checked="" type="checkbox"/>	Subcontractor (✓)	<input type="checkbox"/>	Supplier (✓)	<input type="checkbox"/>	Manufacturer (✓)	<input type="checkbox"/>	Broker (✓)
Business Name: <u>BRIGHTON Landscaping, Inc.</u>							
Address: <u>397 S. 24th AVE. - Brighton, CO 80601</u>		Type of Service: <u>Erosion / Seeding</u>					
Contact Person: <u>Cathy Diaz</u>		Dollar Amount: \$: <u>8,000.00</u>	Percent of Project: <u>.98</u>				

Subcontractors, Suppliers Manufacturers or Brokers (check one box)				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)
Business Name:				
Address:			Type of Service:	
Contact Person:			Dollar Amount: \$:	Percent of Project:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subcontractor (✓)		Supplier (✓)		Manufacturer (✓) Broker (✓)

COMP-FRM-011

The undersigned Bidder hereby certifies that the aforementioned subcontractors and suppliers have full knowledge that their names have been offered as subcontractors and suppliers for the work, and the Bidder further certifies that the dollar amount of work to be performed by the aforementioned DBE(s) was furnished to the Bidder prior to the bid opening. The undersigned Bidder agrees that after the bid opening, it shall submit to the City an executed and completed DBE "Letter of Intent" in five working days (5), on each of its DBE or DBE subcontractors. The "Letter of Intent" form is contained in the Contract Documents.

The undersigned Bidder acknowledges the right of the City to reject any or all bids submitted, to waive informalities in bids and to re-advertise this Project for bids.

The undersigned certifies that it has carefully checked all words and figures and all statements made in these Bid Forms.

This bid is submitted upon the declaration that neither, I (we), nor, to the best of my (our) knowledge, none of the members of my (our) firm or company have either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

Business Address of Bidder: 30263 WCR 8

City, State, Zip Code: Keenesburg CO 80643

Telephone Number of Bidder: 303-227-1901 Fax No. 303-227-1904

Contact Name for this Project: Rob Brock

Social Security or Federal Employer ID Number of Bidder: 84-15491666

Name and location of the last work of this kind herein contemplated upon which the Bidder was engaged:

2011 Citywide Curb, Gutter & Crosspan Ph. 3 - Various locations in Denver

For information relative thereto, please refer to:

Name: Rick Zimmat

Title: Project Manager

Address: 1000 W. ~~Colfax~~ 3rd Ave Denver CO 80223

The undersigned acknowledges receipt, understanding, and full consideration of the following addenda to the Contract Documents:

Addenda Number 1 Date 10/21/11

Addenda Number 2 Date 11/2/11

Addenda Number _____ Date _____

Dated this 10th ~~28th~~ day of November ~~October~~, 2011

Signature of Bidder:

If an Individual: _____ doing business
as _____.

If a Partnership: _____
by: _____, General Partner.

If a Corporation: Keene Concrete Inc.
a Colorado, Corporation,
by: Chris C. Bailey, its President.
Chris C. Bailey

Attest:
Gail Damell
Secretary Gail Damell (Corporate Seal)

If a Joint Venture, signature of all Joint Venture participants.

Firm: _____
Corporation (), Partnership () or () Limited Liability Company

By: _____ (If a Corporation)
Attest: _____
Title: _____ Secretary (Corporate Seal)

Firm: _____
Corporation (), Partnership () or () Limited Liability Company

By: _____ (If a Corporation)
Attest: _____
Title: _____ Secretary (Corporate Seal)

Firm: _____
Corporation (), Partnership () or () Limited Liability Company

By: _____ (If a Corporation)
Attest: _____
Title: _____ Secretary (Corporate Seal)

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
 Engineering Division



DENVER
 THE MILE HIGH CITY

COMMITMENT TO DBE PARTICIPATION

Office of Economic Development
 Division of Small Business Opportunity
 Compliance Unit
 201 West Colfax Avenue, Dept. 907
 Denver, CO 80202
 Phone: 720-913-1999
 Fax: 720-913-1803
 DSBO@denvergov.org

The undersigned has satisfied the DBE participant requirements in the following manner (Please check the appropriate box):

The Bidder/Proposer is committed to a minimum of 10 % DBE utilization on the project, and will submit Letters of Intent (LOI) for each subcontractor/subconsultant listed in the Bid Forms as follows:
 Hard Bids: Five (5) business days after the bid opening
 Request for Proposals: With the proposal when due

The Bidder/Proposer is unable to meet the project goal of _____% DBE, but is committed to a minimum of _____% DBE utilization on the project. The Bidder/Proposer understands that they must submit a detailed statement of their good faith effort in accordance with DRMC Section 28-62 and 28-67 of Ordinance 760 and must submit Letters of Intent for each DBE listed in the Bid Forms, within five (5) business days after the bid opening or at time proposal is submitted.

The Bidder/Proposer is a certified DBE in good standing with the City and is committed to self-perform a minimum of _____% of the work on the contract.

Bidder/Proposer (Name of Firm): Keene Concrete Inc

Firm's Representative (Please print): Chris C. Bailey

Signature (Firm's Representative): Chris C. Bailey

Title: President

Address: 30263 WCR 8

City: Keenesburg

State: CO

Zip: 80643

Phone: 303-227-1901

Fax: 303-227-1904

Email: mail@keeneconcrete.com

A copy of the DBE Certification must be attached.



DENVER
THE MILE HIGH CITY

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Ave., Dept. 907
Denver, CO 80202
Phone: 720-913-1999 Fax 720-913-1803

LETTER OF INTENT (LOI)

INSTRUCTIONS FOR COMPLETION & SUBMISSION:

- All lines must be completed or marked N/A for Not Applicable
- Submit the attached completed checklist with this letter
- Email to dsbo@denvergov.org, OR
- Fax: 720-913-1803, OR
- Hand-Delivery: Office Economic Dev. 7th Fl., "DSBO Inbox"

Contract No.:		Project Name:			
A. The Following Section is To Be Completed by the Bidder/Consultant This Letter of Intent Must be Signed by the Bidder/Consultant and M/WBE, SBE or DBE					
Name of Bidder/Consultant:		Self-Performing: <input type="checkbox"/> Yes <input type="checkbox"/> No		Phone:	
Contact Person:		Email:		Fax:	
Address:		City:		State:	Zip:
B. The Following Section is To Be Completed by the M/WBE, SBE or DBE, at any Tier This Letter of Intent Must be Signed by the M/WBE, SBE or DBE and Bidder/Consultant					
Name of Certified Firm:				Phone:	
Contact Person:		Email:		Fax:	
Address:		City:		State:	Zip:
Please check the designation which applies to the certified firm.		M/WBE (<input type="checkbox"/>)	SBE (<input type="checkbox"/>)	DBE (<input type="checkbox"/>)	Self-Performing (<input type="checkbox"/>)
Indirect Utilization: If this M/WBE, SBE or DBE is not a direct first tier subcontractor/subconsultant, supplier or broker to the Bidder/ Consultant, please indicate the name of the subcontractor/subconsultant, supplier or broker which is utilizing the participation of this firm:					
A Copy of the M/WBE, SBE or DBE Letter of Certification must be Attached					
Identify the scope of the work to be performed or supply item that will be provided by the M/WBE/SBE/DBE. <u>On unit price bids only, identify which bid line items the M/WBE/SBE/DBEs scope of work or supply corresponds to.</u>					
<input type="checkbox"/> Subcontractor/Consultant (<input type="checkbox"/>)		<input type="checkbox"/> Supplier (<input type="checkbox"/>)		<input type="checkbox"/> Broker (<input type="checkbox"/>)	
Bidder intends to utilize the aforementioned M/WBE, SBE or DBE for the Work/Supply described above. The cost of the work and percentage of the total subcontractor M/WBE, SBE or DBE bid amount is:					
\$				%	
Consultant intends to utilize the aforementioned M/WBE, SBE or DBE for the Work/Supply described above. The percentage of the work of the total subconsultant M/WBE, SBE or DBE will perform is:					
If the fee amount of the work to be performed is requested, the fee amount, is:				\$	
Bidder/Consultant's Signature:				Date:	
Title:					
M/WBE, SBE or DBE or Self-Performing Firm's Signature:				Date:	
Title:					
If the above named Bidder/Consultant is not determined to be the successful Bidder/Consultant, this Letter of Intent shall be null and void.					

Letter of Intent (LOI) Checklist

*All lines must be completed or marked N/A for Not Applicable
Submit the attached completed checklist with this letter.*

Completed ✓	
<input type="checkbox"/>	Project Number & Project Name
<input type="checkbox"/>	Section A: Name of Bidder/Consultant, Contact Person, Address, City, State, Zip, Phone, Email
<input type="checkbox"/>	Section B: Name of Certified Firm, Contact Person, Address, City, State, Zip, Phone, Email
<input type="checkbox"/>	Designation checked for MBE/WBE, SBE or DBE
<input type="checkbox"/>	Indirect Utilization: Name of subcontractor/subconsultant, supplier or broker is indicated if using the participation of a 2 nd tier subcontractor/subconsultant, supplier or broker.
<input type="checkbox"/>	Scope of work performed or item supplied by M/WBE, SBE or DBE
<input type="checkbox"/>	Line items performed, if line-item bid.
<input type="checkbox"/>	Copy of M/WBE, SBE or DBE Letter of Certification Attached
<input type="checkbox"/>	Designation checked for Subcontractor/Subconsultant, Supplier or Broker
	If project is a hard bid...
<input type="checkbox"/>	Bidder has indicated dollar amount for value of work going to Subcontractor/ Subconsultant, Supplier or Broker
<input type="checkbox"/>	Bidder has indicated percentage for value of work going to Subcontractor/ Subconsultant, Supplier or Broker
	If project is an RFP/RFQ...
<input type="checkbox"/>	Consultant has indicated percentage for value of work going to Subcontractor/ Subconsultant, Supplier or Broker Name & contact name for M/WBE.
<input type="checkbox"/>	Fee amount if fee amount of work to be performed is requested.
<input type="checkbox"/>	Bidder/Consultant's Signature, Title & Date
<input type="checkbox"/>	M/WBE, SBE or DBE Firm's Signature, Title and Date

Select One ✓	SUBMITTED VIA... (Bidder/Consultant is strongly urged to deliver the LOI via one of the methods below. Delivery to any other point cannot be guaranteed timely delivery.)
<input type="checkbox"/>	Email to DSBO@denvergov.org
<input type="checkbox"/>	Fax to 720-913-1803
<input type="checkbox"/>	Hand Delivery to Office of Economic Development, 7 th Floor, "DSBO Inbox"

The complete and accurate information that is required for the Letter of Intent is based on the following sections of the Ordinance: Section 28-63 and Section 28-68. Failure to complete this information on the Letter of Intent (LOI) may automatically deem a bid or proposal non-responsive.



DENVER
THE MILE HIGH CITY

JOINT VENTURE AFFIDAVIT

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Avenue, Dept. 907
Denver, CO 80202
Phone: 720-813-1999
Fax: 720-813-1803
DSBO@denvergov.org

The Undersigned swear that the foregoing statements are correct and include all material information necessary to identify and explain the terms and operation of our joint venture and the intended participation by each joint venturer in the undertaking. Further, the Undersigned covenant and agree to provide the City current, complete, and accurate information regarding actual joint venture work and the payment thereof and any proposed changes in any of the joint venture arrangements and to permit the audit and examination of the books, records, and files of the joint venture, by authorized representatives of the City or Federal funding agency, if applicable. Any material misrepresentation will be grounds for terminating any contract which may be awarded and for initiating action under Federal or State laws concerning false statements.

Name of Firm: _____

Print Name: _____

Title _____

Signature: _____

Date: _____

Notary Public

County of _____

State of _____

My Commission Expires: _____

Subscribed and sworn before me this

_____ day of _____, 20_____

Notary Signature: _____

Notary Seal

Address: _____

Name of Firm: _____

Print Name: _____

Title _____

Signature: _____

Date: _____

Notary Public

County of _____

State of _____

My Commission Expires: _____

Subscribed and sworn before me this

_____ day of _____, 20_____

Notary Signature: _____

Notary Seal

Address: _____

Name of Firm: _____

Print Name: _____

Title _____

Signature: _____

Date: _____

Notary Public

County of _____

State of _____

My Commission Expires: _____

Subscribed and sworn before me this

_____ day of _____, 20_____

Notary Signature: _____

Notary Seal

Address: _____



JOINT VENTURE ELIGIBILITY FORM

Office of Economic Development
 Division of Small Business Opportunity
 Compliance Unit
 201 West Colfax Avenue, Dept. 807
 Denver, CO 80202
 Phone: 720-913-1999
 Fax: 720-913-1603
 DSBO@denvergov.org

Joint Venture means an association of two (2) or more business enterprises to constitute a single business enterprise to perform a City construction or professional design and construction services contract for which purpose they combine their property, capital, efforts, skills and knowledge, and in which each joint venturer is responsible for a distinct, clearly defined portion of the work of the contract, performs a commercially useful function, and whose share in the capital contribution, control, management responsibilities, risks and profits of the joint venture are equal to its ownership interest. Joint ventures must have an agreement in writing specifying the terms and conditions of the relationships between the joint venturers and their relationship and responsibility to the contract.

The Division of Small Business Opportunity (DSBO) requires the following information be provided from participants of a prospective joint venture, to assist DSBO in evaluating the proposed joint venture. This Joint Venture Eligibility form and the Joint Venture Affidavit apply if SBEs, MBEs, WBEs or DBEs participate in this joint venture.

Please return this form, the Joint Venture Affidavit, and a copy of your Joint Venture Agreement to: Division of Small Business Opportunity, 201 West Colfax Avenue, Denver, CO 80202, at least ten (10) working days prior to bid opening or proposal.

If you have questions regarding this process, please contact DSBO at 720-913-1999.

Joint Venture Information

Name:		Contact Person:	
Address:			
City:	State:	Zip:	Phone:

Joint Venture Participants

Name:		Contact Person:	
Address:			
City:	State:	Zip:	Phone:
% Ownership:	Certifying Entity:	Type Certification & Date: (S/M/W or DBE)	
Type of Work for which Certification was granted:			

Name:		Contact Person:	
Address:			
City:	State:	Zip:	Phone:
% Ownership:	Certifying Entity:	Type Certification & Date: (S/M/W or DBE)	
Type of Work for which Certification was granted:			

General Information

SBE/MBE/WBE/DBE Initial Capital Contributions: \$	%
Future capital contributions (explain requirements) (attach additional sheets if necessary):	
Source of Funds for the SBE/MBE/WBE/DBE Capital Contributions:	
Describe the portion of the work or elements of the business controlled by the SBE/MBE/WBE or DBE: (attach additional sheets if necessary)	
Describe the portion of the work or elements of the business controlled by non-SBE/MBE/WBE or DBE: (attach additional sheets if necessary)	

JOINT VENTURE ELIGIBILITY FORM

General Information

Describe the SBE/MBE/WBE or DBE's involvement in the overall management of the joint venture (e.g., participation on a management committee or managing board voting rights, etc.) (attach additional sheets if necessary)

Describe the SBE/MBE/WBE or DBE's share in the profits of the joint venture:

Describe the SBE/MBE/WBE or DBE's share in the risks of the joint venture:

Describe the roles and responsibilities of each joint venture participant with respect to managing the joint venture (use additional sheets if necessary):

a. SBE/MBE/WBE or DBE joint venture participant:

b. Non- SBE/MBE/WBE or DBE joint venture participant:

Describe the roles and responsibilities of each joint venture participant with respect to operation of the joint venture (use additional sheets if necessary):

a. SBE/MBE/WBE or DBE joint venture participant:

b. Non- SBE/MBE/WBE or DBE joint venture participant:

Which firm will be responsible for accounting functions relative to the joint venture's business?

Explain what authority each party will have to commit or obligate the other to insurance and bonding companies, financing institutions, suppliers, subcontractors, and/or other parties?

Please provide information relating to the approximate number of management, administrative, support and non-management employees that will be required to operate the business and indicate whether they will be employees of the SMWBE, non-SMWBE or joint venture:

	Non- SBE/MBE/WBE/DBE	SBE/MBE/WBE/DBE	Joint Venture
Management			
Administrative			
Support			
Hourly Employees			

JOINT VENTURE ELIGIBILITY FORM

General Information

Please provide the name of the person who will be responsible for hiring employees for the joint venture.

Who will they be employed by?

Are any of the proposed joint venture employees currently employees of any of the joint venture partners?

Yes
(Y)

No
(N)

If yes, please list the number and positions and indicate which firm currently employs the individual(s), (use additional sheets if necessary)

Number of employees	Position	Employed By

Attach a copy of the proposed joint venture agreement, promissory note or loan agreement (if applicable), and any and all written agreements between the joint venture partners.

List all other business relationships between the joint venture participants, including other joint venture agreements in which the parties are jointly involved.

If there are any significant changes in or pertaining to this submittal, the joint venture members must immediately notify the Division of Small Business Opportunity.

COMP-FRM-015

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, as Principal, and _____, a corporation organized and existing under and by virtue of the laws of the State of _____, and authorized to do business within the State of Colorado, as Surety, are held and firmly bound unto the City and County of Denver, Colorado, as Obligees, in full and just sum of _____ Dollars, (\$ _____), 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, successors and assigns, jointly and severally, firmly by these presents:

WHEREAS, the said Principal is herewith submitting its bid, dated _____, 20____, for the construction of: **Contract No. 201102839, INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**, as set forth in detail in the Contract Documents for the City and County of Denver, Colorado, and said Obligees has required as a condition for receiving said bid that the Principal deposit specified bid security in the amount of not less than five percent (5%) of the amount of said bid, as it relates to work to be performed for the City, conditioned that in event of failure of the Principal to execute the Contract, for such construction and furnish required Performance and Payment Bond if the contract is offered him that said sum be paid immediately to the Obligees as liquidated damages, and not as a 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 therefor, on the prescribed form presented to him for signature, enter into a written contract with the Obligees in accordance with his bid as accepted and give Performance and Payment Bond with good and sufficient surety or sureties, upon the form prescribed by the Obligees, 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 Obligees 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 Performance and Payment Bond within the time specified, then this Obligation shall be null and void, otherwise to remain in full force and effect.

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

ATTEST

Secretary

Principal

By _____

Title

Surety

By _____

Seal if Bidder is Corporation
(Attach Power-of-Attorney)

[SEAL]

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BIDDER/CONTRACTOR/VENDOR/PROPOSER DISCLOSURE FORM

Bidding Entity's/Proposer's Name

Date this form was completed

Address

() _____

Telephone Number

City, State, Zip Code

Name of Officer/Owner completing this Form

INSTRUCTIONS

1. Section 20-69 of the Denver Revised Municipal Code provides that the public interest is best served by maximum disclosure of political contributions made to candidates seeking election to City office by persons transacting business with the City and County of Denver. This Disclosure Form was devised to insure that City Bidder/Contractor/Vendor/Proposers comply with all applicable requirements of Section 20-69, D.R.M.C.

2. Complete each applicable Section of this Form in accordance with the following instructions and return it to the appropriate City official as directed.

3. If your business entity has previously submitted a Form and the information provided in this previously submitted Form has not changed, you need only complete Section 6 and return the Form.

4. If your business entity has not previously submitted a Form or any of the information contained in a previously submitted Form has changed, you must identify in Section 1 the name of each of the following for your business entity: (a) any director, (b) any officer, (c) any principal, (d) any owner and (e) any shareholder who owns or controls 5% or more of your entity.

5. If you are required to complete Section 1, you must also **EITHER**:

(A) Identify in Section 2, for each person listed in Section 1, that person's spouse, if any, and any children of that person, under the age of eighteen (18);

OR

(B) Identify in Section 3, any person listed in Section 1 and any spouse or age eighteen (18) or under child of any person listed in Section 1 that made a CONTRIBUTION, as defined in D.R.M.C. 15-32, to any CANDIDATE, as also defined in D.R.M.C. 15-32, during the last five (5) years,

AND

Certify in Section 4 that, except as disclosed in Section 3, no other person listed in Section 1 or any spouse or child under the age of eighteen (18) of any person listed in Section 1 made a contribution to any candidate, as these terms are defined in D.R.M.C. 15-32, during the last five (5) years.

6. And finally, if your bid/contract/purchase order/proposal includes subcontractors, subconsultants or suppliers receiving more than \$100,000.00 for any work performed, materials provided or services rendered or your business entity has a collective bargaining agreement with any union, you must identify each such subcontractor/subconsultant/supplier and each such union in Section 5.

SECTION 1. MUST BE FILLED OUT BY ALL BIDDER/PROPOSERS/CONTRACTORS/VENDORS:

Identify below each individual having the noted relationship with the business entity listed above. Show appropriate letter in the box to the left. A = Officer, B= Director, C = Principal, D = Owner, E= Controller of 5% or more of the stock. If more than one category applies, show in second box.

1. [] [] _____	9. [] [] _____
2. [] [] _____	10. [] [] _____
3. [] [] _____	11. [] [] _____
4. [] [] _____	12. [] [] _____
5. [] [] _____	13. [] [] _____
6. [] [] _____	14. [] [] _____
7. [] [] _____	15. [] [] _____
8. [] [] _____	16. [] [] _____

EITHER FILL OUT SECTION 2 OR SECTION 3 AND SECTION 4 IF APPLICABLE.

SECTION 2. Identify below each individual that is the spouse or a child under the age of eighteen (18) of any individual listed in Section 1 above. Use the first box to designate relationship as follows; F = Spouse, G = Child under 18. Use the second box to identify relationship to person listed in Section 1 above. For example, if on Line 3 of Section 1 the name of John Doe is listed and his spouse, Jane Doe is listed on line 7 of Section 2, the number 3 should be placed in the second box of line 7 of Section 2.

1. [] [] _____	9. [] [] _____
2. [] [] _____	10. [] [] _____
3. [] [] _____	11. [] [] _____
4. [] [] _____	12. [] [] _____
5. [] [] _____	13. [] [] _____
6. [] [] _____	14. [] [] _____
7. [] [] _____	15. [] [] _____
8. [] [] _____	16. [] [] _____

SECTION 3. DISCLOSURE OF CONTRIBUTION BY PERSONS LISTED IN SECTION 1 AND DISCLOSURE OF ANY SPOUSE OR CHILD UNDER THE AGE OF EIGHTEEN (18) OF A PERSON LISTED IN SECTION 1 WHO HAS MADE A CONTRIBUTION:

List the names of any person listed in Section 1 who has made a contribution and the name of any spouse or child under the age of eighteen (18) of any person listed in Section 1 who has made a contribution during the last five (5) years. Use the first box to identify the person: A = Officer, B = Director, C = Principal, D = Owner, E = Controller of 5% or more of the stock, F = Spouse, G= Child under 18, use the second box to identify relationship of spouse or child listed to person listed in Section 1.

1. [] [] _____	9. [] [] _____
2. [] [] _____	10. [] [] _____
3. [] [] _____	11. [] [] _____
4. [] [] _____	12. [] [] _____
5. [] [] _____	13. [] [] _____
6. [] [] _____	14. [] [] _____
7. [] [] _____	15. [] [] _____
8. [] [] _____	16. [] [] _____

SECTION 4. BIDDER/CONTRACTOR/VENDOR/PROPOSER CERTIFIED STATEMENT IN LIEU OF DISCLOSURE. I hereby certify that, except as listed above, no officer, director, shareholder who owns or controls 5% or more of the business entity, principal, owner or his or her spouse or child under eighteen years of age has made a contribution, as defined in Section 15-32 D.R.M.C., or a contribution in kind, as defined at Section 15-32 D.R.M.C., to a candidate, as defined at Section 15-32 D.R.M.C., during the last five years.

 Authorized Signature of Officer/Owner of Business entity

SECTION 5. DISCLOSURE OF SUBCONTRACTORS, SUPPLIERS AND UNIONS. List the names of any unions with which your entity has a collective bargaining agreement and the names of any subcontractors or suppliers whose share of the amount to be paid by the City for this contract, purchase order or proposal will exceed One Hundred Thousand Dollars (\$100,000.00), identifying them in the box provided as follows: H = Subcontractor, I = Supplier, J = Union.

- | | |
|------------------|-------------------|
| 1. [] [] _____ | 9. [] [] _____ |
| 2. [] [] _____ | 10. [] [] _____ |
| 3. [] [] _____ | 11. [] [] _____ |
| 4. [] [] _____ | 12. [] [] _____ |
| 5. [] [] _____ | 13. [] [] _____ |
| 6. [] [] _____ | 14. [] [] _____ |
| 7. [] [] _____ | 15. [] [] _____ |
| 8. [] [] _____ | 16. [] [] _____ |

SECTION 6. CERTIFIED STATEMENT OF PREVIOUS DISCLOSURE.

I hereby certify that the information required to be disclosed by Section 20-69(d) D.R.M.C. [i.e. the information contained in responses to Sections 1, 2, 3, 4, 5 and 6 of this Form] for _____ has previously been furnished
 Name of Entity

to the City and County of Denver and is on file with the City Clerk and further certify that such information is current as of the date indicated below.

 Authorized Signature of Officer/Owner of
 Business Entity

 Date

COLORADO DEPARTMENT OF TRANSPORTATION - Form 605
**CONTRACTORS PERFORMANCE CAPABILITY
STATEMENT**

Project #

AQCM320-067

1. List names of partnerships or joint ventures none

List decreases in the contractors fiscal or workmanship qualifications compared to the last prequalification statement submitted to CDOT. (Attach additional sheets if necessary)

a. Key personnel changes none

b. Key equipment changes none

c. Fiscal capability changes (legal actions, etc.) none

d. Other changes that may affect the contractors ability to perform work none

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Contractor's firm or company name

Keene Concrete Inc

By

Chris C Bailey

Date

10/28/11 11/10/11

Title

President - Chris C. Bailey

2nd Contractor's firm or company name (if joint venture)

By

Date

Title

**COLORADO DEPARTMENT OF TRANSPORTATION
ANTI-COLLUSION AFFIDAVIT**

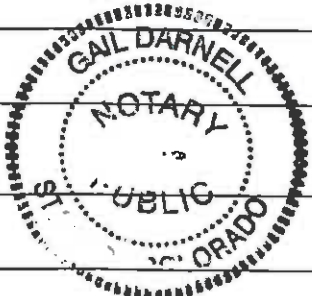
Project No.: AQC M320-067
Location: Denver

I hereby attest that I am the person responsible within my firm for the final decision as to the price(s) and amount of this bid or, if not, that I have written authorization, enclosed herewith, from that person to make the statements set out below on his or her behalf and on behalf of my firm

I further attest that

- 1 The price(s) and amount of this bid have been arrived at independently, without consultation, communication or agreement for the purpose or with the effect of restricting competition with any other firm or person who is a bidder or potential prime bidder.
- 2A Neither the price(s) nor the amount of this bid have been disclosed to any other firm or person who is a bidder or potential prime bidder on this project, and will not be so disclosed prior to bid opening
- 2B Neither the prices nor the amount of the bid of any other firm or person who is a bidder or potential prime bidder on this project have been disclosed to me or my firm
- 3A No attempt has been made to solicit, cause or induce any firm or person who is a bidder or potential prime bidder to refrain from bidding on this project, or to submit a bid higher than the bid of this firm, or any intentionally high or non-competitive bid or other form of complementary bid
- 3B No agreement has been promised or solicited for any other firm or person who is a bidder or potential prime bidder on this project to submit an intentionally high, noncompetitive or other form of complementary bid on this project
- 4 The bid of my firm is made in good faith and not pursuant to any consultation, communication, agreement or discussion with, or inducement or solicitation by or from any firm or person to submit any intentionally high, noncompetitive or other form of complimentary bid
- 5 My firm has not offered or entered into a subcontract or agreement regarding the purchase or sale of materials or services from any firm or person, or offered, promised or paid cash or anything of value to any firm or person, whether in connection with this or any other project, in consideration for an agreement or promise by any firm or person to refrain from bidding or to submit any intentionally high, noncompetitive or other form of complementary bid or agreeing or promising to do so on this project
- 6 My firm has not accepted or been promised any subcontract or agreement regarding the sale of materials or services to any firm or person, and has not been promised or paid cash or anything of value by any firm or person whether in connection with this or any other project, in consideration for my firm's submitting any intentionally high, noncompetitive or other form of complementary bid, or agreeing or promising to do so, on this project
- 7 I have made a diligent inquiry of all members, officers, employees, and agents of my firm with responsibilities relating to the preparation, approval or submission of my firm's bid on this project and have been advised by each of them that he or she has not participated in any communication, consultation, discussion, agreement, collusion, or other conduct inconsistent with any of the statements and representations made in this affidavit
- 8 I understand and my firm understands that any misstatement in this affidavit is and shall be treated as a fraudulent concealment from the Colorado Department of Transportation, of the true facts relating to the submission of bids for this contract

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Contractors firm or company name: <u>Keene Concrete Inc.</u>	By: <u>Chris C. Bailey</u>	Date: <u>11/10/11</u>
	Title: <u>President - Chris C. Bailey</u>	
2 nd Contractors firm or company name:	By:	Date:
	Title:	
Sworn to before me this <u>10th</u> <u>28th</u> day of <u>November</u> <u>October</u> 20 <u>11</u>		
Notary Public <u>Gail Darnell</u>		
My commission expires: <u>3/1/12</u>		
NOTE: THIS DOCUMENT MUST BE SIGNED IN INK.		

COLORADO DEPARTMENT OF TRANSPORTATION
ASSIGNMENT OF ANTITRUST CLAIMS

Project No.:
AQCM320-067

Contractor and Colorado Department of Transportation (CDOT) recognize that in actual economic practice antitrust violations ultimately impact CDOT. Therefore, for good cause and as consideration for executing this contract and for receiving payments hereunder:

1. Contractor hereby irrevocably assigns to CDOT any and all claims it may now have or which may hereafter accrues to it under federal or state antitrust laws in connection with the particular project, goods or services purchased or acquired by CDOT pursuant to this contract.
2. Contractor hereby expressly agrees:
 - a. That, upon becoming aware that a third party has commenced a civil action asserting on Contractor's behalf an antitrust claim which has been assigned to CDOT hereunder, Contractor shall immediately advise in writing:
 - (1) Such third party that the antitrust claim has been assigned to CDOT, and
 - (2) CDOT that such civil action is pending and the date on which, in accordance with subparagraph a.(1) above, Contractor notified such third party that the antitrust claim had been assigned to CDOT.
 - b. To take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
 - c. Promptly to pay over to CDOT its proper share of any payment under an antitrust claim brought on Contractor's behalf by any third party and which claim has been assigned to CDOT hereunder.
3. Further, Contractor agrees that in the event it hires one or more subcontractors to perform any of its duties under the contract, Contractor shall require that each such subcontractor:
 - a. Irrevocably assign to CDOT (as a third party beneficiary) any and all claims that such subcontractor may have or which may thereafter accrue to the subcontractor under federal or state antitrust laws in connection with any goods or services provided by the subcontractor in carrying out the subcontractor's obligations to Contractor;
 - b. Upon becoming aware that a third party has commenced a civil action on the subcontractor's behalf asserting an antitrust claim which has been assigned to CDOT hereunder, shall immediately advise in writing:
 - (1) Such third party that the antitrust claim has been assigned to CDOT, and
 - (2) Contractor and CDOT that such civil action is pending and the date on which, in accordance with subparagraph b.(1) above, the subcontractor notified such third party that the antitrust claim had been assigned to CDOT;
 - c. Take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
 - d. Promptly pay over to CDOT its proper share of any payment under an antitrust claim brought on the subcontractor's behalf by any third party and which claim has been assigned or dedicated to CDOT pursuant hereto.

I, acting in my capacity as officer of a bidder (bidders if a joint venture) do agree to the above assignment of antitrust claims.

Contractors firm or company name:	By: Chris C Bailey	Date: 11/10/11
Keene Concrete Inc.	Title: President - Chris C. Bailey	10/28/11
2 ND Contractors firm or company name:	By:	Date:
	Title:	

Form 621

**COLORADO DEPARTMENT OF TRANSPORTATION
BIDDERS LIST DATA and UNDERUTILIZED
DBE (UDBE) BID CONDITIONS ASSURANCE**

Project #: AQC M320-067
Location: Denver

Prime Contractor Instructions: This form has two sections, both must be completed and submitted with your bid. Complete Section I to list *all* subcontract quotes received (non-DBE and DBE). Complete Section II to report only Underutilized DBE (UDBE) participation percentages which qualify under the contract goal specification for this project. Please review CDOT Form #715 instructions *before* completing Section II. Attach additional sheets as necessary.

POLICY

It is the policy of the Colorado Department of Transportation that underutilized disadvantaged business enterprises have equal opportunity to participate on projects financed with federal, state or local entity funds. Consistent with 49 Code of Federal Regulations (CFR) Part 26.11, the Bidders List data provided by the Contractors will provide CDOT as accurate data as possible about the universe of DBE and non-DBE firms actively seeking work on its highway construction contracts, for use in setting overall DBE goals.

SECTION I: CDOT BIDDERS LIST INFORMATION (Non-DBEs and DBEs)

Upon Completion of Bid

- 1) Are all subcontract bids (quotes) received by your firm for this project listed below? Yes No
- 2) *If No*, make certain any additional subcontract bidding information is submitted to the CDOT Business Programs Office before 4:00 pm on the day after bids are opened to ensure CDOT has the best data possible for setting future DBE goals (use the same table format as below):
 CDOT Business Programs Office
 4201 E. Arkansas Ave., Room 200
 Denver, Colorado 80222
 FAX: 303-757-9019 EMAIL: eo@dot.state.co.us
- 3) The most recent CDOT Bidders List will be posted online at: www.dot.state.co.us/EEO/DBEProgramPage.htm

Name of firm submitting Bid/Quote	Certified DBE firm?		Work item(s) description	Firm being used?		
	Yes	No		Yes	No	Maybe
1. Chacon Paving, Inc.	X		Hot Mix Asphalt	X		
2. Lafarge West, Inc.		X	Hot Mix Asphalt			X
3. Environmental Logistics	X		EROSION CONTROL / SEEDING			X
4. Loya Construction, Inc.	X		Hot Mix Asphalt			X
5. Cascade Environmental		X	Environmental H2S Management			X
6. Hanes Geo Components		X	EROSION CONTROL / Mechanical Soil			X
7. Highway Technologies		X	TRAFFIC CONTROL	X		
8. Quality Linings & Paint		X	Concrete Coating	X		
9. American Rent-A-Fence		X	Construction Fencing			X
10. Aggregate Industries		X	Hot Mix Asphalt			X
11. Zylstra Baker Survey		X	Construction SURVEY			X
12. Accurate Eng. Surv.		X	Construction SURVEY			X
13. ERIX CRANE & Rigging		X	CRANE SERVICE	X		
14. CDI, Inc.		X	EROSION CONTROL / SEEDING			X

**COLORADO DEPARTMENT OF TRANSPORTATION
 BIDDERS LIST DATA and UNDERUTILIZED
 DBE (UDBE) BID CONDITIONS ASSURANCE**

Project #: AQC M320-067
 Location: DENVER

Prime Contractor Instructions: This form has two sections, both must be completed and submitted with your bid. Complete **Section I** to list **all** subcontract quotes received (non-DBE **and** DBE). Complete **Section II** to report only Underutilized DBE (UDBE) participation percentages which qualify under the contract goal specification for this project. **Please review CDOT Form #715 instructions before completing Section II.** Attach additional sheets as necessary.

POLICY

It is the policy of the Colorado Department of Transportation that underutilized disadvantaged business enterprises have equal opportunity to participate on projects financed with federal, state or local entity funds. Consistent with 49 Code of Federal Regulations (CFR) Part 26.11, the Bidders List data provided by the Contractors will provide CDOT as accurate data as possible about the universe of DBE and non-DBE firms actively seeking work on its highway construction contracts, for use in setting overall DBE goals.

SECTION I: CDOT BIDDERS LIST INFORMATION (Non-DBEs and DBEs)

Upon Completion of Bid.

- 1) Are all subcontract bids (quotes) received by your firm for this project listed below? Yes No
- 2) **If No**, make certain any additional subcontract bidding information is submitted to the CDOT Business Programs Office before 4:00 pm on the day after bids are opened to ensure CDOT has the best data possible for setting future DBE goals (use the same table format as below):
 CDOT Business Programs Office
 4201 E. Arkansas Ave., Room 200
 Denver, Colorado 80222 **FAX: 303-757-9019** **EMAIL: eo@dot.state.co.us**
- 3) The most recent CDOT Bidders List will be posted online at: www.dot.state.co.us/EEO/DBEProgramPage.htm

Name of firm submitting Bid/Quote	Certified DBE firm?		Work item(s) description	Firm being used?		
	Yes	No		Yes	No	Maybe
1. Koppel Fabrication		X	Pedestrian Rail			X
2. Miller Wall Company		X	Block Facing			X
3. Yenter Companies, Inc.		X	Block Facing / Mech Soil Reinforce	X		
4. Kolbe Striping, Inc.		X	Pavement Markings	X		
5. Blanco, Inc.	X		Pipe Work / Inlets	X		
6. Max Retaining Walls		X	Block Facing			X
7. J. FSATO		X	SURVEY			X
8.						
9.						
10.						
11.						
12.						
13.						
14.						

Name of firm submitting Bid/Quote	Certified DBE firm?		Work item(s) description	Firm being used?		
	Yes	No		Yes	No	Maybe
15. BRITTON Landscaping	X		EROSION CONTROL / SEEDING	X		
16. JONES Engineering Assoc		X	CONSTRUCTION SURVEY	X		
17. Northern Colo. Traffic	X		TRAFFIC CONTROL			X
18. Penley Concrete Forming		X	CAISSON DRILLING			X
19. Ludwig Caisson Drilling		X	CAISSON DRILLING	X		
20. Powell Restoration, Inc.	X		EROSION CONTROL / SEEDING			X

SECTION II: UNDERUTILIZED DBE (UDBE) PARTICIPATION COMMITMENT

- Total eligible Underutilized DBE (UDBE) percentage amount from Box A below: 10.11 %
- Will your company's Underutilized DBE (UDBE) participation commitment meet the contract goal? Yes No
- List the UDBE firms, committed work items, and eligible UDBE percentage of your bid committed to each.

UDBE Firm name	Certification #	Committed work item(s)	% Commitment toward DBE Goal*
1. BLANCO, INC.	8390	PIPEWORK / Inlets	7.36%
2. CHACON PAVING, INC.	8329	HOT MIX ASPHALT	1.77%
3. BRITTON LANDSCAPE, INC.	7265	EROSION CONTROL / SEEDING	.98%
4.			. %
5.			. %

BOX A: TOTAL ELIGIBLE UDBE PERCENTAGE AMOUNT (Round to nearest hundredth) → 10.11 %

* Detailed instructions on how to calculate DBE commitment amounts are available on CDOT Form #715 and in the "Counting DBE Participation Toward Contract Goals and CDOT's annual DBE goal" section of the "DBE - Definitions and Requirements" in the Standard Special Provisions.

I understand that, if my company is determined to be the low bidder for the contract on this project, I must submit a completed CDOT Form #715 CERTIFICATION OF UNDERUTILIZED DBE PARTICIPATION for each firm listed in Section II of this form to the Transportation Department by 4:00 pm on the *third* work day after the day bids are opened. The actual amounts submitted on each CDOT Form #715 must equal or exceed the DBE percentage commitments documented on this form. In addition, if my company does not meet the DBE/UDBE goal for this project, I must submit a completed CDOT Form #718 DBE GOOD FAITH EFFORT DOCUMENTATION before 4:00 pm on the *day after* bids are opened. CDOT Form #715s submitted for firms not included on this form, OR for amounts exceeding those listed on this form, will be accepted but NOT counted as Good Faith Efforts. Only the efforts the contractor made *prior* to the bid opening will count as Good Faith Efforts.

I understand my obligation to abide by the Policy stated above Section I. I shall not discriminate on the basis of race, color, age, sex, national origin, or handicap in the bidding process or the performance of contracts.

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE IN THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Company Name: Keene Concrete Inc.	Date: 10/28/11
Company Officer Signature: Chris C Bailey - Chris C Bailey	Title: President

CITY AND COUNTY OF DENVER

STATE OF COLORADO



DEPARTMENT OF PUBLICWORKS / ENGINEERING DIVISION

ADDENDA'S 1 AND 2

Contract No. 201102839

INCA ST. BIKE/PED BRIDGE OVER 38TH AVE
UNDERPASS

September 30, 2011

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

CONTRACT NO. 201102839

**PROJECT NAME:
INCA ST BIKE / PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS**

ADDENDUM NO. 1 TO CONTRACT DOCUMENTS

Bidders are hereby instructed that the drawings, specifications, and other contract documents are modified, corrected, supplemented and/or superseded for the above mentioned project as hereinafter described in the following attachments:

QUESTIONS AND ANSWERS

Question: With regards to the MSE Retaining walls, our engineer has begun some preliminary analysis of the layout provided. Please see the information below regarding the potential traffic surcharge and impact load associated with the bike path over 38th. Can you please confirm that this is appropriate to the project?

“I’ve started looking at the subject project retaining walls and I have a bit of a concern with regards to the surcharge and impact loadings. In the plans, Sheet 46 indicates that a 2 foot traffic surcharge, as well as an additional impact load, be applied to the walls. My understanding is that these walls are being constructed to support a bike/pedestrian trail but the surcharge loadings in the plans are what is typically specified for roadway/highway construction. If the loadings from the plans are utilized, there will be a significant increase in geogrid reinforcement as well as geogrid reinforcement strengths.”

Response: The Contractor will be required to provide a design that resists the loads shown on the standard MSE details in the plans. The pedestrian bridge and retaining walls are designed for a maintenance vehicle, so they are subject to live load surcharge.

Question: Per Sheet 45, Notes, 3rd paragraph-states that the geomembrane shall be included in the cost of Item 206, Mechanical Reinforcement of Soil. Per Revision of Section 504, PSP-63, 5th paragraph, last sentence states that the geomembrane will be paid for under section 420 Pay Item Geomembrane. Do we follow the Plans or the Specifications?

Response: Geomembrane will be paid for per Specifications as Item 420 (See Summary of Quantities Tabulation on subset sheet PB01)

Question: Per Sheet 45, Notes, 7th paragraph-states Hybrid MSE walls systems are not allowed. Per Revision of Section 504, PSP-56, Item H discusses hybrid wall systems. Do we follow the Plans or the Specifications?

Response: Fourth paragraph of section (h) Hybrid MSE Wall Systems states "Hybrid MSE wall systems may be used unless otherwise noted on the plans." In accordance with note on subset sheet PB16, hybrid wall systems will not be allowed.

Question: Per sheet 30 how is the Mechanical Reinforcement of Soil calculated.

Response: Under 'METHOD OF MEASUREMENT', see note 4, "the mechanical reinforcement of soil quantity was calculated for the total volume of the reinforced zone as shown on the plans."

Question: Per Sheet 30 how is the Geomembrane calculated?

Response: Per note 5 under 'METHOD OF MEASUREMENT', "geomembrane was calculated as the length of wall times the distance from face of block to face of block, disregarding the slope of the membrane."


Question: regarding wall batter; the product I am designing with has a wall batter of 12.5% (7.1 degrees). Will this be acceptable?

Response: Maximum allowable wall batter will be 2% per the detail on subset sheet PB18.

Question: Is a Project Consulting Arborist required per Specification Section 201A? Will that person be provided by the City and County of Denver?

Response: Refer to Plan Sheet 9. There is one tree on the project that needs to be protected. Hiring a Consulting Arborist is not anticipated.

This ADDENDUM shall be attached to, become a part of, and be returned with the Bid Proposal.



Lesley B. Thomas, City Engineer

10.21.11

Date

The undersigned bidder acknowledges receipt of this Addendum. The Proposal submitted herewith is in accordance with the stipulations set forth herein.



Contractor Keene Concrete, Inc.

ADDENDUM NO. 1

DATE: 10/21/11

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS

CONTRACT NO. 201102839

PROJECT NAME:

INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

ADDENDUM NO. 2 TO CONTRACT DOCUMENTS

Bidders are hereby instructed that the drawings, specifications, and other contract documents are modified, corrected, supplemented and/or superseded for the above mentioned project as hereinafter described in the following attachments:

BID FORM PACKAGE

Replace BF-6.6 with - BF-6.6 dated November 2, 2011

BID DOCUMENT PACKAGE

POSTPONEMENT OF BID OPENING

Notice is hereby given that Sealed Bids for Contract No. 201102839, Inca St. Bike/Ped Bridge over 38th Ave. Underpass, will be postponed. Sealed bids will be received at the Office of Economic Development counter on the 2nd floor at 201 West Colfax, Denver, CO 80202 no later than:

11:00 a.m., Local Time

November 10, 2011

Room 1.D.1

Replace SQ-2 with - SQ-2 dated November 2, 2011.

Under TERMS OF PERFORMANCE the number of calendar days should be 273 (Two Hundred Seventy Three), and not 304 Calendar Days. Replace BDP-36 with - BDP-36 dated November 2, 2011.

SPECIFICATIONS/DRAWING

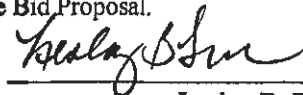
Replace PSP - ii with - PSP-ii dated November 2, 2011

Replace PSP - 86-89 - with PSP-86-89 dated November 2, 2011

Replace Sheet 7 - with Sheet 7 dated November 2, 2011.

NOTE: The contractor will work with the property owner at the northwest side of the north bridge landing to maintain access.

This ADDENDUM shall be attached to, become a part of, and be returned with the Bid Proposal.



Lesley B. Thomas
City Engineer

11.2.11

Date

The undersigned bidder acknowledges receipt of this Addendum. The Proposal submitted herewith is in accordance with the stipulations set forth herein.

Keene Concrete Inc
Contractor



ADDENDUM NO. 2

DATE: 11/3/11

CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE

ADD- #2

November 2, 2011



CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

STATEMENT OF QUANTITIES

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>
601-03040	CONCRETE CLASS D (BRIDGE)	76 CY
601-03050	CONCRETE CLASS D (WALL)	87 CY
601-40005	CUT STONE VENEER	452 SF
601-40301	STRUCTURAL CONCRETE COATING	4349 SF
602-00020	REINFORCING STEEL (EPOXY COATED)	11465 LB
603-01175	15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	77 LF
603-01180	18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	23 LF
603-01240	24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	135 LF
604-16005	SINGLE NO. 16 INLET OPEN THROAT	1 EA
604-16020	SINGLE NO. 16 INLET VALLEY	3 EA
604-16025	DOUBLE NO. 16 INLET VALLEY	2 EA
604-30000	4' I.D. MANHOLE W/ CONCENTRIC CONE	5 EA
606-00705	GUARDRAIL TYPE 7 (Style CA)	70 LF
608-00006	CONCRETE SIDEWALK (W/ FIBER)(6 INCH)	934 SY
608-00010	CONCRETE CURB RAMP (TYPE 4)(W/ FIBER)	33 SY
609-21020	6" CURB AND GUTTER - 2' PAN (W/ FIBER)	315 LF
609-21010	6" CURB AND GUTTER - 1' PAN (W/ FIBER)	30 LF
609-21021	4" MOUNTABLE CURB (W/ FIBER)	35 LF
609-24004	GUTTER TYPE 2 (4 FOOT)	513 LF
614-00011	SIGN PANEL (CLASS I)	43 SF
614-00216	STEEL SIGN POST (2X2 TUBING)	95 LF
622-00270	BOLLARD	4 EA
625-00000	CONSTRUCTION SURVEY	1 LS
626-00000	MOBILIZATION	1 LS
627-00005	EPOXY PAVEMENT MARKING	2 GAL
628-00001	BRIDGE GIRDER AND DECK UNIT (110 to 115 FEET)	1 EA
629-01041	SURVEY MONUMENT	5 EA
629-01050	MONUMENT BOX	5 EA
630-00014	CONSTRUCTION TRAFFIC CONTROL	1 LS

Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Certificate of Contract Release
Change Orders (as applicable)
Federal Requirements (as applicable)
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings

2. **SCOPE OF WORK**

The Contractor agrees to and shall furnish all labor, tools, supplies, equipment, materials and everything necessary for and required to do, perform and complete all of the Work described; drawn, set forth, shown and included in said Contract Documents.

3. **TERMS OF PERFORMANCE**

The Contractor agrees to undertake the performance of the Work under this Contract within ten (10) days after being notified to commence work by issuance of a Notice to Proceed in substantially the form contained herein from the Manager and agrees to fully complete said Work within 273 (Two Hundred Seventy Three Days) consecutive calendar days from the effective date of said Notice, plus such extension or extensions of time as may be granted in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

4. **TERMS OF PAYMENT**

The City agrees to pay the Contractor for the performance of all of the Work required under this Contract, and the Contractor agrees to accept as the Contractor's full and only compensation therefore, such sum or sums of money as may be proper in accordance with the price or prices set forth in the Contractor's Bid Form hereto attached and made a part hereof for bid item numbers 201-00000 through 700-70589 (Sixty-Two (62) total bid items, the total estimated cost thereof being _____ Dollars and cents (\$ _____).

Adjustments to said Contract Amount and payment of amounts due hereunder shall be made in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

5. **NO DISCRIMINATION IN EMPLOYMENT**

In connection with the performance of the Work under this Contract, the Contractor agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and the Contractor further agrees to insert the foregoing provision in all subcontracts hereunder.

6. **DBE AND EQUAL OPPORTUNITY REQUIREMENTS**

The Contractor agrees to comply with all requirements of the City's Equal Employment Opportunity program and the Federal Disadvantaged Business Enterprise Participation program as set out in Article III, Division 2, Chapter 28 of the Denver Revised Municipal Code, and any rules, regulations and guidelines set forth thereunder for such programs. This compliance shall include the obligation to maintain throughout the term of the contract that level of DBE participation upon which the Contract was initially awarded, unless otherwise authorized by the law or any rules, regulations or guidelines.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised as follows:

Subsection 630.01 shall be revised to include the following:

As required by, in descending order of precedence, the specifications, the Standard Specifications, as augmented by the Colorado Department of Transportation M and/or S standards, and the manual on Uniform Traffic Control Devices for Streets and Highways.

The Contractor shall submit, in writing, the proposed Method of Handling Traffic (MHT) for review and approval of the Project Manager as indicated in the Project Special Provisions (Revision of 630 – Construction Zone Traffic Control). The MHT shall be developed according to this section and the construction plans.

Subsection 630.05 TRAFFIC CONES shall include the following:

Steel drum channelizing devices shall not be used for traffic control

Subsection 630.06 shall be modified to include the following:

Non-metallic drums or tubular markers may be substituted for vertical panel channelizing devices.

Subsection 630.09 shall be modified to include the following:

The flagger's STOP/SLOW sign paddle shall be 18 inches with letters six inches high.

Equipment

The Contractor shall not have construction equipment or materials in the lanes open to traffic any time, unless approved by the Project Manager.

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

All personal / employee vehicle and construction equipment parking is prohibited when it conflicts with safety, access, or the flow of traffic.

Devices:

The Contractor shall install construction traffic control devices in locations where they do not block or impede other existing traffic control devices, or sidewalks for pedestrians, disabled persons, or bicyclists.

Steel drum channelizing devices shall not be used for traffic control.

Subsection 630.10 (a), second paragraph is hereby deleted and replaced with the following:

Traffic Control shall be provided as required by, in descending order of precedence, MUTCD, the plans and special provisions for this project, Colorado Department of Transportation Standard Specifications, and Colorado Department of Transportation M and/or S Standards.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

One lane, One-way traffic shall be maintained at all times on Inca Street from 37th Street to 38th Street in the southbound direction. The preferred direction of this traffic shall be based on the side of the road that is in construction.

Contractor shall obtain all required access and construction permits from the City & County of Denver prior to initiating work along City right of way.

The Contractor shall maintain access to all roadways, side streets, walkways, alleyways, driveways, and hike/bike paths at all times unless otherwise approved by the Project Manager. The sole exception to this requirement is that the City will permit full closures of access to all alleyways, walkways, driveways, and hike/ bike paths DIRECTLY ADJACENT to an active work Phase for a maximum period of one (1) week. Should the Contractor wish to exercise this exception, a request for same shall be submitted to the Project Manager for review and approval including proposed method for Public notice per Section 632. If access restrictions are approved by the Project Manager, the Contractor shall coordinate with all tenants affected by alley and/or access closures two weeks prior to closure.

Short term (1-2 day) full traffic closures of the Inca Street segment from 37th St to 38th St shall be allowed for installation of top lift/ layer of asphalt pavement only.

All proposed lane closures shall be subject to the approval of the Project Manager and Traffic Engineering Services Department. Requests for such lane closures shall be submitted with a Method of Handling Traffic at least 24 hours in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless utilized in continuum for the duration of each working period. Contractor shall make all efforts to fashion his lane closure proposal to close no more than one lane at a given time.

Subsection 630.15 is hereby deleted and replaced with the following:

The Contractor shall furnish all personnel and materials necessary to perform the Construction Zone Traffic Control as required and these quantities will not be measured.

Temporary pavement markings for traffic control will not be measured and paid for separately, but shall be included in the work.

Subsection 630.16 is hereby deleted and replaced with the following:

Payment for Construction Zone Traffic Control shall include all devices; a Traffic Control Supervisor, Variable Message Signs, detours, , temporary pavement markings, and all other personnel and resources necessary to complete the work.

SUMMARY OF APPROXIMATE QUANTITIES

BOOK	PAGE	SHEET	ITEM NO.	ITEM DESCRIPTION	UNIT	ROADWAY/ SIDEWALK		PROJECT TOTALS
						PLAN	AS CONST.	
			608	CONCRETE SIDEWALK (4" FIBER 116 INCH)	SY	334		334
			609	CONCRETE CURB RAMP (TYPE 4116/ FIBER)	SY	33		33
			609	6" CURB AND GUTTER - 2' PAV (16' FIBER)	LF	313		313
			609	6" CURB AND GUTTER - 1' PAV (16' FIBER)	LF	30		30
			609	4" MOUNTABLE CURB (16' FIBER)	LF	35		35
			609	GUTTER TYPE 2 (14 FOOT)	LF	513		513
			814	STEEL PANEL (CLASS 1)	SF	43		43
			814	STEEL SIGN POST (202 INCH TUBING)	LF	95		95
			822	BOLLARD	EACH	4		4
			625	CONSTRUCTION SURVEYING	LS	1		1
			626	MOBILIZATION	LS	1		1
			627	EPoxy PAVEMENT MARKING	GAL	2		2
			628	BRIDGE GIRDERS AND DECK UNIT (110 FEET TO 115 FEET)	EACH	1		1
			629	SURVEY MONUMENT	EACH	5		5
			629	MONUMENT BOX	EACH	5		5
			630	CONSTRUCTION TRAFFIC CONTROL	LS	1		1
			700	FA ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	FA	1		1

COMPUTER FILE INFORMATION

CREATOR DATE: 10/27/2011 INITIALS: [initials]


LAST MODIFICATION DATE: 10/27/2011 INITIALS: [initials]

FILE: D:\Inca Pnd Bridge\402.dwg


SCALE: 2,000' = 1" UNITS: ENGLISH

SHEET REVISIONS

LTN	REVISED BY	DATE
10-27-11	REVISOR	



City & County of Denver



HARTMAN INC.

AS CONSTRUCTED

NO REVISIONS:

REVISED:

VOID:

INCA STREET BRIDGE/ PEDESTRIAN BRIDGE OVER 36TH AVENUE UNDERPASS

SUMMARY OF APPROXIMATE QUANTITIES

DESIGNER: C. HEYDEN
CHECKER: C. HEYDEN

RETAILER: K. BOHN
SUBSET SHEETS: 2 OF 2

PROJECT NO. / CODE: AOC 1530-067

17903

PILAR 2011-0205-01

SHEET NUMBER: 7

November 2, 2011

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

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**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

**CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**

STATEMENT OF QUANTITIES

Item No.	Description	Estimated Quantity
201-00000	CLEARING AND GRUBBING	1 LS
202-00010	REMOVAL OF TREE	4 EA
202-00019	REMOVAL OF INLET	3 EA
202-00021	REMOVAL OF MANHOLE	1 EA
202-00033	REMOVAL OF PIPE	228 LF
202-00200	REMOVAL OF SIDEWALK	20 SY
202-00203	REMOVAL OF CURB AND GUTTER	47 LF
202-00220	REMOVAL OF ASPHALT MAT	1498 SY
202-04001	PLUG CULVERT	2 EA
203-01597	POTHOLING	16 HR
206-00000	STRUCTURAL EXCAVATION	563 CY
203-00100	MUCK EXCAVATION	155 CY
206-00045	STRUCTURAL BACKFILL (CLASS 1)	1069 CY
206-00360	MECHANICAL REINFORCEMENT OF SOIL	1006 CY
208-00025	CONSTRUCTION FENCE	567 LF
208-00075	STABILIZED CONSTRUCTION STAGING AREA	285 SY
208-00020	SILT FENCE	1190 LF
208-00045	CONCRETE WASHOUT STRUCTURE	2 EA
208-00051	STORM DRAN INLET PROTECTION (TYPE I)	169 LF
208-00070	VEHICLE TRACKING CONTROL	2 EA
210-04015	MODIFY MANHOLE	1 EA
212-00004	SEEDING (NATIVE)	0.25 ACRE
212-00047	SOIL PREPARATION	0.25 ACRE
250-00010	ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	1 LS
306-01000	RECONDITIONING	631 SY
403-00720	HOT MIX ASPHALT (PATCHING) (ASPHALT)	60 TON
403-33721	HOT MIX ASPHALT (GRADING S) (75) (58-28) (7 INCH DEPTH)	4417 SYI
412-00800	CONCRETE PAVEMENT (8 INCH)	328 SY
420-00000	GEOMEMBRANE	432 SY
503-00024	DRILLED CAISSON (24 INCH)	151 LF
504-04410	BLOCK FACING	5334 SF
514-00200	PEDESTRIAN RAILING (STEEL)	724 LF



**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

**CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**

STATEMENT OF QUANTITIES

Item No.	Description	Estimated Quantity
601-03040	CONCRETE CLASS D (BRIDGE)	76 CY
601-03050	CONCRETE CLASS D (WALL)	87 CY
601-40005	CUT STONE VENEER	452 SF
601-40301	STRUCTURAL CONCRETE COATING	4349 SF
602-00020	REINFORCING STEEL (EPOXY COATED)	11465 LB
603-01175	15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	77 LF
603-01180	18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	23 LF
603-01240	24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	135 LF
604-16005	SINGLE NO. 16 INLET OPEN THROAT	1 EA
604-16020	SINGLE NO. 16 INLET VALLEY	3 EA
604-16025	DOUBLE NO. 16 INLET VALLEY	2 EA
604-30000	4' I.D. MANHOLE W/ CONCENTRIC CONE	5 EA
606-00705	GUARDRAIL TYPE 7 (Style CA)	70 LF
608-00006	CONCRETE SIDEWALK (W/ FIBER)(6 INCH)	934 SY
608-00010	CONCRETE CURB RAMP (TYPE 4)(W/ FIBER)	33 SY
609-21020	6" CURB AND GUTTER - 2' PAN (W/ FIBER)	315 LF
609-21010	6" CURB AND GUTTER - 1' PAN (W/ FIBER)	30 LF
609-21021	4" MOUNTABLE CURB (W/ FIBER)	35 LF
609-24004	GUTTER TYPE 2 (4 FOOT)	513 LF
614-00011	SIGN PANEL (CLASS I)	43 SF
614-00216	STEEL SIGN POST (2X2 TUBING)	95 LF
622-00270	BOLLARD	4 EA
625-00000	CONSTRUCTION SURVEY	1 LS
626-00000	MOBILIZATION	1 LS
627-00005	EPOXY PAVEMENT MARKING	2 GAL
628-00001	BRIDGE GIRDER AND DECK UNIT (110 to 115 FEET)	1 EA
629-01041	SURVEY MONUMENT	5 EA
629-01050	MONUMENT BOX	5 EA
630-00014	CONSTRUCTION TRAFFIC CONTROL	50 LS/DAY



**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

**CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**

STATEMENT OF QUANTITIES

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>
700-70589	F/A ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	1 F/A

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

**NOTICE OF INVITATION FOR BIDS
FEDERAL AID PROJECT NO.: AQC M320 067
CITY OF DENVER CONTRACT NO. 201102839**

INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

**BID SCHEDULE:
11:00 AM, Local Time
OCTOBER 28, 2011**

Sealed bids will be received at the Office of Economic Development (OED) Reception Desk located on the 2nd floor at 201 West Colfax, Denver, CO 80202, beginning at 10:30 a.m., and no later than 11:00 a.m., on the bid date.

Bids submitted prior to 10:30 a.m. on the specified bid opening date/time shall be presented at the Office of Contract Administration, Attention: Public Works Contract Administration, 201 West Colfax Avenue, Department 614, Denver, Colorado 80202. All properly delivered bids will then be publicly opened and read aloud in Room 1.D.1 on the 1st floor at 201 West Colfax, Denver, Colorado 80202.

Prior to submitting a bid, the bidder shall consult the Contractor's Bulletin Board located at 201 W. Colfax, 2nd Floor, Denver, Colorado, 80202 and/or www.work4denver.com.

GENERAL STATEMENT OF WORK:

This project will provide connectivity to the future 41st & Fox Light Rail Station by placing a prefabricated steel bicycle/pedestrian bridge over 38th Ave. at Inca St. The proposed bridge will be approximately 112 ft. long by 12 ft. wide. The bridge will be supported by 6, 24" drilled Caissons. The bridge approaches will be built of MSE walls, the longest is approximately 238 ft. long with an approximate 12.5 ft. max elevation. A sidewalk and curb and gutter connection will be made between the bridge and the existing path at the south end of Inca St. Storm sewer improvements include addition of inlets, manholes and RCP. A concrete alley connection will be made at the north bridge landing and an asphalt section will be added near the south landing area.

ESTIMATED CONSTRUCTION COST:

The estimated cost of construction for this project is between \$670,000.00 and \$906,000.00.

DOCUMENTS AND BID INFORMATION AVAILABLE:

Contract Documents complete with Technical Specifications and, if applicable, construction drawings will be available on the first day of publication at: www.work4denver.com. To download digital Contract Documents at a cost of \$10.00 per download, reference eBid Document Number #1751194. Contact QuestCDN at 952-233-1632 or info@questcdn.com for assistance.

PRE-BID CONFERENCE:

A pre-bid conference will be held for this Project at 10:00 AM, local time, on OCTOBER 12, 2011. This meeting will take place at in Conference Room 1.D.1 located at 201 W. Colfax Ave., Denver, CO.

DEADLINE TO SUBMIT QUESTIONS:.....OCTOBER 19, 2011- 3:00PM local time.

PREQUALIFICATION REQUIREMENTS:

NONE

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION:

Federally-funded construction, reconstruction, remodeling, and professional design services contracts made and entered into by the City and County of Denver are subject to Federal Statutes and Regulations regarding Disadvantaged Business Enterprise participation and all Disadvantaged Business Enterprises Utilization.

The Director of the Division of Small Business Opportunity is authorized to establish project goals for expenditures on construction, reconstruction and remodeling and professional design services work let by the City and County of Denver. The specific goal for this project is:

10% Disadvantaged Business Enterprise (DBE)

The project goal must be met with certified participants as set forth in 49 CFR Part 26. For compliance with good faith effort requirements, as set forth in Part 26, the DBE solicitation level required for this project is 100% of the City and Denver's certified DBE's and 100% of the State of Colorado's Department of Transportation (CDOT's) certified DBE's.

The Director of the Division of Small Business Opportunity urges all participants in the construction, reconstruction, remodeling, and professional design services projects not to discriminate against women and minorities or any other persons and to assist in achieving these goals.

The CDOT Form 347, Certification of EEO Compliance, is no longer required to be submitted in the bid package. This form certified that the contractor/proposed subcontractors were in compliance with the Joint Reporting Committee EEO-1 form requirements. The EEO-1 Report must still be submitted to the Joint Reporting Committee if the contractors and subcontractors meet the eligibility requirements (29CFR 1602.7); CDOT will, however, no longer require certification. For additional information regarding these federal requirements, please refer to: <http://www.eeoc.gov/stats/jobpat/e1instruct.html>.

MISCELLANEOUS:

Contracts for construction, reconstruction, and remodeling are subject to the City prevailing wage rate requirements established pursuant to Section 20-76, D.R.M.C.

As its best interest may appear, the City and County of Denver reserves the right to reject any or all bids and to waive informalities in bids.

Publication Dates: September 30, and October 3, 4, 2011
Published In: The Daily Journal

If applicable, a shortened version of this Notice of Invitation for Bids and the Statement of Quantities can be viewed on the City and County of Denver website at:
<http://www.denvergov.org/SearchBidAdvertisements/tabid/385460/Default.aspx>

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

INSTRUCTIONS TO BIDDERS

IB-1 INSTRUCTION TO BIDDERS

These Instructions to Bidders are a part of the Contract Documents and are intended to serve as a guide to bidders. They are general in nature and may be amended or supplemented as needed to support any one specific invitation to bid. Each bidder shall prepare its bid in strict compliance with all requirements of the Contract Documents and by careful application of these instructions.

IB-2 BIDDING

The copy of the Contract Documents contains the Bid Form and Submittal Package for this Project, which must be used to submit a bid hereunder. The bidder must fully complete, execute and submit this Bid Form and Submittal Package, along with any other specified components of the Contract Documents, as its bid for the referenced Project.

A bidder is not required to submit as part of its bid the entire set of Contract Documents distributed by the City pursuant to the Notice of Invitation for Bids, if the bidder executes and submits the Bidder Acknowledgment Form included with the Bid Form and Submittal Package as part of its bid. However, each bidder, by submitting its bid, shall be conclusively presumed to have received and reviewed all of the information contained in the Contract Documents as this term is further defined herein.

Each bid must be enclosed in a sealed envelope, must be addressed to the Manager and must show on the face of the envelope the full name of the bidder, the City Project number, and descriptive title of the Project for which the bid is made.

The advertisement for Notice of Invitation for Bids will identify where and when the bid must be delivered.

IB-3 CONTRACT DOCUMENTS AS PUBLISHED BY CITY

Each bidder shall be responsible for, and shall be deemed to have received, all the information contained in the Contract Documents as distributed by the City pursuant to the Notice of Invitation for Bids, including addenda, whether or not such bidder has reviewed all or part of the Contract Documents in either its hard copy form or in any other format. If organizations or companies other than the City or its design professional distribute the City's Contract Documents for review by prospective bidders, whether in hard copy or via electronic or other media, neither the City nor its design professional shall be responsible for the content, completeness or accuracy of any information distributed or transmitted by any such organization or company.

IB-4 COMPLETING AND SIGNING THE BID FORMS

The bidder must complete the Bid Form by legibly writing or printing in ink, in words and figures as required, all the bidder's prices offered for the Work to be performed. All blank spaces, which require a response of the bidder, must be properly completed in full. If in the process of evaluating a bid, words and figures, as written on the Bid Form by the bidder, do not agree, the written words will govern.

For Bid Forms requiring unit price bids, the bidder shall write in the Bid Form spaces provided a unit price for each item for which a quantity is given and shall also write the product of each unit price and the quantity specified in the "Amount" or "Total" space provided.

Each bidder must sign the Bid Form and give the bidder's current business address. If an individual, the signature must be of the individual offering the bid; if a partnership, the signature must be that of a general partner; and if a corporation, both the president and the secretary must sign and the seal of the corporation must be affixed. Signatures of other persons may be acceptable if the bid contains sufficient evidence, satisfactory to the City in its sole discretion, to indicate that the other persons are authorized to bind the bidder.

IB-5 UNACCEPTABLE BIDS

The City will not accept bids from Bidders not prequalified with the Department of Public Works (if prequalification is required for this project), in arrears to the City upon debt or contract, or which are defaulters (as surety or otherwise) upon any obligation to the City.

IB-6 INFORMAL AND UNBALANCED BIDS

Any alteration, interlineation, erasure, omission, deletion or addition by the bidder to the Bid Form and Submittal Package or other parts of the Contract Documents submitted with the Bid Form and Submittal Package, as originally issued to the bidder, shall render the accompanying bid informal and may constitute cause for rejection.

Any unauthorized addition, conditional or alternate bids, failure to provide a unit price, lump sum amount or authorized alternate item specified or other irregularities of any kind which tend to render the bid incomplete, indefinite or ambiguous shall render the bid informal and may constitute cause for rejection.

Bids that are unbalanced so that each item does not reasonably carry its own proportion of cost or that contain inadequate or unreasonable prices for any item may be rejected. Bids which have not acknowledged all addenda to the Contract Documents issued for this bid may also be rejected.

The right is reserved by the City to reject any or all bids and to waive any informalities where it is deemed by the City to be in the best interests of the City to do so.

IB-7 ONLY ONE BID ACCEPTED

The City will accept only one bid for the same work from any one bidder. This includes bids that may be submitted under different names by one business enterprise.

IB-8 BID GUARANTEE

As a guarantee of good faith on the part of the bidder, each bid must be accompanied by a bid guarantee, consisting of either a certified or cashier's check made payable without condition to the order of the City and County of Denver or a bid bond written by an approved corporate surety in favor of the City and County of Denver. If the bid of a bidder is acceptable and the bidder is notified by the Manager that it is considered to be the Apparent Low Bidder and said bidder fails to execute a contract in the form prescribed or to furnish a performance and payment bond with a legally responsible and approved surety or to furnish the required evidence of insurance or satisfy all conditions precedent to contract execution within five (5) days after such notice is made by the City, said bid guarantee shall be forfeited to the City as liquidated damages and not as a penalty.

The bid guarantee shall be in the amount of **five percent (5%)** of the total bid unless otherwise specified in the Notice of Invitation for Bids and on the form appearing in the Contract Documents in the Bid Form and Submittal Package. Failure to submit a proper bid guarantee, satisfying all of the requirements specified herein and on the form provided herein shall render the bid non-responsive and may constitute cause for rejection.

Following award and execution of the Contract by the Apparent Low Bidder, or earlier in the sole discretion of the City, bid guarantees of all but the Apparent Low Bidder will be returned. When the Apparent Low Bidder executes the Contract and delivers to the City satisfactory performance and payment bonds, required insurance documentation, and has satisfied all conditions precedent to contract execution by the City, and after approval, if any, by the Council of the City of the proposed Contract with the Apparent Low Bidder, the bid guarantee of the Apparent Low Bidder shall be returned. Such return shall be made within one hundred twenty (120) days from date bids are opened unless otherwise specified in the Special Contract Conditions.

IB-9 SITE INSPECTION AND INVESTIGATIONS

Prior to submitting a bid, the bidder is invited to inspect the work site and its surroundings. Although the bidder is not required to make such an inspection before bidding, for purposes of the Contract it shall be conclusively presumed that by failing to make such an inspection, the bidder has waived the right to later claim additional compensation or time extensions for conditions which would have been evident had the site been inspected.

Drawings and Technical Specifications, defining the Work to be done, were prepared on the basis of interpretation by the design professionals of information derived from investigations of the work site. Such information and data are subject to sampling errors, and the interpretation of the information and data depends to a degree on the judgment of the design professional. In view of this, the bidder is invited to make such additional investigations as the bidder's judgment dictates the need for such investigations. Information about the degree of difficulty of the Work to be done cannot totally be derived from either the Drawings or Technical Specifications or from the Manager or his representatives.

Since the bid information cannot be guaranteed, the Contractor shall have assumed the risks attendant to successful performance of the Work and shall never make claim for additional compensation or time extensions on the grounds that the nature or amount of work to be done was not understood by the bidder at the time of the bidding.

IB-10 INCONSISTENCIES

Any seeming inconsistencies or ambiguities between different provisions of the Contract Documents or any point which the bidder believes requires a decision or interpretation by the City must be inquired into by the bidder by addressing a formal written communication to the Manager of Public Works and sending or delivering it to the offices of the Division of Public Works advertising this Project for bid at least forty-eight (48) hours, excluding Saturdays, Sundays, and holidays, before the time set for the opening of bids.

Information about the decision or interpretation made in response to any inquiry will be posted on the Contractor's Bulletin Board (refer to IB-12 CONTRACTOR'S BULLETIN BOARD, for the location of the Contractor's Bulletin Board). If the matter raised requires, in the sole discretion of the Manager, that an addendum to the bid documents be issued, such addendum will be published and each bidder shall be required to acknowledge the addendum by signing and identifying it in the Bid Form when submitting the bid.

After bids are opened, all bidders must abide by the formal response of the Manager, as to any interpretation. The City shall not be bound and the bidder shall not rely on any oral communication, interpretation clarification or determination of the Contract Documents prior to bid opening.

IB-11 WITHDRAWAL OF BID

A bidder may withdraw its bid at any time prior to the time for receipt of bids set forth in the Notice of Invitation for Bids by making written request upon the Manager of Public Works. After such time, no bid may be withdrawn or modified.

Such request must be signed by the persons authorized to bind the bidder as defined in IB-3, COMPLETING AND SIGNING BID FORMS.

IB-12 CONTRACTOR'S BULLETIN BOARD

It shall be conclusively presumed that the bidder has, before submitting any bid, read and shall take full responsibility for all addenda, posted decisions, and other information relevant to the bid posted by the City on the Contractor's Bulletin Board. The Contractor's Bulletin Board is located on the 2nd floor at 201 W. Colfax Avenue, Denver, CO 80202.

IB-13 PRE-BID MEETING

Bidders are urged to attend the pre-bid meeting(s) scheduled for this Project. Attendance is not mandatory; however, bidders will be held responsible for all information presented at such meeting(s).

IB-14 ADDENDA

As its best interests may require, the City may issue addenda to the Contract Documents. Such addenda shall be posted on the Contractor's Bulletin Board and made available to all persons having purchased a set of Contract Documents as set forth in the Notice of Invitation for Bids contained herein. All bidders must acknowledge receipt of all addenda on the Bid Form at the time of submission of the bid.

IB-15 BID OPENING

Bidders are invited to be present at the bid opening. Unless otherwise suspended, delayed or canceled by posted notice from the Manager, bid opening will occur at the time and place designated in the Notice of Invitation for Bid.

IB-16 EVALUATION OF BIDS AND BASIS OF BID SELECTION

Bids will be evaluated after being read in open meeting at the place designated for such bid opening. All low bidders' bids will be reviewed for responsiveness to the requirements of the Contract Documents and whether or not the bids contain irregularities which could give any bidder an unfair advantage.

Selection will be made on the basis of the lowest, total, responsible, responsive, qualified bid, which bid shall include the total base bid set forth on the Bid Form, plus the total of any alternates set forth on the Bid Form and selected by the City during evaluation. Alternates, if any are included in the bid, will be selected in the priority shown on the Bid Form, subject to the limits of available funds. Bid selection will be subject to all requirements and special bidder qualifications contained herein and subject to approval of such resulting Contract in accordance with the Charter and Revised Municipal Code of the City and County of Denver. In addition to all other specified requirements, the City will correct arithmetical errors in all bids and corrected totals only will be considered as the basis of selection.

Upon concluding that the bid is, in fact, the lowest, total, responsive bid to the bidding conditions and that of a responsible, qualified bidder, the City will notify the Apparent Low Bidder.

As its best interests may appear, the City and County of Denver reserves the right to waive informalities in bids, to reject any and all bids and to re-bid the Project.

IB-17 NOTICE TO APPARENT LOW BIDDER

The Notice to Apparent Low Bidder, a form of which is included in the Contract Special Conditions Section of the Contract Documents, is issued by the City directly to the selected bidder and informs the bidder that the Manager intends to seek approval of the execution of the Contract by the City in accordance with the Charter and Revised Municipal Code of the City and County of Denver. Specifically, it informs the bidder of its obligations with respect to execution of the Contract and instructs the bidder on how to proceed toward execution of the Contract. The City reserves the right to notify the Apparent Low Bidder, at any time within one hundred twenty (120) days from the date of the opening of the bids, that approval to contract with the Apparent Low Bidder shall be sought in accordance with the Charter and Revised Municipal Code of the City and County of Denver.

In accordance with the terms and conditions contained in the Bid Form and Submittal Package and any additional requirements set forth in the Notice to Apparent Low Bidder or elsewhere in the Contract Documents, the Apparent Low Bidder shall execute the Contract Form contained in the bound sets of Contract Documents made available by the City for execution in the appropriate number of counterparts. The Apparent Low Bidder shall return the fully executed Contract Document sets, along with any supplemental documents required herein, to the City and shall comply with all other conditions precedent to Contract execution within five (5) days of the date of issuance of the Notice to Apparent Low Bidder by the City. Failure to comply with each of these requirements within five (5) days of the date of issuance of the Notice to Apparent Low Bidder by the City shall render the bid non-responsive and may constitute cause for rejection.

Issuance of such Notice shall not, however, constitute a commitment on the part of the City or create any rights in the Apparent Low Bidder to any contract with the City.

IB-18 EXECUTION OF CONTRACT

The process of executing a contract requires action by both the apparent low bidder and the City. After it notifies the Apparent Low Bidder, the City will prepare sufficient copies of the Contract Documents by incorporating all of the documents submitted by the Apparent Low Bidder into executable copies of the Contract Documents made available pursuant to the Notice of Invitation for Bids. These copies will then be made available to the Apparent Low Bidder who shall thereafter properly sign all of the copies. At this time, the successful bidder shall also provide certain supplemental documents for incorporation into the Contract Documents. These supplemental documents shall include: the properly executed Certificate of Insurance Forms evidencing the apparent low bidder's satisfactory compliance with the insurance requirements set forth in the Contract Documents; a properly executed Payment and Performance Bond

Form and appropriate Power of Attorney evidencing the Apparent Low Bidder's satisfactory compliance with the bonding requirements set forth in the Contract Documents; and documentation of compliance with any other conditions precedent to execution of the Contract by the City set forth in the Contract Documents. The insurance and bond forms contained in the Contract Special Conditions Section of the Contract Documents must be used in satisfying these supplemental document requirements.

These documents are then delivered to the City within the prescribed time period for examination of the documents to determine whether or not the Contractor has correctly executed the Contract and has correctly provided the required supplemental documents and that these documents are satisfactorily and properly completed. From here, all of the documents are forwarded to the City Attorney who will, if the insurance and bonding offered is acceptable and if all other elements of the Contract Documents are in order, recommend that the Manager and the Mayor approve the documents and, when required by the City Charter, prepare an ordinance for submittal to City Council authorizing the execution of the Contract. The City Attorney shall in all applicable instances submit the proposed contract and ordinance to City Council. After City Council approval, the Contract shall be reviewed by the City Attorney and routed for execution by the Mayor, the Clerk for attestation and the Auditor for countersignature and registration. When the total process of contract execution is complete, a Notice to Proceed will be issued and a single executed copy of the Contract will be delivered to the Contractor. Any work performed or materials purchased prior to the issuance of the Notice to Proceed, is at the Contractor's risk.

IB-19 BONDING REQUIREMENTS

In accordance with the provisions of General Contract Conditions, Title 15, PERFORMANCE AND PAYMENT BONDS, the minimum bonding requirements for this Contract are set forth in the form **CITY AND COUNTY OF DENVER PERFORMANCE AND PAYMENT BOND** contained in the Special Conditions Section of the Contract Documents. Upon receipt of Notice to Apparent Low Bidder, the apparent low bidder must cause this form bond to be purchased, executed and furnished, along with appropriate Powers of Attorney and a surety authorization letter (in form similar to the one attached), to the City.

IB-20 INSURANCE REQUIREMENTS

The minimum insurance requirements for this Contract are set forth in the Special Conditions Section of the Contract Documents. Bidders are urged to consider, in preparing a bid hereunder, that each condition, requirement or specification set forth in the form certificate must be complied with by the Contractor and all subcontractors performing Work on the Project, unless such requirements are specifically accepted in writing by the City's Risk Management Office. The Contractor must either include all subcontractors performing work hereunder as insureds under each required policy or furnish a separate certificate for each subcontractor. In either case, the Contractor shall insure that each subcontractor complies with all of the coverage requirements.

IB-21 PERMITS AND LICENSES

All permits, licenses and approvals required in the prosecution of the work shall be obtained and paid for by the Contractor.

IB-22 WAGE RATE REQUIREMENTS

In preparing any bid hereunder, the Contractor must comply with and should carefully consider all requirements and conditions of the City's Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, D.R.M.C. and any determinations made by the City pursuant thereto.

At the time of the preparation of the Contract Documents, the then-current prevailing wage rates applicable to this Project shall be bound within the Contract Documents made available to potential bidders for the Project. If, more than ten (10) days prior to the actual date of bid opening, the Career Service Board determines that prevailing wages rates different from those bound in the Contract Documents are applicable to one or more of the various classes of laborers, mechanics and workers encompassed by this Project, such different prevailing wage rates shall be provided in an addendum. If different prevailing wage rates are determined by the Career Service Board ten (10) or less days prior to the actual date of bid opening, the City will determine on a case by case basis in its sole discretion whether such different prevailing wage rates are to be included in an addendum. In conjunction with such determination, the City may elect, in its sole discretion, to postpone the date of bid opening on the Project. In any event, the bidder will be held, at the actual date of bid opening, to those prevailing wage rates incorporated into the Contract Documents and as modified by any such addenda.

These prevailing wage rates shall be considered the **minimum** City prevailing wage rates to be paid by all contractors or subcontractors for a period not to exceed one (1) year from the date of the Contract. Increases in prevailing wages subsequent to the date of the Contract for a period not to exceed one (1) year shall not be mandatory on either the contractor or subcontractors. Future increases in prevailing wages on contracts whose period of performance exceeds one (1) year shall be mandatory for the contractor and subcontractors only on the yearly anniversary date of the Contract. The **minimum** City prevailing wage rate for any such subsequent yearly period or portion thereof shall be the wage rates in effect on the yearly anniversary date of the contract which begins such subsequent period. In no event shall any increases in prevailing wages over the amounts thereof as stated in such Technical Specifications and addenda thereto result in any increased liability on the part of the City and the possibility and risk of any such increase is assumed by all contractors entering into any such contract with the City. Decreases in prevailing wages subsequent to the date of the contract for a period not to exceed one year (1) shall not be permitted. Decreases in prevailing wages on contracts whose period of performance exceeds one (1) year shall not be effective except on the yearly anniversary date of the contract.

IB-23 TAX REQUIREMENTS

General. Bidders are referred to the General Contract Condition 322, TAXES, as to taxes to which they may be subject in performing the Work under this Contract, including but not limited to sales and use taxes and the Denver Occupational Privilege Tax. The following instructions are to be considered along with the General Contract Conditions and not in lieu of them.

Sales and Use Tax. Construction and building materials sold to contractors and subcontractors for use on structures, roads, streets, highways, and other public works owned by the City and County of Denver are exempt from state, RTD, and Cultural Facilities District sales and use taxes. However, such materials will be subject to sales and use taxes imposed by the City and County of Denver.

It is the responsibility of the Contractor and its subcontractors to apply to the Colorado Department of Revenue ("CDOR") for a certificate, or certificates, of exemption indicating that their purchase of construction or building materials is for a public project, and to deliver to the City copies of such applications as soon as possible after approval by the CDOR. Bidders shall not include in their bid amounts the exempt state, RTD, and Cultural Facilities District Sales and Use Taxes.

Denver Occupational Privilege Tax. Any employee working for a contractor, or a subcontractor, who earns over \$500 working in Denver during a calendar month, is subject to the payment of the Employee Occupational Privilege Tax. The Contractor and any subcontractor must pay the Business Occupational Privilege Tax for each of its employees who is subject to such tax.

IB-24 DISCLOSURE OF PRINCIPALS

Pursuant to D.R.M.C. 20-69, any bid in excess of \$100,000.00 must be accompanied by a separate detachable page setting forth the following information:

(1) The name of any officer, director, owner or principal of the business entity, including identity of any shareholder who owns or controls 5% or more of the business entity, and either 1) the names of his or her spouse, and children under eighteen years of age; or 2) a statement that he or she or his or her spouse, or children, if any, under the age of eighteen have or have not made a contribution, as defined in D.R.M.C. 15-32, or contribution in kind, as defined in D.R.M.C. 15-32, to any candidate, as defined in D.R.M.C. 15-32, during the last five years and identifying by name himself or herself or any spouse or child under the age of eighteen who has made such a contribution or contribution in-kind to a candidate.

(2) The names of any subcontractors or suppliers whose share of the bid exceeds \$100,000.00 of the contract or formal bid amount.

(3) The names of any unions with which the bidder has a collective bargaining agreement.

If the total bid amount is in excess of \$500,000.00, the information required in (1) above must be provided at the time of bid submittal, and the information required in (2) and (3) must be submitted in a timely fashion prior to award. The list of subcontractors required by this instrument is different and separate from the bidding list required on BF-4.

If the total bid amount is less than \$500,000.00 but more than \$100,000.00, such information must be provided prior to award of the contract. Failure to provide the required information in a timely fashion shall render any bid to which D.R.M.C. 20-69 applies non-responsive.

While a bidder or supplier who has already disclosed such information need not provide such information with a second or subsequent bid or proposal unless such information has changed, it shall be the responsibility of each such bidder or proposer to verify that such information is still current as of the date of such subsequent bid or proposal and is in fact on file with the City Clerk.

A form which should be used for such disclosure is contained in the Special Conditions Section of the Contract Documents. The form is entitled: Bidder/Contractor/Vendor/Proposer Disclosure. Failure to provide or update the required information in a timely fashion shall render any bid to which D.R.M.C. 20-69 applies non-responsive.

IB-25 DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS

Department of Transportation (DOT) 49 CFR Part 26 ("Part 26") applies to this Project and will be incorporated into any agreement entered into by the City and County of Denver Bid Documents. It is the policy of DOT and the City and County of Denver that DBEs to ensure non-discrimination in the award and administration of DOT-assisted contracts financed in whole or in part with Federal funds. Consequently, the Bidders must fully comply with the DBE requirements of Part 26 in bidding and performing hereunder.

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

Part 26 provides for the adoption of a good faith goals program, to be administered by the Division of Small Business Opportunity (DSBO). As such, each bidder must comply with the terms and conditions of the Part 26 in making its bid and, if awarded the Contract, in performing all Work thereunder. A bidder's failure to comply with Part 26, any Rules or Regulations promulgated pursuant thereto, or any additional requirements contained herein may render a bid non-responsive and may constitute cause for rejection.

In order to comply with the bid requirements of Part 26, a Bidder shall either meet the established DBE Project goal or, in the alternative, demonstrate that the bidder has made sufficient good faith efforts to meet the goal. In preparing a bid to meet the established DBE Project goal, bidders should consider the following instructions relating to compliance with Part 26:

1. Under Part 26, the Director of the Division of Small Business Opportunity establishes a project goal for this project. The specific goal for this project is stated in the Notice of Invitation for Bids bound herein.
2. In preparing its bid, each Bidder shall list on the Bid Form pages entitled "List of Proposed Disadvantage Business Enterprise Bidders, Sub-contractors, Suppliers, Manufacturers, or Brokers" the name, address, work description/supply, committed level of participation and other required information for each DBE of any tier which the bidder intends to use in performing the Work on this Project. Only DBEs identified and the levels of participation listed for each on this Bid Form page at the time of bid opening will be considered in determining whether the bidder has met the designated participation goal. Additional, revised or corrected participation submitted after bid opening will not be considered in determining responsiveness.
3. All DBE firms listed on the Bid Form must be properly certified under guidelines of the Department of Transportation 49 CFR Part 26 by the City of Denver DSBO's Office or the State of Colorado Department of Transportation (CDOT's) Office in order to count towards meeting the designated goals. Both DSBO and CDOT maintain a current listing of certified DBE firms. The DBE Directory is located at www.dot.state.co.us/app_ucp/. Bidders are encouraged to utilize these directories to assist them in locating DBEs for the work/supply

required on the project. The most current directories must be utilized in preparing a bid. DBE certification does not, however, constitute a representation or warranty by the City as to the qualification of any listed firm.

4. In accordance with the requirements of Part 26, DSBO will evaluate each bid to determine the responsiveness of the bid to Part 26 requirements. In determining if a Bidder's committed levels of participation meet or exceed the stated DBE goal, DSBO will base its calculation of applicable amounts and percentages on the total base bid amount, not including any listed alternates, of each bid as follows:
 - a. The bid information provided by the agency will be used to determine the total base bid amount of each bid. Each Bidder's total base bid amount will be multiplied by the DBE percentage goal established for the project to determine the exact dollar amounts of required DBE participation for the Project. These amounts will then be compared against the dollar amounts for the DBE firm(s) committed for participation by the Bidder. If the total dollar amount of participation listed meets or exceeds the established DBE dollar amount goal listed, then the DSBO will determine that goals have been met.
 - b. In addition, DSBO will determine the exact commitment percentage for each listed DBE firm by dividing the dollar amount listed for each firm by the total base bid dollar amount submitted by the bidder. These individual percentages, when totaled for all listed DBEs, will establish the total committed percentage level of DBE participation that the bidder must comply with during the life of the Contract. In all cases, the committed percentage level of DBE participation must equal or exceed the assigned DBE goal for the Project.
 - c. In providing the exact dollar amount of participation for each listed DBE firm a bidder should take care never to round up in determining whether or not the total of these amounts meets or exceeds the established percentage goal. The goal must be met or exceeded by both dollar amounts and percentage for DSBO to determine that the bidder has met or exceeded the applicable DBE goal.
 - d. As previously mentioned compliance with the DBE goal will be determined on the base bid alone. If a bid contains alternates, participation contained in any alternate will not count towards satisfaction of the Project goals. However, should any designated alternate be selected by the City for inclusion in the Contract ultimately awarded, the DBE goal percentage level submitted at bid time, on the base bid, will also apply to the selected alternates and must be maintained for the life of the Contract on the total contract amount, including any alternate work. Thus, even though such participation will not be considered in evaluating bids, Bidders are urged to consider participation in preparing bids for designated alternates.
 - e. On projects where force account or allowance bid items have been included, bidders must meet the DBE goal percentage based upon the total base bid, including all such items that he submitted to the City. However, when a force account or allowance is designated by the City to be either performed or purchased from a specific company, the bidder may back out the dollar amount of the force account or allowance from the total base bid and meet the DBE goal on the remaining reduced amount.
5. In accordance with Part 26 the City and County of Denver will require the total DBE participation commitment to be achieved in accordance with the following:

DBE bidders can count themselves for self-performance toward meeting the DBE goal, but only for the scope of work and at a percentage level they will be actually performing themselves.

DBE credit will be counted only for work actually performed by the DBEs own forces.

Work actually performed by DBEs is deemed to include the cost of materials and supplies purchased and equipment leased by the DBE from non-DBE sources. Work subcontracted can only count if the subcontractor is another DBE.

The entire fee or commission charged by a DBE, if reasonable and not excessive, will be counted.

Under Joint Ventures, the total value of distinct and clearly defined portions of the work of the contract that the DBE performs with its own workforce will be counted.

Each DBE must perform a "commercially useful function" to be counted toward the goal and at least 30% of the work must be performed by a DBE of the total cost of its contract for the DBE to be presumed to be performing a "commercially useful function".

Supplies or materials can be only counted for 60% of the total cost of the materials or supplies toward meeting the DBE goal and a DBE manufacturer can count 100% of the cost of the materials or supplies toward the goal. Manufacturers' representatives and packagers shall be counted in the same manner as brokers.

In utilizing the DBE participation of a Broker, only the bona fide fees and commissions earned by them for their performance of a commercially useful function will count toward meeting the project goals. The Bidder must separate the bona fide brokerage fees and commissions from the actual cost of the supplies or materials provided to determine the actual dollar amount of participation that can be counted towards meeting the goal.

6. On or before the fifth (5th) working day after bid opening, all of the Bidders are required to submit an executed "DBE Letter of Intent" for each DBE listed on the Bid Form as a subcontractor, supplier, manufacturer, or broker of any tier. Each Letter of Intent shall be submitted only for the DBEs listed at the time of bid opening, since this is the only participation that will be counted toward satisfaction of the project goals. A form for the DBE Letter of Intent is included with the Bid Form. The DBE Letter of Intent is a written communication from the Bidder to the City evidencing an understanding that the Bidder has or will enter into a contractual relationship with the DBE and/or that its subcontractor(s) and supplier(s), manufacturer(s), and broker(s) will do so. Each DBE Letter of Intent shall be accompanied by either a copy of the City and County of Denver's (DSBO) DBE certification letter or the State of Colorado's (CDOT) DBE certification letter and DBE Work Codes Sheet for each proposed DBE firm identified at bid time. Bidders are urged to carefully review these Letters before submission to the City to ensure that they are properly completed and executed by the appropriate parties.

In preparing a bid to demonstrate a good faith effort, Bidders should consider the following instructions relating to compliance with Part 26:

1. If any Bidder is unable to meet the designated project DBE goal at the time the bids are opened or elects to present a good faith effort in lieu of or in addition to attempting to satisfy the designated project goals, that Bidder shall submit on or before the fifth (5th) working day after the bid opening a detailed statement, with supporting documentation, setting forth its good faith efforts made prior to bid opening. The different kinds of efforts as well as the quantity and intensity of the efforts will be considered in determining whether the Bidder has made a good faith effort. A Bidder who fails to meet the project goal and cannot show, to the Director's satisfaction, that it made a good faith effort to meet the DBE goal shall be considered non-responsive.
2. For compliance with good faith effort requirements as set forth in Part 26, the DBE solicitation level required for this project is 100% of the City and County of Denver's certified DBE's and 100% of the State of Colorado's Colorado Department of Transportation (CDOT's) certified DBE's. Therefore, both DBE certified lists must be utilized in solicitation effort in order to meet the good faith effort requirement. The statement of good faith efforts shall include a specific response to each of the following as further defined by rule or regulation. The Bidder must identify the portions of the project that it will self-perform and

the Bidder must solicit **DBE** participation in every category in which it will not self perform. The required level of **DBE** participation is set forth in the Notice of Invitation for Bids, which is also contained within the project Contract documents. A Bidder may include any additional information the Bidder believes may be relevant. Failure of a Bidder to show good faith efforts as to any one of the following categories shall render its overall good faith showing insufficient and its bid non-responsive. Item (1) through (4) of the D.R.M.C. Section 28-208, Subsection (b) are set forth below:

- a. If pre-bid meetings are scheduled by the City at which DBEs may be informed of subcontracting opportunities under a proposed contract to be bid, attendance at such pre-bid meetings is not mandatory; however, bidders are responsible for the information provided at these meetings. The good faith effort statement must reflect the bidder's knowledge of the information provided at these meetings.
- b. Written verification of the placing of an advertisement soliciting bids from DBEs for three (3) consecutive days in general or construction-related publications approved by the Director. All such advertisements must expressly advertise a given project and expressly state that DBE participation on that project is being sought; other incidental references to the project or listing of the bidder as a plan holder are not sufficient. All such advertisements shall begin at least fifteen (15) days prior to bid opening. If the City publishes notice for bids on a project less than fifteen (15) days prior to bid opening, verification of advertisements for at least four (4) consecutive days shall be provided.
- c. Verification of efforts made by the Bidder to contact, by written notice, all certified DBEs who have the capability to perform the work of the contract, that their interest in the contract is being solicited, in sufficient time to allow the DBEs to participate effectively is required. The notice shall expressly describe the potential subcontracting, supplier or broker opportunities for all applicable certification categories for the particular project.
- d. Verification that, reasonably consistent with industry practice and the Bidder's past practices on similar projects, the Bidder analyzed the needs of the project in light of such industry practice and past practice, together with the goal of facilitating DBE participation on the project, and identified portions of the work to be performed by DBEs in order to achieve the project goal.
- d. For each DBE which contacted the Bidder or which the Bidder contacted or attempted to subcontract with, consistent with industry practice, a statement giving the reasons why the Bidder and the DBE did not succeed in reaching a subcontracting, supplier, manufacturer or broker agreement.
- e. Verification that the Bidder rejected DBEs because they did not submit the lowest bid or they were not qualified. Such verification shall include a verified statement of the amounts of all bids received from potential subcontractors, suppliers, manufacturers or brokers on the project and a verified statement that the Bidder rejected DBEs because they did not submit the lowest bid from among such bids or were not qualified.
- f. Verification that the Bidder made efforts to assist DBEs in obtaining bonds, if any are required.

In accordance with Part 26 the Bidder agrees that it is committed to meeting either the DBE participation goal or the DBE participation set forth in its statement of good faith efforts. This commitment must be expressly indicated on the "Commitment to Disadvantaged Business Enterprise Participation" form included with the Bid Form. This commitment includes the following understandings:

1. The Bidder understands it must maintain the committed DBE participation goal level throughout the life of the Contract and as required in 49 CFR Section 26.53 (f) (1) & (2) which states: A prime may not terminate for convenience a DBE subcontractor (or an approved substitute DBE firm) and then perform the work of the terminated subcontract with its own forces or those of

an affiliate, without prior written consent. When a DBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the prime contractor is required to make good faith efforts to find other DBE subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal.

2. The Bidder understands that it must establish and maintain records and submit regular reports, as required, which will allow the City to assess progress toward satisfying the DBE participation goal and other affirmative action efforts.

3. The Bidder understands that if Change Orders or any other Contract modifications are issued under the Contract, the Bidder shall have a continuing obligation to immediately inform DSBO in writing of any agreed upon increase or decrease in the scope of work of such Contract, regardless of whether such increase or decrease in scope of work has been reduced to writing at the time of notification.

4. The Bidder understands that if Change Orders or other Contract modifications are issued under the Contract that include an increase in the scope of work of a contract for construction, reconstruction, or remodeling, whether by amendment, change order, force account or otherwise which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by a DBE at the time of Contract award, then such amendment, change order or other modification shall be contemporaneously submitted to the DSBO. Those amendments, change orders, force accounts or other Contract modifications that involve a changed scope of work that cannot be performed by existing project subcontractors or by the Bidder shall be subject to goals for DBEs equal to the original goal on the Contract which were included in the bid or showing of a good faith efforts.

Prime Contractor agree to pay each subcontractor under this prime contract for satisfactory performance on a contract no later than seven (7) days from the receipt of each payment the prime contractor receives from the City and County of Denver. The prime contractor agrees further to return retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for a good cause following written approval of the City and County of Denver. This clause applies both to DBE and non-DBE subcontractors.

All Bidders are charged with knowledge of and are solely responsible for complying with each requirement of Part 26 in making a bid and, if awarded, in performing the Work described in the Contract Documents. These instructions are intended only to generally assist the Bidder in preparing and submitting a compliant bid. Should any questions arise regarding specific circumstances, Bidders must consult 49 CFR Part 26, appropriate DOT Rules and Regulations, or contact the Project's designated DSBO representative at (720) 913-1700.

INSTRUCTIONS TO BIDDERS - All bidders must submit an DSBO "Bidder's List Data Form" for themselves, as well as any subcontractor/supplier/manufacture/manufacture representative/broker that contacted the bidder or that the bidder contacted who provided a bid or quote, regardless if the firm is a DBE or a non-DBE firm. DSBO is required by DOT 49 CFR Part 26 Regulations to create and maintain a bidders list on DOT-assisted projects. Therefore, bidders need to provide these completed forms at the time of bid as a part of their "Bid Form & Submittal Document".

IB-26 DISCLOSURE OF INFORMATION

All submissions and other materials provided or produced pursuant to this Invitation for Bids may be subject to the Colorado Open Records Law, C.R.S. 24-72-201, et seq. As such, bidders are urged to review these disclosure requirements and any exceptions to disclosure of information furnished by another party and, prior to submission of a bid to the City, appropriately identify materials that are not subject to disclosure. In the event of a request to the City for disclosure of such information, the City shall advise the bidder of such request to give the bidder an opportunity to object to the disclosure of designated confidential materials furnished to the City. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of

disclosure and each bidder agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material. Each bidder further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the bidder's intervention to protect and assert its claims of privilege against disclosure under the Open Records Law including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

IB-27 GENERAL BIDDING INFORMATION

Bidders are instructed to contact the Contract Administrator designated below for this Project for pre-bid, post-bid and general City bidding information. Bidders can also visit DenverGov.com for information, both general and project specific. The Contract Administrator assigned to this project is Jo Ann Phillips, who can be reached via email at joann.phillips@denvergov.org.

IB-28 FEDERAL REQUIREMENTS

This project is funded, in whole or in part, by federal funding made available through the Federal Highway Administration ("FHWA") and administered by the Colorado Department of Transportation ("CDOT"). As such, each bidder must comply review and comply with certain bid requirements (the "Federal Forms") in formulating and submitting its bid for the Project, and, if awarded a contract pursuant to this bid, must comply with certain "Federal Requirements." The required Federal Forms are included in the Bid Package at pages BF-24 through BF-28. The Federal Requirements are attached to the Bid Document Package, pages at BDP-63 through BDP-79. The Contractor shall be presumed to have considered and completed all Federal Requirements and Forms as part of its bid and shall be presumed to have carefully considered and accounted for all costs of complying with the Federal Requirements in formulating and submitting a bid hereunder.

**RULES AND REGULATIONS
REGARDING**

EQUAL EMPLOYMENT OPPORTUNITY

Promulgated and adopted by the Manager of Public Works pursuant to and by authority of Article III, Division 2, Chapter 28 of the Revised Municipal Code of the City and County of Denver, and for the purpose of insuring that contractors, subcontractors and suppliers soliciting and receiving compensation for contract work from or through the City and County of Denver provide equal opportunity in employment without regard to race, color, creed, sex, national origin, age, religion, marital status, political opinion or affiliation or mental or physical handicap and meet certain requirements for the hiring, training, promotion, and treatment during employment of members of ethnic groups subject to differential treatment, including persons of African descent (Black), Spanish-surnamed (Hispanic), Asian-American and American Indian Groups.

RULE I - DEFINITIONS

- A. "City" means the City and County of Denver.
- B. "Manager" shall mean the Manager of Public Works for the City and County of Denver.
- C. "Contract" means a contract entered into with the City and County of Denver, financed in whole or in part by local resources or funds of the City and County of Denver, for the construction of any public building or prosecution or completion of any public work.
- D. "Contractor" means the original party to a contract with the City and County of Denver, also referred to as the "general" or "prime" contractor.
- E. "Director" means the Director of the Division of Small Business Opportunity.
- F. "Subcontractor" means any person, company, association, partnership, corporation, or other entity which assumes by subordinate agreement some or all of the obligations of the general or prime contractor.
- G. The phrase "Bidding Specifications" as used in Article III, Division 2 of Chapter 28 of the Revised Municipal Code shall include BID CONDITION, INVITATION TO BID, and NOTICE OF PROPOSAL.
- H. "Affirmative Action Program" means a set of specific and result-oriented procedures or steps to which a contractor commits himself to apply every good faith effort to employ members of ethnic minority groups, to include persons of African descent (Black), Spanish surnamed (Hispanic), Asian-American, American Indians, and persons with mental or physical handicap.
- I. "Division of Small Business Opportunity" means the City agency established pursuant to Article III, Division 1 of Chapter 28 of the Denver Revised Municipal Code.

RULE II - NOTICE OF HEARING

When results of conciliation efforts are unsatisfactory to the Manager and he is informed in accordance with Article III, Division 2 of Chapter 28 of the Revised Municipal code that a contractor or subcontractor has apparently failed to meet affirmative action and equal employment opportunity requirements after a reasonable period of notice to correct deficiencies, the Manager will , prior to imposition of any sanctions, afford the general contractor a hearing in order to determine whether the contractor or his subcontractors have failed to comply with the affirmative action and equal employment opportunity requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or of the contract. Written notice of such hearing shall be delivered personally or sent by certified mail, return receipt requested, to the contractor and to any subcontractor involved, at least ten (10) days prior to the date scheduled for the hearing.

RULE III - HEARING

- A. Contractors will appear at hearings and may be represented by counsel, and may present testimony orally and other evidence.
- B. Hearings shall be conducted by one or more hearing examiners designated as such by the Manager.
- C. The Director of the Division of Small Business Opportunity may participate in hearings as a witness.
- D. Hearings shall be held at the place specified in the notice of hearing.
- E. All oral testimony shall be given under oath or affirmation and a record of such proceedings shall be made.
- F. All hearings shall be open to the public.
- G. The hearing officer shall make recommendations to the Manager who shall make a final decision.

REGULATIONS

REGULATION NO. 1 - ORDINANCE:

The Rules and Regulations of the Manager shall be inserted in the bidding specifications for every contract for which bidding is required.

REGULATION NO. 2 - EXEMPTIONS:

Each contract and subcontract, regardless of the dollar amount, shall be subject to affirmative action requirements unless specifically exempted in writing individually by the Manager. Exemptions apply only to "affirmative action" in equal employment opportunity, and are not to be construed as condonation in any manner of "discrimination" or "discriminatory practices" in employment because of race, color, creed, sex, age, national origin, religion, marital status, political opinion or mental or physical handicap.

REGULATION NO. 3 - DIRECTOR OF CONTRACT COMPLIANCE:

The Director of the Division of Small Business Opportunity shall perform the duties assigned to such official by Article III, Division 2 Chapter 28 of the Revised Municipal Code and by the Manager. (1) The Director of the Division of Small Business Opportunity or designated representatives shall inform bidders and contractors of affirmative action procedures, programs, and goals in accordance with the Ordinance at pre-bid and pre-construction conference; (2) make regular on-site inspections; (3) supply contractors and subcontractors with report forms to be completed by them when requested, and furnished to the Director of the Division of Small Business Opportunity; and (4) review payroll records, employment records and practices of general contractors and their subcontractors and suppliers during the performance of any contract. The Director of the Division of Small Business Opportunity shall promptly report apparent affirmative action deficiencies to the Manager.

REGULATION NO. 4 - GOALS AND TIMETABLES:

In general, goals and timetables should take into account anticipated vacancies and the availability of skills in the market place from which employees should be drawn. In addition, where discrimination in employment by a general contractor or any of his subcontractors is indicated, a corrective action program will take into account the need by the general contractor and his subcontractors to correct past discriminatory practices and reach goals of minority manpower utilization on a timely basis through such recruiting and advertising efforts as are necessary and appropriate.

REGULATION NO. 5 - AWARD OF CONTRACTS:

It shall be the responsibility of the Director of the Division of Small Business Opportunity to determine the affirmative action capability of bidders, contractors and subcontractors and to recommend to the Manager the award of contracts to those bidders, contractors and subcontractors and suppliers who demonstrate the ability and willingness to comply with the terms of their contract.

REGULATION NO. 6 - PUBLICATION AND DUPLICATION:

Copies of these Rules and Regulations as amended by the Manager from time to time, shall as soon as practicable and after Notice being published will be made a part of all City Contracts.

REGULATION NO. 7 - NOTICE TO PROCEED:

Prior to issuance of the Notice to Proceed a sign-off will be required of the Director of the Division of Small Business Opportunity or his designee.

REGULATION NO. 8 - CONTRACTS WITH SUBCONTRACTORS:

To the greatest extent possible, the contractor shall make a good faith effort to contract with minority contractors, subcontractors and suppliers for services and supplies by taking affirmative actions which include but are not limited to the following:

1. Advertise invitations for subcontractor bids in minority community news media.
2. Contact minority contractor organizations for referral of prospective subcontractors.
3. Purchase materials and supplies from minority material suppliers.

REGULATION NO. 9 - AGENCY REFERRALS:

It shall be no excuse that the union with which the contractor or subcontractor has an agreement providing for referral, exclusive or otherwise, failed to refer minority employees.

REGULATION NO. 10 - CLAUSES:

The Manager shall include the appropriate clauses in every contract and the contractor shall cause to be inserted in every subcontract the appropriate clauses:

1. APPENDIX A: City and County of Denver Equal Opportunity Clause - ALL CONTRACTS funded only with City and County of Denver monies.
2. APPENDIX B: Equal Opportunity Clause (11246) - ALL FEDERAL ASSISTED.
3. APPENDIX C: Section 3 - Assurance of Compliance - HUD ASSISTED PROJECTS.
4. APPENDIX D: Section 3 - Clause - HUD ASSISTED PROJECTS.

All amendments to the appendices shall be included by reference.

REGULATION NO. 11 - SHOW CAUSE NOTICES:

When the Manager has reasonable cause to believe that a contractor has violated Article III, Division 2 of Chapter 28 of the Denver Revised Municipal Code, he may issue a notice requiring the contractor to show cause, within fifteen (15) days why enforcement procedures, or other appropriate action to insure compliance, should not be instituted.

**REGULATION NO. 12 - BID CONDITIONS - AFFIRMATIVE ACTION
REQUIREMENTS - EQUAL EMPLOYMENT OPPORTUNITY:**

1. APPENDIX E: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as amended and published by the U.S. Department of Labor Employment Standards Administration, Office of Federal Contract Compliance, shall be inserted verbatim for bidding specification for every non-exempt contract involving the use of Federal funds.

2. APPENDIX F: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as published by the Department of Public Works, City and County of Denver, shall be inserted verbatim as bidding specifications for every non-exempt contract using City funds.

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

APPENDIX A

**CITY AND COUNTY OF DENVER EQUAL OPPORTUNITY CLAUSE -
ALL CONTRACTS**

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. 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, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap.
3. The Contractor will send to each labor union or representative of workers with which he 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 under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. Each Contractor will comply with all provisions of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and the rules, regulations, and relevant orders of the Manager and the Director.
5. The Contractor will furnish all information and reports required by Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and by rules, regulations and orders of the Manager and Director or pursuant thereto, and will permit access to his books, records, and accounts by the Manager, Director, or their designee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. 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 City contracts in accordance with procedures authorized in Article III, Division 2, Chapter 28 of the Revised Municipal Code, or by rules, regulations, or order of the Manager.
7. The Contractor will include Regulation 12, Paragraph 2 and the provisions of paragraphs (1) through (6) in every subcontract of purchase order unless exempted by rules, regulations, or orders of the Manager issued pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, so that such provisions will be binding on each subcontractor or supplier. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The applicant further agrees to be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in City contracts. The Contractor agrees to assist and cooperate actively with the Manager and the Director in obtaining compliance of subcontractors and suppliers with the equal opportunity clause and the rules, regulations and relevant orders of the Manager, and will furnish the Manager and the Director such information as they may require for the supervision of compliance, and will otherwise assist the Manager and Director in the discharge of the City's primary responsibility for securing compliance. The Contractor further agrees to refrain from entering into any contract or contract

modification subject to Article III, Division 2 of Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who has not demonstrated eligibility for, City contracts.

The Contractor will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the Manager and Director. In addition, the Contractor agrees that failure or refusal to comply with these undertakings the Manager may take any or all of the following actions:

- A. Cancellation, termination, or suspension in whole or in part of this contract.
- B. Refrain from extending any further assistance to the applicant under the program with respect to which the failure occurred until satisfactory assurance of future compliance has been received from such applicant.
- C. Refer the case to the City Attorney for appropriate legal proceedings.

SUBCONTRACTS: Each prime Contractor or Subcontractor shall include the equal opportunity clause in each of its subcontracts.

APPENDIX B

EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

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, 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, 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 considerations for employment without regard to race, color, religion, sex, or national origin.
3. The contractor will send to each labor union or representative of workers with which he 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 under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. 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 his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. 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 procedure 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.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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 the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

NOTICES TO BE POSTED PER PARAGRAPH (1) AND (3) OF THE EEO CLAUSE

EQUAL EMPLOYMENT OPPORTUNITY IS THE LAW

**Discrimination is Prohibited by
the Civil Rights Act of 1964
and by Executive Order No. 11246**

Title VII of the Civil Rights Act of 1964

Administered by: The Equal Employment Opportunity Commission

Prohibits discrimination because of Race, Color, Religion, sex, or National Origin by Employers with 25 or more employees, by Labor Organizations with a hiring hall of 25 or more members, by Employment Agencies, and b Joint Labor-Management Committees for Apprenticeship or Training.

ANY PERSON who believes that he or she has been discriminated against SHOULD CONTACT:

The Equal Employment Opportunity Commission (EEOC)
2401 E Street, NW
Washington, D.C. 20506

Executive Order No. 11256

Administered by: The Office of Federal Contract Compliance Programs

Prohibits discrimination because of Race, Color, Religion, Sex, or National Origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment, by all Federal Government Contractors and Subcontractors, and by Contractors Performing Work Under a Federal Assisted Construction Contract, regardless of the number of employees in either case.

ANY PERSON who believes that he or she has been discriminated against SHOULD CONTACT:

The Office of Federal Contract Compliance Programs
U. S. Department of Labor
Washington, D.C. 20210

APPENDIX E

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

1. 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.
2. 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: Until Further Notice

Goals:

- (a) Minority Participation in Each Trade: 13.8 percent
- (b) Female Participation in Each Trade: 6.9 percent

These goals are applicable to all the contractor's construction work (whether or not it is Federal on Federally-assisted) performed in the covered area. If the contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goal established for such geographic area where the work is actually performed. With regard to this second area, the contractor also is subject to the goal 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 goal. The hours of minority employment and training must be substantially uniform throughout the length of the contract, and in each grade, and the contract shall make a good faith effort to employ minorities evenly on each of its projects. The transfer of minority employees or trainees from contractor to contractor or from project to project, for the sole purpose of meeting the contractor's goal, shall be a violation of the contract, the executive order, and the regulations in 41 CFR Part 60-4. Compliance with the goal will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, OFCCP, 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; employee identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographic area in which the contract is performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is the City and County of Denver, Colorado.

STANDARD FEDERAL ASSURANCES

NOTE: As used below the term "contractor" shall mean and include the "Party of the Second Part," and the term "sponsor" shall mean the "City".

During the term of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, creed or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Subcontractors, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiations made by the contractor for work to be performed under a subcontract, including procurements or materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. Information and Reports. The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance. In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
- b. Cancellation, termination, or suspension of the contract, in whole or in part.

6. Incorporation of Provisions. The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (41 CFR 60-4.3)
(VERSION 2, 4/23/90)**

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement

contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

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

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

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

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

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with

all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

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

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

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

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

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

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

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and

participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

APPENDIX F

AFFIRMATIVE ACTION REQUIREMENTS

EQUAL EMPLOYMENT OPPORTUNITY

For All Non-Exempt Construction Contracts to Be Awarded by the
City and County of Denver, Department of Public Works.

NOTICE

EACH BIDDER, CONTRACTOR OR SUBCONTRACTOR (HEREINAFTER THE CONTRACTOR) MUST FULLY COMPLY WITH THE REQUIREMENTS OF THESE BID CONDITIONS AS TO EACH CONSTRUCTION TRADE IT INTENDS TO USE ON THIS CONSTRUCTION CONTRACT, AND ALL OTHER CONSTRUCTION WORK (BOTH CITY AND NON-CITY) IN THE DENVER AREA DURING THE PERFORMANCE OF THIS CONTRACT OR SUBCONTRACT. THE CONTRACTOR COMMITS ITSELF TO THE GOALS FOR MINORITY MANPOWER UTILIZATION, AS APPLICABLE, AND ALL OTHER REQUIREMENTS, TERMS AND CONDITION OF THESE BID CONDITIONS BY SUBMITTING A PROPERLY SIGNED BID.

THE CONTRACTOR SHALL APPOINT A COMPANY EXECUTIVE TO ASSUME THE RESPONSIBILITY FOR THE IMPLEMENTATION OF THE REQUIREMENTS, TERMS AND CONDITIONS OF THESE BID CONDITIONS.

/s/

Manager of Public Works
City and County of Denver

EQUAL OPPORTUNITY PROVISIONS (Cont'd)

A. REQUIREMENTS - AN AFFIRMATIVE ACTION PLAN:

Contractors shall be subject to the provisions and requirements of these bid conditions including the goals and timetables for minority* and female utilization, and specific affirmative action steps set forth by the Office of Contract Compliance. The contractor's commitment to the goals for minority, and female utilization as required constitutes a commitment that it will make every good faith effort to meet such goals.

1. GOALS AND TIMETABLES:

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade are as follows:

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE	GOALS FOR FEMALE PARTICIPATION FOR EACH TRADE
From January 1, 1982 to Until Further Notice	From January 1, 1982 to Until Further Notice
21.7% - 23.5%	6.9%

The goals for minority and female utilization above are expressed in terms of hours of training and employment as a proportion of the total number of hours to be worked by the contractor's aggregate workforce, which includes all supervisory personnel, in each trade, on all projects for the City and County of Denver during the performance of its contract (i.e., The period beginning with the first day of work on the City and County of Denver funded construction contract and ending with the last day of work).

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract in each trade and minorities and females must be employed evenly on each of a contractor's projects. Therefore, the transfer of minority or female employees from contractor to contractor or from project to project for the purpose of meeting the contractor's goals shall be a violation of these Bid Conditions.

If the Contractor counts the nonworking hours of apprentices they must be employed by the Contractor during the training period; the Contractor must have made a commitment to employ apprentices at the completion of their training subject to the availability of employment opportunities; and the apprentices must be trained pursuant to training programs approved by the Bureau of Apprenticeship and Training.

* "Minority" is defined as including, Blacks, Spanish Surname Americans, Asian-Americans, and American Indians, and includes both men and minority women.

2. SPECIFIC AFFIRMATIVE ACTION STEPS:

No contractor shall be found to be in noncompliance solely on account of its failure to meet its goals, but will be given an opportunity to demonstrate that the contractor has instituted all the specific affirmative action steps specified and has made every good faith effort to make these steps work toward the attainment of its goals within the timetables, all to the purpose of expanding minority and female utilization in its aggregate workforce. A contractor, who fails to comply with its obligation under the Equal Opportunity Clause of its contract and fails to achieve its commitments to the goals for minority and female utilization has the burden of proving that it has engaged in an Affirmative Action Program directed at increasing minority and female utilization and that such efforts were at least as extensive and as specific as the following:

- a. The Contractor should have notified minority and female organizations when employment opportunities were available and should have maintained records of the organization's response.

- b. The Contractor should have maintained a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the Contractor, the reasons. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred, not employed by the Contractor, the file should have documented this and their reasons.
- c. The Contractor should have promptly notified the Department of Public Works, and the Division of Small Business Opportunity when the union or unions with which the Contractor has collective bargaining agreements did not refer to the contractor a minority or female sent by the contractor, or when the Contractor has other information that the union referral process has impeded efforts to meet its goals.
- d. The Contractor should have disseminated its EEO policy within its organization by including it in any employee handbook or policy manual; by publicizing it in company newspapers and annual reports and by advertising such policy at reasonable intervals in union publications. The EEO policy should be further disseminated by conducting staff meetings to explain and discuss the policy; by posting of the policy; and by review of the policy with minority and female employees.
- e. The Contractor should have disseminated its EEO policy externally by informing and discussing it with all recruitment sources; by advertising in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.
- f. The Contractor should have made both specific and reasonably recurrent written and oral recruitment efforts. Such efforts should have been directed at minority and female organizations, schools with substantial minority and female enrollment, and minority and female recruitment and training organizations within the Contractor's recruitment area.
- g. The Contractor should have evidence available for inspection that all tests and other selection techniques used to select from among candidates for hire, transfer, promotion, training, or retention are being used in a manner that does not violate the OFCCP Testing Guidelines in 41 CFR Part 60-3.
- h. The Contractor should have made sure that seniority practices and job classifications do not have a discriminatory effect.
- i. The Contractor should have made certain that all facilities are not segregated by race.
- j. The Contractor should have continually monitored all personnel activities to ensure that its EEO policy was being carried out including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.
- k. The Contractor should have solicited bids for subcontracts from available minority and female subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority and female contractor associations.

NOTE: The Director and the Division of Small Business Opportunity will provide technical assistance on questions pertaining to minority and female recruitment sources, minority and female community organizations, and minority and female news media upon receipt of a request for assistance from a contractor.

3. NON - DISCRIMINATION:

In no event may a contractor utilize the goals and affirmative action steps required in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex, marital status, national origin, age, mental or physical handicap, political opinion or affiliation.

4. COMPLIANCE AND ENFORCEMENT:

In all cases, the compliance of a contractor will be determined in accordance with its obligations under the terms of these Bid Conditions. All contractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors in writing of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority and female employment and training.

A. CONTRACTORS SUBJECT TO THESE BID CONDITIONS:

In regard to these Bid Conditions, if the Contractor meets the goals set forth therein or can demonstrate that it has made every good faith effort to meet these goals, the Contractor shall be presumed to be in compliance with Article III, Division 2 of Chapter 28 of the Revised Municipal Code, the implementing regulations and its obligations under these Bid Conditions. In the event, no formal sanctions or proceedings leading toward sanctions shall be instituted unless the contracting or administering agency otherwise determines that the contractor is violating the Equal Opportunity Clause.

1. Where the Division of Small Business Opportunity finds that a contractor failed to comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or the implementing regulations and the obligations under these Bid Conditions, and so informs the Manager, the Manager shall take such action and impose such sanctions, which include suspension, termination, cancellation, and debarment, as may be appropriate under the Ordinance and its regulations. When the Manager proceeds with such formal action it has the burden of proving that the Contractor has not met the goals contained in these Bid Conditions. The Contractor's failure to meet its goals shall shift to it the requirement to come forward with evidence to show that it has met the good faith requirements of these Bid Conditions.
2. The pendency of such proceedings shall be taken into consideration by the Department of Public Works in determining whether such contractor can comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and is therefore a "responsible prospective contractor".
3. The Division of Small Business Opportunity shall review the Contractor's employment practices during the performance of the contract, if the Division of Small Business Opportunity determines that the Contractor's Affirmative Action Plan is no longer an acceptable program, the Director shall notify the Manager.

B. OBLIGATIONS APPLICABLE TO CONTRACTORS:

It shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority or female employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act, as amended, Title VI of the Civil Rights Act of 1964, as amended, and Article III, Division 2 of Chapter 28 of the Revised Municipal Code. It is the policy of the Department of Public Works that contractors have a responsibility to provide equal employment opportunity, if they wish to participate in City and County of Denver contracts. To the extent they have delegated the responsibility for some of their employment practices to a labor organization and, as a result, are prevented from meeting their obligations pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, such Contractors cannot be considered to be in compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, or its implementing rules and regulations.

C. GENERAL REQUIREMENTS:

Contractors are responsible for informing their subcontractors in writing regardless of tier, as to their respective obligations. Whenever a Contractor subcontracts a portion of work in any trade covered by these Bid Conditions, **it shall include these Bid Conditions in such subcontracts and each subcontractor shall be bound by these Bid Conditions to the full extent as if it were the prime contractor.** The Contractor shall not, however, be held accountable for the failure of its subcontractors to fulfill their obligations under these Bid Conditions. However, the prime contractor shall give notice to the Director of any refusal or failure of any subcontractor to fulfill the obligations under these Bid Conditions. A subcontractor's failure to comply will be treated in the same manner as such failure by a prime contractor.

1. Contractors hereby agree to refrain from entering into any contract or contract modification subject to Article III, Division 2, Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who is determined not to be a "responsive" bidder for the City and County of Denver contracts pursuant to the Ordinance.
2. The Contractor shall carry out such sanctions and penalties for violation of these Bid Conditions and the Equal Opportunity Clause including suspension, termination and cancellation of existing subcontracts and debarment from future contracts as may be ordered by the Manager pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code and its implementing regulations.
3. Nothing herein is intended to relieve any contractor during the term of its contract from compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, and the Equal Opportunity Clause of its contract with respect to matters not covered in these Bid Conditions.
4. Contractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the Office of Contract Compliance.
5. Requests for exemptions from these Bid Conditions must be made in writing, with justification, to the Manager of Public Works, 201 W. Colfax, Dept. 608, Denver, Colorado 80202, and shall be forwarded through and with the endorsement of the Director.

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

**FEDERAL AID PROJECT NO. AQC M320 067
CITY OF DENVER CONTRACT NO. 201102839**

INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

CONTRACT

THIS CONTRACT AND AGREEMENT, made and entered into, by and between the City and County of Denver, a municipal corporation of the State of Colorado, hereinafter referred to as the "City," party of the first part, and

**Keene Concrete, Inc.
30263 County Road 8
Keenesburg, CO 80643**

hereinafter referred to as the "Contractor," party of the second part,

WITNESSETH, Commencing on **September 30, 2011**, and for at least three (3) days the City advertised that sealed bids would be received for furnishing all labor, tools, supplies, equipment, materials, and everything necessary and required for the following:

<p>FEDERAL AID PROJECT NO. AQC M320 067 CITY OF DENVER CONTRACT NO. 201102839 INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS</p>

WHEREAS, bids pursuant to said advertisement have been received by the Manager of Public Works, who has recommended that a Contract for said work be made and entered into with the above named Contractor who was the lowest, responsive, qualified bidder therefore, and

WHEREAS, said Contractor is now willing and able to perform all of said work in accordance with said advertisement and its bid.

NOW THEREFORE, in consideration of the compensation to be paid the Contractor, the mutual agreements hereinafter contained, and subject to the terms hereinafter stated, it is mutually agreed as follows:

1. CONTRACT DOCUMENTS

It is agreed by the parties hereto that the following list of documents, instruments, technical specifications, plans, drawings and other materials which are attached hereto and bound herewith, incorporated herein by reference or otherwise referenced in these documents constitute and shall be referred to either as the "Contract Documents" or the "Contract," and all of said documents, instruments, technical specifications, Plans, Drawings and other materials taken together as a whole constitute the Contract between the parties hereto, and they are as fully a part of this agreement as if they were set out verbatim and in full herein:

*Advertisement of Notice of Invitation for Bids
Instructions to Bidders
Bid Bond
Addenda (as applicable)
DBE Documents
Equal Employment Opportunity Provisions (Appendices A, B, E and F)
Bid Form
Commitment to DBE Participation
Contract Form
General Contract Conditions*

Special Contract Conditions
Performance and Payment Bond
Notice to Apparent Low Bidder
Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Certificate of Contract Release
Change Orders (as applicable)
Federal Requirements (as applicable)
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings

2. SCOPE OF WORK

The Contractor agrees to and shall furnish all labor, tools, supplies, equipment, materials and everything necessary for and required to do, perform and complete all of the Work described, drawn, set forth, shown and included in said Contract Documents.

3. TERMS OF PERFORMANCE

The Contractor agrees to undertake the performance of the Work under this Contract within ten (10) days after being notified to commence work by issuance of a Notice to Proceed in substantially the form contained herein from the Manager and agrees to fully complete said Work within **273 (Two Hundred Seventy Three Days)** consecutive calendar days from the effective date of said Notice, plus such extension or extensions of time as may be granted in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

4. TERMS OF PAYMENT

The City agrees to pay the Contractor for the performance of all of the Work required under this Contract, and the Contractor agrees to accept as the Contractor's full and only compensation therefore, such sum or sums of money as may be proper in accordance with the price or prices set forth in the Contractor's Bid Form hereto attached and made a part hereof for **bid item numbers 201-00000 through 700-70589 (Sixty-Two [62]) total bid items, the total estimated cost thereof being: Eight Hundred Fourteen Thousand Eight Hundred Ninety Seven Dollars and Twenty Four Cents (\$814,897.24).** Adjustments to said Contract Amount and payment of amounts due hereunder shall be made in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

5. NO DISCRIMINATION IN EMPLOYMENT

In connection with the performance of the Work under this Contract, the Contractor agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and the Contractor further agrees to insert the foregoing provision in all subcontracts hereunder.

6. DBE AND EQUAL OPPORTUNITY REQUIREMENTS

The Contractor agrees to comply with all requirements of the City's Equal Employment Opportunity program and the Federal Disadvantaged Business Enterprise Participation program as set out in Article III, Division 2, Chapter 28 of the Denver Revised Municipal Code, and any rules, regulations and guidelines set forth thereunder for such programs. This compliance shall include the obligation to maintain throughout the term of the contract that level of DBE participation upon which the Contract was initially awarded, unless otherwise authorized by the law or any rules, regulations or guidelines.

7. WAGE RATE REQUIREMENTS

In performance of all Work hereunder, the Contractor agrees to comply with and be bound by all requirements and conditions of the City's Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, D.R.M.C. and any determinations made by the City pursuant thereto.

8. APPLICABILITY OF LAWS

The Agreement between the Contractor and the City shall be deemed to have been made in the City and County of Denver, State of Colorado and shall be subject to, governed by, and interpreted and construed by or in accordance with the laws of the State of Colorado and the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City. As such, the Contractor shall at all times comply with the provisions of the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City, and those State of Colorado and Federal Laws, Rules and Regulations, which in any manner limit, control or apply to the actions or operations of the Contractor, any subcontractors, employees, agents or servants of the Contractor engaged in the Work or affecting the materials and equipment used in the performance of the Work, as the same may be, from time to time, promulgated, revised or amended. The Charter and Revised Municipal Code of the City and County of Denver, as the same may be amended from time to time, are hereby expressly incorporated into this Agreement as if fully set out herein by this reference.

9. APPROPRIATION

The amount of money which has been appropriated and encumbered for the purpose of this contract, to date, is equal to or in excess of the Contract Amount. The Manager, upon reasonable written request, will advise the Contractor in writing of the total amount of appropriated and encumbered funds which remain available for payment for all Work under the Contract.

The issuance of any change order or other form or order or directive by the City which would cause the aggregate payable under the contract to exceed the amount appropriated for the contract is expressly prohibited. In no event shall the issuance of any change order or other form of order or directive by the City be considered valid or binding if it requires additional compensable work to be performed, which work will cause the aggregate amount available under the Contract to exceed the amount appropriated and encumbered for this Contract, unless and until such time as the Contractor has been advised in writing by the Manager that a lawful appropriation, sufficient to cover the entire cost of such additional work, has been made.

It shall be the responsibility of the Contractor to verify that the amounts already appropriated for this Contract are sufficient to cover the entire cost of such work, and any work undertaken or performed in excess of the amount appropriated is undertaken or performed in violation of the terms of this contract, without the proper authorization for such work, and at the Contractor's own risk.

10. APPROVALS

In the event this Contract calls for the payment by the City of five hundred thousand dollars (\$500,000.00) or more, approval by the Board of Councilmen of the City and County of Denver, acting by ordinance, in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and effect and performance of this contract.

11. ASSIGNMENT

The Contractor shall not assign any of its rights, benefits, obligations or duties under this Contract except upon the prior written consent and approval of the Manager City to such assignment.

12. DISPUTES RESOLUTION PROCESS

It is the express intention of the parties to this Contract that all disputes of any nature whatsoever regarding the Contract including, but not limited to, any claims for compensation or damages arising out of breach or default under this Contract, shall be resolved by administrative hearing pursuant to the provisions of Section 56-106, D.R.M.C. The Contractor expressly agrees that this dispute resolution process is the only dispute resolution mechanism that will be recognized by the parties for any claims put forward by the Contractor, notwithstanding any other claimed theory of entitlement on the part of the Contractor or its subcontractors or suppliers.

13. CONTRACT BINDING

It is agreed that this Contract shall be binding on and inure to the benefit of the parties hereto, their heirs, executors, administrators, assigns and successors.

14. PARAGRAPH HEADINGS

The captions and headings set forth herein are for convenience of reference only and shall not be construed so as to define or limit the terms and provisions hereof.

15. SEVERABILITY

It is understood and agreed by the parties hereto that, if any part, term, or provision of this Contract, except for the provisions of this Contract requiring prior appropriation and limiting the total amount to be paid by the City, is by the courts held to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular part, term or provision held to be invalid.

16. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS:

Contractor consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

IN WITNESS WHEREOF, the parties have executed this agreement and affixed their seals at Denver, Colorado as of the day first above written.

Contract Control Number: 201102839

Vendor Name: KEENE CONCRETE, INC.

By: _____

Name: _____
(please print)

Title: _____
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By _____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By _____

By _____

By _____



IN WITNESS WHEREOF, the parties have executed this agreement and affixed their seals at Denver, Colorado as of the day first above written.

Contract Control Number: 201102839

Vendor Name: KEENE CONCRETE, INC.

By: Chris C Bailey

Name: Chris C. Bailey
(please print)

Title: President
(please print)

ATTEST: [if required]

By: Gail Darnell

Name: Gail Darnell
(please print)

Title: Secretary / Treasurer
(please print)



**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

Construction Contract General Conditions

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CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

SPECIAL CONTRACT CONDITIONS

SC-1 CONSTRUCTION SPECIFICATIONS

Except as amended herein or in the attached Technical Specifications, all Work performed under the terms of this Contract shall be governed by the applicable provisions of the following latest editions:

City and County of Denver:

Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS,
(The Index for which is bound herein and commonly referred to as the "Orange Book")
(1999 Edition)

Transportation Standards and Details for the Engineering Division

City and County of Denver Traffic Standard Drawings

Wastewater Management Division
– *Standard Detail Drawings*

– *Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications*

Colorado Department of Transportation:

Standard Specifications for Road and Bridge Construction
(Sections 200 through 700 of the 2011 Edition)

Federal Highway Administration:

Manual on Uniform Traffic Control Devices for Streets & Highways (MUTCD)

Building & Fire Codes:

Building Code of the City and County of Denver
(International Building Code 2006 Series, City and County of Denver Amendments 2006)

National Fire Protection Association Standards
(As referenced in the Building Code of the City and County of Denver)

The aforementioned City and County of Denver documents are available for review at the Capital Projects Management Office, 201 W. Colfax Ave., Dept. 506, (5th floor), Denver, CO 80202. The *Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS* is available for purchase at the Cashier, 2nd floor at 201 W. Colfax Ave., Denver, Colorado 80202. *Transportation Standards and Details for the Engineering Division* and the Wastewater Management Division – *Standard Detail Drawings*, are available at <http://www.denvergov.org>.

The “*Colorado Department of Transportation Standard Specifications for Road and Bridge Construction*” is available for review on CDOT’s website at <http://www.coloradodot.info/> and can be purchased from the Colorado Department of Transportation.

The *Manual on Uniform Traffic Control Devices for Streets & Highways* is available for review at the Federal Highway Administration Website at: www.fhwa.dot.gov, The FHWA website also contains purchasing information.

SC-2 CONSTRUCTION DOCUMENTS

The construction documents consist of Plans, Drawings and Technical Specifications as identified in the Index for Contract Drawings, the Index for Technical Specifications and any additional Plans attached hereto.

SC-3 ENGINEERING DIVISION / CITY ENGINEER

General Condition 206, TRANSPORTATION DIVISION, is modified as follows:

The Engineering Division is a unit of the Department of Public Works and is supervised by the City Engineer, who is subordinate to the Manager of Public Works. This Division is responsible for the planning, design, construction, operation and maintenance of all of the City’s transportation facilities and the planning, design and construction of all of the City’s wastewater facilities, except for the City’s Municipal Airport System. All references to the Transportation Division or the Deputy Manager of Public Works for Transportation are deleted and replaced with references to the Engineering Division and City Engineer, respectively.

SC-4 CITY DELEGATION OF AUTHORITY

With reference to General Contract Condition 109, DEPUTY MANAGER, General Contract Condition 206, ENGINEERING DIVISION and General Contract Condition 214, CITY’S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager hereby designates the City Engineer (the “Director”) as the City official responsible for those certain actions and decisions designated as the responsibility of the Deputy Manager under the General Conditions and delegates to the Director the authority necessary to undertake those responsibilities under this Contract. The Director shall have supervisory responsibility over the Project Manager. Additionally, Contractor questions concerning the Plans and Technical Specifications shall be directed to:

Denver Department of Public Works /Engineering Division,

<u>Project Manager</u>	<u>Name</u>	<u>Telephone</u>
City Project Manager	Kim D. Blair	(720) 865-3141
 <u>Consultant</u>	 <u>Name</u>	 <u>Telephone</u>
Hartwig & Associates	Chau T. Nguyen, P.E.	(720) 733-1821

SC-5 LIQUIDATED DAMAGES

Should the Contractor fail to complete all Work within the Contract Time allocated under the Contract Form at Paragraph 3, TERMS OF PERFORMANCE, the Contractor shall become liable to the City and County of Denver for liquidated damages, and not as a penalty, at the rate of **\$500.00** for each Day that the Contractor exceeds the time limits herein specified, all in accordance with provisions of General Contract Condition 602, LIQUIDATED DAMAGES; ADMINISTRATIVE COSTS; ACTUAL DAMAGES.

Representative hourly rates for the City administrative costs described in General Contract Condition 602.2 shall be as follows for this Project:

Project Manager	\$69 per hour
Project Engineer	\$63 per hour
Inspector	\$49 per hour
Surveying, if necessary	\$100 per hour

SC-6 SUBCONTRACTS

In accordance with General Contract Condition 501, SUBCONTRACTS no limit shall apply to that percentage of the Work which may be sublet providing that the subcontractors receive prior approval in accordance with General Contract Condition 502, SUBCONTRACTOR ACCEPTANCE.

SC-7 PAYMENTS TO CONTRACTORS

In accordance with General Contract Condition 902, PAYMENT PROCEDURE, the party(ies) responsible for review of all Pay Applications shall be:

<u>Agency/Firm</u>	<u>Name</u>	<u>Telephone</u>
Public Works/Transportation/City Engineer	Augie Maestas	(720) 913-4529

In accordance with General Contract Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:

1. The estimate of Work completed shall be based on the approved schedule of values or unit prices, as applicable, and the percent of the Work complete.
2. Each such estimate of Work completed shall specifically identify those DBE Subcontractors or Suppliers that the Contractor is utilizing on the Project pursuant to the requirements of 49 C.F.R., Part 23.
3. The Contractor shall also submit to the Auditor and other appropriate officials of the City in a timely fashion, information required by General Contract Condition 1004, REPORTING WAGES PAID.

In accordance with General Contract condition 907, RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT, Applications for Payment must be accompanied by completed Partial or Final Claim Release Form, as appropriate, from EACH subcontractor and supplier, OR the Contractors' Certification of Payment Form. The forms, Final/Partial Release and Certificate of Payment (Subcontractor/Supplier) and the Contractor's Certification of Payment, either of which must be used are attached hereto.

SC-8 RESERVED

SC-9 CONSTRUCTION INSPECTION BY THE CITY

General Condition 1701, AUTHORITY OF INSPECTORS, is modified as follows:

1701.1 Persons who are employees of the City or who are under contract to the City or the City as lessee will be assigned to inspect and test the Work. These persons may perform any tests and observe the Work to determine whether or not designs, materials used, manufacturing and construction processes and methods applied, and equipment installed satisfy the requirements of the drawings and specifications, accepted Shop Drawings, Product Data and Samples, and the General Contractor's warranties and guarantees. The General Contractor shall permit these inspectors unlimited access to the Work and provide means of safe access to the Work, which cost shall be included as a Cost of the Work without any increase to the Guaranteed Maximum Price. In addition, General Contractor shall provide whatever access and means of access are needed to off-site facilities used to store or manufacture materials and equipment to be incorporated into the Work and shall respond to any other reasonable request to further the inspector's ability to observe or complete any tests. Such inspections shall not relieve the General Contractor of any of its quality control responsibilities or any other obligations under the Contract. All inspections and all tests conducted by the City are for the convenience and benefit of the City. These inspections and tests do not constitute acceptance of the materials or Work tested or inspected, and the City may reject or accept any Work or materials at any time prior to the inspections pursuant to G.C. 2002, whether or not previous inspections or tests were conducted by the inspector or a City representative.

.2 The Building Inspection Division will perform building code compliance inspections for structures designed for human occupancy. It is the General Contractor's responsibility to schedule and obtain these inspections. If a code compliance inspection results in identification of a condition which will be at variance to the Contract Documents, the General Contractor shall immediately notify the Project Manager and confirm such notification with formal correspondence no later than forty-eight (48) hours after the occurrence.

.3 When any unit of government or political subdivision, utility or railroad corporation is to pay a portion of the cost of the Work, its respective representatives shall have the right to inspect the Work. This inspection shall not make any unit of government or political subdivision, utility or railroad corporation a party to the Contract, and shall not interfere with the rights of either party.

SC-10 DISPOSAL OF NON-HAZARDOUS WASTE AT DADS

In accordance with the Landfill Agreement made between the City and Waste Management of Colorado, Inc., bidders will be required to haul dedicated loads (non-hazardous entire loads of waste) to the Denver-Arapahoe Disposal Site (“DADS”) for disposal. DADS is located at Highway 30 and Hampden Avenue in Arapahoe County, Colorado. The City will pay all fees associated with such disposal but the bidder shall be responsible for the costs of transporting the loads. Non-hazardous waste is defined as those substances and materials not defined or classified as hazardous by the Colorado Hazardous Waste Commission pursuant to C.R.S. §25-15-101(6), as amended from time to time, and includes construction debris, soil and asbestos. Bidders shall not use Gun Club Road between I-70 and Mississippi Avenue as a means of access to DADS.

SC-11 PROHIBITION ON USE OF CCA-TREATED WOOD PRODUCTS

The use of any wood products pressure-treated with chromated copper arsenate (CCA) is prohibited. Examples of CCA-treated wood products include wood used in play structures, decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.

SC-12 DEBARRED SUBCONTRACTORS PROHIBITED

The Contractor is prohibited from hiring any subcontractor that is currently debarred by the City in accordance with section 20-77 of the Denver Revised Municipal Code.

SC-13 TERMINOLOGY

Terminology used in Colorado Department of Transportation (CDOT) Standards and Specifications and City and County of Denver (CCD) Standards and Specifications may differ but shall be considered interchangeable where appropriate. Examples are Department of Public Works (CCD) and Department (CDOT), Project Manager (CCD) and Engineer (CDOT), Traffic Maintenance Plan (CCD) and Traffic Control Plan (CDOT).

SC-14 TECHNICAL SPECIFICATIONS

Section 106 of the CDOT Standard Specifications is hereby incorporated into this contract except where conflicts exist between Section 106 and the General Contract Conditions or Special Contract Conditions. Where conflicts exist, the General Contract Conditions or Special Contract Conditions shall govern.

SC-15 MODIFICATION TO GENERAL CONTRACT CONDITION 405

General Contract Condition 405 is hereby revised for this project as follows:

G.C. 405.2 shall include the following:

Shop Drawings shall be submitted in accordance with Section 105.02 of the CDOT Standard Specifications. Any work performed by the Contractor prior to receipt of approved shop drawings is at the sole risk of the Contractor.

SC-16 MODIFICATION TO GENERAL CONTRACT CONDITION 809

General Contract Condition 809 is hereby revised for this project as follows:

Add G.C. 809.3 as follows:

.3 Fossils may be uncovered during excavation for the project. The Colorado Department of Transportation will furnish a paleontologist to monitor project excavations. The Contractor shall notify the Engineer at least five working days prior to the start of excavation operations to allow for scheduling of the monitor. The paleontologist, Mr. Steve Wallace, can be contacted at (303) 757-9632.

If fossils are encountered, they will be evaluated and, if deemed important, removed prior to further excavation. When directed, the Contractor shall excavate the site in such manner as to preserve the fossils uncovered and shall remove them as directed by the Engineer.

SC-17 FEDERAL REQUIREMENTS

This Project is funded, in whole or in part, by federal funding made available through the Federal Highway Administration (“FHWA”) and administered by the Colorado Department of Transportation (“CDOT”). As such, performance under this contract is subject to certain “Federal Requirements” contained or referenced in Attachment A to this contract, attached hereto and incorporated herein by this reference. The Contractor shall thoroughly review and shall strictly comply with all Federal Requirements in performing its Work under this contract.

SC-18 ATTORNEY’S FEES

Colorado Revised Statute 38-26-107 requires that in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to the Contractor sufficient funds to insure the payment of any such claims. Should the City and County of Denver be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, the Contractor agrees to pay to the City its costs and a reasonable attorney's fee which cost shall be included as a Cost of the Work.

Because the City Attorney Staff does not bill the City for legal services on an hourly basis, the Contractor agrees a reasonable fee shall be computed at the rate of one hundred dollars per hour of City Attorney time.

SC-19 CONTRACT FORMS

In accordance with the terms and conditions of the Contract Documents, the City requires the use of certain form documents in complying with or satisfying various obligations, notifications and conditions in contracting with the City or performing Work hereunder. These form documents are referenced by title throughout the Contract Documents for mandatory use as directed. The following are the forms that shall be detached and utilized in accordance with the Contract Documents:

1. Performance and Payment Bond
2. Performance and Payment Bond Surety Authorization Letter (Sample)

The following are forms that will be issued by the City during construction:

1. Notice to Apparent Low Bidder (Sample)
2. Notice to Proceed (Sample)
3. Certificate of Contract Release (Sample)

SC 20: INSURANCE

General Condition 1601 is hereby deleted in its entirety and replaced with the following:

(1) **General Conditions:** Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for eight (8) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement stating "Should any of the above-described policies be canceled or non-renewed before the expiration date thereof, the issuing company shall send written notice to Denver Risk Management, 201 West Colfax Avenue, Dept. 1105, Denver, Colorado 80202. Such written notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior." Additionally, Contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the address above by certified mail, return receipt requested. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

(2) **Proof of Insurance:** Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverage. Contractor certifies that the certificate of insurance attached as part of the Contract Documents, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

(3) **Additional Insureds:** For Commercial General Liability, Auto Liability, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

(4) **Waiver of Subrogation:** For all coverages, Contractor's insurer shall waive subrogation rights against the City.

(5) **Subcontractors and Subconsultants:** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include

all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

(6) **Workers' Compensation/Employer's Liability Insurance:** Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Contractor expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.

(7) **Commercial General Liability:** Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

(8) **Business Automobile Liability:** Contractor shall maintain Business Automobile

Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement

(9) **Additional Provisions:**

(a) For Commercial General Liability the policies must provide the following:

- (i) That this Agreement is an Insured Contract under the policy;
- (ii) Defense costs in excess of policy limits;
- (iii) A severability of interests, separation of insureds or cross liability provision; and
- (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.

(b) For claims-made coverage:

- (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier

(c) Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

SC-21 DEFENSE AND INDEMNIFICATION

General Condition 1602, INDEMNIFICATION, is modified to read in full as follows:

DEFENSE AND INDEMNIFICATION

- (a) To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify, and hold harmless City, its appointed and elected officials, agents and employees against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or related to the work performed under this Contract that are due to the negligence or fault of the Contractor or the Contractor's agents, representatives, subcontractors, or suppliers ("Claims"). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.
- (b) Contractor's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Contractor is not named as a Defendant.
- (c) Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.
- (d) Insurance coverage requirements specified in this Contract shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.

- (e) This defense and indemnification obligation shall survive the expiration or termination of this Contract.

SC-22 GREENPRINT DENVER REQUIREMENTS

In accordance with the City and County of Denver Executive Order 123: Greenprint Denver Office and Sustainability Policy (dated October 27, 2007), and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program, Contractor shall, wherever possible, recycle construction and demolition waste, and install building materials that contain recycled content. Non-hazardous solid waste that is eligible for reuse or recycling is not subject to the DADS disposal requirement defined in SC-10. The Contractor shall recycle and/or reuse construction and demolition waste and implement sustainable development practices on construction projects in compliance with any Project Requirements of the Better Denver Program Sustainability Form that are included in the Contract Documents.

At the Project Pre-Construction Meeting, the Contractor shall provide a written summary of how the Contractor intends to meet any applicable Project Requirement, and the type of documentation to be provided. The Contractor shall maintain and keep current documentation of the materials recycled or reused, organized in accordance with any applicable Closeout Form for Contractors provided in the Contract Documents for the duration of the Project. A copy of the completed Closeout Form, the quantity tabulation, and all supporting documentation for materials reused or recycled shall be delivered to the Project Manager as a submittal requirement of Final Acceptance.

SC-23 CITY AUDITOR AND MANAGER OF FINANCE

Section 211, City Auditor, of the General Contract Conditions, 1999 Edition, is amended to read in its entirety as follows:

211 CITY AUDITOR AND MANAGER OF FINANCE

The City Auditor, an independent elected official, reviews certified payrolls for compliance with prevailing wage requirements before payment is made to a Contractor. The City's Manager of Finance pays the Contractor for Work approved under the Contract.

SC-24 NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE AGREEMENT:

a. This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal Code, and any amendments (the "Certification Ordinance").

b. The Contractor certifies that:

- (1) At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement.
- (2) It will participate in the E-Verify Program, as defined in § 8-17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement.

c. The Contractor also agrees and represents that:

- (1) It shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.
- (2) It shall not enter into a contract with a subconsultant or subcontractor that fails to certify to the Contractor that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.
- (3) It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in the E-Verify Program.
- (4) It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Contractor to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.
- (5) If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Contractor will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal

alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien.

- (6) It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S., or the City Auditor, under authority of D.R.M.C. 20-90.3.

d. The Contractor is liable for any violations as provided in the Certification Ordinance. If Contractor violates any provision of this section or the Certification Ordinance, the City may terminate this Agreement for a breach of the Agreement. If the Agreement is so terminated, the Contractor shall be liable for actual and consequential damages to the City. Any such termination of a contract due to a violation of this section or the Certification Ordinance may also, at the discretion of the City, constitute grounds for disqualifying Contractor from submitting bids or proposals for future contracts with the City.

SC-25 RETAINAGE

Section 908.1, Retainage, of the General Contract Conditions, 1999 Edition, is amended to read in its entirety as follows:

908 Retainage

.1 The City shall deduct and retain a total of five percent (5%) from the total amount of approved applications for payment, including Change Orders. The City may also deduct in addition to retainage as stated above, the additional amount(s) of any and all outstanding claims pursuant to CRS §38-26-107 from each approved application for payment.

SC-26 CDOT WARRANTIES EXEMPTION

General Contract Conditions 1801 and 1802 concerning warranties and guarantees are hereby deleted in their entirety.

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CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS

Bond No. 2148336

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Keene Concrete, Inc., 30263 County Road 8, Keenesburg, 80643, a corporation organized and existing under and by virtue of the laws of the State of Colorado, hereafter referred to as the "Contractor", and North American Specialty Insurance Company, a corporation organized and existing under and by virtue of the laws of the State of New Hampshire, and authorized to transact business in the State of Colorado, as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "City", in the penal sum of Eight Hundred Fourteen Thousand Eight Hundred Ninety Seven Dollars and Twenty Four Cents (\$814,897.24), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves and our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden Contractor has entered into a written contract with the aforesaid City for furnishing all labor and tools, supplies, equipment, superintendence, materials and everything necessary for and required to do, perform and complete the construction of **CONTRACT NO. 201102839, FEDERAL PROJECT NO: AQC M320 067, INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**, Denver, Colorado, and has bound itself to complete the project within the time or times specified or pay liquidated damages, all as designated, defined and described in the said Contract and Conditions thereof, and in accordance with the Plans and Technical Specifications therefore, a copy of said Contract being made a part hereof;

NOW, THEREFORE, if the said Contractor shall and will, in all particulars well and truly and faithfully observe, perform and abide by each and every Covenant, Condition and part of said Contract, and the Conditions, Technical Specifications, Plans, and other Contract Documents thereto attached, or by reference made a part thereof and any alterations in and additions thereto, according to the true intent and meaning in such case, then this obligation shall be and become null and void; otherwise, it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor shall satisfy all claims and demands incurred by the Contractor in the performance of said Contract, and shall fully indemnify and save harmless the City from all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising from any act, omission, or neglect of said Contractor, its agents, or employees with relation to said work; and shall fully reimburse and repay to the City all costs, damages, and expenses which it may incur in making good any default based upon the failure of the Contractor to fulfill its obligation to furnish maintenance, repairs or replacements for the full guarantee period provided in the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if said Contractor shall at all times promptly make payments of all amounts lawfully due to all persons supplying or furnishing it or its subcontractors with labor and materials, rental machinery, tools or equipment used or performed in the prosecution of work provided for in the above Contract and that if the Contractor will indemnify and save harmless the City for the extent of any and all payments in connection with the carrying out of such Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, gasoline, lubricating oils, fuel oils, grease, coal, or any other supplies or materials used or consumed by said Contractor or its subcontractors in performance of the work contracted to be done, or fails to pay any person who supplies rental machinery, tools or equipment, all amounts due as the result of the use of such machinery, tools or equipment in the prosecution of the work, the Surety will pay the same in any amount not exceeding the amount of this obligation, together with interest as provided by law;

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 contracts with others in connection with this project, or the work to be performed thereunder, or the Technical Specifications and Plans accompanying the same, shall in any way affect its obligation on this bond and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or contracts, or to the work, or to the Technical Specifications and Plans.

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this _____ day of _____, 20__.

Attest:

Gail Darnell
Secretary
Gail Darnell

Keene Concrete, Inc
Contractor

By: Chris C. Bailey
President
Chris C. Bailey

North American Specialty Insurance Company
Surety

By: Susan J. Lattarulo
Attorney-In-Fact
Susan J. Lattarulo

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond).

APPROVED AS TO FORM:
Attorney for the City and County of Denver

By: _____
Assistant City Attorney

APPROVED FOR THE CITY AND COUNTY OF
DENVER

By: Cy King
MAYOR
ACTING MAYOR

By: Robert A. Korhonen
MANAGER OF PUBLIC WORKS

NAS SURETY GROUP

NORTH AMERICAN SPECIALTY INSURANCE COMPANY
WASHINGTON INTERNATIONAL INSURANCE COMPANY

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT North American Specialty Insurance Company, a corporation duly organized and existing under laws of the State of New Hampshire, and having its principal office in the City of Manchester, New Hampshire, and Washington International Insurance Company, a corporation organized and existing under the laws of the State of New Hampshire and having its principal office in the City of Schaumburg, Illinois, each does hereby make, constitute and appoint:

DONALD E. APPLEBY, GLORIA C. BLACKBURN, FLORIETTA ACOSTA, DILYNN GUERN, ANNE E. HILL, SARAH BROWN, KEVIN W. McMAHON, J.R. RICHARDS, SUSAN J. LATTARULO, TIFFANY McGONIGLE and MARK SWEIGART

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

FIFTY MILLION (\$50,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both North American Specialty Insurance Company and Washington International Insurance Company at meetings duly called and held on the 24th of March, 2000:

RESOLVED, that any two of the Presidents, any Managing Director, any Senior Vice President, any Vice President, any Assistant Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Company; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Company when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached.



By [Signature] Steven P. Anderson, President & Chief Executive Officer of Washington International Insurance Company & Senior Vice President of North American Specialty Insurance Company



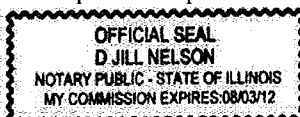
By [Signature] David M. Layman, Senior Vice President of Washington International Insurance Company & Vice President of North American Specialty Insurance Company

IN WITNESS WHEREOF, North American Specialty Insurance Company and Washington International Insurance Company have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers this 19th day of September, 2011.

North American Specialty Insurance Company
Washington International Insurance Company

State of Illinois
County of Cook ss:

On this 19th day of September, 2011, before me, a Notary Public personally appeared Steven P. Anderson, President and CEO of Washington International Insurance Company and Senior Vice President of North American Specialty Insurance Company and David M. Layman, Senior Vice President of Washington International Insurance Company and Vice President of North American Specialty Insurance Company, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.



[Signature] D. Jill Nelson, Notary Public

I, James A. Carpenter, the duly elected Assistant Secretary of North American Specialty Insurance Company and Washington International Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said North American Specialty Insurance Company and Washington International Insurance Company, which is still in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this ___ day of ___, 20__.

[Signature]

James A. Carpenter, Vice President & Assistant Secretary of Washington International Insurance Company & North American Specialty Insurance Company

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
01/12/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Willis of Colorado, Inc. 720 South Colorado Boulevard Suite 600N Denver, CO 80246	CONTACT NAME: PHONE (A/C, No, Ext): 303 722-7776 FAX (A/C, No): 303-722-8862	
	E-MAIL ADDRESS:	
INSURED Keene Concrete, Inc. 30263 WCR 8 Keenesburg, CO 80643	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Valley Forge Insurance Company	NAIC # 20508
	INSURER B: Continental Casualty Company	20443
	INSURER C: Pinnacol Assurance	41190
	INSURER D: OneBeacon American Insurance Co	20621
	INSURER E: National Fire Ins. Company of H	20478
INSURER F:		


COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY	X	4016649922	06/01/2011	06/01/2012	EACH OCCURRENCE \$1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence) \$300,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR					MED EXP (Any one person) \$5,000
	G-140331-C 10-10					PERSONAL & ADV INJURY \$1,000,000
GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$2,000,000
<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC						PRODUCTS - COMP/OP AGG \$2,000,000
Limited						\$1,000,000 occ
Jobsite						
Pollution						
E	AUTOMOBILE LIABILITY		4016649919	06/01/2011	06/01/2012	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000
	<input checked="" type="checkbox"/> ANY AUTO					BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS					BODILY INJURY (Per accident) \$
	<input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident) \$
	<input checked="" type="checkbox"/> Physical Dmg <input type="checkbox"/> ACV less Ded.					\$
B	UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR	4016649905	06/01/2011	06/01/2012	EACH OCCURRENCE \$4,000,000
	EXCESS LIAB					AGGREGATE \$4,000,000
	DED <input checked="" type="checkbox"/> RETENTION \$10,000					\$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	Y/N	4030100	06/01/2011	06/01/2012	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE/OFFICER/MEMBER EXCLUDED? (Mandatory in NH)					E.L. EACH ACCIDENT \$500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below					E.L. DISEASE - EA EMPLOYEE \$500,000
	N/A					E.L. DISEASE - POLICY LIMIT \$500,000
D	Leased/Rented Eq.		7900098030000	06/01/2011	06/01/2012	\$100,000 Limit
	Owned Equipment					ACV
\$1,000 Deductible						

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Project Description: Inca St Bike/Pedestrian Bridge over 38th Ave Underpass
Federal Aid Project Number: AQC M320 067; City of Denver Contract #201102839

The City and County of Denver, its elected and appointed officials, employees and volunteers are named as additional insured with regards to the commercial general liability policy and the the business auto liability policy

CERTIFICATE HOLDER City and County of Denver Department of Public Works 201 W. Colfax Dept 611 Denver, CO 80202	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

FAX NUMBER: 720-913-3183
TELEPHONE NUMBER: 720-913-3267

City Attorney
City and County of Denver
201 West Colfax Avenue, Dept. 1207
Denver, Colorado 80202

RE: Keene Concrete, Inc.
Project Name: Inca St. Bike/Ped Bridge over 38th Ave Underpass
Amount: \$814,897.24
Performance and Payment Bond No.: 2148336

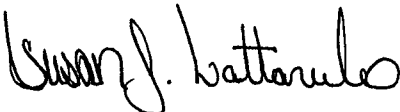
The Performance and Payment Bonds covering the above captioned project were executed by this agency through North American Specialty Insurance Company, on January 11, 2012.

We hereby authorize the City and County of Denver, Department of Public Works, to date all bonds and powers of attorney to coincide with the date of the contract.

If you should have any additional questions or concerns, please don't hesitate to give me a call.

Thank you.

Sincerely,



Susan J. Lattarulo
Account Manager



**PERFORMANCE AND PAYMENT BOND
SURETY AUTHORIZATION
(SAMPLE)**

FAX NUMBER: 720-913-3183
TELEPHONE NUMBER: 720-913-3267

Assistant City Attorney
201 W. Colfax Avenue, Dept. 1207
Denver, Colorado 80202

RE: (Company name)

Contract No: **201102839**
Federal Project No. **AQC M320 067**
Project Name: **INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS**
Contract Amount:
Performance and Payment Bond No.:

Dear Assistant City Attorney,

The Performance and Payment Bonds covering the above captioned project were executed by this agency, through _____ insurance company, on _____, 20__.

We hereby authorize the City and County of Denver, Department of Public Works, to date all bonds and powers of attorney to coincide with the date of the contract.

If you should have any additional questions or concerns, please don't hesitate to give me a call at _____.

Thank you.

Sincerely,





NOTICE OF APPARENT LOW BIDDER
(SAMPLE)

Date

To:

Gentlemen:

The MANAGER OF PUBLIC WORKS has considered the Bids submitted on November 10, 2011 for work to be done and materials to be furnished in and for:

PROJECT No. 201102839 INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

as set forth in detail in the Contract Documents for the City and County of Denver, Colorado. It appears that your Bid is fair, equitable, and to the best interest of the City and County; therefore, said Bid is hereby accepted at the bid price contained herein, subject to execution of the Contract Documents and your furnishing the items specified below, the total cost thereof (Contract Amount Written), (Contract Amount Numeric).

It will be necessary for you to appear forthwith at the office of the Department of Public Works, Engineering Division, Project Management Office, 201 W. Colfax Ave., Dept 506, Denver, Colorado 80202, to receive the said Contract Documents, execute the same and return them to the Department of Public Works, Engineering Division, Project Management Office within the time limit set forth in the Bid Proposal.

In accordance with the requirements set forth in the Contract Documents, you are required to furnish the following documents:

- a. One original plus four copies of the Power of Attorney relative to Performance and/or Payment Bond; and,
- b. One copy of listing of subcontractors showing items of work each sub-contractor will perform and the percent of total work.
- c. Accurate ACORD Certificate of Insurance

All construction Contracts made and entered into by the City and County of Denver are subject to Affirmative Action and Equal Opportunity Rules and Regulations, as adopted by the Manager of Public Works, and each contract requiring payment by the City of one-half million dollars (\$500,000.00) or more shall first be approved by the City Council acting by ordinance and in accordance with Section 3.2.6 of the Charter of the City and County of Denver.

Prior to issuance of Notice to Proceed, all Equal Opportunity requirements must be completed. Additional information may be obtained by contacting the Director of Contract Compliance at (720-913-1700).



NOTICE OF APPARENT LOW BIDDER
(SAMPLE)

PROJECT NO. 201102839
Page 2

The Bid Security submitted with your Bid, will be returned upon execution of the Contract and furnishing of the Performance Bond. In the event you should fail to execute the Contract and to furnish the performance Bond within the time limit specified, said Bid Security will be retained by the City and County of Denver as liquidated damages, and not as a penalty for the delay and extra work caused thereby.

Dated at Denver, Colorado this _____ day of _____ 20_____.

CITY AND COUNTY OF DENVER

By _____
Manager of Public Works



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

Current Date

(S A M P L E)

Name
Company
Street
City/State/Zip

FEDERAL AID PROJECT NO. AQCM320 067 - CITY OF DENVER CONTRACT NO. 201102839
INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

NOTICE TO PROCEED

In accordance with General Contract Condition 302 of the Standard Specifications for Construction, General Contract Conditions, 1999 Edition, you are hereby authorized and directed to proceed on **201102839 INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS** with the work of constructing contract number, as set forth in detail in the contract documents for the City and County of Denver.

With a contract time of 273 (Two Hundred Seventy Three Days) calendar days, the project must be complete on or before .

If you have not already done so, you must submit your construction schedule, in accordance with General Contract Condition 306.2.B, to the Project Manager within 10 days. Additionally, you must submit your tax exempt certificate, and copies of your subcontractors' certificates, in accordance with General Contract Condition 322.5, to the Project Manager as soon as possible. Failure to submit these certificates will delay processing of payment applications.

Very truly yours,

Lesley B. Thomas
City Engineer

By:



**DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

**FINAL/PARTIAL RELEASE AND CERTIFICATE OF PAYMENT
(SUBCONTRACTOR/SUPPLIER)**

(CITY PROJECT NAME AND NUMBER)	Date: _____, 20__.
(NAME OF CONTRACTOR)	Subcontract #: _____.
(NAME OF SUBCONTRACTOR/SUPPLIER)	Subcontract Value: \$ _____.
Check Applicable Box:	Last Progress Payment: \$ _____.
<input type="checkbox"/> DBE	Date: _____.
	Total Paid to Date: \$ _____.
	Date of Last Work: _____.

The Undersigned hereby certifies that all costs, charges or expenses incurred by the undersigned or on behalf of the undersigned for any work, labor or services performed and for any materials, supplies or equipment provided on the above referenced Project or used in connection with the above referenced Subcontract (the "Work Effort") have been duly paid in full.

The Undersigned further certifies that each of the undersigned's subcontractors and suppliers that incurred or caused to be incurred, on their behalf, costs, charges or expenses in connection with the undersigned's Work Effort on the above referenced Project have been duly paid in full.

In consideration of \$_____ representing the Last Progress Payment referenced above and in further consideration of the Total Paid to Date, also referenced above, and other good and valuable consideration received and accepted by the undersigned this _____ day of _____, 20__, the Undersigned hereby releases and discharges the City and County of Denver (the "City"), the above referenced City Project, the City's premises and property and the above referenced Contractor from all claims, liens, rights, liabilities, demands and obligations, whether known or unknown, of every nature arising out of or in connection with the performance of the work effort.

As additional consideration for the payments referenced above, the undersigned agrees to defend, indemnify and hold harmless the City, its officers, employees, agents and assigns and the above-referenced Contractor from and against all costs, losses, damages, causes of action, judgments under the subcontract and expenses arising out of or in connection with any claim or claims against the City or the Contractor which arise out of the Undersigned's performance of the Work Effort and which may be asserted by the Undersigned or any of its suppliers or subcontractors of any tier or any of their representatives, officers, agents, or employees.

It is acknowledged that this release is for the benefit of and may be relied upon by the City and the referenced Contractor.

The foregoing shall not relieve the undersigned of any obligation under the provisions of the Undersigned's subcontract, as the subcontract may have been amended, which by their nature survive completion of the Undersigned's work effort including, without limitation, warranties, guarantees, insurance requirements and indemnities.

STATE OF COLORADO) s. CITY OF _____)	(Name of Subcontractor)
Signed and sworn before me this day of _____, 20__.	By: _____
_____ Notary Public/Commissioner of Oaths My Commission Expires _____	Title: _____



City and County of Denver

Division of Small Business Opportunity

Contractor's/Consultant's Certification of Payment (CCP)

Office of Economic Development
 Compliance Unit
 201 W. Colfax Ave., Dept. 907
 Denver, CO 80202
 Phone: 720.913.1999
 Fax: 720.913.1803

Prime Contractor or Consultant:	Phone:	Project Manager:
Pay Application #:	Pay Period:	Amount Requested: \$
Project #:	Project Name:	
Current Completion Date:	Percent Complete:	Prepared By:
(I) - Original Contract Amount: \$		(II) - Current Contract Amount: \$

Prime/Subcontractor/Supplier Name	M/W/S/ DBE/ NON	A		B	C	D	E	F	G	H
		Original Amount	Contract	% Bid (A/I)	Current Contract Amount including Amendments	% Revised (C/II)	Requested Amount of this Pay Application	Amount Paid on the Previous Pay Application # ____	Net Paid To Date	Paid % Achieved (G/II)
Totals										

The undersigned certifies that the information contained in this document is true, accurate and that the payments shown have been made to all subcontractors and suppliers used on this project and listed herein. Please use an additional form, if more space is necessary.

Prepared By (Signature):	Date:
--------------------------	-------

Page of

COMP-FRM-027 rev 022311



Instructions for Completing the Contractor/Consultant Certification of Payment Form

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 W. Colfax Ave., Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720-913-1803
dsbo@denvergov.org

Note: The attached Contractor/Consultant Certification of Payment form must be completed by the Contractor/Subconsultant and all subcontractors/subconsultant or suppliers used on the project at **any tier** and submitted with each pay application. The Contractor/Consultant is responsible for the accuracy of all information provided and is required to have each subcontractor/subconsultant or supplier fill out the appropriate forms. Please be sure to complete all information requested at the top of the form, including the name of the person who prepared this form.

If you reproduce this form, you must continue to list each of the originally listed firms, as well as any additional firms used during the performance period of the contract.

If you have any questions, please call the Compliance Unit of DSBO at 720.913.1999.

Instructions for Completing the Contractor/Consultant Certification of Payment Form, per Column

Contractor/Subcontractor or Subconsultant/Supplier Name: In the space provided, list all subcontractors/subconsultants and suppliers used on the project. For all M/W/S/DBEs use the exact name listed in the DSBO Directory.

M/W/S/DBE/NON: For each name listed, indicate whether the entity is a certified M/W/S/DBE.

Column A: Provide the contract amount, as listed at bid time, for the Contractor/Consultant and each subcontractor/subconsultant or supplier.

Column B: Provide the percentage portion of each listed subcontractor/subconsultant or supplier contract amount (Column A) compared to the total original contract amount in (I).

Column C: Provide the original contract amount (Column A) for each subcontractor/subconsultant or supplier plus any awarded alternate and/or change order amounts applicable. If an alternate/change order does not apply to the listed firm, re-enter the original contract amount (Column A).

Column D: Provide the percent portion of each listed subcontractor/subconsultant or supplier contract amount (Column C) compare to the current total contract amount in (II).

Column E: Provide the amount requested for work performed or materials supplied by each listed subcontractor/subconsultant or supplier for this pay application. The sum of the items in this column should equal the estimated amount requested for this pay application.

Column F: Provide the amount paid to each subcontractor/subconsultant or supplier on the previous pay application. Enter the previous pay application number in the column heading. The sum of the items listed in this column should equal the warrant amount paid to the Contractor/Consultant on the previous pay application. The amounts paid to the subcontractor/subcontractor or suppliers should be the actual amount of each check issued.

Column G: Provide the net paid to date for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier.

Column H: Provide the percent portion of the net paid to date (Column G) for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier of the current total contract amount in (II).

COMP-REF-031

Rev 032211 JG



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

Date

Name

Company

Street

City/State/Zip

(SAMPLE)

RE: Certificate of Contract Release for

FEDERAL AID PROJECT NO. **AQC M320 067**

CITY OF DENVER CONTRACT NO. 201102839, INCA ST. BIKE/PED BRIDGE OVER 38TH AVE UNDERPASS

Certificate of Contract Release

Received this date of the City and County of Denver, as full and final payment of the cost of the improvements provided for in the foregoing contract, _____ dollars and cents (\$ _____), in cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract; said cash also covering and including full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto, and the undersigned hereby releases said City and County of Denver from any and all claims or demands whatsoever, regardless of how denominated, growing out of said contract.

And these presents are to certify that all persons performing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full and this payment to be made is the last or final payment.

Contractor's Signature

Date Signed

If there are any questions, please contact me by telephone at (720) 913-XXXX. Please return this document via facsimile at (720) 913-1805 and mail to original to the above address.



Required Contract Provisions Federal-Aid Construction Contracts

- I. [General](#)
- II. [Nondiscrimination](#)
- III. [Nonsegregated Facilities](#)
- IV. [Payment of Predetermined Minimum Wage](#)
- V. [Statements and Payrolls](#)
- VI. [Record of Materials, Supplies, and Labor](#)
- VII. [Subletting or Assigning the Contract](#)
- VIII. [Safety: Accident Prevention](#)
- IX. [False Statements Concerning Highway Projects](#)
- X. [Implementation of Clean Air Act and Federal Water Pollution Control Act](#)
- XI. [Certification Regarding Debarment, Suspension Ineligibility, and Voluntary Exclusion](#)
- XII. [Certification Regarding Use of Contract Funds for Lobbying](#)

Attachments

- A. [Employment Preference for Appalachian Contracts \(included in Appalachian contracts only\)](#)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:
 - Section I, paragraph 2;
 - Section IV, paragraphs 1, 2, 3, 4, and 7;
 - Section V, paragraphs 1 and 2a through 2g.
5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. **Selection of Labor:** During the performance of this contract, the contractor shall not:
 - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
 - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

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

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

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such

advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.
- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
- c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

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

- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

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

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
- 7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
- 8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.
- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
- 9. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three

years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

- a. The records kept by the contractor shall document the following:
 1. The number of minority and non-minority group members and women employed in each work classification on the project;
 2. The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 3. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 4. The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
- b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

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

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

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

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.
- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
 - 1. the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 - 2. the additional classification is utilized in the area by the construction industry;
 - 3. the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 - 4. with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and

Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
- b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

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

- a. Apprentices:
 - 1. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
 - 2. The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the

classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

3. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
4. In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

1. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
2. The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.
3. Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
4. In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be

permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. **Helpers:**

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

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

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

6. Withholding:

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

7. Overtime Requirements:

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

8. Violation:

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

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on

account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

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

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

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

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

1. that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
 2. that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
 3. that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
 - f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
 - g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
 - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.
 - b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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

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

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

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

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

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

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

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

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

1. Instructions for Certification - Primary Covered Transactions:

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

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this

clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

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

* * * * *

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

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
 - d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. Instructions for Certification - Lower Tier Covered Transactions:

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

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

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

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

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

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

- a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

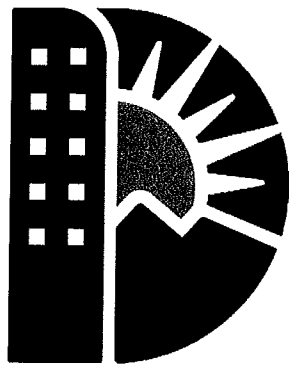
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United States Department of Transportation - Federal Highway Administration – Infrastructure

CITY AND COUNTY OF DENVER

STATE OF COLORADO



DENVER[®]
THE MILE HIGH CITY

PREVAILING WAGE RATES

Contract No. 201102839

**INCA ST. BIKE/PED BRIDGE OVER 38TH AVE
UNDERPASS**

September 30, 2011

August 12, 2011

**U.S. DEPT. OF LABOR,
DAVIS BACON MINIMUM WAGES, COLORADO
GENERAL DECISION NUMBERS CO20100014 AND CO20100015
HIGHWAY CONSTRUCTION**

NOTICE

This is a standard special provision that revises or modifies CDOT's *Standard Specifications for Road and Bridge Construction*. It has gone through a formal review and approval process and has been issued by CDOT's Project Development Branch with formal instructions for its use on CDOT construction projects. It is to be used as written without change. Do not use modified versions of this special provision on CDOT construction projects, and do not use this special provision on CDOT projects in a manner other than that specified in the instructions, unless such use is first approved by the Standards and Specification Unit of the Project Development Branch. The instructions for use on CDOT construction projects appear below.

Other agencies which use the *Standard Specifications for Road and Bridge Construction* to administer construction projects may use this special provision as appropriate and at their own risk.

Instructions for use on CDOT construction projects:

Use this standard special provision on all federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.

Decision Nos. CO20100014 and CO20100015 dated March 12, 2010 supersedes Decision Nos. CO020080014 and CO020080015 dated February 08, 2008. When work within a project is located in two or more counties and the minimum wages and fringe benefits are different for one or more job classifications, the higher minimum wages and fringe benefits shall apply throughout the project.	Modifications			ID
	MOD Number	Date	Page Number(s)	
	1	05-07-10	1, 2	1
	2	06-04-10	1, 5	2
	3	08-06-10	1, 5	3
	4	10-08-10	1	4
	5	10-29-10	5	5
	6	07-15-11	1, 5	6
	7	07-29-11	1, 5	7
	8	08-12-11	1, 5	8

General Decision No. CO20100014 applies to the following counties: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld counties.

General Decision No. CO20100014

The wage and fringe benefits listed below reflect collectively bargained rates.

Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	ELECTRICIANS:			
1200	Electrical work \$150,000 or less (Pueblo county)	22.85	10.79	
1201	Electrical work over \$150,000 (Pueblo county)	27.00	10.91	
1202	Electricians (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties)	31.60	12.52	6
1203	Electricians (El Paso county)	28.55	14.46	8
1204	Electricians (Mesa county)	20.31	8.92	
1205	Traffic Signal Installer (Zone 1)	23.83	4.75 + 13.75%	
1206	Traffic Signal Installer (Zone 2)	26.83	4.75 + 13.75%	
	<u>Traffic Installer Zone Definitions</u> Zone 1 – Within a 35 mile radius measured from the addresses of the following cities: Colorado Springs - Nevada & Bijou Denver - Ellsworth Avenue & Broadway Ft. Collins - Prospect & College Grand Junction - 12th & North Avenue Pueblo - I-25 & Highway 50 Zone 2 - All work outside these areas.			
	POWER EQUIPMENT OPERATORS:			
1300	Asphalt Screed	23.67	9.22	
1301	Bituminous or Asphalt Spreader/Laydown Machine	23.67	9.22	
1302	Bulldozer	23.67	9.22	

General Decision No. CO20100014				
The wage and fringe benefits listed below reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	POWER EQUIPMENT OPERATORS (cont.):			
	Crane:			
1305	50 tons and under	23.82	9.22	
1306	51 to 90 tons	23.97	9.22	
1307	91 to 140 tons	24.12	9.22	
1308	141 tons and over	24.88	9.22	
	Drill Operator:			
1309	William MF/Watson 2500 only	23.97	9.22	
	Grader/Blade:			
1310	Rough	23.67	9.22	
1311	Finish	23.97	9.22	
	Loader:			
1312	Barber Green, etc., 6 cubic yards and under	23.67	9.22	
1313	Over 6 cubic yards	23.82	9.22	
	Mechanic and/or Welder (Includes heavy duty and combination mechanic and welder):			
1314	Mechanic and/or Welder	26.12	9.22	1
1315	Mechanic/Welder (Heavy duty)	23.97	9.22	
1316	Oiler	22.97	9.22	
	Power Broom:			
1317	Under 70 HP	22.97	9.22	
1318	70 HP and over	23.67	9.22	
	Roller (excluding dirt and soil compaction):			
1319	Self-propelled, rubber tires under 5 tons	23.32	9.22	
1320	Self-propelled, all types over 5 tons	23.67	9.22	
	Scraper:			
1321	Single bowl under 40 cubic yards	23.82	9.22	
1322	Single bowl including pups 40 cubic yards and tandem bowls and over	23.97	9.22	
1323	Trackhoe	23.82	9.22	

General Decision No. CO20100014				
The wage and fringe benefits listed below reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
1400	Laborers: Asphalt Laborer/Raker, Common Laborer, and Concrete Laborer/Mason Tender	18.68	6.78	
General Decision No. CO20100014				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
1500	Bricklayers	15.55	2.85	
1600	Carpenters: Form Work (Excluding curbs and gutters)	16.54	3.90	
1601	All other work	16.61	3.88	
1700	Concrete Finishers/Cement Masons	16.05	3.00	
1900	Ironworkers: Reinforcing	16.69	5.45	
1901	Bridge Rail (Excludes guardrail)	18.22	6.01	
2001	Laborers: Fence Erector (Includes fencing on bridges)	13.02	3.20	
2002	Form Work (Curbs and gutters only)	11.85	3.45	
2003	Guardrail Erector (Excludes bridgerail)	12.89	3.20	
2004	Landscape and Irrigation Laborer	12.26	3.16	
2005	Pipelayer	13.55	2.41	
2006	Striping Laborer (Pre-form layout and removal of pavement markings)	12.62	3.21	
2007	Traffic Director/Flagger	9.55	3.05	
2008	Traffic and Sign Laborer (Sets up barricades and cones, and installs permanent signs)	12.43	3.22	
2100	PAINTERS Brush	16.94	2.10	
2101	Spray	16.99	2.87	
2200	POWER EQUIPMENT OPERATORS: Backhoes	16.54	4.24	
2201	Bobcat/Skid Loader	15.37	4.28	
2202	Concrete Pump Operator	16.52	4.30	

General Decision No. CO20100014				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
POWER EQUIPMENT OPERATORS (cont.):				
	Drill Operator:			
2203	All except William MF/Watson 2500	16.74	2.66	
2204	Forklift	15.91	4.09	
2205	Rotomill Operator	16.22	4.41	
2206	Post Driver/Punch Machine	16.07	4.41	
2207	Tractor	13.13	2.95	
2208	Compactor (Dirt and soil only)	16.70	3.30	
Groundman (Traffic signalization)				
2301	Class C	11.44	3.25	
Truck Drivers:				
2400	Floats-Semi Truck	14.86	3.08	
2401	Multipurpose Truck – Specialty & Hoisting	14.35	3.49	
2402	Truck Mechanic	16.91	3.01	
2403	Pickup Truck (Includes Pilot and Sign/Barricade Truck)	13.93	3.68	
2405	Single Axle Truck	14.24	3.77	
2406	Distributor Truck	15.80	5.27	
2407	Dump Truck:			
2408	14 cubic yards and under	14.93	5.27	
2409	15 to 29 cubic yards	15.27	5.27	
2410	30 to 79 cubic yards	15.80	5.27	
2411	80 cubic yards and over	16.45	5.27	
2412	Low Boy Truck	17.25	5.27	
2413	Water Truck	14.93	5.27	

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

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

END OF GENERAL DECISION NUMBER CO20100014.

GENERAL DECISION NUMBERS CO20100014 AND CO20100015, HIGHWAY CONSTRUCTION

General Decision No. CO20100015 applies to the following counties: Alamosa, Archuleta, Baca, Bent, Chaffee, Cheyenne, Clear Creek, Conejos, Costilla, Crowley, Custer, Delta, Dolores, Eagle, Elbert, Fremont, Garfield, Gilpin, Grand, Gunnison, Hinsdale, Huerfano, Jackson, Kiowa, Kit Carson, La Plata, Lake, Las Animas, Lincoln, Logan, Mineral, Moffat, Montezuma, Montrose, Morgan, Otero, Ouray, Park, Phillips, Pitkin, Prowers, Rio Blanco, Rio Grande, Routt, Saguache, San Juan, San Miguel, Sedgwick, Summit, Teller, Washington, and Yuma counties.

When work within a project is located in two or more counties, and the minimum wages and fringe benefits are different for one or more job classifications, the higher minimum wages and fringe benefits shall apply throughout the project.

General Decision No. CO20100015

The wage and fringe benefits listed below reflect collectively bargained rates.

Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	ELECTRICIANS: (Including traffic signal installation)			
3200	Electrical work \$150,000 or less (Alamosa, Archuleta, Baca, Bent, Chaffee, Conejos, Costilla, Crowley, Custer, Fremont, Huerfano, Kiowa, Las Animas, Mineral, Otero, Prowers, Rio Grande, and Saguache counties)	22.85	10.79	
3201	Electrical work over \$150,000 (Alamosa, Archuleta, Baca, Bent, Chaffee, Conejos, Costilla, Crowley, Custer, Fremont, Huerfano, Kiowa, Las Animas, Mineral, Otero, Prowers, Rio Grande, and Saguache counties)	27.00	10.91	
3202	Electricians (Clear Creek, Eagle, Gilpin, Grand, Jackson, Lake, Logan, Morgan, Phillips, Sedgwick, Summit, Washington, and Yuma counties)	31.60	12.52	6
3203	Electricians (Cheyenne, Elbert, Kit Carson, Lincoln, Park, and Teller counties)	28.55	14.46	8
3204	Electricians (Dolores, Garfield, Gunnison, Hinsdale, La Plata, Moffat, Montezuma, Ouray, Pitkin, Rio Blanco, Routt, San Juan, and San Miguel counties)	28.00	9.24	
3205	Electricians (Delta and Montrose counties)	21.31	8.92	
3206	Traffic Signal Installer (Zone 1)	23.83	4.75 + 13.75%	
3207	Traffic Signal Installer (Zone 2)	26.83	4.75 + 13.75%	
	<u>Traffic Installer Zone Definitions</u> Zone 1 – Within a 35 mile radius measured from the addresses of the following cities: Colorado Springs - Nevada & Bijou Denver - Ellsworth Avenue & Broadway Ft. Collins - Prospect & College Grand Junction - 12th & North Avenue Pueblo - I-25 & Highway 50 Zone 2 - All work outside these areas.			

General Decision No. CO20100015				
The wage and fringe benefits listed below reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
POWER EQUIPMENT OPERATORS:				
3300	Bituminous or Asphalt Spreader/Laydown Machine	23.67	9.22	
3301	Bulldozer	23.67	9.22	
Crane:				
3302	50 tons and under	23.82	9.22	
3303	51 to 90 tons	23.97	9.22	
3304	91 to 140 tons	24.12	9.22	
3305	141 tons and over	24.88	9.22	
3306	Grade Checker	23.82	9.22	
Loader:				
3307	Barber Green, etc., 6 cubic yards and under	23.67	9.22	
3308	Over 6 cubic yards	23.82	9.22	
Roller (excluding dirt and soil compaction):				
3309	Self-propelled, rubber tires under 5 tons	23.32	9.22	
3310	Self-propelled, all types over 5 tons	23.67	9.22	
3311	Trackhoe	23.82	9.22	
3312	Oiler	22.97	9.22	
3313	Water Wagon	23.82	9.22	
General Decision No. CO20100015				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Carpenters:				
3600	Form Building and Setting (Excluding curbs and gutters)	15.92	5.38	
3601	All other work	16.30	3.71	
3700	Concrete Finishers/Cement Masons	15.55	2.85	
3800	Groundman (Traffic signalization)	11.57	3.50	
Ironworkers:				
3900	Reinforcing	16.94	6.77	
3901	Bridge Rail (Excluding guardrail)	16.76	6.01	

General Decision No. CO20100015				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
Laborers:				
4000	Asphalt Laborer/Raker	12.40	2.92	
4001	Common	12.44	3.53	
4002	Concrete Laborer/Mason Tender	12.44	3.10	
4003	Striping-Paint Laborer (Pre-form layout and removal of pavement markings)	12.90	3.07	
4004	Traffic Director/Flagger	9.42	3.21	
4005	Traffic/Sign Laborer (Sets up barricades and cones, and installs permanent signs)	12.39	3.20	
4007	Guardrail (Excludes bridgerail)	12.78	3.31	
4008	Formwork (Curbs and gutters only)	12.92	4.54	
4009	Landscape Laborer (Including irrigation work)	12.21	3.16	
Painters:				
4100	Spray	17.54	3.52	
POWER EQUIPMENT OPERATORS:				
4200	Asphalt Plant	17.23	1.20	
4201	Asphalt Screed	16.21	3.76	
4202	Backhoe	16.42	4.42	
4203	Compactor (Dirt and soil only)	16.52	3.13	
4204	Grader/Blade	16.39	4.20	
4205	Mechanic and or Welder (Includes heavy duty and combination mechanic welder)	16.74	4.20	
4206	Post Driver/Punch Machine	16.07	4.41	
4207	Rotomill Operator	16.28	4.41	
4209	Scraper	17.62	3.16	

General Decision No. CO20100015				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	Truck Drivers:			
4400	Dump	14.15	3.83	
4401	Low Boy	15.07	4.56	
4402	Truck Mechanic	15.97	4.61	
4403	Multipurpose Truck-Specialty and Hoisting	14.60	3.49	
4404	Pickup (Including pilot car)	14.04	3.49	
4405	Water Truck	14.88	2.07	
4406	Distributor	15.80	5.27	

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

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

END OF GENERAL DECISION NUMBER CO20100015.

WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
- ◆ an existing published wage determination
 - ◆ a survey underlying a wage determination
 - ◆ a Wage and Hour Division letter setting forth a position on a wage determination matter
 - ◆ a conformance (additional classification and rate) ruling

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

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

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

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

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

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

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

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

- 4.) All Decisions of the Administrative review board are final.

CITY AND COUNTY OF DENVER

STATE OF COLORADO



TECHNICAL SPECIFICATIONS

Contract No. 201102839

**INCA ST. BIKE/PED BRIDGE OVER 38TH AVE
UNDERPASS**

**PWC2009-8147
September 30, 2011**

INCA STREET: BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE DENVER, COLORADO

STANDARD CONSTRUCTION SPECIFICATIONS

The Standard Construction Specifications used for this Project shall be the Colorado Department of Transportation "Standard Specifications for Road and Bridge Construction," adopted in 2011 and as hereinafter modified.

DETAILED CONSTRUCTION SPECIFICATIONS

The Construction Specifications for this Project shall consist of the applicable sections and subsections, numbered Section 200 through Section 700, of the above-referenced "Colorado Department of Transportation Standard Construction Specifications."

The Colorado Department of Transportation General Provisions consist of Sections 100 through 109 of the above referenced "Standard Specifications" and are not applicable to this Project and are hereby deleted. In place of the deleted sections, the City and County of Denver (the "City" or "CCoD") "Standard Specifications for Construction, General Contract Conditions," 1999 edition, shall apply on this contract. Supplements or amendments to the Standard Specifications for Construction, General Contract Conditions are listed in the Special Contract Conditions.

The following Special Project Provisions take precedence over Specifications or Plans and supplement or amend the referenced "Standard Specifications for Road and Bridge Construction" adopted in 2011 by the Colorado Department of Transportation, which is to be used to control construction of this Project.

References to "Division" or "CDOT" in the Standard Specifications shall be considered to mean City and County of Denver for the purposes of this Project.

That which follows supplements or amends provisions of the "Construction Specifications" referenced under Paragraph SC-1 of the Special Contract Conditions.

STANDARD CONSTRUCTION DETAILS

Applicable City and County of Denver standard details are required to be used by the contractor. For other applicable details, except as modified or altered by the general notes on the plans to be approved or by the revisions to standard specifications and contract documents, it is the intent of the City to use the Colorado Department of Transportation M & S Standards, most recent edition. Drainage related appurtenances shall be constructed per City and County of Denver Wastewater Management Division Standards Details, most recent edition.

CONSTRUCTION LIMITS

The "construction limits" for the Site are defined as Inca Street from 37th Avenue to 39th Avenue. Furthermore, the construction limits include cross streets as necessary to complete the project, and placement of signage on any street to be used for construction detours on the approved plans. All work shall occur within the City and County of Denver right-of-way. Impacts to existing landscaping, concrete, sidewalk, structures, sprinklers, curbs, gutters, etc. that occur beyond the right-of-way will be repaired by the Contractor at their own expense. Impacts to existing landscaping, concrete, sidewalk, structures, sprinklers, curbs, gutters, etc. that occur within the right-of-way, but are not specifically designated to be removed by the plans or by the Project Manager, will be repaired by the Contractor at their own expense.

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Revision of Sections 412, 601, and 711 – Liquid Membrane-Forming Compounds for Curing Concrete	(May 5, 2011)	1
Revision of Section 510 – Structural Plate Structures	(February 3, 2011)	1
Revision of Section 601 – Concrete Batching	(February 3, 2011)	1
Revision of Section 601 – Concrete Finishing	(February 3, 2011)	1
Revision of Section 627 and 708 – Pavement Marking with Waterborne Paint and Low VOC Solvent Base Paint	(February 3, 2011)	1
Revision of Section 630 – Construction Zone Traffic Control	(February 3, 2011)	1
Revision of Section 630 – Retroreflective Sign Sheeting	(February 3, 2011)	1
Revision of Section 712 – Water for Mixing or Curing Concrete	(February 3, 2011)	1
Affirmative Action Requirements – Equal Employment Opportunity	(February 3, 2011)	10
Disadvantaged Business Enterprise – Definitions and Requirements	(February 3, 2011)	14
Minimum Wages Colorado, U.S. Department of Labor General Decision Numbers CO20100014 and CO20100015, MOD 5, Highway Construction, Statewide	(October 29, 2010)	9
Partnering Program	(February 3, 2011)	1
Required Contract Provisions – Federal-Aid Construction Contracts	(February 3, 2011)	10

ON THE JOB TRAINING CONTRACT GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required 0 hours.
(Total construction cost is less than \$1 million.)

**REVISION OF SECTION 201
CLEARING AND GRUBBING**

Section 201 of the Standard Specifications is hereby revised for this project as follows:

Section 201.01 is hereby revised to include the following:

This work consists of removal and disposal of trash of any kind within the limits of the right of way, easement areas, and other areas shown in the contract or required by the work. These items shall be removed and disposed of by the Contractor during construction and prior to final acceptance of the project.

Work involving trees to remain shall conform to applicable provisions of the Tree Retention and Protection specification, as prepared by Denver Forestry, included in this specification package.

Subsection 201.02 is hereby revised to include the following:

No clearing and grubbing shall take place in areas outside of the limits of construction.

The Contractor shall not remove any shrubs or trees within the project limits without prior written approval from the Project Manager. All trees and shrubs within or adjacent to the project limits, unless otherwise noted, shall be protected. Clearing and grubbing shall include the removal of all shrubs and trees with a trunk diameter less than 6-inches within the project limits. Removal of trees with a trunk diameter 6 inches or greater shall be measured and paid for as Removal of Tree. Trunk diameter shall be determined by measuring at a point 3 feet above the existing ground line. Removal of shrubs with a branch diameter 6 inches or greater shall be measured and paid for as Removal of Tree. The Contractor shall mark all trees and shrubs that are required to be removed and shall obtain written approval from the Project Manager prior to beginning clearing and grubbing.

Any stockpiling of trees and shrub material in excess of one day shall not be visible from the roadway.

The Contractor shall contact the Project Manager if the Contractor thinks additional trees need to be removed. Temporary easement areas shall not be cleared and grubbed unless absolutely necessary for construction purposes. Limits of clearing and grubbing shall be field verified by the Project Manager after field staking has been completed and prior to beginning any clearing and grubbing.

Contractor shall trim trees as necessary to keep branches from becoming a hazard to detour traffic or a conflict with the proposed improvements. Trimming will not be measured and paid for separately but included in the work,

Removal of trash will not be measured and paid for separately, but shall be included in the cost of clearing and grubbing. Salvaging and placing logs and mulch will not be measured and paid for separately but shall be included in the work.

The Contractor shall remove and dispose of all visible abandoned utility appurtenances that are located within the work area or right of way and abandoned as a result of this project. These items shall not be disposed of within the project limits. Removal of utility appurtenances will not be measured and paid for separately but shall be included in the work.

**SECTION 201A
TREE RETENTION AND PROTECTION**

This following section is hereby added to the Standard Specifications as follows:

DESCRIPTION

201A.01 This work consists of retaining and protecting trees during the construction of the project.

(a) General Requirements

There should be daily supervision of field crews by the City Forestry Staff or Project Consulting Arborist during the critical phases of the project, for example, demolition of existing asphalt or concrete; root pruning; and construction of new curb or sidewalk in tree protection areas.

If it appears that the completion of the construction may cause damage to the branches of any tree, the contractor shall contact the City Forester's Office. The Forester will make a determination as to whether such damage is eminent.

To prevent or minimize soil compaction, designated routes for equipment and foot traffic by work crews shall be determined prior to commencing construction activities, and shall be indicated in the tree protection plan to be submitted by Contractor. These routes shall be marked at the site, prior to commencement of construction, with tree protection fencing and signage as specified in Sections 201A.02 (e) and (f) (Tree Protection Fencing and Signage).

Motorized equipment and trailers, including tractors, Bobcats, bulldozers, trackhoes, trucks, cars, and carts shall not be allowed access within tree protection areas. Should access be necessary within designated tree protection areas, the existing grade shall be covered with six (6) to eight (8) inches of wood mulch to help distribute the weight of equipment and to minimize soil compaction and rutting. Plywood and/or mulch is not acceptable bridging material for driving over exposed tree roots. Exposed tree roots shall not be driven over. The City Forester or Project Consulting Arborist shall be notified and shall approve of the access and driving surface prior to its use.

Materials and supplies shall not be stockpiled or stored within the tree protection area. Should temporary storage be necessary within designated tree protection areas, the existing grade shall be covered with double, overlapping sheets of ¾ inch thick plywood, or six (6) to eight (8) inches of wood mulch to help distribute the weight of materials or supplies and to minimize soil compaction.

Under no circumstances shall any objects or materials be leaned against or supported by a tree's trunk, branches, or exposed roots. The attachment or installation to trees of any sign, cable, wire, nail, swing, or any other material that is not needed to help support the natural structure of the tree is prohibited. Standard arboricultural techniques such as bracing or cabling that are performed by professional arborists are acceptable upon approval by the City Forester or Project Consulting Arborist.

**SECTION 201A
TREE RETENTION AND PROTECTION**

(b) *Definitions.*

1. **TREE PROTECTION AREA:** Generally, a tree protection area should consist of the ground encompassing from 1.5 (minimum) to 2.0 times the distance between the trunk and dripline, or one linear foot away from the trunk base for every inch diameter of the trunk, whichever is greater. (See section below). Areas of ground covered by pavement, buildings, or other permanent structures where the presence of roots is minimal or negligible, are excluded. The area under or within the tree's dripline is also referred to as the "Critical Root Zone" (see below).

With groups of trees or where an array effect is present, there may be discontinuous (non-overlapping) perimeters of tree protection areas that result in difficult to maintain or ineffective tree protection fencing. In these cases, even though tree protection areas do not overlap, they should be treated as though they do if the distance between the perimeters of such areas is less than thirty (30) feet. In effect, this will artificially enlarge the area of tree protection, but will result in a more clearly defined, manageable area.

2. **DRIPLINE:** The outermost edge of the tree's canopy or branch spread. The area within a tree's dripline is all the ground under the total branch spread.
3. **CRITICAL ROOT ZONE:** Generally, all of the ground area included in the drip-line.
4. **DIAMETER (CALIPER):** The size (in inches) of a tree's trunk is measured at: **[1]**-six (6) inches above grade for trunk diameters up to and including four (4) inches; **[2]**-twelve (12) inches above grade for trunk diameters from four (4) inches up to and including eight (8) inches; and **[3]**-four and a half (4½) feet above grade for trunk diameters greater than eight (8) inches; in accordance with guidelines established in the "Guide for Plant Appraisal" (see Section c). All measurements should be rounded to the nearest inch.
5. **HIGH-VALUE SHRUB:** Any specimen shrub with an appraised value of \$100.00 or more.
6. **PROJECT CONSULTING ARBORIST:** An independent consultant with a degree in a field related to arboriculture, and at least five years field experience in tree preservation or on-site monitoring of public works or construction projects involving tree retention and protection. The consultant should be an active member in the American Society of Consulting Arborists and International Society of Arboriculture.

(c) *Reference Standards and Guidelines.* Contractor shall comply with applicable requirements and recommendations of the most current versions of the following standards and guidelines. Where these conflict with other specified requirements, the more restrictive requirements shall govern.

1. ANSI Z133.1-1988
American National Standard for Tree Care Operations
2. ANSI A300-1994
Standard Practices for Trees, Shrubs and Other Woody Plant Maintenance
3. NATIONAL ARBORIST ASSOCIATION STANDARDS
Pruning, Cabling and Bracing, Fertilization

**SECTION 201A
TREE RETENTION AND PROTECTION**

4. GUIDE FOR PLANT APPRAISAL-Most Recent Edition
Authored by the Council of Tree and Landscape Appraisers; published by the International Society of Arboriculture.

CONSTRUCTION REQUIREMENTS

201A.02 This section provides standards and guidelines for the retention and protection of trees and high-value shrubs for any proposed public works or construction project.

- (a) *Demolition of Existing Asphalt Or Concrete.* Caution should be used during removal of existing street, curb, gutter, sidewalk, drain inlets, and other concrete demolition, to minimize injury to tree root systems. The following procedures should be used when removing existing concrete.
1. Breaking of the existing concrete for removal should be done in a manner that will minimize ground disturbance and vibration.
 2. Curbs and sidewalks within designated tree protection areas and critical root zones shall be removed by hand. When removing existing sidewalks and curbs, care should be taken to avoid injury to roots located under, over, or adjacent to paved surfaces.
 3. Roots and root-trunk flares growing over curbs should not be injured during breaking of curbs and removal of debris. Wood and bark tissues shall not be injured by striking tissues with equipment.
 4. During the removal of concrete, all root systems and soil areas exposed shall not be disturbed.
 5. Motorized equipment and trailers, including tractors, Bobcats, bulldozers, trackhoes, trucks, cars, and carts are to be limited to access on the existing paved street only. Access is not allowed behind the curb within tree protection areas.
 6. Should access be necessary within designated tree protection areas, the existing grade shall be covered with double, overlapping sheets of $\frac{3}{4}$ inch thick plywood, or six (6) to eight (8) inches of wood mulch to help distribute the weight of equipment and to minimize soil compaction and rutting. Plywood and/or mulch is not acceptable bridging material for driving over exposed tree roots. Exposed tree roots shall not be driven over. The City Forester or Project Consulting Arborist shall be notified and shall approve of the access and driving surface prior to its use.
- (b) *Construction of Sidewalks, Curbs, Concrete Paving and Drainage Inlets.* The following procedures shall be used when constructing sidewalks, curbs, concrete paving, and drainage inlets.
1. Keep all materials and equipment within the street bounded by existing curbs.
 2. Protect exposed roots from contamination by stabilization materials and concrete.
 3. Locate concrete washout areas away from roots and tree protection areas.

**SECTION 201A
TREE RETENTION AND PROTECTION**

4. When excavating for the construction of inlets, excavated soil shall be deposited in trucks and hauled off or deposited temporarily on ¾ inch thick plywood outside the critical root zone. Excavated and fill soil shall not be deposited, even temporarily, on unprotected natural grade.
5. After proper pruning (see section (d), as needed, cover exposed roots within thirty (30) minutes to minimize desiccation. Roots may be covered with soil, mulch, or moistened burlap (7 ounce or equivalent), and shall be kept moist during the period until the final grade is established.
6. Where possible, sidewalks should be raised, narrowed, curved, or relocated to prevent cutting and removing major roots (e.g. roots greater than three inches in diameter).
7. Place a sheet of six (6) mil or thicker plastic over the grade within affected portions of tree protection areas prior to pouring concrete sidewalks, curbs, inlets, ramps, and driveway approaches. The plastic will assist in providing a non-leaching barrier between the concrete, soil and roots.
8. Construct new sidewalks on, or above, the existing grade instead of excavating into root zones. The new grade shall not interfere with sheet-flow drainage.
9. Limit grading to a maximum of two (2) inches fill over natural grade within critical root zones. Fill should consist of sandy loam topsoil. Clay soils shall not be used as fill. When using fill soil, the existing surface to receive fill should be scarified prior to filling. Any filling operation should not occur during water saturated soil conditions.
10. Existing soil may be used as a form for back of curb and gutter, with or without the use of a thin masonite-type form, although a masonite form is preferred. This will minimize excavation in the critical root zone and prevent undue injury to the roots. This method is unnecessary in areas outside the critical root zone. Place a layer of Typar BioBarrier between the curb and tree roots to help inhibit root growth that may exploit small cracks in the curb. Where appropriate, use curbs with discontinuous footings to maintain natural grade near the base of trees adjacent to the curbing, and to minimize injury to roots and root flares.
11. Provide for easy concrete removal and replacement where an obvious raised root may cause sidewalk cracking in the future. This can be accomplished by installing an expansion joint on either side of the root or by etching the concrete on either side of the root to allow that particular section to be broken out and replaced. Compaction rating for the replacement walkway should not exceed 80% Proctor density. Tree roots will continue to slowly add girth every year; therefore, the base material needs to be malleable (e.g. suitable subgrade aggregates, crushed granite, or compacted sand) to prevent a fulcrum or pressure point which can crack or heave the walkway.
12. Where appropriate, and under the direction of the City Forester or Project Consulting Arborist, root-restricting barriers can be installed with a minimal amount of disturbance. There are several promising landscape related materials used as barriers to root growth, especially away from sidewalks, curbs and streets. Three such materials are: (1) a stiff nylon woven fabric (Q899 nylon fabric with extra firm finish from Jason Mills, Westwood, NJ); (2) 14-mesh or smaller copper wire screen; and (3) Typar BioBarrier (REEMAY, Inc., Old Hickory, TN). The nylon fabric has

**SECTION 201A
TREE RETENTION AND PROTECTION**

holes approximately 1/26th-inch square separated by strands approximately 1/26th-inch thick, with strands fused together. Copper screen has been shown to be effective in controlling seedling root growth. Typar BioBarrier is a commercial product developed specifically to control roots of trees, and consists of a felt-like spun-bounded polypropylene fabric to which polyethylene pellets are attached at one and a half (1½) by one and a half (1½) inch spacing. The pellets are impregnated with the herbicide Trifluralin and release it slowly over time (many years). After a two (2) foot deep, narrow trench is dug adjacent to the curb, sidewalk, or other structure involved, and after any affected roots are properly pruned, the material of choice should be placed against the side of the wall closest to the roots that were severed (side of the wall farthest from the structure being protected). Note: This procedure should not be used if large, existing roots (four (4) inches or larger in diameter) will be severed. The nylon fabric and copper screen will constrict roots to the size of the openings in the material; beyond the constrictions, roots will be greatly stunted except for knobs that form against the barriers. The barrier should be installed at least eighteen (18) to twenty-four (24) inches deep (in a vertical plane).

13. In areas where roots have to be removed for construction of drain inlets, roots shall be severed prior to excavation to eliminate unnecessary tearing of roots by equipment.
 - A. Excavate soil by hand at the construction cut limit to a depth of thirty (30) inches or to the depth of the required root cut, whichever is less.
 - B. Prune roots as specified in section (d).
 - C. Protect exposed roots as specified in section (b) 5.
14. Concrete or chemicals spilled within tree protection areas should be completely removed. Contaminated soil shall be completely removed at the time of the spill and removed by hand without disturbance to root systems. Appropriate soil should be added as necessary to restore the grade.

(c) *Irrigation or Utility Installation.*

1. PROTECTION OF TREES AND HIGH-VALUE SHRUBS:
Contractor shall protect all trees and high-value shrubs from injury due to irrigation related work. All injuries to trees and high-value shrubs shall be mitigated to the satisfaction of the Owner, and, if appropriate in accordance with guidelines established in the most recent edition of "The Guide for Plant Appraisal" published by the Council of Landscape Appraisers. All costs of such mitigation shall be charged to and paid by the Contractor.

All irrigation lines shall be indicated on construction plans and pre-approved by the City Forester or Project Consulting Arborist. Unless absolutely necessary, no irrigation lines shall be located within 10 feet of any existing tree trunk. (See Section 2 below).

2. EXISTING TREES

- A. The City Forester or Project Consulting Arborist shall be notified prior to any trenching or excavation known or suspected to involve cutting of more than: **[1]**- two roots, three inches or more in diameter; and/or **[2]**-four roots between two (2) and three (3) inches in diameter. The City Forester or Project Consulting Arborist shall be notified immediately in the event that roots in excess of that described above are cut, torn, ripped, or otherwise injured.

**SECTION 201A
TREE RETENTION AND PROTECTION**

- B. All trenching or other work under the dripline of any tree shall be done by hand or by other methods which will prevent breakage or other injury to branches and roots.
 - C. Where it is necessary to excavate within the critical root zone of existing trees, contractor shall use all possible care to avoid injury to trees and tree roots. Excavation, in areas where two (2) inch diameter and larger roots occur, shall be done by hand with approved hand tools. Where possible, tree roots two (2) inches or larger in diameter shall be tunneled or bored under and shall be covered with moistened burlap to prevent excessive drying.
 - D. Wherever a trenching machine exposes roots smaller than two (2) inches in diameter, such roots extending through the trench wall shall be hand pruned (see section (d)). All trenches within critical root zones shall be closed within twelve (12) hours-if this is not possible, the trench walls shall be covered with burlap and kept moistened. Prior to backfilling, Contractor shall contact the City Forester or Project Consulting Arborist to inspect the condition and treatment of roots larger than two (2) inches in diameter injured by trenching.
 - E. Horizontal directional boring(auger tunneling), rather than open trenching, should be used for irrigation line or other utility installation within one half ($\frac{1}{2}$) foot linear distance from the trunk base for every inch of trunk diameter, if root disruption or utility installation occurs on no more than one side of the tree. If trenching or utility installation will occur on two or more sides of a tree trunk (e.g. N,S,E, or W), then horizontal directional boring should be used if line installation is within one (1) foot linear distance from the trunk base for every inch of trunk diameter.
- (d) *Root Pruning.* Tree roots shall not be pruned or cut unless their removal is unavoidable or absolutely necessary. The City Forester or Project Consulting Arborist shall be notified prior to any operation known or suspected to involve cutting of more than: **[1]**- two roots, three (3) inches or more in diameter; and/or **[2]**- four (4) roots between two (2) and three (3) inches in diameter. The City Forester or Project Consulting Arborist shall be notified immediately in the event that roots in excess of that described above are cut, torn, ripped, or otherwise injured.
- 1. Upon approval by the City Forester, prior to any excavation, removal of sidewalk, or other activity that will result in removal of soil and tree roots, all tree roots within a designated area will be pruned to a depth of fourteen (14) inches. Pruning shall occur with a Dosko Root Pruner, or equivalent, in accessible areas, and by hand in areas inaccessible to the root pruning machine. All other root pruning shall be done by hand with approved tools.
 - 2. Removal of roots greater than one (1) inch diameter or parts of roots that are injured or diseased should be performed as follows:
 - A. Preserve the root bark ridge (similar in structure and function to a branch bark ridge). Directional root pruning is the recommended technique and should be used during hand excavation around tree roots. Roots are similar to branches in their response to pruning practices. With directional root pruning, objectionable and severely injured roots are properly cut to a lateral root, if possible, that is growing downward or in a favorable direction.

**SECTION 201A
TREE RETENTION AND PROTECTION**

- B. All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools, with oversight by the City Forester or Project Consulting Arborist. No wound dressings shall be used.
- C. Recommended root pruning tools:
 - Scissor-type lopper
 - Scissor-type pruner
 - Large and small hand saws
 - Wound scribe
 - Trowel or small shovel
 - Garden Fork
 - Hand broom

3. ROOT PRUNING NEAR SIDEWALKS

- 1. Root pruning should be done carefully, by hand, to achieve the objective of reducing future sidewalk problems as well as preserving the trees. Removing anchoring roots or causing injuries in anchoring roots and root flares can cause future decay and windthrow hazards. Indiscriminate cutting of vigorous roots results in their resprouting so that several more new roots may grow from the cut end, back under the sidewalk, thereby reducing the time between sidewalk repairs. Roots can be managed in the ground without significant harm to trees, if care is taken to avoid injuries that lead to root and trunk decay.
- 2. Directional root pruning is recommended because it considers the tree's response to root pruning and decay. With directional root pruning, roots are cut to a large lateral, if possible, that is growing downward or in a more favorable direction. The pruned root ends will be less likely to resprout, since a large lateral can assume the new terminal role of the root.

Proper removal of selected roots or parts of roots can direct roots away from sidewalks in the future. Procedures for root pruning directly next to sidewalks are as follows:

- A. Hand dig a trench six (6) to eight (8) inches in depth at the edge of the planting strip and sidewalk.
 - B. Remove all roots less than two (2) inches in diameter in this trench back to a desirable lateral root, preserving the root bark ridge. If careful excavation does not reveal a desirable lateral root within twelve (12) inches of the exposed root in question, then the exposed root shall be pruned properly so that a minimal amount of root is removed.
 - C. Small root bundles, the source of future sidewalk problems, should also be removed at this time.
- 3. All roots between two (2) and four (4) inches in diameter should be examined by the City Forester or Project Consulting Arborist in terms of their role in anchoring the tree.

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TREE RETENTION AND PROTECTION**

- A. All roots that contribute significantly to anchorage should be preserved. Remove all other roots in this size range to sound, downward growing lateral roots that are at least one half ($\frac{1}{2}$) the size of the root being removed.
- B. All roots larger than four (4) inches in diameter are to be preserved unless their removal is absolutely necessary. Preservation of large roots may require: **[1]**- reducing the sidewalk width near the root flare; and/or **[2]**- ramping or bridging the sidewalk over the roots to allow for root growth.

4. Tree guying subsequent to root pruning:

Upon review of on-site root pruning and constructing grading limits, the City Forester or Project Consulting Arborist shall determine if existing trees subject to root pruning should be guyed or otherwise stabilized. Contractor shall retain a qualified tree service company to complete tree guying and stabilization in accordance with National Arborist Association standards. Tree service company shall be licensed by the City and County of Denver, through the City Forester's Office.

(e) *Tree Protection Fencing.*

- 1. Tree protection fencing should be installed two (2) feet behind the existing curb in areas where the street surface will be removed and replaced. Tree protection areas shall be designated on construction documents, and fencing locations should be staked for approval by the Construction Manager and City Forester or Project Consulting Arborist.
- 2. Tree protection fences should be constructed of one of the following:
 - A. Galvanized chain-link - six (6) feet in height. Posts should be installed on ten (10) foot centers (maximum), at a depth of three (3) feet minimum. Installation of post shall not result in injury to surface roots or root flares of trees.
 - B. Colored (orange), molded plastic construction fencing-four (4) feet in height.
- 3. Fencing should be installed to completely surround the limits of tree protection areas, and should extend at least ten (10) feet beyond the designated construction limits.
- 4. Tree protection fencing shall be installed prior to any site activity and shall remain until its removal is authorized by the City Forester or Project Consulting Arborist.

(f) *Tree Protection Signage.* A sign shall be mounted on tree protection fencing at fifty (50) foot intervals warning constructing personnel and the public to keep out of the tree protection areas.

**SECTION 201A
TREE RETENTION AND PROTECTION**

(g) *Project Site Monitoring.* As determined by the City Forester for projects of sufficient size to warrant such, a Project Consulting Arborist should be retained to enforce and monitor the Tree Retention and Protection objectives. The project site should be monitored a minimum of two (2) times weekly-more frequently at the start of the project until all procedures and specifications are understood and properly executed by all parties. Specific monitoring schedules should be developed at preconstruction meetings and modified as deemed necessary by the appropriate parties.

(h) *Injuries to Existing Plants - Damage Penalties.*

1. TREE AND HIGH-VALUE SHRUB APPRAISAL:

All trees and high-value shrubs will be evaluated and appraised by the City Forester or Project Consulting Arborist, and a list of all tree values for the project will be on file in the Construction Manager's office. Any tree or other plant requiring retention or protection that is not on the list shall be appraised by the City Forester or Project Consulting Arborist as necessary to comply with this damage penalty.

Documentation for appraisals will consist of:

[1]-measurement of plant size; [2]-identification by common and botanical names; [3]-current condition (overall health, injuries, overt hazard status, etc.) and [4]-location factors as described in the most recent edition of "The Guide for Plant Appraisal" published by the Council of Landscape Appraisers. Photographs may be taken of certain trees and shrubs to document debilitating condition factors.

The threshold level for plants to be appraised shall be \$100.00; only those trees and shrubs estimated to have a monetary value greater than \$100.00 shall be appraised.

2. Trees and other plants designated as requiring retention or protection shall be identified and located on construction plans. Loss of, or partial injury to, any of these plants due to Contractor neglect or improper construction activities will result in liquidated damages for the assessed value of the tree as determined by the City Forester or Project Consulting Arborist.
3. Trees determined as requiring "general protection" or "special protection" in the construction areas and in other key locations should be clearly identified by the City Forester or Project Consulting Arborist. Loss or partial injury to any of these trees due to Contractor neglect or improper construction activities will result in liquidated damages for the assessed value of the trees as determined by the City Forester or Project Consulting Arborist. Injury to a portion of these trees will be assessed by the City Forester or Project Consulting Arborist and a corresponding portion of the liquidated damages will be assessed to the Contractor.
4. A fine of one-thousand dollars (\$1,000.00) will be levied against the Contractor for each incident of construction damage (including construction traffic) within designated tree protection areas. Any fine shall be independent of any applicable liquidated damages for the assessed value of the tree or tree part.

**SECTION 201A
TREE RETENTION AND PROTECTION**

5. Trees or roots visibly and unnecessarily injured will cause the Owner to withhold from the Contractor an assessed amount conforming to the requirements stipulated above, for a period of one full year. After that period the impact of the injury to any tree will be assessed by the City Forester or the Project Consulting Arborist.
 6. If any trees or shrubs designated to be retained or protected are injured and replacement is justified, a number and equivalent diameter inches of trees or shrubs of same or similar species shall be furnished and planted by the Contractor. The total inch diameter of the replacement plant(s) shall equal the diameter of the plant(s) to be replaced, in accordance with the most recent edition of "The Guide for Plant Appraisal" published by the Council of Landscape Appraisers.
- (i) *Submittals.*
1. Proposed methods and schedule for effectuating tree and other plant protection shall be submitted for approval. Contractor shall submit construction schedule which includes a time frame for work near existing plants. Approval of such shall be obtained from the City Forester prior to commencement of construction near tree protection areas.
 2. Proposed methods, materials, and schedule for root pruning, branch pruning, and other tree maintenance shall be submitted for approval. The City Forester or Project Consulting Arborist shall mark the location of root pruning lines in the field prior to the operation. If possible, root pruning should occur between autumnal leaf fall and spring foliage. Root pruning during the growing season shall require approval of the City Forester or Project Consulting Arborist.
- (j) *Tree and Other Plant Maintenance During and after Completion of Construction*
1. Proper maintenance should include, but without limitation to: structural and remedial pruning; watering; mulching; remediating soil compaction; fertilization; insect and disease control; soil and tissue analysis; aeration; and wound treatment.
 2. The timing, duration and frequency of necessary maintenance practices should be determined by the City Forester or Project Consulting Arborist, based on factors associated with the site and affected plants.

BASIS OF MEASUREMENT AND PAYMENT

201A.03 The retention and protection of trees will not be measured or paid for separately, but shall be included in the price of the work.

**REVISION OF SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

Subsection 202.01 shall be revised to include the following:

Materials removed from this Project shall be recycled or reused in accordance with Special Conditions Section "Greenprint Denver Requirements". Final disposal of materials not recycled or reused is included in the work, and shall be disposed of at DADS.

After removal, the exposed subgrade surface shall be finished to a smooth and uniform surface conforming to the typical approved plan specified grade.

All references to curb and gutter shall be construed to include concrete curb and gutter, asphalt mat overlying concrete gutter pan, concrete gutter pan, granite-block curb, and stone curb.

This work will include removal and disposal of sewer stone inlets, manholes, pipe, and curb and gutter as required.

Subsection 202.02 shall be revised to include the following:

The Contractor shall mark the limits of removals in the field and shall arrange for same to be verified by the Project Manager or his representative. Removed materials shall be recycled or reused where possible. Final disposal of remaining materials will be made at DADS.

Removed concrete and asphalt material may not be used to construct embankments.

Culverts, pipes or sewers may not be left in place and filled, unless directed by the Project Manager. Storm sewers shall be removed per approved plan details.

Storm drain inlet protection devices shall be installed prior to the commencement of removal activities.

Removals in the vicinity of trees to remain shall conform to applicable provisions of the Tree Retention and Protection specification, as prepared by Denver Forestry.

Subsection 202.03 is hereby replaced as follows:

All salvable material shown on the plans shall be removed, without unnecessary damage, in sections or pieces that may be readily transported, and delivered by the Contractor to the location noted on the plans, or as directed by the Project Manager. The Contractor shall be held responsible for the safekeeping of all salvable materials during the period of the Contract until they are delivered to the City. The Contractor shall make good or replace at his own expense any such materials damaged, stolen or otherwise lost prior to receipt by the City. All salvable materials, as designated on the plans, shall remain the property of the City.

Subsection 202.05 shall be revised to include the following:

Pavement marking used for temporary traffic control on pavement to remain shall be removed in a manner that does not damage the pavement surface. Sandblasting, grinding, or hydro blasting will not be allowed.

**REVISION OF SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

Subsection 202.07 is hereby replaced as follows:

All concrete pavement, sidewalks, structures, curbs, gutters, asphalt pavement, etc., designated for removal, shall be broken into pieces and recycled, or disposed of outside the limits of the project, unless otherwise designated on the plans, or as directed by the Project Manager.

Old concrete construction which abuts new construction, edges of pavement, sidewalks, curbs, etc., to be left in place shall be saw cut to true line with a vertical face.

Where old asphalt construction abuts new construction, edges of asphalt pavement, patching, etc., asphalt to be left in place shall be wheel cut or sawcut to a neat vertical face with minimal jagged edges to the satisfaction of the Project Manager. The Project Manager, at his discretion, may require asphalt to be sawcut.

Subsection 202.09 shall be revised to include the following:

Removal of asphalt mat from gutters to remain shall be accomplished by planing, and/or scraping. If the existing gutter is to remain, the gutter shall be cleaned until the pan is completely clean of residue. Gutters which are excessively (greater than one-quarter inch in depth) planed or damaged shall be removed and replaced by the Contractor at his expense. If gutter is designated for removal, no separate payment shall be made for asphalt removal.

Subsection 202.11 shall be revised to include the following:

Removal of concrete paving, sidewalk, crosspans, curb ramps, driveways will be measured by area in square yards, regardless of thickness.

Removal of asphalt mat will be measured by square yard. If the asphalt mat is greater than 4" and is over concrete pavement, both asphalt removal and concrete pavement removal will be paid. If the asphalt mat is less than 4" and is over concrete pavement, only concrete pavement removal will be paid.

Removal of asphalt mat from concrete gutter and other concrete designated to remain shall be measured by the square yard. Removal of asphalt mat from gutter shall include cleaning as part of that pay item.

The each price bid for inlet removal shall include all of the Contractor's costs of whatsoever nature. The price bid shall include: excavation, including overexcavation to remove unsuitable foundation material; removal and disposal of all inlet materials including pipe, wood, concrete, reinforcing; backfilling and compaction; and all other related and necessary materials, work and equipment required to remove the inlet in accordance with the Contract Documents.

**REVISION OF SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

The each price bid for manhole removal shall include all of the Contractor's costs of whatsoever nature. The price bid shall include: excavation, including overexcavation to remove unsuitable foundation material; removal and disposal of all inlet materials including pipe, wood, concrete, reinforcing; backfilling and compaction; and all other related and necessary materials, work and equipment required to remove the manhole in accordance with the Contract Documents.

The linear foot price bid for pipe removal shall include all of the Contractor's costs of whatsoever nature. The price bid shall include: excavation, including overexcavation to remove unsuitable foundation material; removal and disposal of all pipe materials including pipe, wood, concrete, reinforcing; backfilling and compaction; and all other related and necessary materials, work and equipment required to remove the pipe in accordance with the Contract Documents.

Subsection 202.12 is hereby deleted and replaced as follows:

The accepted quantities will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule. Payment shall be full compensation for sawcutting, scraping, sandblasting, removing, hauling, plugging and disposal of such items, excavation and subsequent backfill (with moisture/density control per the Revision of Subsection 203.07) to proposed subgrade elevation. The price shall also include salvageable materials removed, their custody, preservation, storage, haul and disposal as provided herein.

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Removal of Tree	Each
Removal of Inlet	Each
Removal of Manhole	Each
Removal of Pipe	Linear Feet
Removal of Sidewalk	Square Yard
Removal of Curb and Gutter	Linear Feet
Removal of Asphalt Mat	Square Yard
Plug Culvert	Each

**REVISION OF SECTION 203
EXCAVATION AND EMBANKMENT**

Section 203 of the Standard Specifications is hereby revised as follows:

Subsection 203.01 shall be revised to include the following:

Disposal of materials not recycled or reused will be made to DADS and shall be part of this contract.

Fencing shall be erected around all excavations greater than 4 feet deep to preclude public access when unattended.

Work in the vicinity of trees to remain shall conform to applicable provisions of the Tree Retention and Protection specification, included in this specification package.

Subsection 203.04 shall be revised to include the following:

The Contractor shall protect and promptly dewater and recondition all excavations from water, regardless of source.

Subsection 203.05 (c), first paragraph, shall be revised to include the following:

Approved backfill material shall structural backfill or other material as approved by the Project Manager.

Subsection 203.07 shall be revised to include the following:

Unless otherwise indicated on the plans, the density requirements for embankment material shall be: clay soils – 95% of the maximum density determined in accordance with AASHTO T-99; granular soils – 95% of the maximum density determined in accordance with AASHTO T-180.

Subsection 203.09 shall be revised as follows:

Remove and replace first paragraph with the following:

Proof rolling: Proof rolling shall be conducted with a double tandem ten-wheel end-dump truck, loaded to a minimum gross weight of 45,000 pounds, or other equipment as approved by the Project Manager. Areas found to be weak, and those areas that failed, shall be ripped, scarified, dried or wetted as necessary and recompact to the requirements for density and moisture at the Contractor's expense.

Subsection 203.13 shall be revised to include the following:

Muck excavation, as designated by the Project Manager, will be measured in the field by the cubic yards necessary to bring the excavation back to subgrade.

**REVISION OF SECTION 203
EXCAVATION AND EMBANKMENT**

Subsection 203.13 (d) shall be deleted and replaced with the following:

Blading and Dozing: Proof rolling, blading, wetting, drying, and dozing, will not be measured and paid for separately, but shall be included in the cost of the work.

Subsection 203.13 (f) shall be deleted and replaced with the following:

Proof Rolling: Proof rolling, will not be measured and paid for separately, but shall be included in the cost of the work.

Subsection 203.13 shall be revised to include the following:

(g) Haul and Disposal. Haul and disposal will not be measured and paid for separately but shall be included in the cost of the work.

PAY ITEM

Muck Excavation

PAY UNIT

Cubic Yard

**REVISION OF SECTION 206
EXCAVATION AND BACKFILL
FOR STRUCTURES
(FOR STORM AND SANITARY)**

Section 206 of the Standard Specifications is revised as follows:

For construction of Storm and Sanitary Sewer structures, Subsections 206.01 through 206.05 shall be replaced with City and County of Denver, Department of Public Works, Wastewater Management Division "Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications", hereby incorporated into this Section by reference. All references in the replacement specifications to measurement and payment and item numbers referencing Standard Construction Specifications shall be deleted.

The referenced documents can be found at the following website:

<http://www.denvergov.org/WMDDesign/StormDrainSantConstrDetailTechSpecs/tabid/395956/Default.aspx>

Compaction Method B as defined in the above specifications shall be used.

Subsection 206.06is revised as follows:

Structure Excavation, Structure Backfill, Bed Course Material and Filter Material will not be measured and paid for separately. Payment for these items shall be included in the unit cost bid for the structure or pipe requiring the excavation, backfill, bed course material or filter material.

**REVISION OF SECTION 206
EXCAVATION AND BACKFILL
FOR STRUCTURE**

Section 206 of the Standard Specifications is hereby revised for this project as follows:

Subsection 206.01. shall include the following:

Work shall consist of installation of Mechanical Reinforcement of Soils per Section 504 of the Project Special Provisions,

Subsection 206.06 shall include the following:

The mechanical reinforcement of soil will not be measured for payment in the field, but will be paid for by calculated quantities shown on the plans.

Subsection 206.07 shall include the following:

PAY ITEM

Mechanical Reinforcement of Soil

PAY UNIT

Cubic Yard

Payment will be full compensation for all materials and work necessary to complete the item.

**REVISION OF SECTION 208
EROSION CONTROL**

Section 208 of the Standard Construction Specifications is hereby removed in its entirety and replaced with the following:

PART I: DEFINITIONS

Definitions used for this Section shall consist of those listed in Title 1 of the City and County of Denver "Standard Specifications for Construction, General Contract Conditions", 1999 edition.

Definitions used for this Section hereby incorporate those identified within the City and County of Denver Construction Activities Stormwater Manual (CASM).

Additional Definitions applicable to this Section are listed heretofore:

Basis of Payment: The terms under which "Work" is paid, as a designated "Pay Item" in accordance with the quantity measured and the "Pay Unit."

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, installation of devices, maintenance procedures, and other management practices deployed to stabilize the construction site to prevent or reduce the pollution of State Waters (see definition below). Stormwater BMPs can be classified as "structural" (i.e., devices installed or constructed on a site) or "non-structural" (procedures, such as modified landscaping practices).

Colorado Department of Health and Environment (CDPHE): State of Colorado, Water Quality Control Division responsible for issuance of State Construction Stormwater Permit.

Construction Activities Stormwater Discharge Permit (CASDP): Permit issued by the City for compliance with City & County of Denver Revised Municipal Code and Department of Public Works Rules & Regulations concerning the discharge of pollutants in storm generated runoff from construction sites to Municipal Separate Storm Sewer System (MS4, see definition below) or State Waters, via the Municipal Separate Storm Sewer System (MS4).

Construction Activities Stormwater Manual (CASM): City and County of Denver Construction Activities Stormwater Manual (CASM), 2010 edition.

Colorado Department of Transportation (CDOT): State agency that has published standards for Erosion Control with accompanying Erosion Control Supervisor certification courses.

Erosion Control Supervisor (ECS): The Erosion Control Supervisor is assigned by the Contractor to perform duties as described in this Section. The ECS shall be properly trained in BMPs per requirements of Part V below, and shall be under the direction of a Professional Engineer licensed in the State of Colorado when performing any modifications to the Project Stormwater Management Plan (SWMP).

Final Stabilization: Point of construction when all ground surface disturbing activities at the site have been completed and uniform vegetative cover has reached 70% of pre-disturbance vegetative cover, or equivalent permanent features have been employed. At this point, all temporary BMPs can be removed, all construction and equipment maintenance wastes have been disposed of properly; and all elements of the Stormwater Management Plan have been completed.

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**REVISION OF SECTION 208
EROSION CONTROL**

Major SWMP Modification: Changes to the original SWMP that removes or adds additional area to the Project, or modifies the final hydrology or drainage of the Project. A Major SWMP Modification requires the submission of revised Stormwater Management Plan (SWMP) elements to the Permit Authority for review and approval. Any adjustments to a SWMP must be performed either by or under the direction of a Professional Engineer licensed in the State of Colorado.

Minor SWMP Modification: Modification to the SWMP that does NOT increase the scope or change hydrology of the Project but: modifies/improves specific BMPs in use at site, indicates progression in phasing of the Project, or specifies relocation of previously approved BMPs within the Project. Any adjustments to a SWMP must be performed either by or under the direction of a Professional Engineer licensed in the State of Colorado.

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- a) owned or operated by a State, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of stormwater or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under Section 208 of the Federal Clean Water Act that discharges to State Waters;
- b) designed or used for collecting or conveying stormwater;
- c) which is not a combined sewer; and
- d) which is not part of a Publicly Owned Treatment Works (POTW).

Permit Authority: The Department authorized by the City to review and process CASDP Applications for Capital and/ or governmental sponsored Projects. The responsible City department serving as the Permit Authority is the Public Works Project Controls Office. As a clarification, the Development Services Department of the City serves as the point of intake and permit processing center.

Permit Enforcement Authority: The Department authorized by the City to inspect and enforce CASDP Rules and Conditions for all construction Projects within the City's MS4 Boundary. The responsible City department serving as the Permit Enforcement Authority is the Wastewater Management Division of the Department of Public Works.

State Construction Stormwater Permit: Colorado Revised Statutes require that all construction sites/development Projects, which, by definition, disturb one or more acres in area, shall be covered by a State issued general permit for construction activities. Information on the application requirements for the State permit can be obtained by phone at 303-692-3500; or by visiting their offices located at 4300 Cherry Creek Drive South, Denver, CO 80246 – 1530. or on the Web at: www.cdphe.state.co.us

State Waters: Any and all surface waters which are contained in or flow in or through this State, not to include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

Examples of State Waters include, but are not limited to, perennial streams, intermittent or ephemeral gulches and arroyos, ponds, lakes, reservoirs, irrigation canals or ditches, wetlands, stormwater conveyances (when they discharge to a surface water), and groundwater.

**REVISION OF SECTION 208
EROSION CONTROL**

Stormwater Management Plan (SWMP): The Stormwater Management Plan contains the requirements necessary to accomplish all the following:

The SWMP establishes a minimum standard to construct, install, maintain, and remove required BMPs during the life of the Contract to prevent or minimize pollution of stormwater due to erosion, sediment transport, and construction related pollutant generated during all phases of the Project. A SWMP consists of the following elements:

- (i) CASDP Narrative Worksheet with Narrative Report. The Narrative Report and supporting documents should fully address the methods to be used to prevent sediment, debris, and other pollutants from entering the MS4 and/ or State Waters in and around the Project area. Proposed structural and non-structural BMPs should be described with sufficient implementation detail to insure that the logical phases of the proposed construction Project meet the performance standards listed in the CASM.
- (ii) Proposed site drawings and Best Management Practice (BMP) installation details as they apply to the site conforming to the Urban Storm Drainage Criteria Manual, Vol. 3, "Best Management Practices", most current version as issued by the Urban Drainage and Flood Control District (UDFCD), or those established by the City's Department of Public Works. If erosion control drawings were included within the bid documents for the Project, they shall be used for bid purposes and initial planning/ deployment of BMPs on the Project. If provided drawings are signed/ sealed by a Professional Engineer, they have been pre-approved by the Permit Authority and may be used without revision for purposes of submitting for CASDP. If provided drawings do not have signature/ seal of Professional Engineer licensed by the State of Colorado, they will require revision by the Contractor with Professional Engineer signature/ seal prior to submission to the City and County of Denver for CASDP.
- (iii) Supporting documentation related to proposed BMPs that are not currently identified in UDFCD Vol. 3 or as otherwise published by the City.

Any preparation of or adjustments to a SWMP must be performed either by or under the supervision of a Professional Engineer licensed in the State of Colorado. SWMP elements submitted to the City shall also meet currently established criteria of the CDPHE as the SWMP must meet all local, State and Federal requirements.

Substantial Completion of Erosion Control: Point of construction when permanent BMPs have been installed, initial growth is in place, and the site is waiting for vegetative cover to reach 70% of pre-disturbance vegetative cover.

**REVISION OF SECTION 208
EROSION CONTROL**

PART II: DESCRIPTION

This Work shall consist of constructing, installing, maintaining, and removing when required, BMPs during the life of the Contract until Final Stabilization to prevent or minimize erosion, sedimentation, and pollution of any waters including storm, drainageways, MS4, State Waters, and/ or wetlands. Work under this Section includes the Contractor obtaining required Permits, utilizing SWMP elements provided in the Contract, and/ or SWMP elements specifically prepared by the Contractor as defined herein. The work shall also consist of providing on-going maintenance and monitoring of the SWMP as may be necessary due to the specific and/or dynamic needs of the Project as well as meet all requirements set forth within the CASM.

The Contractor shall coordinate the construction of temporary BMPs with the construction of permanent BMPs to assure economical, effective, and continuous erosion and sediment control and water pollution prevention throughout the construction period until Final Stabilization is achieved

When a provision of this Section or an order by the Permit Enforcement Authority requires that an action be immediate or taken immediately, it shall be understood that the Contractor shall at once begin effecting completion of the action and pursue it to completion in a manner acceptable to the Permit Enforcement Authority, and in accordance with applicable Permitting requirements.

PART III: MATERIALS

Materials to be used for BMPs shall conform to each specific detail as set forth within the Project SWMP or as noted on the Contract Drawings.

PART IV: EROSION CONTROL PERMIT STATUS

The current SWMP status for the Project is as follows:

A SWMP is currently not required for this project as the proposed disturbed area and/ or proximity to stream does not meet the minimum criteria for requiring a CASDP. All provisions of the following Part V of this Section is hereby deleted and shall not be made part of the Project. However, the responsibilities for minimizing sediment pollution from the Project have not been waived, and as such, the City hereby requires the Contractor to perform as specified in the following notes.

“A CASDP Permit will not be required for this project, however, the Contractor and/or their authorized agents shall ensure that all potential pollutants generated during demolition, excavation, trenching, boring, grading, or other construction Work associated with this permit, be prevented from discharge to stormwater conveyance systems in the vicinity of the Project.

The Contractor and/or their authorized agents shall remove all sediment, mud, construction debris, or other potential pollutants that may have been discharged to or, accumulate in the flow lines of storm drainage appurtenances and public rights of ways of the City and County of Denver as a result of construction activities associated with this Project. All removals shall be conducted in a timely manner.

**REVISION OF SECTION 208
EROSION CONTROL**

The Contractor shall be held responsible for remediation of any adverse impacts to the MS4, State Waters, waterways, wetlands, and or other public or private properties, resulting from work done as part of this Project.

The Contractor and/or their authorized agents shall insure that all loads of cut and fill material imported to or exported from the Project shall be properly covered to prevent loss of the material during transport on public rights of way.” (Sec.49-552; Revised Municipal Code)

Approved erosion and sediment control ‘Best Management Practices’ shall be maintained and kept in good repair for the duration of the Project. All necessary maintenance and repair shall be completed immediately upon discovery of any deficiency or defect.

The Contractor and/or their authorized agents shall implement the following Best Management Practices (BMPs) on site during construction:

1. **VEHICLE TRACKING CONTROL:** This BMP is required at all access points to a construction site that are used by vehicular traffic or construction equipment.
2. **INLET PROTECTION:** This BMP is required on all existing or proposed storm sewer inlets in the vicinity of the construction site that may receive site runoff. The BMP must be appropriate to the type of storm inlet and appropriate for the ground surface at the inlet.
3. **INTERIM SITE STABILIZATION:** This BMP is required to provide a measure for preventing the discharge of sediment from construction sites where overlot grading or other site disturbance has occurred. This BMP is particularly necessary on sites where construction activities/disturbance will be limited to small areas of the project site. Acceptable BMPs include:
 - a) Preserving existing vegetation
 - b) Seeding and planting
 - c) Mulching
 - d) Mulching and seeding
 - e) Temporary/Permanent re-vegetation operations
 - f) Chemical soil stabilizer application (requires Permit Enforcement Authority approval)
4. **WASTE MANAGEMENT/CONTAINMENT:** This BMP requires that all construction wastes, fuels, lubricants, chemical wastes, trash, sanitary wastes, contaminated soils or debris shall be contained on site, protected from contact with precipitation or surface runoff, periodically removed from the construction site, and properly disposed of.
5. **SPILL PREVENTION /CONTAINMENT:** This BMP defines the measures proposed for preventing, controlling, or containing spills of fuel, lubricants, or other pollutants; and protecting potential pollutants from contact with precipitation or runoff.
6. **CHUTE WASHOUT CONTAINMENT:** Water used in the cleaning of ready mixed concrete truck delivery chutes shall be discharged into a predefined, bermed containment area on the job site. The required containment area is to be bermed so that wash water is totally contained. Wash water discharged into the containment area shall be allowed to infiltrate or evaporate. Dried concrete waste shall be removed from the containment area and properly disposed of.

**REVISION OF SECTION 208
EROSION CONTROL**

- a) Should a predefined bermed containment area not be available due to the project size, or lack of an area with a suitable ground surface for establishing a containment area, proper disposal of ready mix washout and rinse off water at the job site shall conform to the approved techniques and practices identified in the Colorado Department of Public Health & Environment's training video entitled "Building For a Cleaner Environment, Ready Mix Washout Training", and its accompanying manual entitled, "Ready Mix Washout Guidebook, Vehicle and Equipment Washout at Construction Sites."
- b) The direct or indirect discharge of water containing waste concrete to the storm sewer system is prohibited (Sec.56-102a, c; Revised Municipal Code, City and County of Denver).
- c) Information about, or copies of the video and training manual are available from the Water Quality Control Division, Colorado Department of Public Health & Environment, 4300 Cherry Creek Drive South, Denver, Colorado 80222-1530, (303) 692-3555.

7. **STREET SWEEPING:** This BMP requires that paved surfaces which are adjacent to construction sites be swept in a timely manner when sediment and other materials are tracked or discharged on to them. Either sweeping by hand or use of street sweepers is acceptable. Street sweepers using water while sweeping is preferred in order to minimize dust. Flushing off paved surfaces with water is prohibited.

8. **PERIMETER CONTROL:** This BMP requires that a construction site install a perimeter control measure along the edge of the construction site, to prevent, or filter the discharge of surface runoff from the construction site. The type of perimeter control used shall be determined based on site conditions and location. Maintenance and repair of the control measure shall occur as needed, in a timely manner.

9. **STOCK PILES:** Soils that will be stockpiled for more than thirty (30) days shall be protected from wind and water erosion within fourteen (14) days of stockpile construction. Stabilization of stockpiles located within 100 feet of an MS4 or State Waters, or with slopes 3 to 1 or greater shall be completed within seven (7) days following stockpile construction. Stabilization and protection of the stockpile may be accomplished by any of the following: Mulching, Temporary/Permanent Revegetation Operations, Chemical Soil Stabilizer Application (requires Permit Enforcement Authority approval), or erosion control matting/Geotextiles. If stockpiles are located within 100 feet of an MS4 or State Waters, a drainageway or the site perimeter, additional sediment controls shall be required.

10. **SAW CUTTING OPERATIONS:** The Contractor shall protect all storm sewer facilities adjacent to any location where pavement cutting operations involving wheel cutting, saw cutting, or abrasive water jet cutting are to occur. The Contractor shall remove and properly dispose of all waste products generated by said cutting operations on a daily basis or as needed throughout the work day. The discharge of any water contaminated by waste products from cutting operations to the storm sewer system is prohibited. (Sec.56-102a, c; Revised Municipal Code, City and County of Denver)."

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EROSION CONTROL**

If the Contractor determines that additional area will be required, increasing the Limits of Disturbance Area to over an acre, the Contractor shall submit a complete SWMP and application to the Permit Authority to obtain the required CASDP. The Contractor shall use the provided erosion control drawings provided in the Contract as a starting point for preparation of required SWMP elements (as required for CASDP) and for general information as to the origin of pay items included in the Bid Documents. It shall be the responsibility of the Contractor to prepare and acquire approval of a complete SWMP and obtain a CASDP from the Permit Authority prior to beginning construction. The Contractor is hereby made aware that the Permit Authority allots up to 3 weeks per review cycle for CASDP applications (2 review cycles are not uncommon). Per CASDP requirements, the Contractor shall obtain the endorsement of a Professional Engineer licensed in the State of Colorado for preparation of the initial SWMP and/ or any proposed Major or Minor SWMP Amendments. This will require the Contractor to provide or retain a Professional Engineer. Per definition, a Major SWMP Modification requires the submission of revised SWMP elements to the Permit Authority for review and approval. Prior to construction, the Contractor shall obtain the required State Construction Stormwater Permit(s) as applicable

PART V: CONSTRUCTION REQUIREMENTS

A) SCHEDULES:

At least 10 working days prior to the beginning of any construction work, the Contractor shall submit for approval a schedule for accomplishment of temporary and permanent BMPs shown in the SWMP. This schedule shall specifically indicate the sequence of clearing and grubbing, earthwork operations, and construction of temporary and permanent BMPs. The schedule shall include BMPs for all areas within the Project boundaries, including but not limited to, haul roads, borrow pits, and storage and other staging sites. Work shall not be started until the BMP schedule has been approved in writing by the Project Manager. Once the work has started, and during the active construction period, the Contractor shall update the schedule for all BMPs on a regular basis, and as required to keep the SWMP in compliance.

B) CONSTRUCTION IMPLEMENTATION: The Contractor shall incorporate into the Project all BMPs as outlined in the accepted schedule.

C) UNFORSEEN CONDITIONS: The Contractor shall direct the ECS (under the supervision of a Professional Engineer licensed in the State of Colorado) to design and implement BMPs for correcting conditions unforeseen during design of the Project, or as possible for emergency situations, which arise during construction. The Project's SWMP, UDFCD Vol 3 standards and details, and CDOTs "Erosion Control and Storm-Water Quality Guide," and any approved modification to these documents as proposed by the Contractor, shall be used as reference documents for the purpose of designing appropriate BMPs. Measures and methods proposed by the Contractor to deal with unforeseen conditions shall be reviewed and approved in writing by the Permit Enforcement Authority and the Project Manager prior to implementation and construction.

In an emergency situation, the Contractor shall use best judgment for immediately responding to the emergency situation as it arises, and shall notify the Permit Enforcement Authority and ECS of the emergency situation and BMPs employed in response as soon as practical after installation.

**REVISION OF SECTION 208
EROSION CONTROL**

D) PERMITS:

The Contractor shall obtain all required permits for the Project including those required by federal, state, and local agencies. The Contractor shall obtain (or transfer from the City when specified) required erosion control and water quality permits and shall be responsible for compliance with all requirements under any such permits.

E) EROSION CONTROL SUPERVISOR:

Contractor shall assign to the Project an employee or subcontractor to serve as Erosion Control Supervisor (ECS). The ECS shall be a person other than the Contractor's superintendent, foreman, or equivalent supervisory position. The ECS shall be experienced in aspects of BMP construction and have satisfactorily completed a Colorado DOT or equivalent ECS training program authorized by the City. Proof that this requirement has been met shall be submitted to the Project Manager at least ten working days prior to the beginning of any soil disturbance work. A list of authorized ECS training programs is available from the City upon request. Additionally, per definition, the ECS shall be under the direction of a Professional Engineer licensed in the State of Colorado when performing any modifications to the Project Stormwater Management Plan (SWMP).

The ECS shall be responsible for oversight of the implementation, maintenance, and revision of the SWMP for the duration of the Project. The ECS's responsibilities shall be as follows:

- 1) Ensure compliance with all water quality permits or certifications in effect during the construction work.
- 2) Supervise the installation, construction, and maintenance of all BMPs specified in the Contract and coordinate the construction of BMPs with all other construction operations.
- 3) Direct the implementation of suitable BMPs as necessary to correct unforeseen conditions or emergency situations. Direct the dismantling of those features when their purpose has been fulfilled due to completion of each Project phase unless the Permit Enforcement Authority agrees that the features be left in place.
- 4) Inspect the construction site and document inspection activities at least every seven (7) days and immediately following any precipitation or snowmelt event with the potential to cause surface erosion. If no land disturbing construction activities are present during a storm event, post-storm event inspections shall be conducted prior to commencing any new land disturbing construction activities, but no later than seventy-two (72) hours following the storm event.
- 5) Attend the preconstruction conference, erosion control preconstruction inspection, Project scheduling meetings, weekly construction/ field meetings, substantial completion and final stabilization inspections, and other meetings regarding construction that could impact water quality.
- 6) Evaluate all non-stormwater coming onto the site, such as springs, seeps, and landscape irrigation return flow. If such flow is identified, the ECS shall propose appropriate SWMP modifications to the Contractor to protect off-site water from becoming contaminated with sediment or other pollutants.
- 7) Coordinate with the Contractor to implement necessary actions to reduce anticipated or presently existing water quality or erosion problems resulting from construction activities.

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EROSION CONTROL**

- 8) Coordinate with the Contractor to ensure all labor, material, and equipment deployed to meet SWMP requirements is judged appropriately.
- 9) During construction, update and record the following items in the SWMP as changes occur:
- (i) Construction boundaries (may require Major SWMP Modification)
 - (ii) Areas of disturbance (may require Major SWMP Modification)
 - (iii) Areas used for storage of construction materials, equipment, soils, or wastes.
 - (iv) Location of any dedicated asphalt or concrete batch plants.
 - (v) Location of construction offices and staging areas.
 - (vi) Location of work access routes during construction.
 - (vii) Location of borrow and waste.
 - (viii) Location of temporary and permanent stabilization

The ECS shall start a new site map before the current one becomes illegible. All site maps shall remain with the SWMP paperwork.

10) Amend the SWMP whenever there are: additions, deletions, or changes in locations of BMPs. SWMP revisions shall be recorded immediately. Items shall be dated and signed at time of occurrence. Specifically, amendments shall include the following:

- (i) A change in design, construction, operation, or maintenance of the site which would require the implementation of new or revised BMPs; or
- (ii) Changes when the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity.
- (iii) Changes when temporary BMPs are no longer necessary from changes in Project phase and are removed. All inspection and maintenance activities or other repairs shall be documented.

All inspection and maintenance activities or other repairs shall be documented. The SWMP and documentation shall be kept on the Project site at all times.

11) Modify the site map with arrows to indicate direction of surface and storm water flowing across the Project site.

12) When adding or revising BMPs in the SWMP, amend the narrative to explain what, when, where, why, and how the BMP is being used, and add a detail to the SWMP.

13) If using existing topography, vegetation, etc. as a BMP, label it as such in the SWMP site map; amend the Narrative to explain when, why, and how the BMP is being used to the SWMP.

14) Record on the SWMP, and implement the approved plan for concrete and asphalt saw cutting, grinding, and milling containment and removal.

15) Update the potential pollutants list in the SWMP throughout construction meeting CASDP requirements.

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16) Spills, leaks, or overflows that result in the discharge of pollutants shall be documented on the inspection form. The ECS shall record the time and date, weather conditions, reasons for spill, and how it was remediated. The ECS shall immediately report to the Contractor and Project Manager the following instances of noncompliance:

- (i) Noncompliance which may endanger health or environment.
- (ii) Spills or discharge of hazardous substance or oil which may cause pollution of the City MS4 or State Waters.
- (iii) Discharge of stormwater which may cause an exceedance of a water quality standard.

17) Perform a thorough inspection of the stormwater management system at least every seven (7) days and within 24 hours after any precipitation or snowmelt event with the potential to cause surface erosion. The inspection records shall be kept on-site in a written or previously approved format. Inspections shall be conducted during the progress of the work, during work suspensions, or until Final Stabilization of all disturbed areas is approved by Permit Enforcement Authority and shall include the following services at a minimum:

- (i) The construction site perimeter, disturbed areas, and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. BMPs identified in the SWMP shall be observed to ensure that they are operating correctly.
- (ii) The description of potential pollutant sources, and the BMPs identified in the SWMP, shall be revised and modified as appropriate based on the results of the inspection as soon as practicable after such inspection. Modification to the SWMP shall be implemented in a timely manner and in accordance with applicable Permit requirements.
- (iii) The operator shall keep a record of inspections. Uncontrolled releases of sediment or polluted storm water or measurable quantities of sediment found off the site shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measures taken to clean up the sediment that has left the site. Inspection records shall be made available to the City upon request. Note: documentation of uncontrolled releases at site DOES NOT alleviate any State or Federal requirements for reporting of discharges or upset conditions. Care should be taken to ensure compliance with all regulatory requirements at site.
- (iv) Seven (7) day inspections are required during construction and at all times until Final Stabilization has been achieved. Seeding and mulching of disturbed areas does NOT count as final stabilization until such time as 70% pre disturbed vegetative cover has been achieved. Sites with growth in place sufficient to deter erosion that have not yet achieved final stabilization may petition the City to grant an alternative inspection schedule while awaiting additional growth for final stabilization. These inspections must be conducted in accordance with the above paragraphs.

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**REVISION OF SECTION 208
EROSION CONTROL**

F) APPLYING BMPs TO STABILIZE SITE:

The duration of the exposure of uncompleted construction to the effects of weather shall be as short as practicable. BMPs such as: seeding, surface roughening, mulching, applying tackifier, use of geotextiles and matting, permanent landscaping, or other selected BMPs shall be applied within fourteen (14) calendar days of completion of grading/soil disturbance activities to stabilize the construction site unless disturbed area is within 100 feet of an MS4 or State Waters or has slopes of 3 to 1 or greater in which case BMPs shall be implemented within seven (7) calendar days of completion of grading activities. Disturbed areas where work is temporarily halted shall be temporarily stabilized within seven (7) days after the activity ceased unless work is to be resumed within thirty (30) calendar days after the activity ceased.

Clearing and grubbing operations shall be scheduled and performed to minimize both the area of the Project disturbed at a given time and the amount of time that disturbed areas remain open. BMPs such as temporary seeding are required between successive construction stages when disturbed areas will not be stable or active for thirty (30) calendar days or more. No payment will be made for additional work required because the Contractor has failed to properly coordinate the BMP schedule, thus causing previously stabilized areas to be disturbed by operations that could have been performed prior to the stabilization. Upon failure of the Contractor to coordinate the permanent BMPs with the grading operations in a manner to effectively control erosion and prevent water pollution, the Permit Enforcement Authority can suspend the Contractor's grading operations and the Project Manager can withhold monies due to the Contractor on current estimates until such time that all aspects of the work are coordinated in an acceptable manner.

G) WORK OUTSIDE LIMITS OF CONSTRUCTION: Non-contiguous areas outside the limits of construction that are used by the Contractor that include, but are not limited to, borrow pits, haul routes, storage and disposal areas, field offices, maintenance, batching areas, etc., shall have appropriate BMPs implemented by the Contractor at the Contractor's expense. Should said areas meet applicable CASDP Permit criteria, the Contractor shall obtain a separate CASDP for each area as applicable at no additional expense to the City.

H) MAINTENANCE: The Contractor shall continuously maintain erosion and sediment control BMPs on a daily basis or as directed by the ECS so that they function properly during and after construction (including work suspensions) until Final Stabilization has been approved by the Permit Enforcement Authority. Maintenance includes, but is not limited to, the following items:

- (i) From the time seeding and mulching work begins until the date the Project has reached Substantial Completion of Erosion Control, the Contractor shall keep all seeded areas stabilized at all times. Any damage to seeded areas or to mulch materials shall be promptly repaired.
- (ii) All inspection sediment removal, and BMP maintenance activities to comply with all Federal, State & Local erosion control permit requirements until Final Stabilization is reached.
- (iii) All removal and replacement of existing BMPs due to damage to same suffered either by the contractor, outside agencies, the public, or acts of God.
- (iv) All required mechanical and/ or manual street sweeping.
- (v) Discretionary changes required of any regulatory enforcement officer.

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If the Contractor fails to maintain the BMPs in accordance with the Contract, or as directed, the City may at the expiration of a period of 48 hours, after having given the Contractor written notice, proceed to maintain BMPs as deemed necessary. The cost thereof will be deducted from any compensation due, or which may become due to the Contractor under this Contract.

I) MINOR SWMP MODIFICATIONS: Shall be made in the field by the Contractor and thoroughly documented in the Contractor's SWMP narrative and drawings. Should the Permit Enforcement Authority deem minor field modifications inadequate, the Contractor may be required to a) make specific modifications as requested by the Permit Enforcement Authority or b) return to the original approved design specifications. Minor SWMP Modifications are allowed, covered under the original CASDP, and required as part of standard maintenance and operation.

J) MAJOR SWMP MODIFICATION: The City reserves the right to require changes in the Work or Project Limits that may require a Major Modification to the SWMP and/ or CASDP due to unforeseen circumstances. Should this occur, the Contractor will be responsible for the following (as applicable):

- (i) Make required revisions to comply with changing federal or state rulemaking if occurs within timeframe of Project
- (ii) Make required revisions due to unforeseen or unplanned conditions leading to deficient Drawings/ SWMP (hazardous materials encountered, landfills, expansion of work limits, etc.)
- (iii) Prepare revised SWMP elements endorsed by a Professional Engineer licensed in the State of Colorado.

K) SUBSTANTIAL COMPLETION OF EROSION CONTROL: When a CASDP is required for the Project, Substantial Completion of the Project as defined by the City and County of Denver General Contract Conditions cannot be reached until Substantial Completion of Erosion Control has been granted. Granting of Substantial Completion of Erosion Control must be requested by the Contractor and be approved by the Permit Enforcement Authority in the form of a "Certificate of Substantial Completion of Erosion Control".

L) FINAL STABILIZATION: Granting of Final Stabilization must be requested by the Contractor and be approved by the Permit Enforcement Authority. Other permanent soil stabilization techniques may be proposed, in writing, by the Contractor and used upon approval, in writing, by the Project Manager and Permit Enforcement Authority.

The Contractor may reach Final Stabilization via the following procedures:

- (i) The Contractor shall file Inactivation Request for Construction Activities Stormwater Discharge Permit (available within CASDP guidance documents) with the Permit Enforcement Authority.
- (ii) The Contractor shall coordinate with the Permit Enforcement Authority to hold a Final Inactivation Inspection.
- (iii) If passing, the Permit Enforcement Authority transmits a letter of approval for Final Stabilization.
- (iv) If not passing, the Permit Enforcement Authority transmits a letter of denial for Final Stabilization with associated inspection report to Contractor.
- (v) Stabilization, inspection and maintenance requirements shall continue until confirmation of having met final closure requirements have been granted in writing by the Permit Enforcement Authority.

When Final Stabilization has been reached, the Permit Enforcement Authority shall issue a "Certificate of Final Stabilization".

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EROSION CONTROL**

M) FINAL ACCEPTANCE:

CASDP obligations (including reaching Final Stabilization) may hinder the ability to reach Final Acceptance for the overall Project as defined in the City General Contract Conditions.

PART VI: CONSTRUCTION OF BMPs

BMPs shall be constructed so that they conform to all requirements as set forth within the Project SWMP. They shall meet all requirements set forth within each BMP detail and shall be installed and maintained so that they function in an effective and operable manner.

Construction Fence and Stabilized Construction Staging area shall be constructed per the Urban Drainage and Flood Control District, *Urban Storm Drainage Criteria Manual Volume 3*.

PART VII: METHOD OF MEASUREMENT

Silt fence, silt berms, erosion logs, gravel bags, silt dikes, temporary berms, temporary diversions, temporary drains, and brush barriers will be measured by the actual number of linear feet that are installed and accepted. Stakes, anchors, connections and tie downs used for temporary slope drains will not be measured and paid for separately, but shall be included in the work.

Concrete washout structure will be measured by the actual number of structures that are installed and accepted, and if specified on the SWMP as in-ground will include excavation, embankment, concrete, liner, erosion bales, fencing, and containment and disposal of concrete washout and all other associated waste material.

Storm drain inlet protection will be measured by the unit as specified in the Contract. Sediment trap and sediment basin quantities will be measured by the unit which shall include all excavation and embankment required to construct the item.

Removal of sediment & trash that is or is not generated by construction activities will not be measured separately but shall be included in the work.

Any excavation required for the removal of sediment from traps, basins, areas adjacent to silt fences and erosion bales, and any other cleanout excavation of accumulated sediment, and removal of check dams or storm drain inlet protection will not be measured separately but shall be included in the work.

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PART VIII: BASIS OF PAYMENT

Work to furnish, install, maintain, replace (if not due to contractor negligence), remove, and dispose of BMPs specified in the Contract will be paid for at the contract unit price.

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Construction Fence	Linear Foot
Stabilized Construction Staging Area	Square Yard
Concrete Washout Structure	Each
Silt Fence	Linear Foot
Storm Drain Inlet Protection	Each
Vehicle Tracking Control	Each

Temporary BMPs will be measured and paid for by the BMPs used, except that surface roughening, removal and disposal of sediment, and removal of trash will not be measured and paid for separately.

Payment for each BMP item will be full compensation for all work, materials and equipment required to furnish, install, maintain, remove, and dispose of it. BMPs as deployed per the SWMP requiring replacement due to Contractor negligence and or carelessness shall be provided at the Contactor's expense.

Temporary BMPs required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or for the Contractor's convenience, shall be performed at the Contractor's expense.

If the Contractor fails to complete construction within the approved contract time, payment will not be made for Section 208 pay items for the period of time after expiration of the approved contract time. These items shall be provided at the Contractor's expense.

The cost for any corrective actions required by the State or City due to contractor's failure to obtain or comply with applicable Permits will be borne by the Contractor, including fines and penalties. In the case of failures on the part of the Contractor in controlling erosion, sedimentation, and/or water pollution, the City may provide the necessary corrective actions. All corrective action costs, including Project engineering costs, will be charged to the Contractor, and appropriate deduction will be made from the Contractor's monthly pay estimate.

The sole remedy for additional costs associated with installation of BMPs as required by regulatory agencies to ensure compliance with local and State requirements shall be per unit BMP as provided in the Bid Schedule of this Contract. The Contractor however may submit a separate itemized Change Order for any required Major SWMP Modification proposed by the City during the course of the Project.

Pay Units for ECS will be full compensation for the Erosion Control Supervisor including all materials, labor and equipment necessary for the ECS to perform the work. Commute time will not be measured and paid for separately, but shall be included in the work. The ECS pay item shall include all labor, Professional Engineering (includes supervisory Professional Engineer licensed in the State of Colorado), and/ or design fees to prepare modifications to Stormwater Management Plan(s), revise or amend

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Permits, coordinate with State and Local agencies, design special erosion control plans for emergency situations that develop during construction or unexpected weather conditions.

Additional stabilized construction/ staging area proposed by Contractor beyond area included in the Bid shall be installed per requirements of the Permit Authority and Permit Enforcement Authority without any additional compensation.

Payment for concrete washout structure, whether constructed or prefabricated, will be full compensation for all work and materials required to install, maintain, and remove the item. This includes, but is not limited to: excavation, embankment, liner, erosion bales, fencing, signing, and containment and disposal of concrete washout and all other associated waste material.

Silt berm spikes and dike staples will not be measured and paid for separately, but shall be included in the work.

Payment for storm drain inlet protection will be full compensation for all work, materials, and equipment required to complete the item, including surface preparation, maintenance throughout the Project, and removal upon completion of the work. Aggregate will not be measured and paid for separately, but shall be included in the work.

Sweeping, when used as a BMP as shown in the Contract, will be measured by the number of hours that a pickup broom or motorized equipment capable of collecting sediment, authorized by the Project Manager, is used to remove sediment from the roadway or other paved surfaces. Operator will not be measured and paid for separately, but shall be included in the work.

Stakes, anchors, connections, geotextile, riprap and tie downs used for temporary slope drains will not be measured and paid for separately, but shall be included in the work.

Payment for vehicle tracking pad will be full compensation for all work, materials and equipment required to construct, maintain, and remove the entrance upon completion of the work. Aggregate and geotextile will not be measured and paid for separately, but shall be included in the work.

Surveying of permanent BMPs will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 209
WATERING & DUST PALLIATIVES**

Section 209 of the Standard Specifications is hereby revised for this project as follows:

In Subsection 209.07, delete the first paragraph and replace with the following:

Water will not be measured, but shall be included in the work.

In Subsection 209.08, delete the third paragraph and replace with the following:

Water required for all items of work, including dust control, will not be paid for separately, but shall be included in the work.

Any irrigation disruptions to existing landscaped areas shall be hand watered, by Contractor at the Contractor's expense. This will not be measured or paid for separately, but included in the work.

**REVISION OF SECTION 210
RESET STRUCTURES**

Section 210 of the Standard Specifications is hereby revised as follows:

CONSTRUCTION REQUIREMENTS

Subsection 210.10 shall be revised to include the following:

Manhole masonry, manhole rings and covers, water meters, valves, etc. shall be adjusted in accordance with the applicable standards of the Utility Owner. The Contractor will be responsible for determining the proper Utility Owner and coordinating these adjustments or replacements if the manhole masonry, manhole rings and covers, meters or valves, etc. are contaminated.

**REVISION OF SECTION 210
MODIFY MANHOLE**

Section 210 of the Standard Specifications is hereby revised for this project as follows:

Subsection 210.01 shall include the following:

Modify Structure consists of providing openings for new pipes and plugging existing holes in inlets and manholes specified in the plans.

Subsection 210.13 shall include the following:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Modify Manhole	Each

Payment will be full compensation for all materials and work necessary to complete the item.

**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Section 212 of the Standard Specifications is hereby revised as follows:

Subsection 212.01 shall include the following:

Work performed in areas under the jurisdiction of Denver Parks and Recreation Department shall conform to the standards of that Department.

Subsection 212.08 is hereby revised to include the following:

Soil Preparation and seeding beyond the limits outlined on the plans and/or as marked in the field by the Project Manager will not be paid for.

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Soil Preparation	Acre
Seeding (Native)	Acre

**REVISION OF SECTION 250
ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT**

Section 250 of the Standard Specifications is hereby revised for this project as follows:

Subsection 250.01 shall include the following:

Due to the presence of leaking underground storage tanks in the vicinity of the project site, there is potential for encountering hazardous materials especially in areas where excavation will approach the ground-water level (i.e. drilling caissons). Workers shall be alert during excavations for visual and olfactory signs of contamination. If soil and/or groundwater contamination is encountered during construction activities, work will stop immediately and the procedures outlined in the Colorado Department of Transportation (CDOT) Specification 250 Environmental health and Safety Management shall be followed.

The Contractor shall be responsible for the workers health and safety and environment. The Contractor HSO and/or Monitoring Technician shall be on site as necessary during the excavations to ensure proper handling, testing and disposal of contaminated media, as detailed in the CDOT Standard Specification 250 and subsection 107.25.8 and all applicable local, state and federal regulations. Contaminated water brought to the surface shall be contained in tank(s) or drums and shall not be directly discharged into a storm sewer, ditch, or any Waters of the State. Contaminated soils shall be properly handled, tested, and disposed. Costs associated with analytical work, and material disposal shall be paid by the Environmental Health and Safety Force Account, as specified in Section 250.

Subsection 250.09 shall include the following:

METHOD OF MEASUREMENT

All work including material sampling and handling, Health and Safety Officer and Monitoring Technician will be paid using Environmental Health and Safety Management (Lump Sum), . Material disposal and analytical costs will be paid by the Environmental Health and Safety Management Force Account.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Environmental Health and Safety Management	Lump Sum
Force Account Environmental Health and Safety Management	(\$10,000)

**REVISION OF SECTION 306
RECONDITIONING**

Section 306 of the Standard Specifications is hereby revised as follows:

Subsection 306.01 shall be revised to include the following:

All existing sub grade on streets shall be reconditioned over the area defined by the asphalt.

Proof rolling shall be required as part of reconditioning. Proof rolling shall be done after specified compaction has been obtained. Proof rolling shall be conducted with a double tandem ten-wheel end-dump truck, loaded to a minimum gross weight of 45,000 pounds, or other equipment as approved by the Project Manager. Areas found to be weak, and those areas that failed, shall be ripped, scarified, dried or wetted as necessary and recompacted to the requirements for density and moisture at the Contractor's expense.

Subsection 306.02 shall be revised to include:

Unless otherwise indicated on the plans, the density requirements for reconditioning shall be:

Clay Soils - 95% of the maximum density determined in accordance with AASHTO T-99

Granular Soils - 95% of the maximum density determined in accordance with AASHTO T-180

PAY ITEM

Reconditioning

PAY UNIT

Square Yard

**REVISION OF SECTION 401 AND 403
PLANT MIX PAVEMENTS**

Sections 401 and 403 of the Standard Specifications for Road and Bridge Construction are hereby deleted and replaced with the latest edition (including October 2008 version of Item 9) of the Metropolitan Government Pavement Engineers Council (MGPEC) Pavement Design Standards and Construction Specifications manual.

Subsection 9.16 of the MGPEC Specifications is revised as follows:

MEASUREMENT

Delete First Paragraph

Add the following:

The measurement for payment of Stone Matrix Asphalt Pavement and Hot Mix Asphalt Pavement will be the actual number of square yards per inch thickness of stone matrix or hot mix asphalt, in place, complete as pavement, and accepted by the Project Manager. No measurement for payment will be made for stone matrix or hot mix asphalt placed in areas not specifically approved by the Project Manager, nor required due to careless or unauthorized operation by the Contractor.

Subsection 9.17 of the MGPEC Specifications is hereby deleted and replaced with the following:

Payment will be made under:

PAY ITEM

Hot Mix Asphalt Pavement (Grading S) (75) (PG 58-28)

PAY UNIT

Square Yard-Inch

**REVISION OF SECTIONS 412 and 601
PORTLAND CEMENT CONCRETE PAVEMENT**

Section 412 of the Standard Specifications is hereby revised as follows:

Subsection 412.01 shall be revised to include the following:

This work shall also include driveways, crosspans, bus pads, and alley paving (as applicable).

Subsection 412.02 shall be revised to include the following:

Type C or E accelerators may be used under the following conditions:

- a) The median daily temperature is less than 55 degrees (Average of previous three days).
- b) The date of placement is between September 30th and May 30th.
- c) The concrete temperature may not exceed 80 degrees F prior to placement.

Difficulties encountered as a result of use of accelerators, the costs of associated delays, and corrective action costs shall be borne by the Contractor.

Subsection 412.03 shall be revised to include the following:

The Project Manager may require the use of fast track concrete (Class E) in certain areas to minimize the duration of lane closures or impacts of driveway closures to adjacent property owners. When directed by the Project Manager, a maturity meter (James Instrument Model No. 3006) shall be used to monitor on-site maturity of pavement concrete. The Contractor shall establish a maturity versus strength relationship for the concrete mixture being used. This correlation may be achieved by casting and curing cylinders on site, monitoring temperature and maturity of cylinders and paving concrete versus time, and testing cylinders at time intervals to establish the correlation.

The Contractor may request the use of fast track concrete in other areas for his convenience. In these cases, the locations must be approved by the Project Manager and the work will be done at no additional cost to the City.

Subsection 412.06 shall be revised to include the following:

Mix designs must be submitted for approval by the Project Manager and shall be designed for the opening times required by the Traffic Control Plan. Such mix designs shall be submitted in a timely manner so as not to delay the scheduled commencement of the project, taking into account time for testing of the mix by the Contractor's laboratory.

Subsection 412.07 shall be revised to include the following:

The Contractor is required to submit a detailed breakdown of paving equipment, vibratory devices, finishing tools, and provisions for protection from or avoidance of damage from weather impacts. This information shall be submitted for approval by the Project Manager prior to commencing any construction activities.

**REVISION OF SECTIONS 412 and 601
PORTLAND CEMENT CONCRETE PAVEMENT**

In subsection 412.07(b) delete the second paragraph and replace with the following:

The full width and depth of concrete requiring a finishing machine shall be consolidated by a single pass of an approved internal vibrator. Internal vibrators shall be operated within a frequency range of 4,000 to 8,000 vibrations per minute (VPM). Vibrators shall not be operated in a manner to cause a separation of the mix ingredients, either a downward displacement of large aggregate particles or an accumulation or laitance on the surface of the concrete. Avoidance of separation of the mix may require reduction in the vibrator frequency when forward motion of the paver is reduced. Paving machine operations shall stop if any vibrator fails to operate within specifications. Vibration shall be stopped whenever forward motion of the paver is stopped.

The use of surface vibrators shall be approved by the Project Manager prior to use. Surface vibrators shall be operated within a frequency range of 3,500 to 6,000 VPM.

Subsection 412.11 shall be revised to include the following:

The Contractor shall provide a lockable storage container capable of holding 12 standard concrete cylinders at a temperature of 60 to 80 degrees F. An equivalent facility may be substituted with the approval of the Project Manager. This facility shall be positioned at the jobsite for easy access during construction. During hot weather (May 15 to October 1), the container shall be a water tank with removable lid or a box which can be automatically regulated to assure cooling to limit the temperature to 80 degrees F max. Standard test cylinders will be 6 inch diameter by 12 inches long.

Delete subsection 412.12 and replace with the following:

412.12 Finishing. The sequence of operations shall be strike-off and consolidation, floating, and final surface finish.

Water shall not be added to the surface of the concrete to assist in finishing operations. The surface shall be finished to a uniform texture, true to grade and cross section, and free from porous areas. When the finishing machine, either form or slip form, or hand finishing method, leaves a surface that is not acceptable, the operation shall stop and corrective action shall be taken. Inability of the finish machine to provide an acceptable surface finish, after corrective action, will be cause for requiring replacement of the finish machine.

Wastewater generated from concrete finishing operations shall be contained and disposed of in accordance with subsection 107.25.

The Contractor shall insure that new concrete items built under this contract drain properly and, as such, there are no areas of standing water on new concrete items.

The Contractor shall protect all new concrete items built under this Contract against defacement, or other injury, from any cause. If said damage cannot be adequately repaired to the satisfaction of the Project Manager, the Contractor shall remove and replace the unacceptable items at Contractor's expense.

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(a) *Hand Finishing.* Unless otherwise specified, hand finishing methods will be permitted only when performed under the direct supervision of a Craftsman holding the following certificate: ACI Concrete Flatwork Finisher and Technician (ACICFFT) or other Flatwork Finisher certification program approved by the Department. A minimum of one certified Craftsman is required at each finishing operation. A minimum of one certified Craftsman is required for each three or fewer finishers (non-certified ACICFFTs) at each operation.

Hand finished concrete shall be struck off and screeded with a portable screed that is at least 2 feet longer than the maximum width of the slab to be struck off. It shall be sufficiently rigid to retain its shape. Concrete shall be thoroughly consolidated by hand vibrators. Hand finishing shall not be allowed after concrete has been in-place for more than 30 minutes or when initial set has begun unless otherwise approved by the Project Manager.

(b) *Floating.* Hand floating will be permitted only as specified in paragraph (a) above. The Contractor shall not use floats made of aluminum.

(c) *Final Finish.* For the final finish a strip of plastic turf shall be dragged longitudinally over the full width of pavement after a strip of burlap or other approved fabric has been dragged longitudinally over the full width of pavement to produce a uniform surface of gritty texture.

The plastic turf drag shall be made of material at least 3 feet wide and be maintained in such a condition that the resultant surface finish is of uniform appearance and reasonably free from grooves over $\frac{1}{16}$ inches in depth. Where more than one layer of burlap drag is used, the bottom layer shall be approximately 6 inches wider than the layer above. Drags shall be maintained clean and free from encrusted mortar. Drags that cannot be cleaned shall be discarded and new drags installed.

(d) *Tining and Stationing.* Where posted speeds are 40 mph or higher, the surface shall be given a longitudinal metal tine finish immediately following turf drag. Tining is not required where posted speeds are less than 40 mph. Tining shall produce grooves of $\frac{1}{8}$ inch by $\frac{1}{8}$ inch spaced $\frac{3}{4}$ inch apart and parallel to the longitudinal joint. Longitudinal tining shall stop at the edge of travel lanes. Tining devices shall be maintained clean and free from encrusted mortar and debris to ensure uniform groove dimensions. The tining finish shall not be performed too early whereby the grooves may close up.

Before paving the Contractor shall provide in writing a tining plan showing tining locations and describing methods that will be used for hand tining. Paving shall not commence until the Project Manager has approved the tining plan in writing.

The tining grooves shall be neat in appearance, parallel with the longitudinal joint, uniform in depth and in accordance with what is shown in the plans and these specifications. Any time that the tining grooves do not meet these requirements, the concrete paving operation shall be immediately stopped and will not resume until the problem has been resolved.

Stationing shall be stamped into the outside edge of the pavement, as shown on the plans.

**REVISION OF SECTIONS 412 and 601
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Subsection 412.13, first paragraph, shall include the following:

When a joint is sawcut more than 3 inches from the designated location, the pavement shall be removed and replaced to the nearest correct joints. When portions of concrete pavement are removed and replaced, the portion removed shall be the full width of the lane and length of the affected slabs. This corrective action shall be at the Contractor's expense.

Subsection 412.13(a) 1, shall be deleted and replaced with the following:

1. *Longitudinal Construction Joints.* Keyways in longitudinal construction joints are optional.

Epoxy Coated, deformed steel tie bars of specified length, size, spacing, and material shall be placed perpendicular to the longitudinal joints by an approved method. When adjacent lanes of pavement are constructed separately, Grade 40 (not Grade 60) tie bars may be bent at right angles against the form of the first lane constructed and straightened into final position before the concrete of the adjacent lane is placed. If epoxy-coated steel tie bars are bent and then straightened into final position, at the Project Manager's discretion the bars shall be repainted with epoxy coating prior to placement of the adjacent concrete. The tie bars shall be inserted into the plastic state concrete between the auger and the vibrators. Other methods of the bar placement may be acceptable if the Contractor can demonstrate satisfactory performance of his alternate method. Proposals of alternate methods or additional costs associated with other methods shall be at the Contractor's expense.

Subsection 412.13(b), delete the first sentence and replace it with the following:

Weakened plane joints shall be formed by sawing to the depth specified on the drawings and/ or applicable City of Denver Public Works Engineering Details, in accordance with the requirements of this subsection or as otherwise approved by the Project Manager, except as follows: When required to adhere to the City Noise Control Ordinance, joints shall be formed initially by deep tooling or "soft-cut" methods, followed by sawing at the first available time within the ordinance.

Subsection 412.13(b) 2., delete the first and second paragraphs and replace with the following:

Transverse weakened plane joints shall be formed by sawing a groove in hardened concrete in accordance with plan details.

The Contractor shall cut the transverse and longitudinal joints to the width and depth required. The cut shall be made with a power driven saw. Any damage to the concrete pavement such as spalling or fracturing shall be repaired by the Contractor as directed by the Project Manager at no cost to the project. The joints shall be immediately flushed with water to remove any sawing residue from the joint and pavement surface.

If concrete approaches or any widening beyond the width of the initial pass is constructed subsequent to the driving lanes, transverse weakened plane joints shall immediately be formed in the approaches extending from any joints in the driving lanes.

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Subsection 412.13(b) 2., shall be revised to include the following:

The time schedule for sawing weakened plane joints shall be as follows: Every second joint shall be sawed 2 to 12 hours after pavement placement, provided the concrete has sufficiently set so as to preclude the dislodging of aggregate particles by the saw. Unless otherwise directed by the Project Manager, the exact time of sawing shall be determined by the Contractor and will be dependent on weather conditions, ambient temperature, mix characteristics and other factors that may affect the setting time of the concrete. Every effort shall be made to saw early enough to control or limit random cracking. The intermediate joints shall be sawed prior to opening to traffic, but in no case longer than 48 hours after placement of the concrete.

The Contractor shall adhere to the City Noise Control Ordinance. In the event that the need for saw cutting is anticipated during restricted time periods, a "soft-cut" saw shall be used before restricted hours, or deep tooling of joints shall be performed on plastic concrete, followed by saw cutting of the concrete as soon as possible during unrestricted hours. At the discretion of the Project Manager, saw cutting will be prohibited between 10:00 p.m. and 7:00 a.m.

Subsection 412.18 shall be revised to include the following:

The surface of the finished joint seal shall have a flat level surface that is 3/16+/-1/16 inch below the surface of the concrete pavement. Sealant not placed within these tolerances will not be measured and paid for, and the Contractor shall remove the joint sealant material and clean and reseal these joints in accordance with the criteria outlined in the special provision at no additional cost to the project. If, in the opinion of the Project Manager, the Contractor shows an inconsistency in his ability to fill the joints to the required dimensions, the Contractor shall cease his operations until such time as he can comply with the required criteria in a consistent manner.

In addition, the Project Manager may elect to check for bonding or adherence to the sides of the joint. Material shall conform to Subsection 705.01(a).

Subsection 412.23, delete the second, third, and fourth paragraphs.

Subsection 412.24 shall be deleted and replaced with the following:

The price per square yard of Concrete Pavement (all Pay items) shall be full compensation for furnishing and placing all materials, including any dowels, tie bars, reinforcing steel, wire, joint materials, tining, sawing, finishing, and labor.

Furnishing, calibrating and use of maturity meters, wire and other appurtenances including the molding, curing, storage, and breaking of cylinders for calibration and placement of calibration slabs will not be measured and paid for separately, but shall be included in the work.

Furnishing, installing, and monitoring vibrators and vibrator monitoring device will not be measured and paid for separately, but shall be included in the work for Concrete Pavement.

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PORTLAND CEMENT CONCRETE PAVEMENT**

Payment will be made under:

PAY ITEM
Concrete Pavement (8 inch)

PAY UNIT
Square Yards

**REVISION OF SECTION 504
CONCRETE BLOCK FACING MSE WALLS**

Section 504 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of constructing a Concrete Block Facing Mechanically Stabilized Earth (MSE) Retaining Wall System at the locations and to the lines and grades shown on the plans. Either metallic or geosynthetic reinforcement (woven fabrics or geogrids) as specified in this specification may be used as MSE reinforcement in the reinforced structure backfill zone. The retained structure backfill zone is the structure backfill retained by the reinforced structure backfill zone as shown on the plans.

MATERIALS

- (a) *Shop Drawings.* The Contractor shall submit six sets of shop drawings and certified material test reports for review prior to construction of the wall. See subsection (f), under MATERIALS, for a complete list of submittal requirements. Shop drawings shall be submitted in accordance with subsection 105.02.

The shop drawings shall provide the details necessary to demonstrate compliance with the Contract, including:

1. Wall layouts shall conform to the lines and grades on the plans including start, corner, and end stations, leveling pad step breaks, total number of blocks and top and bottom of wall elevations. For walls with rail anchoring slabs, the top of block elevations or the cast in place leveling course shall be within 2 inches of the elevation shown on the plans measured from the bottom of the anchoring slab. The construction batter required to achieve the batter shown on the plans shall be shown on the shop drawings. If temporary walls are required for the construction of permanent walls, the permanent wall vendor shall provide the shop drawings and certified material test reports for temporary walls.
2. Unless otherwise shown on the plans, each layer of soil reinforcement shall be connected to the facial blocks. The block placement sequence, if other than bottom up and end to end of wall, shall be shown. The block to block reinforcement connections and the cut block limits at curved wall corners shall be shown.
3. Except for the top of the leveling pad, wall elevations given on the plans are based on an 8 inch nominal block height. The actual reinforcement elevations shall be marked on the shop drawings by taking into account the supplied block height, number of reinforced layers, thickness of soil reinforcing and shimming material, and, for curved corners, the interposing layers of reinforcement.
4. The soil reinforcement type, Minimum Average Roll Value of the Ultimate tensile strength, T_{ULT} (MARV), for geosynthetic soil reinforcement or yield strength for metallic soil reinforcement, spacing, lengths, elevations, and the corresponding wall design height segments shall be shown on the shop drawings. The starting and ending stations for change in grade of reinforcement material shall be shown for walls with different grade of reinforcement material at the same elevation. Material grade shall be clearly identified on each roll of reinforcement to avoid errors in placement. Elevations of the reinforcement layers shall be as specified on the shop drawings.

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- 5. Soil Reinforcement Length (RL). The soil reinforcement length shall be measured from the front face of the concrete block face to the front face of the concrete block face. Except for secondary reinforcement, soil reinforcement lengths shall not be less than the lengths specified on the plans.

For wall segments with a Design Height (DH) greater than or equal to 8 feet, the soil reinforcement shall be the same length from top to bottom of the wall.

For wall segments with a Design Height (DH) less than 8 feet, the length of the top layer of soil reinforcement shall be 8 feet and all other layers of soil reinforcement shall be the same length from top to bottom of the wall.

Unless shown otherwise on the plans, the soil reinforcement lengths shall be as follows:

Design Height (DH)	Reinforcement Length (RL)	Reinforcement Length Top Layer
DH ≤ 6'-0"	6'-0"	8'-0"
6'-0" < DH < 8'-0"	DH	8'-0"
DH ≥ 8'-0"	0.7 x DH but not less than 8'-0"	0.7 x DH but not less than 8'-0"

The Reinforcement Lengths shown on the shop drawings shall be the reinforcement length required for internal stability and pull-out only, but they shall not be less than those shown in the table above. External Stability (bearing pressure, sliding and overturning) and global stability have already been considered and checked in the design.

- 6. Soil Reinforcement Spacing:
 - A. The first (bottom) layer of soil reinforcement shall be one or two times the block height, not to exceed 16 inches, above the top of the leveling pad.
 - B. The last (top) layer of soil reinforcement shall be no further than three times the block height, not to exceed 24 inches, below the top of the uppermost concrete block.
 - C. The vertical spacing between layers of adjacent soil reinforcement shall be less than four times the block height, not to exceed 32 inches. For walls deriving their connection capacity by friction the maximum vertical spacing of the reinforcement shall be limited to two times the block depth (front face to back face), not to exceed 24 inches, to assure construction and long-term stability. For tributary strength computations, the top row of reinforcement shall be one-half the vertical spacing immediately below the top of the wall.

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- 7. Long Term Design Strength (LTDS) of Reinforcement.
 - A. The design charts on the plans define the strengths required for the zone of mechanical reinforcement of soil. Based on the total summed LTDS, the reinforcement proposed by the shop drawings for a specific wall height shall meet or exceed the total LTDS shown on the plans. This proposed reinforcement shall allow for a maximum of plus or minus 15 percent variation in each individual layer.
 - B. Metallic (Inextensible) Soil Reinforcement. The net section at the soil reinforcement to block connection shall be used for the sacrificial thickness calculation. The following minimum sacrificial thickness for reinforcement shall be applied to the 75 year LTDS calculations:

Galvanization Loss	15 µm/year for first 2 years 4 µm/year for subsequent years
Carbon steel loss	12 µm/year after zinc depletion

- C. Geosynthetic (Extensible) Soil Reinforcement. Geosynthetic soil reinforcement shall be a geogrid or woven geotextile. For polyester (PET), polypropylene (PP), and high-density polyethylene (HDPE) reinforcement, the LTDS of material shall be determined using the following K percentages to ensure the required design life. Unless otherwise specified, LTDS shall not exceed the following K percent of its ultimate tensile strength, T_{ULT} (MARV), i.e.

$$LTDS = K * T_{ULT} (MARV)$$

- (1) Geogrid reinforcement (HDPE, PET):

Products	K
Tensar	20%
Fortrac, Miragrid, Strata, Synteen and Raugrid	24%

- (2) All products not listed above:

Products	K
All geogrid or woven geotextile products meeting AASHTO Standard Specifications for Highway Bridges, 16 th Edition	10%
Products not meeting AASHTO Standard Specifications for Highway Bridges, 16 th Edition including Non-woven geotextile products	5%

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8. Design Heights and Supplied Reinforcing Material. Unless otherwise defined on the plans the wall design height shall be measured vertically from the top of the leveling pad to the top of the concrete rail anchoring slab for walls with railing, or to the top of the cast-in-place concrete coping for walls without railing. For walls that are in front of a bridge abutment that is founded on a deep foundation, the design height used to determine the soil reinforcement length shall be measured vertically from the top of the leveling pad to the top of the roadway carried by the bridge and the wall. Bridge approach slabs shall not be considered in the design of the MSE wall.

For both geosynthetic and metallic reinforcement, the required reinforcement LTDS and the supplied LTDS (determined in accordance with the K factors or depletion of material as defined above) with corresponding brand and grade of material shall be marked clearly on the elevation view or in a tabulation summary. The LTDS of the supplied reinforcement grade must meet or exceed the required LTDS corresponding to the reinforcement spacing provided.

9. For the reinforcement layouts of tiered walls, the overall geometry, the reinforcement length and the sum of the LTDS provided from all layers in all tiers shall be in close conformity with the retaining wall system shown on the plans in order to ensure that local, global, and internal stability requirements have been met.
 10. Details for the placement of soil reinforcement around obstructions (i.e. steel piles, concrete piers, concrete boxes, pipes, etc.) shall be shown on the shop drawings. Design calculations shall be provided showing that the internal stability of the wall meets the required safety factors in the area of the obstruction.
 11. A table comparing the Structural Backfill (Class 1), Mechanical Reinforcement of Soil, Geomembrane, and Block Facing quantities shown on the plans to the quantities shown in the shop drawings and percent difference (positive percent indicates an increase in shop drawing quantities from the plans) shall be shown on the shop drawings. Structure Backfill (Class 1), Mechanical Reinforcement of Soil, Geomembrane, and Block Facing quantities shall be calculated in accordance with the Contract. The Contractor shall notify the Project Manager of the difference in plan and shop drawing quantities before wall construction begins.
 12. Geomembrane placement schedule and clearances to soil reinforcements shall be shown.
 13. Locations of stack bond blocks with vertical slip joints for differential settlement relief shall be as specified in subsection (e) under CONSTRUCTION REQUIREMENTS.
- (b) *Backfill.* Unless otherwise specified on the plans, wall backfill material in the reinforced structure backfill zone shall conform to the requirements for Structure Backfill (Class 1) of Section 206. For reinforcement tensile stress and associated pullout, a friction angle of 34 degrees shall be assumed for Structure Backfill (Class 1). Structure Backfill (Class 1) shall be considered to be non-aggressive soil for corrosion and durability computations. All reinforcing elements shall be designed to ensure a minimum design life of 75 years for permanent structures.

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- (c) *Leveling Pad.* Concrete for the leveling pad shall be Concrete (Class D) conforming to the requirements of Section 601. Unless specified on the plans, the maximum vertical step shall be no greater than either 24 inches or three blocks, whichever is less. The leveling pad shall be reinforced only at the steps. When the toe of the wall is founded on a slope steeper than 1.5 (H) to 1 (V), the leveling pad shall be constructed with reinforced concrete with same reinforcing schedule as at its steps. Leveling pad concrete shall be cured for at least 12 hours before placement of the concrete blocks.

Geomembrane and Joints. A Geomembrane shall be installed on all walls at the top of the reinforced structure backfill zone and retained structure backfill zone to intercept surface runoff and prevent salt penetration into the backfill of the wall as shown on the plans. The Geomembrane shall meet the requirements of subsection 712.08 for geomembrane, and shall have a minimum thickness of 30 mils. It shall be spliced with a dual track field seamed joint in accordance with ASTM D4437 or ASTM D7717. For small local coverage areas, less than 30 square feet, the membrane may be spliced using a 6 inch minimum overlap and an adhesive or a single seam portable thermal welding tool, as suggested by the membrane manufacturer and approved by the Project Manager. Unless otherwise shown on the plans, the membrane shall have a minimum coverage length measured perpendicular to the wall face of at least the Soil Reinforcement Length (RL). The membrane shall be installed with a slope of 10:1 (maximum), as shown on the plans, from the block facing to a drainage system.

The water collector system shall consist of a 4 inch diameter perforated collector pipe wrapped with Class 3 Geotextile. A 4 inch diameter non-perforated drain pipe shall be used to discharge the water in the water collector system out the face of the wall.

Alternatives for the drainage system shown on the plans may be used by the Contractor. A detailed layout of this equivalent water collection system shall be provided by the Contractor and approved by the Project Manager.

- (d) *Prefabricated Concrete Facing Blocks.* Concrete blocks including partial blocks shall conform to the requirements shown on the plans and these specifications including the color, texture, and pattern. The Contractor shall provide certification that the results of tests performed in accordance with this subsection meet the requirements of the appropriate specification.

1. Cementitious material shall meet the requirements of Section 701.
2. Aggregates used in concrete blocks shall conform to ASTM C33 for normal weight concrete aggregate.
3. The 28 day compression strength for concrete blocks shall be equal to or greater than 4500 psi. The quality of blocks shall be maintained such that the variations of the compression strengths are within 10 percent. The minimum oven dry unit weight shall be 125 pcf with a maximum water absorption rate by weight of 6 percent. Testing shall be performed in accordance with ASTM C140.

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4. All units shall be sound and free from cracks or other defects that would interfere with proper placement of the unit, or impair the strength or permanence of the construction. Cracks, chips, or color blemishes will be cause for rejection.

Any architectural or graffiti resistant treatments shall meet the requirements shown on the plans. If architectural coating is used and graffiti resistant treatments or water repellent sealer is required, the Contractor shall provide the Project Manager with four sample blocks for each different color and texture prior to beginning wall construction. Water-resistant or repellent coatings shall conform to ASTM C1262.

The permissible variations in the exterior dimensions of the concrete blocks shall not differ more than plus or minus $\frac{1}{8}$ inch, except the height of the block shall be within plus or minus $\frac{1}{16}$ inch from the specified dimensions for an individual block. The minimum thickness of any walls or webs within the block shall be on average 2.5 inches at the face and 1.5 inches and $\frac{2}{2}$ inches at stem and back. The vertical edges, if applicable, shall be chamfered for splitting and precise dimensioning.

5. The Project Manager shall be allowed access to the manufacturer's facilities to inspect and sample units from lots prior to delivery with a minimum 2 working days advance notice. The Project Manager will reject any concrete blocks, which do not meet the requirements of this specification. The Contractor shall notify the Project Manager in writing at least 3 working days before shipment of blocks begins.

(f) *Certifications, Calculations and Testing Reports.* The Contractor shall provide the following reports, certifications, calculations and checklists as needed to accompany the shop drawing submittal. All engineering calculations, as stated in subsections (a) 7 B, (a) 10, (a) 11, (f) 5 and (f) 6 under MATERIALS shall be certified and stamped by a Professional Engineer licensed in the State of Colorado.

1. Certification of T_{ULT} (MARV) or Ultimate Tensile Strength. For geo-synthetic reinforced systems only, the Contractor shall submit a certification letter from the manufacturer which provides the T_{ULT} (MARV) and certifies that the T_{ULT} (MARV) of the supplied materials have been determined in accordance with ASTM D4595 or ASTM D6637 as appropriate. For metallic wall reinforcement, a mill test report containing the ultimate tensile strength for the soil reinforcement shall be included in the certification.
2. Report Of The Block-Reinforcement Connection Test. The test report shall be prepared and certified by an independent laboratory. The block to reinforcement connection test method shall conform to the requirements of ASTM D6638 with a service state connection strength displacement criterion of $\frac{3}{4}$ inch or National Concrete Masonry Association (NCMA) Methods SRWU-1.

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3. Report For Block-Block Connection Test. An independent laboratory shall prepare the test report. The block-to-block connection test method shall conform to the requirements of NCMA Methods SRWU-2. The service state connection strength displacement criterion shall be $\frac{3}{4}$ inch.
4. Report For Soil To Reinforcement Interface Pullout Test. The test report shall be prepared and certified by an independent laboratory. The soil to reinforcement interface pullout test method shall conform to the requirements of ASTM D6706. Tests shall include the full range of overburden pressures as defined by the wall design heights.
5. Certification of Facial Block To Reinforcement Long-Term Connection Strength. A certification shall be provided with detailed calculations according to the latest AASHTO Standard Specification including Interim and independent laboratory test results performed in accordance with FHWA NHI-00-043, Appendix A3 to demonstrate that the facial block to reinforcement connection meets or exceeds the current AASHTO 75 year design life requirements.
6. Certification of Reinforcement Pullout. A certification shall be provided with detailed calculations to demonstrate that reinforcement pullouts meet or exceed the current AASHTO requirements. The metal reinforcement breakage and pullout calculations shall include a combination of 75 years of material depletion for carbon steel and galvanization loss.
7. Report and Certification for Concrete Block 28 Day Compression Strength and Water Absorption Rate. For the 28 day compressive strength test, either a full block or a saw cut coupon compressive test is acceptable to verify the 28-day concrete strength provided the sample allows the test to conform to ASTM C90. The sampling shall be done at manufacturer's casting yard and testing results shall be pre-approved before shipment. The Project Manager will approve the sample selections for the coupon tests. Coupons shall be cut from the two sides or the back of block (not the front split face) with maximum two original concrete surfaces. The average compressive strength of three tests from three randomly selected blocks, with load applied in the bearing direction shall be equal to or greater than 4500 psi with the minimum of 4000 psi for individual tests in accordance with ASTM C90 and ASTM C140. For the water absorption rate test, a minimum of two coupons shall be prepared and marked for each block, one coupon for successfully conducting the supplier's tests and one spared for future Engineer's test. The spared coupons from the three tests shall be labeled and delivered to the Project Manager with the certification. The minimum oven dry density of concrete coupons shall be 125 pcf with a maximum water absorption rate by weight of 6 percent as determined by ASTM C140. Coupons shall be cut from relatively the same location of each block and prepared with uniform workmanship. Each individual sample must test within 12 percent of the average of the three.
8. Efflorescence and Freeze and Thaw Test. The block shall be visually efflorescence free. Efflorescence control agent shall be used in concrete mix design. An independent laboratory shall provide reports and certifications using one of the following tests in accordance with ASTM C1262 using tap water or 3 percent saline solution and ASTM C1372 as appropriate:

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- A. Test results for freeze and thaw durability shall be graphed and supplied with test data points every 50 cycles up to 300 cycles to confirm that blocks with concrete additives alone can survive 150 cycles with weight loss for each of 4 of the five samples not exceeding 1.0 percent of the initial weight in a tap water solution.
- B. Test results for freeze and thaw durability shall be graphed and supplied with test data points every 25 cycles up to 100 cycles to confirm that blocks with concrete additives alone can survive 60 cycles with weight loss for each of 4 of the five samples not exceeding 1.0 percent of the initial weight in a 3 percent saline solution.

A project specific freeze and thaw durability test shall be required for walls meeting one of the following requirements:

- (1) Projects with a total facing area greater than 6000 square feet, as calculated in subsection (1) under METHOD OF MEASUREMENT, or
- (2) Projects with any wall in front of or adjacent to bridge abutments and piers.

Wall construction may begin when acceptable freeze and thaw durability test results of units made with the same material, concrete mix design, manufacturing process, and curing method, conducted not more than 12 months prior to delivery until the test results of the actual blocks used in the wall can be obtained and submitted. The test results shall be submitted within one week of being recorded. The frequency of the freeze and thaw durability test shall be a minimum of one test every 6000 square foot of facing, as calculated in subsection (1) under METHOD OF MEASUREMENT.

For walls not requiring a project specific freeze and thaw durability test, the Contractor shall submit a certification letter from the facing manufacturer. The certification letter shall include acceptable freeze and thaw durability test results conducted not more than 12 months prior to delivery, that meet the requirements of subsection 8 A or 8 B above. The Certification shall be for units made with the same material, concrete mix design, manufacturing process, and curing method. The Project Manager shall be allowed access to the manufacturer's facilities and records to verify that the mix design used in the certified freeze and thaw durability test results is the same as the mix design used for the actual blocks used in the project.

- 9. Submittal Checklist. The Contractor shall submit the Block Faced MSE Wall Submittal Checklist, Form 1401, with the Certifications, Calculations and Testing Report submittal package included with the shop drawing submittal.
- (g) *Conditions to Waive the Block-Reinforcement Connection Testing Reports.* Unless otherwise noted on the plans the Contractor's Professional Engineer seal requirement for the Facial Block To Reinforcement Long-Term Connection Strength certified test report required by subsection (f) 5 under MATERIALS may be waived if the following conditions are met:
- (1) Every block shall be connected by friction with either a main or a secondary reinforcement starting at 2 inches maximum from the front face of block.

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CONCRETE BLOCK FACING MSE WALLS**

- (2) The spacing for main reinforcement is two blocks maximum or 16 inches, whichever is less.
- (3) The secondary reinforcement shall be applied in between the main reinforcement. The same grade of material as used for main reinforcement shall be used for the secondary reinforcement: however only a minimum of 36 inches total length measured from the face of block is required.
- (4) Aggregate filled cells shall be filled with ¼ inch aggregate. In lieu of aggregate filled cells, the cells in the top four blocks of the wall shall be doweled with steel or fiberglass bars and grouted with cement. Punched or poked holes through fabric reinforcement are allowed to accommodate grout and dowel bars.

(h) *Hybrid MSE Wall Systems.*

A hybrid system is one which combines elements of both externally and internally stabilized systems.

An externally stabilized system uses a physical structure to hold the retained soil. The stabilizing forces of this system are mobilized either through the weight of a shape stable structure or through the restraints provided by the embedment of wall into the soil, if needed, plus the tieback forces of anchorages.

An internally stabilized system involves reinforced soils to retain fills and sustain loads. Reinforcement may be added to either the selected fills as earth walls or to the retained earth directly to form a more coherent stable slope. These reinforcements can either be layered reinforcements installed during the bottom-to-top construction of selected fills, or be driven piles or drilled caissons built into the retained soil. All this reinforcement must be oriented properly and extend beyond the potential failure mass.

Hybrid MSE wall systems may be used unless otherwise noted on the plans. Hybrid MSE wall systems are subject to the same design requirements for MSE walls and this specification. The shop drawings for Hybrid MSE wall system shall include a combination of design calculations and appropriate test results to demonstrate that it meets or exceeds the block facing system. Each unit in the hybrid MSE wall system shall have a facing area of 3.5 square feet and be stabilized by a counterfort. Hybrid MSE wall facing units shall be factory made with Class B Concrete with the following additional requirements:

- (1) Minimum Cementitious Material Content: 610 lb./cu. yd.
- (2) No more than 50 percent fine aggregate (AASHTO M6) by volume of total aggregate.
- (3) Ambient temperature shall be a minimum of 40° F and rising when casting.
- (4) Hybrid MSE wall facing shall be cured in accordance with AASHTO M170.

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CONCRETE BLOCK FACING MSE WALLS**

The following Certifications, Calculations and Testing Reports in subsection (f) under MATERIALS are not required for Hybrid MSE wall systems: 3, 5, 7, and 8. The facing to soil reinforcement connection test, subsection (f) 2 under MATERIALS, may be waived only if the soil reinforcing spacing is less than or equal to 8 inches or the facing is secured and stabilized by hybrid components with primary reinforcement spacing less than 24 inches. The Contractor shall provide the following additional reports, certifications and calculations to accompany the shop drawing submittal for Hybrid MSE wall systems:

- (1) Report and certification for the initial concrete compression strength, shipping and handling stress. Cylinder compressive test is acceptable to verify the initial concrete strength of facing at time of shipping. Concrete tensile stress shall not exceed the modulus of rupture. Report shall include calculations of facing cracking stress according to the proposed method of lifting and shipping. Before shipping from precast yard to wall site, the Project Manager will approve the time of shipping, method of lifting and supporting condition during shipping. Storage condition at the site shall be approved before facing installation.
- (2) Efflorescence and Air Content Test. Facing shall be visually efflorescence free. Efflorescence control agent shall be used in concrete mix design. When fly ash is used as the efflorescence control agent, the fly ash shall be ASTM C618 Class F fly ash and shall be a minimum of 20% by weight of the total cementitious content. Air Content shall be determined in accordance with AASHTO T152. Concrete shall be tested a minimum of the first three batches each day and then once per five batches for the rest of the day to assure specified air entrainment.
- (3) The facing to counterfort long-term connection test.

The Contractor shall submit the Block Faced MSE Wall Submittal Checklist, Form 1401, and the Panel Faced MSE Wall Submittal Checklist, Form 1402, with the Certifications, Calculations and Testing Report submittal package included with the shop drawing submittal.

CONSTRUCTION REQUIREMENTS

- (a) Approval and Qualifications of MSE Wall Installer. The job site wall foreman shall have experience in construction of at least five transportation related MSE walls within the last three years. Transportation related MSE walls are walls that carry or are adjacent to vehicular traffic and are constructed with MSE reinforcement in the reinforced structure backfill zone. The foreman must have prior experience or adequate training on the products that the Contractor elects to use on the project. The resume and credentials of the foreman shall be submitted to the Project Manager for approval prior to the pre-construction meeting. The foreman shall be on the site for 100 percent of the time during which the wall is being constructed.

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CONCRETE BLOCK FACING MSE WALLS**

- (b) Wall Test Segment. The wall test segment shall be the first segment of the wall constructed. The wall test segment shall be constructed in the presence of the Technical Representative and the Project Manager and shall include construction of each of the 5 elements listed in (c) below. The minimum length of the wall test segment shall be 40 feet or the full length of the wall if less than 40 feet. A wall test segment shall be constructed for the first wall constructed from each wall product used on the project.
- (c) Technical Representative of Wall Product Supplier. The Contractor shall arrange for a technical representative (Tech Rep) of the manufacturer of the wall products to be present during the construction of each wall test segment. If the wall products are supplied from different manufactures, a Tech Rep from each wall product shall be present. The Tech Rep shall be present for construction of the wall test segment and each of the following elements:
- (1) Placement of a minimum of the first two layers of primary soil reinforcement and backfill,
 - (2) If obstructions (i.e. steel piles, concrete piers/abutments, concrete boxes, pipes, etc.) exist, placement of primary soil reinforcement and backfill at one of the obstructions,
 - (3) Placement of a minimum of the first six courses of blocks or a minimum of a four foot wall height,
 - (4) If a vertical slip joint is required, construction of the vertical slip joint in a minimum of a six course portion of block or a minimum of a four foot wall height, and
 - (5) If corners are required, construction of a corner representative of the corners in the wall in the project in a minimum of a six course portion of block or a minimum of a four foot wall height..

Before construction of the wall test segment the Tech Rep shall provide the Contractor and the Project Manager the following:

- (1) Technical instructions as required in the construction of the earth retaining wall system.
- (2) Product specific specifications in the placement of the soil reinforcement and backfill in accordance with the wall system.
- (3) Guidelines in placing the facing units and attaching them to the soil reinforcement in accordance with the system requirements.
- (4) Provide technical assistance to the facing unit fabricator.

At the completion of the wall test segment the Tech Rep shall provide the following:

- (1) Documentation that the wall test segment was constructed in accordance with the product specific specifications. This documentation shall include a location description (starting and ending stations and elevations) of the wall test segment.
- (2) Documentation that the job site wall foreman is familiar with the wall products used to construct the walls on the project.

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CONCRETE BLOCK FACING MSE WALLS**

After completion of the wall test segment the Tech Rep shall be available whenever there is any special field condition such as change of geological condition, when there are equipment or personnel changes, or when requested by the Project Manager.

- (d) Facial Block Quality Control, Placing Plan and Daily Placement Logs. Before the start of each wall construction, the Contractor shall provide a block-placing plan and shall supply daily placement logs to the Project Manager weekly and at the completion of the wall. The daily placement log shall consist of an elevation view of the wall showing the dates, number of blocks placed, and the lot numbers of the blocks placed. The block quality control shall contain multiple submittals if required by subsection (f) 7 under MATERIALS. Blocks shall be labeled with the manufacturer's lot number for each pallet and corresponding certification with one set of random samples tested for each 6000 blocks. At least one certification with supporting test results is required for each wall. Test results shall be reviewed and pre-approved by the Project Manager before shipment. The Project Manager may conduct separate tests with the spared coupons from the original samples. Block testing shall be increased to one set of sampling for every 3000 blocks if the Project Manager identifies substandard blocks or when block color or concrete mix changes. With the Project Manager's approval, block sampling may be reduced to one set of sampling for every 12,000 blocks after the first acceptable sampling results. The blocks used for Project Manager's verification purposes shall be a maximum of 0.5 percent of the total number of blocks. The Project Manager will conduct block sampling as early as possible and acquire blocks regularly. However, when tests are not performed within 90 days of the sampling date, the blocks will be returned untested. The Contractor shall coordinate and mark the block and backfill placing sequence on the daily placement logs. The log serves as means for the Project Manager to identify where each lot of blocks was placed.
- (e) Wall With Curved Alignments, Tight Curved Corners, And Sections Adjacent To Bridge Abutment. The Contractor shall provide a placement plan that shows curved layouts, special block or saw cut block dimensions, sequence of block placement, and construction off-sets as recommended by the manufacture. For tight curved corners, 8 foot radius or less, and dissimilar foundations such as bridge abutment, to avoid blocks with random cracks, the Contractor shall install stack bond blocks with vertical slip joints as shown on the shop drawings; however reinforcement spacing shall be reduced to one block height, or other properly designed methods of block stabilization shall be used as approved by the Project Manager. Short secondary reinforcements used to tied-back cut blocks in between main reinforcements are acceptable. A vertical slip joint for stress relief may be built either with pre-cut or partial pre-cut individual blocks or by saw cutting block face of breaking running bond vertically right after installation.
- (f) Excavation and Backfill. The base of the leveling pad shall receive the same compaction as cut areas required by subsection 203.07. The Contractor shall report to the Project Manager in writing density test results for any unsatisfactory bearing material not meeting the minimum 90 percent compaction for walls less than 16 feet high and 95 percent of T-180 for walls higher than 16 feet. If the excavation for the placement of the leveling pad exposes an unsatisfactory bearing material, the Project Manager may require removal and replacement of that material. The removed material shall be replaced with Structure Backfill (Class 1) compacted in conformance with subsection 206.03. The Project Manager with the assistance of the geotechnical engineer of record will provide the limits including the depth of removal. As directed by the Project Manager, and if required, Structure Backfill (Class 1) shall be reinforced with soil reinforcements in conjunction with wick drains and outlet pipes.

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CONCRETE BLOCK FACING MSE WALLS**

The Contractor shall grade the foundation for the bottom of the wall for a width equal to or exceeding the limits of the Reinforcement Length (RL) plus 18 inches as shown on the plans. This graded area shall be compacted with an appropriate vibratory roller weighing a minimum of 8 tons for at least five passes or as directed by the Project Manager. For cut wall with continuous seepage, phasing of foundation construction or a different drainage and foundation improvement plan may be necessary. The reinforced structure backfill zone and the retained structure backfill zone portion immediately behind the wall as defined on the plans shall be Structure Backfill (Class 1). Recycled asphalt, recycled concrete and flow-fill material shall not be substituted for Structure Backfill (Class 1). Each compacted layer of backfill within a distance equal to the reinforcement spacing away from the back of the block shall not exceed 4 inches. The triangular or trapezoidal portion behind the concrete blocks and above the spill of backfill, as shown on the plans, shall be filled with 3/4 inch crushed rock, filter aggregates with filter fabric, or wall system specific fill as approved by the Project Manager. Density tests behind and parallel to the wall in the triangular or trapezoidal portion above the backfill spill zone are not required. Each compacted layer of backfill shall not exceed 8 inches and shall be roughly leveled with the top of block elevation of the lift. The fill and compaction operation shall start 3 feet from the wall back face and progress toward the end of the reinforcement. All Structure Backfill (Class 1) including fill material under the wall and on-site material as allowed under subsection (b) of MATERIALS shall be compacted to a density of at least 95 percent of the maximum density as determined according to AASHTO T 180. For on-site foundation material containing more than 30 percent retained on the 3/4 inch sieve, a method of compaction consisting of a conventional heavy vibratory roller starting with minimum 5 passes shall be used to establish the number of passes required to exceed the 95% T180 density requirement.

At least 6 inches of material shall be in place prior to operation of tracked vehicles over soil with reinforcement. Only power operated roller or plate compaction equipment weighing less than 1,000 pounds is allowed within 3 feet of the front face of the wall. The reinforcement shall not be connected to the wall until the compacted fill is at or slightly higher than the location of the connector.

Backfill containing frost or frozen lumps shall not be used. Backfill that has been placed and becomes frozen shall be removed and replaced at the Contractor's expense. If cold weather conditions prevent the placement of Structure Backfill (Class 1), the Contractor may use Filter Material Class B as backfill without compaction at the Contractor's expense and approved by the Project Manager. The Contractor shall provide a test report, prepared and certified by an independent laboratory, that the internal friction angle of soil for the Filter Material Class B meets or exceeds that shown on the plans.

The Contractor shall place additional blocks including partial height blocks and properly compacted fill material to return the finished grade to the plan elevations if settlement, as determined by the Project Manager, has occurred. A final inspection before the installation of rail anchoring slab will be made after construction settlement, if any, has occurred or 30 days after the completion of the wall. The Contractor shall provide immediate temporary storm water protection and wind erosion control at the end of each day during construction. If settlement occurs as the result of loss of backfill due to wind or water erosion, non-conforming backfill such as frozen fill or over-saturated fill, or if the backfill does not meet compaction requirements, the Contractor shall remove the backfill, wash the soil reinforcement, and bring the elevation to the finished grade at the Contractor's expense. Before final project acceptance, the Contractor shall repair any backfill losses due to wind and water erosion.

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CONCRETE BLOCK FACING MSE WALLS**

To avoid the foundation of the leveling pad being washed out by rain, the area in front of the wall and around the leveling pad shall be backfilled as soon as practicable.

- (g) Reinforcement. Steel reinforcement shall be slack free and geosynthetic reinforcement shall be slightly pre-tensioned. The minimum coverage ratio for geogrid reinforcement shall be 67 percent and the spaces between rolls shall be staggered between layers of soil reinforcement. The minimum coverage ratio for woven fabric reinforcement shall be 100 percent and an overlap between rolls is not required. Woven fabric sheet reinforcement shall be laid to within 1 inch of the front face of block. Soil reinforcement shall not be cut to avoid obstructions unless shown on the shop drawings.
- (h) Leveling Pad. The foundation of the leveling pads shall meet the requirements of subsection (f) immediately above. The leveling pad shall be level within the tolerance of $\frac{1}{16}$ inch for any two block lengths, and within $\frac{1}{4}$ inch for any two points that are 10 feet apart.

Cushion or shimming material (Expansion Joint Material, Concrete Mortar Grout, Roofing Felt, or Geosynthetic Reinforcement) shall be used to support the blocks that are to be directly founded on the leveling pad. Before starting a new course of blocks, the Contractor shall take measures to ensure that the wall elevations will be matched at the next leveling pad step. Cushion or shimming material or grinding as necessary shall be used to obtain the necessary block elevations at the next leveling pad step.

- (i) Block Facing. For walls that support a roadway, the wall layout line at the leveling pad shall be set back and pre-measured with appropriate batter (5 to 8 percent) from the top of the blocks according to the offset with respect to the centerline of the road. For walls adjacent to a roadway, the wall layout line at the leveling pad shall be directly offset from the centerline of the road. An overall negative batter (wall face leaning outward) between the bottom and the top of the wall is not allowed. For vertical walls, unless otherwise noted on the plans, the final wall face shall be vertical or shall have a positive batter that is not greater than 5 percent for construction control purposes. For walls higher than 16 feet, the 5 percent batter requirement shall be relaxed to a maximum of 8 percent as required for special block products. The surface of the wall face shall be tested with a 10 foot straightedge laid along the surface in the horizontal and vertical directions. Except as necessary for horizontal alignment of the wall, a convex deviation (wall belly) of the wall face from the straightedge shall not be allowed, and any concave deviation (wall depression) from the straightedge shall be less than $\frac{3}{4}$ inch.

Unless otherwise noted, all blocks shall be dry-stacked and placed with each block spanning the joint in the row below (running bond). Shimming or grinding shall control the elevations of any two adjacent blocks within $\frac{1}{24}$ inch. The top of blocks shall be tested with a 3 foot or longer straight edge bubble level. All high points identified by the straight edge shall be ground flat. Tilting of the blocks, from front to back of the wall, shall be checked at each course, correction by shimming shall be done no later than three completed courses. For walls without a rail-anchoring slab, the top two courses, or a cast-in-place reinforced concrete cap course and the two courses directly below it, shall be pinned and internally grouted together with a minimum of two #4 rebar per block. The concrete block shall have cells to accommodate grouted pins and modifications shall be made for blocks that do not have such cells. Grout is limited to penetrate a maximum depth of three blocks measured from the top of fill for each operation. For grout more than three blocks in height, if specified on the plans, multiple grout operations are required. A layer of fabric

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CONCRETE BLOCK FACING MSE WALLS**

shall retain the grout in the lowest grouted block layer. The aggregate for grout shall be modified according to cell size and geogrid aperture. Grout in any 20 foot long wall segment shall be placed and consolidated by a minimum of two simultaneously working concrete vibrators. Precast cap blocks shall not be used in lieu of a cast-in-place reinforced concrete cap. All concrete used for cast-in-place cap and grout shall have a minimum 28 day compression strength of 4500 psi.

For walls with rail anchoring slabs, the top of block elevations shall be within 2 inches of the bottom of the anchoring slab. Cast-in-place concrete or sawcut partial height blocks may be used to accomplish this without extra cost to the project.

Where the Geomembrane for drainage interferes with the continuation of reinforcement, the blocks beyond the termination shall be reinforced or shimmed with the same grade of soil reinforcing material to maintain the reinforcing at the constant block elevation.

As shown on the plans, facing blocks directly exposed to spray from deiced pavements and indirect windborne spray shall have three coats of water resistant or repellent concrete sealer applied to the front face of the wall before the wall is opened to traffic.

- (j) Fill under Leveling Pad. For walls requiring fill under the planned elevation of the leveling pad, the Contractor may lower the elevation of the leveling pad as approved by the Project Manager, except that the finished elevation at the top of the wall shall not be altered. As requested by the Contractor, and with the Project Manager's approval, the higher wall shall be redesigned with longer reinforcement length and revised reinforcement schedule.

METHOD OF MEASUREMENT

MSE retaining walls will not be measured for payment in the field, but will be paid for by the calculated quantities shown on the plans for the five major components of the wall: structure excavation, structure backfill, block facing, mechanical reinforcement of soil, and geomembrane. The Contractor's construction of a system that requires increased or decreased quantities of any of the components to complete the wall to the dimensions shown will not result in a change in pay quantities. 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 quantity.

- (1) The block facing quantity was calculated for the square foot of wall front face area from the top of the leveling pad (or average pad elevations) as shown on the plans to the top of the anchoring slab for walls with railing, or to the top of the cast in place coping for walls without railing.
- (2) The structure excavation quantity was calculated for the total volume of earth to be removed before the installation of the reinforced zone as shown on the plans.
- (3) The structure backfill quantity was calculated for the total volume behind the wall (the retained structure backfill zone) including the material in the reinforced zone as shown on the plans.
- (4) The mechanical reinforcement of soil quantity was calculated for the total volume of the reinforced zone as shown on the plans.
- (5) Geomembrane was calculated as the length of wall times the distance from face of block to face of block, disregarding the slope of the membrane.

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**REVISION OF SECTION 504
CONCRETE BLOCK FACING MSE WALLS**

The square foot and cubic yard quantities computed for payment are the wall plan quantities based on the height measured at 20 foot maximum intervals along the wall layout line.

BASIS OF PAYMENT

The accepted quantities will be paid for at the contract unit price per unit of measurement for the pay items listed below:

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Block Facing	Square Foot

Structure excavation will be paid for under the Section 206 Pay Item Structure Excavation. Structure backfill will be paid for under the Section 206 Pay Item Structure Backfill (Class 1). Soil reinforcement will be paid for under the Section 206 Pay Item Mechanical Reinforcement of Soil. Geomembrane will be paid for under the Section 420 Pay Item Geomembrane.

Rail anchoring systems (slabs) at the tops of walls and leveling pads at the bottom of wall will be measured and paid for separately under the Section 601 Pay Item Concrete and the Section 602 Pay Item Reinforcing Steel.

Payment will be full compensation for all work and materials required to construct the concrete block facing MSE wall. Miscellaneous items such as, dual track welding of Geomembrane, drainage ditches, rundowns, filter material, filter fabric, grout, pins, shimming material, concrete block coating and providing a technical representative will not be measured and paid for separately but shall be included in the work.

Block Facing Payment Reductions. In this subsection, "block" refers to either a concrete block or a hybrid unit.

- (1) A dislocated block is where the edge of an individual block is offset outward more than ¼ inch or placed with a vertical joint more than ¼ inch from the edge of adjacent blocks.
- (2) A cracked block is an individual block with any visible crack visible in natural light from a distance equal to the wall height.
- (3) A corner knock-off is a block with any missing facial corners or any side longer than ½ inch at the corner.
- (4) Substandard blocks are concrete blocks installed in any wall segments that do not meet the certified values of compression strength, water absorption rate, or freeze/thaw cycles; substandard blocks include blocks actually in the wall for which the Contractor does not provide reports and certifications as required in subsection (f) under MATERIALS.

In the completed wall, or completed portion of the wall, if the number of defective blocks (cracked blocks, corner knock-off blocks, dislocated blocks, efflorescence or cement blemished blocks and substandard blocks) and blocks failing the straightedge test exceeds 3 percent of the total number of blocks in any wall segment of 40 foot horizontal or arc length, a price reduction will be applied to that portion of the wall. The price reduction shall be 3 percent for each percent of defective blocks in this portion of the wall exceeding 3 percent. This percentage shall accumulate thereafter to a maximum reduction of 21 percent. For blocks subject to price reduction, if the defects are repairable or the overall quality of wall can be

**REVISION OF SECTION 504
CONCRETE BLOCK FACING MSE WALLS**

improved, with the consent from the Project Manager, the Contractor may repair and reduce the percentage of price reduction. A walkthrough inspection will be made as requested by the Contractor before final payment.

% of Defective Blocks (x) in 40 foot section	$x \leq 3$	$3 < x \leq 4$	$4 < x \leq 5$	$5 < x \leq 6$	$6 < x \leq 7$	$7 < x \leq 8$	$8 < x \leq 9$	$9 < x \leq 10$	$x > 10$
% of Price Reduction for that section	0	3	6	9	12	15	18	21	Rejection

The overall payment reduction percentage shall be calculated by dividing the sum of all defective blocks by the total number of blocks in that portion of the wall. When this percentage exceeds 10 percent, the Project Manager will reject the entire wall or portions thereof. The Contractor shall replace the rejected wall at his own expense.

**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

Section 514 of the Standard Specifications is hereby deleted in its entirety and replaced with the following:

DESCRIPTION

514.01 This work shall consist of furnishing all equipment, labor, fabrication and materials to do all work necessary to construct the Pedestrian Railing (Steel) as indicated on the Drawings and as specified herein.

MATERIALS

514.02 Steel shall conform to the requirements of Section 509 and the following:

1. Tubes shall conform to the requirements of ASTM A500, Grade B.
2. Steel plates, bars, and post anchors shall conform to the requirements of ASTM A36.

Welding shall conform to the American Welding Society Structural Welding Code - Steel, D 1.1.

Shop Drawings: Submit shop drawings of all metal railing fabrications to the Project Manager for approval, showing sizes and thicknesses of all members, types of materials, methods of connection and assembly, complete dimensions, clearances, anchorage, relationship to surrounding work by other trades, shop paint and protective coatings, and other pertinent details of fabrication and installation.

1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, openings, and any accessories.
2. Include erection drawings, elevations, applicable details and field dimensions.
3. Indicate welded connections using standard AIWS welding symbols. Indicate net weld lengths.

Samples: Submit samples of all materials to be furnished under this section, in the full size and form, as requested by the Project Manager.

1. Do not order materials or begin fabrication until Project Manager's approval of submittals has been obtained.
2. Furnish to the Contractor, with copy to the Project Manager, a certified statement that the shop-applied finish conforms to these Specifications, including compliance with application thickness and adhesion.

Grout shall be premixed, non-shrink, nonmetallic grout complying with ASTM C 1107, recommended by manufacturer for use indicated.

CONSTRUCTION REQUIREMENTS

514.06 Materials shall be carefully handled and stored under cover in a manner to prevent deformation and damage to the materials and to shop finishes, and to prevent rusting and the accumulation of foreign matter on the metal work. All such work shall be repaired and cleaned both prior to and after erection.

Pedestrian Railing (Steel) shall conform to the horizontal and vertical alignment of the feature on which it is mounted. Posts shall be plumb to within a tolerance of ¼" for a 57" post. Work shall be erected square, plumb and true, accurately fitted, and with tight joints and intersections.

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**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

Materials shall be new stock, free from defects impairing strength, durability or appearance, and best commercial quality for each intended purpose.

All connections and splices shall be continuous-welded type for rigid construction, with weld ground smooth. Welding shall conform to applicable requirements of AWSW D1.1.

Provide all sleeves and other parts required for securing each item of work.

Metal surfaces shall be cleaned and free from mill scale, flake, rust and rust pitting, well formed and finished to shaped and size, true to details with straight, sharp lines and angles and smooth surfaces. Curved work shall be to true radii. Exposed sheared edges shall be eased.

Weld all permanent connections. Welds shall be continuous on all exposed surfaces. Exposed welds shall be ground flush and smooth with voids filled with metallic filing compound.

Joints exposed to weather shall be formed to exclude water.

Pedestrian rail shall be rigidly braced and secured to surrounding construction, and shall be tight and free of rattle, vibration, or noticeable deflection during construction.

Rail shall be of Architectural Quality. Exceptional care shall be taken in welding and grinding, filing and surface sanding to provide truly smooth, clean, neat, and flush construction throughout, free of all surface defects and defacements.

Remove and replace work at no additional cost to the project for work which is improperly located or is not true to line, grade and plumb within tolerances and indicated. Repair damaged components and finishes as recommended by the manufacturer and as indicated herein.

Pedestrian rail paint system as follows:

Surface preparation requirements:

All rail/fence sections will be abrasive blast cleaned to meet SSPC-SP6 commercial blast criteria. SSPC-SP2 and SSPC-SP3 hand and power tool cleaning can be used in minor areas. All surfaces must be clean, dry and free of oil, grease and other contaminants. A 2.0 – 2.5 mil surface profile must be attained

Paint system required:

The prime coat will be modified polyamidoamine epoxy Tnemec – Chembuild series 135 or equal. It will be applied per the manufacturer's recommendations. DFT will be measured by the applicator.

The top coat will be an aliphatic acrylic polyurethane Tnemec – endurashield series 73 or equal. It will be applied per the manufacturer's recommendations. Color Federal standard 595B #14056 DFT will be measured by the applicator. The Contractor shall submit a one foot by one foot (1' X 1') minimum sample for approval by Project Manager of all paint colors.

General notes:

All DFT spread rates will be to the conventional build spread rates listed on the product data sheets.

**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

Railing may be fabricated and coated with epoxy primer in the shop, with the top coat applied in the field. Touch up of the epoxy primer will precede topcoating in the field.

Strict adherence to product data sheets for temperature, recoat times, dew point, etc., is required.

Repair of coating system prior to the final acceptance will be performed per manufacturer's recommendation.

Substitution of the above referenced paint products must have project engineering approval.

METHOD OF MEASUREMENT

514.07 Pedestrian Railing (Steel) shall be measured and paid for by the linear foot from end to end of metal rail sections, as shown on the plans.

BASIS OF PAYMENT

514.08 The accepted quantities of the various types of rail measured as provided above will be paid for at the Contract unit price per linear foot, which shall be compensation for all labor, equipment and materials including posts, post anchors, base plates, anchor bolts, miscellaneous bolts, nuts, washers, tubes, attachment angles and cover plates, painting, installation and adjustment required to complete the item.

Payment will be made under:

Pay Item

Pedestrian Railing (Steel)

Pay Unit

Linear Foot

**REVISION OF SECTION 601
MANUFACTURED STONE VENEER**

Section 601 of the Standard Specifications shall be revised for this project as follows:

Subsection 601.01 shall include the following:

This work shall consist of furnishing and installation of manufactured stone veneer as designated on the plans and in these specifications.

Subsection 601.03 shall include the following:

Manufactured Stone Veneer:

Manufactured stone veneer to be installed on the faces of the pedestals at the ends of retaining walls shall be as manufactured by Coronado Stone Products, 2025 Country Club Drive, Carrollton, Texas 75006, or approved equal. The style, pattern, and color of the veneer will be determined during construction.

Mortar for the placement of the manufacturer stone veneer shall be colored (color to be determined during construction). The cement shall be mixed with the color pigment in accordance with the manufacturer's recommendations.

The contractor shall submit samples of stone veneer and mortar for the placement of the stone veneer for review and approval per subsection 601.14.

Subsection 601.19 shall include the following:

Manufactured stone veneer will be measured by the square foot in accordance with the dimensions shown on plans.

Subsection 601.20 shall include the following:

Payment will be made under

PAY ITEM

Cut Stone Veneer

PAY UNIT

Square foot

Payment will be full compensation for all work necessary to complete the item.

**REVISION OF SECTION 603
CULVERTS AND SEWERS**

Section 603 of the Standard Specifications is hereby revised as follows:

Subsections 603.03 through 603.11 shall be replaced with the City and County of Denver, Department of Public Works, Wastewater Management Division "Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications", hereby incorporated into this Section by reference. All references in the replacement specifications to measurement and payment and item numbers referencing Standard Construction Specifications shall be deleted.

The referenced documents can be found at the following website:

<http://www.denvergov.org/WMDDesign/StormDrainSantConstrDetailTechSpecs/tabid/395956/Default.aspx>

Compaction Method B as defined in the above replacement specifications shall be used.

BASIS OF PAYMENT

Subsection 603.12 is revised to include the following:

Structural excavation, bedding, and structural backfill will not be measured and paid for separately but shall be included in the related work.

PAY ITEM

15 Inch Reinforced Concrete Pipe, C-76, Class III, w/ Class B Bedding
18 Inch Reinforced Concrete Pipe, C-76, Class III, w/ Class B Bedding
24 Inch Reinforced Concrete Pipe, C-76, Class III, w/ Class B Bedding

PAY UNIT

Linear Foot
Linear Foot
Linear Foot

**REVISION OF SECTION 604
MANHOLES, INLETS, AND METER VAULTS**

Section 604 of the Standard Specifications is hereby revised for this Project as follows:

Subsections 604.02 through 604.06 shall be replaced with:

City and County of Denver, Department of Public Works, Wastewater Management Division "Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications", hereby incorporated into this Section by reference. All references in the replacement specifications to measurement and payment and item numbers referencing Standard Construction Specifications shall be deleted.

The referenced documents can be found at the following website:

<http://www.denvergov.org/WMDDesign/StormDrainSantConstrDetailTechSpecs/tabid/395956/Default.aspx>

Compaction Method B as defined in the above replacement specifications shall be used.

BASIS OF PAYMENT

Subsection 604.07 is revised to include the following:

Structure Excavation and Structure Backfill will not be measured and paid for separately but shall be included in the work.

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Single No. 16 Inlet Open Throat	Each
Single No. 16 Inlet Valley	Each
Double No. 16 Inlet Valley	Each
4 ft. ID Manhole With Concentric Cone	Each

**REVISION OF SECTION 608
SIDEWALKS AND CURB RAMPS**

Section 608 of the Standard Specifications is hereby revised as follows:

MATERIALS

Subsection 608.02 shall be deleted in its entirety and replaced with the following:

Materials shall meet the requirements specified in the following subsections:

Joint Fillers 705.01

Concrete for sidewalks, curb ramps and bikeways shall be Class "P", as specified in subsections 601.02 and 601.03.

New Curb Ramps shall be standard gray and constructed with integral Truncated Domes per "City and County of Denver Department of Public Works Standards and Details for Engineering Division." If repairs or alterations to existing colored ramps are required, the curb ramp concrete is to be integrally colored with pigment #1117 as manufactured by Davis Colors at the rate of 4 pounds per sack of cement, or of an equal color and intensity approved by the Project Manager, and cured with a non-pigmented "clear" curing compound. The Project Manager may adjust the color additive \pm one pound, if desired.

All concrete used for sidewalks, and curb ramps shall be reinforced with polypropylene fibers. Polypropylene fibers shall be FIBERMESH or FORTA FIBRE. Length of fibers shall be as recommended by the manufacturer. Add 1.5 pounds FIBERMESH or FORTA FIBRE per cubic yard of concrete.

The use of calcium chloride, as permitted under Revision of Section 412, subsection 412.04, is prohibited in colored concrete.

CONSTRUCTION REQUIREMENTS

Subsection 608.03(a) shall be revised as follows:

Delete the third sentence and add:

Excavation. Where excavation to the finished grade elevation results in sub grade of unsuitable soil, the Project Manager may designate the unsuitable material to be removed and replaced with approved material. Removal of unsuitable material shall be paid for as Muck Excavation in accordance with Revision of Section 203.05(c), and backfilled with Aggregate Base Course (Class 6), or other material approved by the Project Manager.

Subsection 608.03(d) is hereby revised to include the following:

Finishing. Finishing shall occur only after the disappearance of bleed water. The addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted. Sprinkling of pigment onto the fresh surface will not be permitted.

The Contractor shall insure that new concrete items built under this contract drain properly and, as such, there are no areas of standing water on new concrete items.

**REVISION OF SECTION 608
SIDEWALKS AND CURB RAMPS**

The Contractor shall protect all new concrete items built under this Contract against defacement, or other injury, from any cause. If said damage cannot be adequately repaired to the satisfaction of the Project Manager, the Contractor shall remove and replace the unacceptable items at Contractor's expense.

Subsection 608.03(e) shall be revised to include the following:

For Bikeways, control joints shall be zipstrip or sawcut to a minimum depth of 1/4 of the total slab thickness and no greater than 1/4 inch wide. Control joints shall be spaced at 10 feet on center or as noted on the plans. Any damage to the concrete such as spalling, dislodging of aggregate particles, or cracking will be repaired by the Contractor at no additional cost to the Project. If said damage cannot be adequately repaired to the satisfaction of the Project Manager, the Contractor shall remove and replace the damaged concrete at no additional cost to the Project.

Subsection 608.03(f) shall be revised to include the following:

The Contractor shall insure that new concrete items built under this contract drain properly and, as such, there are no areas of standing water on new concrete items.

The Contractor shall protect all new concrete items built under this Contract against defacement, or other injury, from any cause. If said damage cannot be adequately repaired to the satisfaction of the Project Manager, the Contractor shall remove and replace the unacceptable items at Contractor's expense.

BASIS OF PAYMENT

Subsection 608.06 shall be revised to include the following:

Excavation to proposed sub grade elevation will not be paid for separately but shall be included in the work associated with Section 202, Removal of Structures and Obstructions.

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Concrete Sidewalk (w/ Fiber) (6 Inch)	Square Yards
Concrete Curb Ramp Type 4 (w/ Fiber)	Square Yards

Payment for Truncated Dome Panels will not be measured and paid for separately but be included in the work and shall include all labor, equipment and materials required to install the panels per City and County of Denver Std. Dwg. Nos. 7.0-7.5.

**REVISION OF SECTION 609
CURB AND GUTTER**

Section 609 of the Standard Specifications is hereby revised as follows:

DESCRIPTION

Subsection 609.01 shall be revised to include the following:

Curb and Gutter

MATERIALS

Subsection 609.02 shall be revised as follows:

In the first paragraph, reference to Section 703.07, Bed Course Material, shall be deleted.

Subsection 609.02, Paragraph 2 shall be deleted and replaced with the following:

Concrete shall conform to the requirements for Class "P" concrete as specified in subsections 601.02 and 601.03. AASHTO M 43 Size 57 or 67 aggregate shall be used, and a maximum slump of 4" will be permitted.

CONSTRUCTION REQUIREMENTS

Subsection 609.03(c) shall be revised to include the following:

The Contractor shall protect all new concrete items built under this Contract against defacement, or other injury, from any cause. If said damage cannot be adequately repaired to the satisfaction of the Project Manager, the Contractor shall remove and replace the unacceptable items at Contractor's expense.

Subsection 609.03(d) shall be revised to include the following:

For construction of curb and gutter adjacent to existing concrete pavement, the joint pattern shall match that of the concrete pavement. The joint pattern shall be approved by the Project Manager prior to construction.

Subsection 609.03(i) shall be revised to include the following:

The Contractor shall insure that new concrete items built under this contract drain properly and, as such, there are no areas of standing water on new concrete items.

BASIS OF PAYMENT

Subsection 609.07 shall be revised to include the following:

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**REVISION OF SECTION 609
CURB AND GUTTER**

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
6" Curb and Gutter – 2' Pan (w/Fiber)	Linear Foot
6" Curb and Gutter – 1' Pan (w/Fiber)	Linear Foot
4" Mountable Curb (w/Fiber)	Linear Foot
Gutter Type 2 (4 Foot)	Linear Foot

Payment shall be full compensation for labor and materials including, but not limited to, reconditioning, fiber, reinforcing steel, backfill and Hot Mix Asphalt patching.

**REVISION OF SECTION 622
BOLLARD**

Section 622 of the Standard Specifications is hereby revised for this project as follows:

Subsection 622.01 shall include the following:

This work consists of constructing removable bollards in accordance with these specifications and in conformity with the plans.

Subsection 622.27 shall include the following:

Bollard will be measured by each bollard installed and accepted and will include bollard, gravel, locks, base plates, anchors, rebar, concrete, fastener, and backfill.

Subsection 622.28 shall include the following:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Bollard	Each

Payment for bollard shall be full compensation for all work and materials to complete the item including bollard, gravel, locks, base plate, anchors, rebar, concrete, fasteners, excavation, and backfill.

REVISION OF SECTION 625 CONSTRUCTION SURVEYING

Section 625 of the standard specifications is hereby revised as follows:

Delete section 625 and replace with the following:

DESCRIPTION

625.01 This work consists of the construction surveying, calculating, and staking necessary for the construction of all elements of the project. The work shall be done under the supervision of a Professional Land Surveyor (PLS) who is licensed in the State of Colorado.

Locating, preserving, referencing, installing and restoring land monuments such as Primary Control monuments from which the Right of Way or any land boundary will be calculated, described or monumented, Public Land Survey System (PLSS) monuments, General Land Office (GLO) monuments, Bureau of Land Management (BLM) monuments, Mineral Survey (MS) monuments, Right of Way (ROW) monuments, property boundary monuments and offsets, range points, benchmarks, easement monuments, and other monuments that are required by law or regulation to be established by a PLS, and the determination of any land boundary, shall be done under the supervision of a Professional Land Surveyor (PLS) who is licensed in the State of Colorado.

It is anticipated that the Contractor will create, submit and receive approval for the following plans:

- Survey Control
- Intersection Details
- Utility Coordination
- Traffic Control Plan
- Erosion Control Plan

The Contractor will be required to coordinate all utility conflicts with the appropriate utility companies. It will be the Contractor's responsibility to submit all required plans and to receive all required approvals, following the City's standard plan approval process. Upon plan approval, the Contractor will be permitted to commence construction activities.

The Contractor's Professional Land Surveyor will be required to perform a diligent search and/or set Range Points to the City's Standards in all street intersections within the Project boundaries. After all Range Points have been set, a Land Survey Plat shall be filed representing all Range Points and survey control within the Project.

The Contractor shall reset all survey crosses, monuments, benchmarks, range points which are disturbed shown in the plans on the survey control sheets.

The Contractor and/or their surveyor shall meet with the Project Manager and City Surveyor staff prior to beginning work to collect available survey information.

All plan sheets shall be marked as-built, including any changes, and stamped by a licensed Colorado Professional Engineer.

**REVISION OF SECTION 625
CONSTRUCTION SURVEYING**

MATERIALS AND EQUIPMENT

625.02 The Contractor shall furnish all personnel, survey equipment, safety equipment, materials, and traffic control necessary to perform the required construction surveying and staking. All surveying equipment, including Electronic Distance Meters (EDM), total stations, theodolites, levels, rods, tapes, tripods, tribrachs, and Global Positioning System (GPS) receivers and equipment.

If any survey equipment is found to be functioning outside the manufacturer's specified tolerance, certification from an approved repair facility showing that the instruments have been repaired, properly adjusted, or both if necessary shall be included in the survey records and submitted to the City Surveyor's Office before being used.

CONSTRUCTION REQUIREMENTS

625.03 A Construction Survey Conference shall be held with the City Surveyor's Office prior to performing any surveying work under this section. The Contractor's Surveyor (PLS) and Party Chief shall attend. A Construction Survey Checklist shall be completed and signed by the City Surveyor's Office and the contractor.

The Contractor shall check and verify all established Primary horizontal and vertical control points.

All survey records generated shall be the property of the City and shall be available to the City Surveyor's Office for inspection or reproduction at all times. All survey records shall be transmitted to the City Surveyor's Office for inclusion into the project records before final project acceptance.

Electronic formats may be acceptable, please coordinate with the City Surveyor's Office.

Copies of any new Monument Records filed by the PLS with the State Board of Registration shall be submitted to the City Surveyor prior to filing.

625.04 Contractor Surveying. The Contractor's PLS shall perform all construction surveying and staking that is necessary for construction of the project.

625.05 Staking. It is the responsibility of the Contractor's PLS to adhere to industry standards and acceptable practices in regards to staking. Any restaking will be the responsibility of the Contractor's PLS at no cost to the City.

625.06 Accuracy and Tolerances. It is the responsibility of the Contractor's PLS to adhere to industry standards and applicable standards with regard to horizontal and vertical accuracy tolerances.

625.07 Responsibility and Inspection. Supervision and coordination of construction surveying and staking is the Contractor's responsibility. The City Surveyor's Office or Project Manager may inspect the Contractor's surveying; however such inspection will not relieve the Contractor of any responsibility for accuracy or completeness of work. All Contractor surveying inaccuracies, errors, or omissions shall be corrected at the Contractor's expense.

**REVISION OF SECTION 625
CONSTRUCTION SURVEYING**

625.08 Reset Monuments and Stakes. Survey monuments, benchmarks, and other significant stakes that are damaged, destroyed, or made inaccessible by the progress of construction shall be replaced, transferred or reestablished at the Contractor's expense.

Locating, preserving, referencing, installing and restoring land monuments as described in 625.01, shall be done in accordance with Section 629, under the supervision of a PLS who is experienced and competent in Right of Way and boundary surveying and licensed in the State of Colorado.

625.09 Changes. All changes in lines and grades required by field conditions and all discrepancies in grades, alignment, location or dimensions detected by the Contractor shall be immediately submitted to the Project Manager in writing. No changes in given data or plans will be allowed unless approved by the Project Manager in writing. All changes shall be documented by the contractor.

625.10 Pay Quantities Measurements. The Project Manager will perform all interim and final measurements deemed necessary by the City to determine contract pay quantities. The Contractor shall establish and maintain Control points and stationing as required for these measurements.

625.11 Survey Records. Survey records shall be completed as the work is done. Field survey notes for construction surveying and checking by the Contractor shall be recorded in survey records in conformance with industry standards and acceptable practices.

All survey records generated shall be the property of the City and shall be available to the City Surveyor's Office or the Project Manager for inspection or reproduction at all times. All survey records shall be transmitted to the City Surveyor's Office for inclusion into the project records before final project acceptance. All survey records shall be stamped with the seal of, and signed by, the responsible PLS.

Electronic submittal of survey records may be acceptable, please coordinate with the City Surveyor's Office.

METHOD OF MEASUREMENT

625.12 Construction surveying will not be measured but will be paid for on a lump sum basis.

BASIS OF PAYMENT

625.13 Payment for construction surveying will be the contract lump sum bid and will be full compensation for all surveying work necessary to complete the project to include all resetting of stakes, marks, monuments and preparing survey documentation as required.

Partial payment for construction surveying, as determined by the Project Manager, will be made as the work progresses.

**REVISION OF SECTION 625
CONSTRUCTION SURVEYING**

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Construction Surveying	Lump Sum

Traffic control for construction surveying will be measured and paid for in accordance with Section 630.

**REVISION OF SECTION 628
BRIDGE GIRDER AND DECK UNIT**

Section 628 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

628.01 This work consists of the design, fabrication, and erection of a simple span, welded self weathering steel, truss pedestrian bridge with a concrete deck in accordance with the specifications and plan details. Safety railing shall have a maximum clear opening of four (4) inches. Horizontal pickets shall be provided.

Potential bridge suppliers are:

1. Continental Bridge
8301 State Highway 29 N
Alexandria, Minnesota 56308
1-800-328-2047, FAX 320-852-7067
2. Steadfast Bridges
4021 Gault Ave. South
Fort Payne, Alabama 35967
1-800-749-7515, FAX 256-845-9750
3. Excel Bridge Manufacturing Company
12001 Shoemaker Avenue
Santa Fe Springs, California 90670
562-944-0701, FAX 562-944-4025
4. Big R Manufacturing LLC
P.O. Box 1290
Greeley, Colorado 80632-1290
1-800-234-0734, FAX 1-970-356-9621
5. Wheeler Lumber, LLC
9330 James Avenue South
Bloomington, Minnesota 55431-2317
1-800-328-3986, FAX 952-929-2909

MATERIALS

628.02 Structural Steel. All structural steel shall be new (unused) material. The Contractor shall provide the City of Denver with copies of all certified mill test reports for all structural steel and bolts. Floor beams, stringers, and members of each Half-through truss (upper and lower chords, diagonals, end posts and vertical posts) utilized in the bridges shall meet a longitudinal Charpy V-notch (CVN) value of 25 ft. lbs. at 40 degrees Fahrenheit. Testing shall be in accordance with

AASHTO T 243 (ASTM A 673). The H frequency of heat testing shall be used. The Contractor shall provide the City of Denver with certified copies of all CVN test reports.

**REVISION OF SECTION 628
BRIDGE GIRDER AND DECK UNIT**

All square and rectangular structural steel tubing shall conform to the requirements of ASTM A 847, Cold-Formed Welded and Seamless High Strength, Low Alloy Structural Tubing With Improved Atmospheric Corrosion Resistance.

All structural steel shapes and plates shall conform to the requirements of ASTM A 588, High-Strength Low-Alloy Structural Steel.

All anchor bolts and nuts shall conform to the requirements of ASTM A 307, Grade A, Carbon Steel Bolts and Studs, and shall be galvanized in accordance with the requirements of ASTM A 153. Each anchor bolt shall be provided with two nuts for jamming. Any neoprene pads used in bearing devices shall be AASHTO grade.

All structural steel field connections shall be bolted with high strength bolts. High strength bolts, including suitable nuts and plain hardened washers, shall conform to the requirements of ASTM A 325. Bolts shall be Type 3.

CONSTRUCTION REQUIREMENTS

628.04 Design. The AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges and the AASHTO LRFD Bridge Design Specifications, latest edition, shall govern the design.

The superstructure of the pedestrian bridge shall consist of two parallel Half-through trusses, with at least one diagonal per panel. The trusses shall be the main load-carrying members of the bridge.

The members of each Half-through truss, (upper and lower chords, diagonals, end posts, and vertical posts) shall be fabricated from square and rectangular structural steel tubing.

Floor beams and stringers shall be fabricated from structural steel shapes or square and rectangular structural steel tubing.

The structure shall conform to the clear span, clear width, and railing requirements shown on the plans. Safety railing or pickets shall be provided to prevent a four (4) inch sphere from passing through. Cover plates shall be provided to bridge gaps in deck at abutments.

Each pedestrian bridge shall be designed for the following loads and loading conditions:

1. Dead load shall be as defined in the AASHTO LRFD Bridge Design Specifications.
2. Live load shall be as defined in the AASHTO Guide Specifications. Distribution to the stringer and floor beams shall be in accordance with the AASHTO LRFD Specifications. Deflection and vibration limits as per the AASHTO Guide Specifications shall apply.

Pedestrian live load shall be as defined by the AASHTO Guide Specifications.

Vehicle live load shall be as defined by the plans.

3. Wind load shall be as defined by the AASHTO Guide Specifications.

**REVISION OF SECTION 628
BRIDGE GIRDER AND DECK UNIT**

4. Load combinations and load factors shall be as defined in Section 3.7 of the AASHTO Guide Specifications.

Allowable loads in the structural steel members and weld metal shall be in accordance with Chapter 6 of the AASHTO LRFD Specifications.

Minimum thickness of structural steel shall be 3/16 of an inch.

Half-inch diameter weep holes shall be drilled (flame cut holes will not be allowed) at all low points of all steel tubing members as oriented in the in-place, completed structure. In members that are level, or flat, a total of two weep holes shall be drilled, one at each end. Weep holes and their locations shall be shown on the Shop Drawings.

All metallic fasteners utilized in attaching timber to structural steel shall be galvanized.

All welded tubular connections shall be designed in accordance with Section 2, Parts A and D (Delete Subsection 2.36.6), of the Structural Welding Code-Steel ANSI/AWS/D1.1 (Latest Edition).

Concrete and reinforcing steel shall conform to Sections 601 and 602, respectively. Concrete for deck shall be Concrete Class D (Bridge). Reinforcing in deck shall be epoxy coated. Stay-In-Place deck forms are not allowed. 2" by 6" safety rub rails composed of a wood/plastic composite material, approved by the Project Manager, shall be provided with the bridge girder and deck unit. Deck shall receive a transverse broom finish.

The Contractor shall submit seven (7) sets of Design Calculations and Shop Fabrication Details (Shop Drawings) to the City of Denver for each pedestrian bridge and concrete deck separately. This submittal shall be in accordance with the General Contract Conditions. The Design Calculations and Shop Drawings shall contain the endorsement seal of the Professional Engineer registered in the State of Colorado responsible for the design.

628.05 Shop Fabrication. Welding and fabrication of weathering steel pedestrian bridges shall conform to the requirements of the Structural Welding Code-Steel ANSI/AWS D1.1 (Latest Edition) as amended by the following:

1. As required in Subsection 4.7.3, a welding procedure shall be established by qualification in accordance with the requirements of Subsection 3.3 for the ASTM A 847 material used on the bridge. The results of the Procedure Qualification shall be recorded on Form E-1 in Annex E of AWS D 1.1.
2. The Contractor shall submit a Quality Control Plan. The Plan shall include personnel qualifications, certifications, and a Written Practice in accordance with ASNT SNT-TC-1A.
3. The quality of all welds shall be in accordance with Section 6, Table 6.1. In Table 6.1, Undercut 7(B), the criteria for primary members shall apply to the bottom chord members.
4. All Complete Joint Penetration Groove Welds in butt joints in the bottom chord members shall be 100% Magnetic Particle tested in accordance with ASTM E 709. Acceptance shall be determined in accordance with Section 6.10 and Table 6.1, using Alternating Current. In addition, complete joint penetration groove butt welds welded from one side without backing of bottom chord members shall be examined by ultrasonic testing in accordance with Section 6.11.1.

**REVISION OF SECTION 628
BRIDGE GIRDER AND DECK UNIT**

- 5. Magnetic Particle Testing shall be performed on 100% of all attachment welds to the bottom chord, using Alternating Current, in accordance with Section 6.10 and Table 6.1.
- 6. All Procedure Qualification Records and Welder Qualification Test Records shall be current within three years of the date of beginning fabrication.
- 7. A copy of all Procedure Qualification Records, Welder Qualification Test Records, Quality Control Plan and all visual and nondestructive test reports shall be provided to the City of Denver.

All weathering steel shall be blast cleaned, Steel Structures Painting Council Surface Preparation No. 6 (SSPC-SP6, Commercial Blast Cleaning), to remove mill scale and foreign material which would prohibit rusting to a uniform color.

628.06 Field Construction. The substructure shall be constructed in accordance with the details shown in the plans and the pedestrian bridge shop drawings. Before construction begins on the substructure, the Contractor shall determine the anchor bolt requirements and substructure dimensions needed to properly erect the structure which will be provided. The City of Denver shall be provided with two copies of detail sheets delineating these requirements before work begins.

METHOD OF MEASUREMENT

628.07 Pedestrian bridge will be measured by the complete Bridge Girder and Deck Unit installed and accepted.

BASIS OF PAYMENT

628.08 The accepted quantity shall be paid for at the contract unit price for the pay unit listed below. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Bridge Girder and Deck Unit (110 foot to 115 foot)	Each

Payment shall be full compensation for all work necessary to complete the item, which shall include design, fabrication, transportation to the bridge site, and erection. The substructure shall be measured and paid for separately. Anchor bolts, concrete deck and curb, deck reinforcing, bearing devices, cover plates at abutments, embedded plates in abutment backwalls, and safety railing will not be measured and paid for separately but shall be included in Item 628. Payment will not be made for this item until all required reports, certifications, and forms have been submitted to the Project Manager.

REVISION OF SECTION 629 SURVEY MONUMENTATION

Section 629 of the standard specifications is hereby revised as follows:

Delete section 629 and replace with the following:

DESCRIPTION

629.01 This work consists of locating, preserving, referencing, installing and restoring land monuments, such as Primary Control monuments from which the Right of Way or any land boundary will be calculated, described or monumented, Public Land Survey System (PLSS) monuments, General Land Office (GLO) monuments, Bureau of Land Management (BLM) monuments, Mineral Survey (MS) monuments, Right of Way (ROW) monuments, property boundary monuments and offsets, range points, benchmarks, easement monuments, and other monuments that are required by law or regulation to be established and recorded by a Professional Land Surveyor (PLS), along with installing or adjusting Monument Boxes. The production of additional documentation may be required by the City Surveyors' Office. All such work included in this section shall be under the supervision of a PLS who is licensed in the State of Colorado.

MATERIALS AND EQUIPMENT

629.02 The Contractor shall furnish all personnel, survey equipment, safety equipment, materials, and traffic control necessary to perform the required monumentation and related surveying.

CONSTRUCTION REQUIREMENTS

629.03 A Construction Survey Conference shall be held with the City Surveyor's Office prior to performing any surveying work under this section. The Contractor's Surveyor (PLS) and Party Chief shall attend. A Construction Survey Check List shall be completed and signed by the City Surveyor's Office and the contractor.

The Contractor shall check and verify all established Primary horizontal and vertical control points.

All survey records generated shall be the property of the City and shall be available to the City Surveyor's Office for inspection or reproduction at all times. All survey records shall be transmitted to the City Surveyor's Office for inclusion into the project records before final project acceptance.

Electronic formats may be acceptable, please coordinate with the City Surveyor's office.

Copies of any new Monument Records filed by the PLS with the State Board of Registration shall be submitted to the City Surveyor's Office prior to filing.

629.04 Locating Monuments. This work consists of field locating all survey monumentation as discussed in 629.01 which is in place within the project limits. A diligent search of construction zones and project limits shall be performed by the PLS.

629.05 Preserving and Referencing Monuments. All monuments as described in 629.01 shall be preserved, reference and reset by a PLS within the project limits.

**REVISION OF SECTION 629
SURVEY MONUMENTATION**

629.06 Installing Monuments. All monuments as described in 629.01 shall be preserved through construction. If any monuments as described in 629.01 are to be disturbed/removed during construction, it will be the contractor's PLS responsibility to reset all monuments to current City of Denver standards. Appropriate documentation will be required for all reset monuments.

629.07 Monument Box. This survey work shall consist of installing or adjusting monument boxes to current City or State requirements.

METHOD OF MEASUREMENT

629.08 Survey Monuments, Monument Boxes, and Adjust Monument Boxes will be measured by the actual number of the various types installed and accepted by the Project Manager. Measurement for locating survey monuments, preserving and referencing monuments will not be measured.

BASIS OF PAYMENT

629.09 The accepted quantities will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Prior to final payment, all survey records and documentation must be submitted and accepted by the City Surveyor's Office.

The Construction Survey checklist, equipment calibrations, and survey records will not be paid for separately but shall be included in the work. The locating of monuments, preserving and referencing monuments will not be paid for separately but shall be included in the work.

Payment will be made under:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Survey Monument	Each
Monument Box	Each

Traffic control for monumentation and related surveying will be measured and paid for in accordance with Section 630.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised as follows:

Subsection 630.01 shall be revised to include the following:

As required by, in descending order of precedence, the specifications, the Standard Specifications, as augmented by the Colorado Department of Transportation M and/or S standards, and the manual on Uniform Traffic Control Devices for Streets and Highways.

The Contractor shall submit, in writing, the proposed Method of Handling Traffic (MHT) for review and approval of the Project Manager as indicated in the Project Special Provisions (Revision of 630 – Construction Zone Traffic Control). The MHT shall be developed according to this section and the construction plans.

Subsection 630.05 TRAFFIC CONES shall include the following:

Steel drum channelizing devices shall not be used for traffic control

Subsection 630.06 shall be modified to include the following:

Non-metallic drums or tubular markers may be substituted for vertical panel channelizing devices.

Subsection 630.08 shall be modified to include the following:

The flagger's STOP/SLOW sign paddle shall be 18 inches with letters six inches high.

Equipment

The Contractor shall not have construction equipment or materials in the lanes open to traffic any time, unless approved by the Project Manager.

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

All personal / employee vehicle and construction equipment parking is prohibited when it conflicts with safety, access, or the flow of traffic.

Devices:

The Contractor shall install construction traffic control devices in locations where they do not block or impede other existing traffic control devices, or sidewalks for pedestrians, disabled persons, or bicyclists.

Steel drum channelizing devices shall not be used for traffic control.

Subsection 630.09, second paragraph is hereby deleted and replaced with the following:

Traffic Control shall be provided as required by, in descending order of precedence, MUTCD, the plans and special provisions for this project, Colorado Department of Transportation Standard Specifications, and Colorado Department of Transportation M and/or S Standards.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

When a different MHT is required for a subsequent construction phase, it must be submitted at least two weeks prior to starting that phase. All proposed methods of handling traffic shall be approved, in writing, by the Project Manager following approval of the Traffic Engineering Services Department.

Approval of the proposed MHT does not relieve the Contractor of liability specifically assigned to him under the contract. The Contractor shall erect and maintain warning lights, signs, barricades, and sufficient safeguards around all excavations, embankments, and obstructions.

The contractor shall notify the Project Manager by Thursday at 3:00 P.M. which streets they intend to work on the following week. This notification will be made for all phases of construction.

Subsection 630.09 (4) shall be revised to include the following:

Access to driveways shall be maintained at all times during construction. The Contractor shall coordinate driveway work with the property owner. Appropriate signage shall be provided alerting all motorists leaving driveways that enter a work zone as to which direction the through lane is traveling and what access restrictions exist, if any.

Subsection 630.09 (9) shall be added as follows

Number of hours for uniformed traffic control shall be tabulated for submittal.

Subsection 630.09 (10) shall be added as follows:

General Work restrictions

The Contractor shall perform all the work on the roadway between the hours of 8:30 A.M. and 3:30 P.M. or as approved by the Project Manager. Weekend and nighttime work will be allowed with the prior written approval of the Project Manager.

Work will not be permitted that directly or indirectly interferes with the flow of traffic between the hours of 5:30 AM and 8:30 AM Monday through Friday; between the hours of 3:00 PM to 6:30 PM Monday through Thursday; and after 2:00 PM on Fridays unless otherwise authorized by the Project Manager.

Work that interferes with traffic 1] on any day of a 3 or 4 day holiday weekend; or 2] after 12:00 noon on the day preceding such holiday weekend, will only be permitted following review of a Contractor submitted request and approval by the Project Manager and the City of Denver Traffic Engineering Services Department:

The Contractor shall coordinate all of the work on the roadway during any special event with the City and County of Denver.

Subsection 630.09 (11) shall be added as follows:

Access:

Two-way traffic shall be maintained on Inca Street from 38th St to 39th Street at all times, and on all surrounding streets at all times, via flagging if necessary for closures of less than one day unless authorized by the Project Manager and the Traffic Engineering Services Department.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

One lane, One-way traffic shall be maintained at all times on Inca Street from 37th Street to 38th Street in the southbound direction. The preferred direction of this traffic shall be based on the side of the road that is in construction.

Contractor shall obtain all required access and construction permits from the City & County of Denver prior to initiating work along City right of way.

The Contractor shall maintain access to all roadways, side streets, walkways, alleyways, driveways, and hike/bike paths at all times unless otherwise approved by the Project Manager. The sole exception to this requirement is that the City will permit full closures of access to all alleyways, walkways, driveways, and hike/ bike paths DIRECTLY ADJACENT to an active work Phase for a maximum period of one (1) week. Should the Contractor wish to exercise this exception, a request for same shall be submitted to the Project Manager for review and approval including proposed method for Public notice per Section 632. If access restrictions are approved by the Project Manager, the Contractor shall coordinate with all tenants affected by alley and/or access closures two weeks prior to closure.

Short term (1-2 day) full traffic closures of the Inca Street segment from 37th St to 38 St shall be allowed for installation of top lift/ layer of asphalt pavement only.

All proposed lane closures shall be subject to the approval of the Project Manager and Traffic Engineering Services Department. Requests for such lane closures shall be submitted with a Method of Handling Traffic at least 24 hours in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless utilized in continuum for the duration of each working period. Contractor shall make all efforts to fashion his lane closure proposal to close no more than one lane at a given time.

Subsection 630.14 is hereby deleted and replaced with the following:

The Contractor shall furnish all personnel and materials necessary to perform the Construction Zone Traffic Control as required and these quantities will not be measured.

Temporary pavement markings for traffic control will not be measured and paid for separately, but shall be included in the work.

Subsection 630.15 is hereby deleted and replaced with the following:

Payment for Construction Zone Traffic Control shall include all devices; a Traffic Control Supervisor, Variable Message Signs as specified, detours, addition and/or adjustments to traffic signal heads as needed to support phased construction traffic control, temporary pavement markings, and all other personnel and resources necessary to complete the work. Payment will be made based on the number of calendar days Construction Zone Traffic Control is in place. Construction duration for this project cannot exceed 120 calendar days.

Payment for Uniformed Traffic Control will be made based on the number of hours, approved in advance by the Project Manager, that Uniformed Traffic Control is utilized to control and direct traffic through the construction zone.

-4-
**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

PAY ITEM

Construction Zone Traffic Control

PAY UNIT

Lump Sum Per Day

**REVISION OF SECTION 705
JOINT, WATERPROOFING AND BEARING MATERIALS**

Section 705 of the Standard specifications is hereby revised for this project as follows:

Subsection 705.01(a) shall be revised to include the following:

Sealant shall be heated only for the time limit recommended by the manufacturer. Also, the sealant shall not be reheated more times than recommended by the manufacturer.

Subsection 705.01 shall be revised to include the following:

(c) Hot Joint Sealants, Concrete Pavement. Hot-poured joint sealer material for concrete slab joints shall conform to the requirements of ASTM D 1190 or ASTM D 3405 and to the following:

Mortar blocks for the bond test shall be as described in ASTM D 1191

Coal tar base material is not acceptable.

The shipping containers shall be marked by the manufacturer with the name of the material, the name and brand of the manufacturer, the weight, the batch number and the safe heating temperature.

The materials shall be stored in accordance with manufacturer's recommendations, but they shall not be exposed to ambient temperatures in excess of 125 degrees F, or stored in direct sunlight.

The sealer material shall be melted in a heating kettle, or tank, constructed as a double boiler, with a space between the inner and outer shells filled with oil, asphalt, or other material for heat transfer and for positive temperature control.

The heating and melting unit shall be equipped so that the heat may be adjusted to provide control of the temperature of the heating medium used for melting the sealer material. The sealer material shall not be subjected to temperatures in excess of 450 degrees F at any stage or time during the melting operation.

UTILITIES

The known utilities within the limits of this project are:

UTILITY	CONTACT/EMAIL	PHONE/FAX
Xcel Energy – Electric Distribution, Gas Operations, and Lighting 555 Zang Street Lakewood, CO 80228	Geno Wilson Willie.G.Wilson@xcelenergy.com	303-592-2722
Xcel Energy – Transmission 1800 Larimer Street, Suite 500 Denver, CO 80202	William Braasch William.Braasch@xcelenergy.com	303-571-7082
Denver Water Department 1600 W. 12 th Avenue Denver, CO 80204-3412	Vincent Gaiter Vincent.gaiter@denverwater.org	303-628-6527
Wastewater Management Division 2000 W. 3 rd Avenue Denver, CO 80223	Steve Choi Steve.choi@denvergov.org	303-446-3648
Qwest Communications 5325 Zuni Street, Room 728 Denver, CO 80221	Jodie Leonard Jodie.leonard@qwest.com	303-451-2379
Sprint/Nextel 7346 S. Yosemite Street Centennial, CO	Nick Muller Nick.j.muller@sprint.com	720-318-9428

The work described in these plans and specifications requires full cooperation between the Contractor and the utility owners in accordance with Subsection 105.11 in conducting their respective operations, to complete the utility work with minimum delay to the project.

PART 1 - CONTRACTOR SHALL PERFORM THE WORK LISTED BELOW:

Coordinate project construction with the performance by the utility owner of each utility work element listed in Part 2 below. Perform preparatory work specified in Part 2 for each utility work element. Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility. Provide each utility owner with periodic updates to the schedule. Conduct necessary utility coordination meetings, and provide other necessary accommodations as directed by the Project Manager. Notify each utility owner in writing, with a copy to the Project Manager, prior to the time each utility work element is to be performed by the utility owner. Provide the notice the number of days specified in Part 2 immediately prior to the time the utility work must be begun to meet the project schedule.

Provide traffic control, as directed by the Project Manager, for any utility work by the utility owner expected to be coordinated with construction. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner.

Perform each utility work element for every utility owner listed here in Part 1. Notify each utility owner in advance of any work being done by the Contractor to its facility, so that the utility owner can coordinate its inspections for final acceptance of the work with the Project Manager.

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UTILITIES

Denver Wastewater Management Work Elements:

The Contractor shall perform all work on Denver Wastewater Management storm facilities in conformance with standards and specification of the City and County of Denver.

The Contractor shall adjust, and modify as applicable, sanitary and storm sewer manholes up to 1/4" to 1/2" below final grade of the paved surface as shown on the plans.

The Contractor will obtain and file any additional required permitting applications to the City and County of Denver Public Works Permit Operations office.

The Contractor shall coordinate all required inspections with Denver Wastewater Management forces.

The Contractor shall notify the utility owner 5 days immediately prior to required inspections of utility work performed by the Contractor.

Xcel Energy - Electric Transmission Work Elements:

When the CCoD Contractor is working near or under the high voltage transmission line, it shall be assumed the transmission line is energized and the CCoD Contractor shall not be closer than twenty feet (20') in any direction from the energized conductors. If work will be within twenty feet (20') of energized conductors, CCoD Contractor shall call Paul Urban at 303-273-4669 a minimum of 5 working days in advance to arrange for an Xcel Energy representative (Patrolman) to be on site during the work. An outage will be arranged if it is determined to be necessary. The outage will be a day-by-day situation. The Patrolman shall be on the job site at all times during outages of the line at this location.

Under no circumstances shall work be started within twenty feet (20') in any direction of the transmission lines without clearance from Xcel Energy's Patrolman. The CCoD Contractor shall notify the Patrolman whenever they are going to be starting and ending work. If an outage has been arranged and the Patrolman has given approval, the CCoD Contractor shall not be closer than three feet (3') in any direction from the de-energized conductors.

Denver Water - Water Line Work Elements:

Denver Water is to relocate their mainline and services prior to construction of the project. The Contractor shall coordinate with Denver Water prior to construction to verify that the work has been completed.

Xcel Energy – Gas Line Work Elements:

Xcel Energy is to relocate their main gas line and services prior to construction of the project. The Contractor shall coordinate with Xcel Energy prior to construction to verify that the work has been completed.

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UTILITIES

PART 2 - UTILITY OWNERS SHALL PERFORM THE WORK LISTED BELOW:

Although the City and County of Denver (CCoD) Contractor shall provide traffic control for utility work expected to be coordinated with construction, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the CCoD Project Manager a Method of Handling Traffic for utility work to be performed outside typical project work hours. The utility owner shall obtain acceptance of the Method of Handling Traffic from the CCoD Project Manager prior to beginning the utility work to be performed outside typical project work hours.

Denver Wastewater Management Work Elements:

Inspect utility work performed by the Contractor listed in Part 1 above.

The Contractor shall provide the utility owner written notice 5 days immediately prior to required inspections.

Xcel Energy – Lighting and Distribution Work Elements:

The CCoD Contractor shall be responsible for the coordination of lighting removal, installation of new light standards, electrical relocation, and power source work to be performed by Xcel Energy.

The CCoD Contractor shall contact the Xcel Energy Builder's Call Line at 1-800-628-2121 to request, and process to completion, the required coordination to establish the power sources for street lighting as shown on the plans.

The CCoD Contractor shall provide the utility owner written notice 45 working days immediately prior to each utility work element expected to be coordinated with construction.

Xcel forces shall remove the existing lighting as shown on the plans and install new light standards as shown on the plans. New light standards shall be per CCoD standards. This work is expected to be coordinated with construction and take 3 working days at each location to complete for a total of 6 working days.

Xcel forces shall relocate existing pedestal as shown on the plans. This work is expected to be coordinated with construction and take 2 working days to complete.

Xcel shall perform all work necessary to maintain existing or establish a new power source to the light standards called for in the plans.

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UTILITIES

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at phone no. **811 or 1-800-922-1987**, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

The locations of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

Appendix A
MGPEC Form 9

Agency: _____

Project Number: _____

Date: _____

Project Name: _____

MGPEC Form # 9 October 2008	<ul style="list-style-type: none"> • Mixture Design Requirements for Hot Mix Asphalt Pavements (HMA)
--	--

- Project Special Provision Sheet for Hot Mix Asphalt Pavements (HMA)

This MGPEC Form #9 is a **mandatory part of the bid documents**, and → shall be filled out by the AGENCY for each mix specified. The Contractor shall include a copy of this form with each Mix Design submittal after the contract is awarded.

Street Classification: _____

(examples: Residential, Collector, Arterial, Industrial, Parking Lot or actual name for Project)

→ Construction Application: Top Lift Intermediate Lift(s) Bottom Lift
 Patching Other _____

→ Aggregate Gradation: Grading SX (2.5" or less lifts)
 Grading S (2.5+ to 3.5" lifts)
 Grading SG (3.5" or thicker lifts) - for lower lift(s) only, may need approval of surface texture by Agency
 SMA (Top lift only)
 The SMA gradation for this project shall be _____

→ RAP Quantity, Maximum: 0% 15% 20% 25%

Notes: A quality control plan for RAP will be required when RAP is used
 Top lift Maximum RAP content allowed is 20%

→ Superpave Gyrotory Mix Design Compaction Level, Recommended usage and Recommend binder(s):

Design Level	Recommended Traffic Levels	Recommended PG Binder(s)
<input type="checkbox"/> N _{design} =50	Low volume	<input type="checkbox"/> PG 58-28 or <input type="checkbox"/> PG 64-22
<input type="checkbox"/> N _{design} =75	0 to <3 million ESALs	<input type="checkbox"/> PG 64-22 or <input type="checkbox"/> PG 58-28
<input type="checkbox"/> N _{design} =100	3 million to <30 million ESALs	<input type="checkbox"/> PG 64-22 or <input type="checkbox"/> PG 76-28

Notes: - The binders are shown in order they should be considered.
 - Polymer modified PG Binders are typically used in the top lift only
 - PG 58-28 Binder recommended for residential developments with less than 200,000 ESAL's

- Target job Mix Optimum Asphalt Content Selection, Choose target % as close to 4.0 as possible (3.5% to 4.5% air voids per MGPEC 2008)
- Target Job Mix optimum Binder content for SMA grading at 3.0% to 4.0% air voids

 A completed MGPEC Form #9 shall supplement the MGPEC Construction Specifications defining the contract specific requirements of Item 9: Hot Mix Asphalt Pavement (HMA) & Stone Matrix Asphalt (SMA). Refer to the Item #9 Specifications for details.

Appendix B
Greenprint Denver Sustainability and Closeout Forms

Horizontal Projects - Closeout Form for Contractors- LEED 3.0

Section 1	Project Lead:	Date:
	Project Manager:	
	Project Title:	Project Number:
	Location/Address:	Purpose Number:
	Council District:	Ballot Issue Number:
	Neighborhood:	



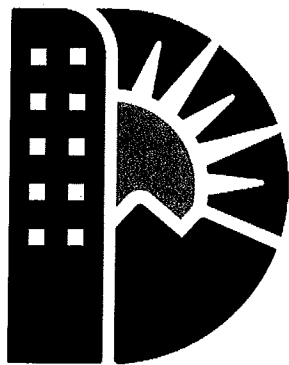
Section 2: Horizontal Projects – Closeout Information				
Better Denver Ref. #	Tech. Spec. Ref. #	Item	Unit	Quantity
4.1		<u>Fly Ash</u>	---	---
		• Total concrete.	Tons	
		• Total fly ash.	Tons	
4.3		<u>Construction and Demolition Debris</u> : Use definitions per LEED-NC, ver. 3.0, MR Credit 2.	---	---
		• Total construction waste generated.	Tons	
		• Total construction waste diverted from landfill.	Tons	
		• Total recycled materials used for new construction (Reclaimed asphalt pavement, recycled concrete, etc.).	Tons	

Section 3: Reserved for EMS document information	
Title:	Horizontal Projects Closeout Form for Contractors (LEED 3.0)
Document Identification Number:	CCD-305.02.09
Version:	Version 2.0
Revision Date:	November 3, 2010
Document Owner:	Cindy Bosco, <i>Greenprint Denver</i>
Controlled Copy Location:	Not applicable.

Unless otherwise specified at the end of the document, printed copies of this document are UNCONTROLLED. Always refer to the online EMS document library prior to use to ensure you are using the most current version.

CITY AND COUNTY OF DENVER

STATE OF COLORADO



DENVER[®]
THE MILE HIGH CITY

DEPARTMENT OF PUBLIC WORKS / ENGINEERING DIVISION

Drawings

Contract No. 201102839

**INCA ST. BIKE/PED BRIDGE OVER 38TH AVE
UNDERPASS**

September 30, 2011

9/9/2011 9:16:04 AM User: unittled
 P:\0CCD\Inca Pedestrian Bridge\Civil\Sheets\02*Inca Ped Bridge*Standard Plans.dgn
 PLOT DRIVER: S:\081*Workspace\System\plc\fg\ho*11x17*.pdf;.plc;fg
 PEN TABLE: S:\081*Workspace\System\plc\fg\ho*11x17*.pdf;.tbl

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
<input checked="" type="checkbox"/>		M-100-1 STANDARD SYMBOLS (3 SHEETS)	1-3
<input type="checkbox"/>		M-203-1 APPROACH ROADS	4
<input type="checkbox"/>		M-203-2 DITCH TYPES	5
<input type="checkbox"/>		M-203-11 SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	6-8
<input type="checkbox"/>		M-203-12 SUPERELEVATION STREETS (2 SHEETS)	9-10
<input type="checkbox"/>		M-206-1 EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	11-12
<input type="checkbox"/>		M-206-2 EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	13-14
<input type="checkbox"/>		M-208-1 <input checked="" type="checkbox"/> TEMPORARY EROSION CONTROL (12 SHEETS) (REVISED ON AUGUST 26, 2010)	15-21
<input type="checkbox"/>		M-210-1 MAILBOX SUPPORTS (2 SHEETS)	22-23
<input type="checkbox"/>		M-214-1 PLANTING DETAILS	24
<input type="checkbox"/>		M-412-1 <input type="checkbox"/> CONCRETE PAVEMENT JOINTS (5 SHEETS) (REVISED ON JUNE 16, 2011)	25-29
<input type="checkbox"/>		M-510-1 STRUCTURAL PLATE PIPE H-20 LOADING	30
<input type="checkbox"/>		M-601-1 SINGLE CONCRETE BOX CULVERT (2 SHEETS)	31-32
<input type="checkbox"/>		M-601-2 DOUBLE CONCRETE BOX CULVERT (2 SHEETS)	33-34
<input type="checkbox"/>		M-601-3 TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	35-36
<input type="checkbox"/>		M-601-10 HEADWALL FOR PIPES	37
<input type="checkbox"/>		M-601-11 TYPE "S" SADDLE HEADWALLS FOR PIPE	38
<input type="checkbox"/>		M-601-12 HEADWALLS AND PIPE OUTLET PAVING	39
<input type="checkbox"/>		M-601-20 WINGWALLS FOR PIPE OR BOX CULVERTS	40
<input type="checkbox"/>		M-603-1 <input type="checkbox"/> METAL PIPE (4 SHEETS) (REVISED ON FEBRUARY 25, 2010)	41-42
<input checked="" type="checkbox"/>		M-603-2 REINFORCED CONCRETE PIPE	43
<input type="checkbox"/>		M-603-3 <input type="checkbox"/> PRECAST CONCRETE BOX CULVERT (REVISED ON JULY 09, 2009)	44
<input type="checkbox"/>		M-603-4 <input type="checkbox"/> CORRUGATED POLYETHYLENE PIPE (AASHTO M294) (REV. ON FEB. 25, 2010)	
<input type="checkbox"/>		M-603-5 <input type="checkbox"/> POLYVINYL CHLORIDE (PVC) PIPE (AASHTO M304) (NEW ON FEB. 25, 2010)	
<input type="checkbox"/>		M-603-10 CONCRETE AND METAL END SECTIONS (2 SHEETS)	45-46
<input type="checkbox"/>		M-604-10 INLET, TYPE C	47
<input type="checkbox"/>		M-604-11 INLET, TYPE D	48
<input type="checkbox"/>		M-604-12 CURB INLET TYPE R (2 SHEETS)	49-50
<input type="checkbox"/>		M-604-13 CONCRETE INLET TYPE 13	51
<input type="checkbox"/>		M-604-20 MANHOLES (3 SHEETS)	52-54
<input type="checkbox"/>		M-604-25 VANE GRATE INLET (5 SHEETS)	55-59
<input type="checkbox"/>		M-605-1 <input type="checkbox"/> SUBSURFACE DRAINS (REVISED ON JULY 09, 2009)	60
<input type="checkbox"/>		M-606-1 <input type="checkbox"/> GUARDRAIL TYPE 3 W-BEAM (18 SHEETS) (REVISED ON MAY 05, 2011)	61-76
<input type="checkbox"/>		M-606-13 GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS)	77-80
<input type="checkbox"/>		M-606-14 PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	81-83

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
<input type="checkbox"/>		M-607-1 WIRE FENCES AND GATES (3 SHEETS)	84-86
<input type="checkbox"/>		M-607-2 CHAIN LINK FENCE (3 SHEETS)	87-89
<input type="checkbox"/>		M-607-3 BARRIER FENCE	90
<input type="checkbox"/>		M-607-4 DEER FENCE AND GATES (2 SHEETS)	91-92
<input type="checkbox"/>		M-607-10 PICKET SNOW FENCE	93
<input type="checkbox"/>		M-607-15 ROAD CLOSURE GATE (9 SHEETS)	94-102
<input type="checkbox"/>		M-608-1 <input type="checkbox"/> CURB RAMPS (6 SHEETS) (REVISED ON MAY 05, 2011)	103-106
<input type="checkbox"/>		M-609-1 <input checked="" type="checkbox"/> CURBS, GUTTERS, AND SIDEWALKS (4 SHEETS) (REVISED ON JULY 09, 2009)	107-109
<input type="checkbox"/>		M-611-1 CATTLE GUARD (2 SHEETS)	110-111
<input type="checkbox"/>		M-613-1 ROADWAY LIGHTING (4 SHEETS)	112-115
<input type="checkbox"/>		M-614-1 RUMBLE STRIPS (3 SHEETS)	116-118
<input type="checkbox"/>		M-614-2 SAND BARREL ARRAYS (2 SHEETS)	119-120
<input type="checkbox"/>		M-615-1 EMBANKMENT PROTECTOR TYPE 3	121
<input type="checkbox"/>		M-615-2 EMBANKMENT PROTECTOR TYPE 5	122
<input type="checkbox"/>		M-616-1 INVERTED SIPHON	123
<input type="checkbox"/>		M-620-1 FIELD LABORATORY CLASS 1	124
<input type="checkbox"/>		M-620-2 FIELD LABORATORY CLASS 2	125
<input type="checkbox"/>		M-620-11 FIELD OFFICE CLASS 1	126
<input type="checkbox"/>		M-620-12 FIELD OFFICE CLASS 2	127
<input type="checkbox"/>		M-629-1 SURVEY MONUMENTS (2 SHEETS)	128-129

PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
<input type="checkbox"/>		S-612-1 <input type="checkbox"/> DELINEATOR INSTALLATIONS (6 SHEETS) (REVISED, JULY 01, 2010)	131-135
<input checked="" type="checkbox"/>		S-614-1 GROUND SIGN PLACEMENT (2 SHEETS)	136-137
<input checked="" type="checkbox"/>		S-614-2 CLASS I SIGNS	138
<input type="checkbox"/>		S-614-3 CLASS II SIGNS	139
<input type="checkbox"/>		S-614-4 <input type="checkbox"/> CLASS III SIGNS (3 SHEETS) (REVISED, DECEMBER 29, 2009)	140-142
<input type="checkbox"/>		S-614-5 BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	143-144
<input type="checkbox"/>		S-614-6 CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	145-146
<input type="checkbox"/>		S-614-8 <input type="checkbox"/> TUBULAR STEEL SIGN SUPPORT DETAILS (5 SHEETS) (REVISED ON SEPT. 01, 2010)	147-151
<input type="checkbox"/>		S-614-10 MARKER ASSEMBLY INSTALLATIONS	152
<input type="checkbox"/>		S-614-11 <input type="checkbox"/> MILEPOST SIGN DETAIL FOR HIGH SNOW AREAS (NEW, JUNE 22, 2009)	
<input type="checkbox"/>		S-614-12 STRUCTURE NUMBER INSTALLATION	153
<input type="checkbox"/>		S-614-14 FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	154-156
<input type="checkbox"/>		S-614-20 TYPICAL POLE MOUNT SIGN INSTALLATIONS	157
<input type="checkbox"/>		S-614-21 CONCRETE BARRIER SIGN POST INSTALLATIONS	158
<input type="checkbox"/>		S-614-22 TYPICAL MULTI-SIGN INSTALLATIONS	159
<input type="checkbox"/>		S-614-40 TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (7 SHEETS)	160-166
<input type="checkbox"/>		S-614-40A ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	167-171
<input type="checkbox"/>		S-614-50 MONOTUBE OVERHEAD SIGNS (14 SHEETS)	172-185
<input type="checkbox"/>		S-627-1 <input type="checkbox"/> PAVEMENT MARKINGS (5 SHEETS) (REVISED ON OCTOBER 01, 2010)	186-190
<input type="checkbox"/>		S-630-1 <input checked="" type="checkbox"/> TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (REVISED ON FEB. 24, 2011) (12 19 SHEETS)	191-202
<input checked="" type="checkbox"/>		S-630-2 BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	203
<input type="checkbox"/>		S-630-3 FLASHING BEACON (PORTABLE) DETAILS	204
<input type="checkbox"/>		S-630-4 <input type="checkbox"/> STEEL SIGN SUPPORT (TEMPORARY) INSTALLATION DETAILS (NEW, MARCH 22, 2010)	
<input type="checkbox"/>		S-630-5 <input type="checkbox"/> PORTABLE RUMBLE STRIPS (TEMPORARY) (NEW, MAY 05, 2011)	
<input type="checkbox"/>		S-630-6 <input type="checkbox"/> EMERGENCY PULL-OFF AREA (TEMPORARY) (NEW, MAY 05, 2011)	
<input type="checkbox"/>		S-630-7 <input type="checkbox"/> ROLLING ROADBLOCKS FOR TRAFFIC CONTROL (NEW, MAY 05, 2011)	

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

COLORADO
DEPARTMENT OF TRANSPORTATION
STANDARD PLANS LIST
M&S STANDARDS
 July 04, 2006
 Revised on July 29, 2011

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 02*Inca Ped Bridge*Standard Plans.dgn	
SCALE: 2.000 ' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
STANDARD PLANS LIST	
DESIGNER: C. NGUYEN	CHECKER:
DETAILER:	SUBSET SHEETS: OF

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	2

SURVEYING

1. PRIOR TO BEGINNING WORK ON THE PROJECT, THE CONTRACTOR'S SURVEYOR SHALL PERFORM A SURVEY TO VERIFY ALL SURVEY CONTROL POINTS, CITY OF DENVER RANGE POINTS, SECTION CORNERS, AND BENCHMARKS AS SHOWN ON THE SURVEY CONTROL DIAGRAM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL LAND SURVEY MONUMENTS DISRUPTED BY CONSTRUCTION ACTIVITIES OR BY NEGLIGENCE ON THE PART OF THE CONTRACTOR. THE CONTRACTOR IS REQUIRED TO FOLLOW COLORADO STATE LAW REGARDING SURVEY MONUMENTS. THE CONTRACTOR SHALL RETAIN A COLORADO LICENSED PROFESSIONAL LAND SURVEYOR TO RESET ANY AFFECTED SURVEY MONUMENTS. THIS WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK UNLESS SPECIFIED OTHERWISE IN SECTION 629. FOR FURTHER INFORMATION CONTACT:
 PUBLIC WORKS SURVEY DEPARTMENT, ATTN: CITY SURVEYOR, 201 W. COLFAX AVE., DENVER, CO 80202, 720-865-3121
2. A SURVEY SHALL BE DEPOSITED WITH THE CITY AND COUNTY OF DENVER PER STATE STATUTE. CITY MONUMENT RECORDS SHALL BE PREPARED FOR ALL RANGE POINTS WITHIN THE PROJECT AND DEPOSITED WITH THE CITY SURVEYOR.
3. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS, OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT AND/OR BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE C.R.S. SECTION 18-4-508.
4. ALL STATIONS AND OFFSETS SHOWN ON THE PLANS ARE TO THE CONTROL LINES UNLESS OTHERWISE NOTED. THE USE OF CONTROL MONUMENTS FOR CONSTRUCTION STAKING OTHER THAN THOSE SHOWN ON THE PLANS OR APPROVED BY THE PW DEPT IS PROHIBITED, AND USE OF SUCH MONUMENTS IS AT THE CONTRACTOR'S SOLE RISK.

GENERAL

1. PROPOSED FINISHED GROUND ELEVATIONS FOR ITEMS TO BE ADJUSTED, RESET, OR MODIFIED SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
3. THE CONTRACTOR SHOULD REMOVE MATERIALS AND EQUIPMENT FROM THE ROADWAY ROW AT THE CLOSE OF DAILY OPERATIONS. THE TRAFFIC CONTROL PLAN (TCP) MUST INCLUDE PROTECTIVE MEASURES WHERE MATERIALS AND EQUIPMENT MAY BE STORED IN THE ROW, BUT ENSURE FIVE FEET OF PEDESTRIAN CLEARANCE ON SIDEWALKS. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL IN THE CLEAR ZONE OF THE TRAVELED WAY.
4. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PROJECT PERMITS ASSOCIATED WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR BEING AWARE OF, NOTIFYING, COORDINATING AND SCHEDULING ALL INSPECTIONS REQUIRED FOR FINAL APPROVALS AND PROJECT ACCEPTANCE. ALL WORK, INCLUDING CORRECTION WORK, IS SUBJECT TO NOTIFICATION AND INSPECTION REQUIREMENTS.
5. IF ANY OF THE CONTRACTOR'S OPERATIONS DESTROY OR DAMAGE ANY PROPERTY, PUBLIC OR PRIVATE, THE CONTRACTOR SHALL PROMPTLY REPAIR OR REPLACE SUCH PROPERTY, TO THE SATISFACTION OF THE PROJECT MANAGER, BEFORE THE CITY WILL ACCEPT OR PAY FOR THE WORK PERFORMED UNDER THE CONTRACT. IF THE CONTRACTOR FAILS TO REPAIR OR REPLACE SUCH PROPERTY, THE CITY, AT THE SOLE DISCRETION OF THE MANAGER, MAY UNDERTAKE SUCH REPAIR OR REPLACEMENT AND DEDUCT THE COST OF THE SAME FROM AMOUNTS PAYABLE TO THE CONTRACTOR UNDER THE CONTRACT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE CITY INSPECTOR AT ALL TIMES. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUBMIT RECORD DRAWINGS, IN AN AUTOCAD COMPATIBLE FORMAT, TO THE CITY. THE PRODUCTION OF THESE DOCUMENTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
7. ALL WORK SHALL CONFORM TO CURRENT CITY AND COUNTY OF DENVER STANDARDS AND SPECIFICATIONS. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO THE LATEST EDITION OF THE CITY STANDARDS SPECIFICATIONS, OR HALT CONSTRUCTION UNTIL THE CONFLICT IS RESOLVED.
8. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ALL STORM DRAIN INLETS, LATERALS, MAINS AND OTHER STORM RUNOFF APPURTENANCES WITHIN THE PROJECT LIMITS SHALL BE CLEARED OF SEDIMENT AND DEBRIS IN ACCORDANCE WITH DENVER WASTEWATER MANAGEMENT DEPARTMENT STANDARDS. AFTER CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ANY SEDIMENT OR DEBRIS FROM THE STORM SEWER SYSTEM AT NO COST TO THE CITY.
9. PRIOR TO FINAL ACCEPTANCE, ALL DISTURBED PORTIONS OF ROADWAY ROW SHALL BE CLEANED UP AND RESTORED TO THEIR ORIGINAL CONDITION, SUBJECT TO CITY APPROVAL.
10. NO WORK SHALL BE PERMITTED ON WEEKENDS OR HOLIDAYS WITHOUT PRIOR AUTHORIZATION OR UNLESS OTHERWISE SPECIFIED. THE CITY MAY RESTRICT WORK IN THE ROW DURING ADVERSE WEATHER CONDITIONS OR DURING PERIODS OF HIGH TRAFFIC VOLUME.
11. NO CLEATED OR TRACKED EQUIPMENT MAY WORK IN OR MOVE OVER PAVED SURFACES WITHOUT MATS.
12. WHERE ROW FENCES MUST BE REMOVED OR CUT TO FACILITATE CONSTRUCTION, APPROVAL MUUST FIRST BE GIVEN BY THE CITY. EXISTING ROW/FENCE LINE MUST BE ESTABLISHED BY GOOD SURVEY PRACTICES. FENCES WILL BE REPLACED IN KIND ACCORDING TO CITY FENCING STANDARDS.
13. PROTECTION AND REPLACEMENT OF STREET IMPROVEMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THESE IMPROVEMENTS ARE FULLY COMPLETED AND ACCEPTED BY THE CITY.
14. ALL MATERIAL, EQUIPMENT, INSTALLATION AND CONSTRUCTION WITHIN THE ROW SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING STANDARD REFERENCES AS APPLICABLE:
 - A. CITY AND COUNTY OF DENVER, STANDARDS AND DETAILS FOR ENGINEERING DIVISION
 - B. STORM DRAINAGE AND SANITARY SEWER CONSTRUCTION DETAIL AND TECHNICAL SPECIFICATIONS
 - C. DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR CONSTRUCTION GENERAL CONTRACT CONDITIONS
 - D. WASTEWATER MANAGEMENT DIVISION STANDARD DETAILS
 - E. TRAFFIC STANDARD DRAWINGS
 - F. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STANDARD PLANS, (M&S STANDARDS)
 - G. FEDERAL HIGHWAY ADMINISTRATION (FHWA), MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS AND THE COLORADO SUPPLEMENT THERETO
 - H. AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS (AASHTO) ROADSIDE DESIGN GUIDE
15. THIS PROJECT WILL MINIMIZE THE SPREAD OF NOXIOUS WEEDS BY IMPLEMENTING THE STANDARD CDOT BEST MANAGEMENT PRACTICE AS OUTLINED BELOW:
 - A. MINIMIZATION OF SOIL DISTURBANCE TO THE EXTEND POSSIBLE.
 - B. STAGING OF EQUIPMENT WILL NOT BE PERMITTED IN WEED INFESTED AREAS.
 - C. COORDINATION OF WEED MANAGEMENT EFFORTS WITH COOD AND ADJACENT LANDOWNERS TO THE EXTENT POSSIBLE.
 - D. RE-SEEDING OF ALL DISTURBED SOIL WITH CERTIFIED WEED-FREE SEED MIX WITHIN 7 DAYS OF CPMPLETION OF WORK BETWEEN SEPTEMBER 1 UNTIL CONSISTENT GROUND FREEZE AND FROM SPRING THAW UNTIL JUNE 1.
 - E. WEED-FREE IS DEFINED AND REGULATED BY THE WEED FREE FORAGE ACT, TITLE 35, ARTICLE 27.5, CRS.
 - F. FERTILIZER WILL NOT BE USED IN SEEDED AREAS BECAUSE IT CAN ENHANCE THE GROWTH OF NOXIOUS WEEDS AT THE EXPENSE OF DESIRED VEGETATION

- G. USE OF A HORIZON SOIL MATERIAL CURRENTLY SUPPORTING NOXIOUS WEED COVER OF MORE THAN 10% SHOUD NOT BE USED AS TOPSOIL DURING REVEGETATION
 - H. TOPSOIL WILL NO BE IMPORTED DUE TO THE POTENTIAL FOR SPREAD OF NOXIOUS WEEDS
 - I. MONITOR ALL AREAS TREATED FOR NOXIOUS WEENS DURING CONSTRUCTION AND RE-TREAT IF NECESSARY, TO PREVENT RE-ESTABLISHMENT OF NOXIOUS WEEDS.
16. IF ANY BURIED CULTURAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND DAN JEPSON, CDOT ARCHEOLOGIST, SHALL BE CALLED AT 303-757-9631. IF ANY BURIED PALEONTOLOGICAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND STEVE WALLACE, CDOT PALEONTOLOGIST, SHALL BE CALLED AT 303-757-9632.
 17. THE CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES, ONE COPY OF THE APPROVED PLANS, ONE COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND COPIES OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB.
 18. IF DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED ON THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE PROJECT MANAGER IMMEDIATELY.

LANDSCAPING

1. THE CONTRACTOR SHALL NOT SPRAY, CUT OR TRIM TREES OR OTHER LANDSCAPING WITHIN THE ROW UNLESS SUCH WORK IS OTHERWISE SPECIFIED IN THIS PERMIT OR CLEARLY INDICATED ON THE APPROVED PLANS.
2. SEEDING, SODDING AND PLANTING IN THE ROW SHALL BE AS SPECIFIED OR OTHERWISE APPROVED BY THE CITY. CONSTRUCTION, MAINTENANCE AND WATERING REQUIREMENTS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
3. UNLESS STREETScape HAS BEEN APPROVED, THE CONTRACTOR SHALL LANDSCAPE ALL ROW WITH SOD AND TREES. ALL LANDSCAPING WITHIN THE ROW SHALL BE IN CONFORMANCE WITH THE LATEST STREETScape DESIGN MANUAL. NO LOOSE MATERIAL (I.E. ROCK, BARK, GRAVEL, ETC.) SHALL BE ALLOWED. DECORATIVE CONCRETE OR LOW GROWING PLANT MATERIAL MAY BE ALLOWED ONLY WITH THE SPECIFIC APPROVAL OF THE CITY. TREES SHALL BE PRE-APPROVED BY THE DEPARTMENT OF PARKS AND RECREATION, FORESTRY OFFICE, AND SHALL BE A MINIMUM OF 20-FEET FROM PROPERTY CORNERS AT INTERSECTIONS, 25-FEET FROM STREET LIGHTS AND 10-FEET FROM EDGE OF DRIVEWAYS.

UTILITIES

1. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS, UNLESS OTHERWISE NOTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. RESPONSIBILITIES FOR THE RELOCATION OF UTILITY LINES ARE AS NOTED IN THE PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL COOPERATE WITH COMPANIES TRYING TO COORDINATE THE RELOCATION EFFORT. LINES NOT RELOCATED SHALL BE PROTECTED BY THE CONTRACTOR IN PLACE. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OR 1-800-922-1987, AT LEAST 2 WORKING DAYS PRIOR TO (NOT INCLUDING THE DAY OF) BEGINNING EXCAVATION OR GRADING.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITIES DURING CONSTRUCTION AND SHALL HOLD THE CITY AND ITS ENGINEERS HARMLESS FOR DAMAGES ARISING FROM THE CONTRACTOR'S FAILURE TO ADEQUATELY PROTECT EXISTING UTILITIES. DAMAGED UTILITES SHALL BE REPAIRED BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO RESET, ADJUST OR REPLACE ANY UTILITIES THAT ARE IMPACTED BY CONSTRUCTION AND ARE DESIGNED TO REMAIN WITHIN THE PROJECT LIMITS.
4. LOCATIONS FOR POTHOLING SHALL BE AS APPROVED BY THE PROJECT MANAGER.
5. IT IS ESTIMATED THAT 16 HOURS OF POTHOLING WILL BE REQUIRED ON THIS PROJECT AS DIRECTED BY THE PROJECT MANAGER.

REMOVALS, EXISTING ITEMS, SAW CUTTING

1. ALL ITEMS TO BE REMOVED AND NOT RESET SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
2. SIGNS AND / OR SIGNAL EQUIPMENT DESIGNATED AS REMOVAL ITEMS SHALL BE CAREFULLY REMOVED AND DELIVERED BY THE CONTRACTOR TO THE CITY YARD AT 5440 ROSLYN STREET, BUILDING E. ANY MATERIAL DESIGNATED FOR SALVAGE THAT IS DAMAGED AFTER REMOVAL SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR LOADING, HAULING, UNLOADING, OR PLACING SALVAGED MATERIALS IN THE CITY YARD.
3. WHERE IT IS REQUIRED TO REMOVE EXISTING CONCRETE OR ASPHALT, CUTTING SHALL BE DONE TO A NEAT WORK LINE TO FULL DEPTH USING A SAW, CUTTING WHEEL, OR OTHER METHOD APPROVED BY THE PROJECT MANAGER. THIS WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
4. REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK, DRIVEWAYS, CURB CUTS, AND OTHER CONCRETE ITEMS THAT ARE ATTACHED OR ADJACENT TO OTHER CONCRETE ITEMS SHALL BE REMOVED TO THE NEAREST JOINT, AS NEEDED TO AVOID DAMAGING THE REMAINING CONCRETE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ADJACENT SIDEWALK DURING CURB AND GUTTER REMOVAL AND SHALL REPLACE DAMAGED SECTIONS AT NO ADDITIONAL COST TO THE PROJECT.
5. THE CONTRACTOR IS REQUIRED TO RESET, ADJUST, OR REPLACE ANY UTILITIES, LANDSCAPING, SPRINKLER SYSTEMS, SIGNS, SIDEWALKS, ETC. THAT ARE IMPACTED BY CONSTRUCTION AND ARE NOT DESIGNATED TO BE REMOVED.
6. THE CONTRACTOR SHALL USE AGGREGATE BASE COURSE OR ASPHALT MILLINGS TO FILL AREA LEFT BY REMOVAL OF DRIVEWAY OR CURB RAMP PRIOR TO PLACEMENT OF NEW SIDEWALK, DRIVEWAY OR CURB RAMP.

PAVEMENT

1. A TACK COAT IS REQUIRED PRIOR TO THE PLACEMENT OF SUBSEQUENT LIFTS OF HMA. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED TO FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
2. WHERE NEW CONSTRUCTION IS TO ABUT EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE REMOVED TO A NEAT VERTICAL LINE TO CREATE A CLEAN CONSTRUCTION JOINT. SAW CUTS SHALL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE WORK.
3. PATCH ASPHALT PAVEMENT AS NECESSARY TO JOIN NEW GUTTERS WITH EXISTING PAVEMENT.
4. WHEN AN EXISTING ASPHALT STREET IS CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BEFORE ANY CUTS ARE MADE. PATCHING SHALL BE DONE IN CONFORMANCE WITH THE PROJECT STANDARDS. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE. ALL LARGE PATCHES SHALL BE PAVED WITH AN ASPHALT LAY-DOWN MACHINE.

EARTHWORK AND EXCAVATIONS

1. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND TOES OF SLOPE AS SHOWN ON THE PLANS AND CROSS SECTION. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS AT THE EXPENSE OF THE CONTRACTOR.
2. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. COST FOR DUST PALLIATIVE SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE WORK.

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/26/2011	INITIALS:
FILE: 03*Inca Ped Bridge*General Notes 01.dgn	
SCALE: 2.000 ' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GENERAL NOTES	
DESIGNER: C. NGUYEN	CHECKER:
DETAILER: K. ROTH	SUBSET SHEETS: 1 OF 3

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	3

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 9/9/2011 9:16:06 AM
 P:\0CCD\Inca Pedestrian Bridge\Civil\04*Inca Ped Bridge*General Notes 02.dgn

EARTHWORK AND EXCAVATIONS (CONT'D)

3. THE DEPTH OF RECONDITIONING AND FOR THE BASES OF CUTS AND FILLS SHALL BE 6 INCHES. THE PROJECT SPECIFIED MOISTURE DENSITY CONTROL SHALL BE APPLIED FOR THE SPECIFIED DEPTH. THE EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
4. MOISTURE DENSITY CONTROL SHALL BE APPLIED FULL DEPTH FOR ALL EMBANKMENTS.
5. DURING EACH PHASE OF CONSTRUCTION, THE CONTRACTOR SHALL SHAPE TO DRAIN AND COMPACT THE WORK AREA TO A UNIFORM CROSS-SECTION. ELIMINATE ALL RUTS AND LOW SPOTS THAT COULD HOLD WATER. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO ADDITIONAL COST TO THE CITY.
6. ALL WORK SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKDAY. NO OPEN HOLES ARE ALLOWED OVERNIGHT.
7. WHERE CONSISTENT WITH SAFETY AN SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
8. MATERIAL REMOVED FROM ANY PORTION OF THE ROADWAY PRISM MUST BE REPLACED IN LIKE KIND WITH EQUAL OR BETTER COMPACTION. NO SEGREGATION OF MATERIALS WILL BE PERMITTED.

CONCRETE

1. IF CONCRETE REPLACEMENT IS NECESSARY, THE ENTIRE AFFECTED SLAB OR PANEL MUST BE REPLACED.
2. THE CONTRACTOR SHALL SELECT AND USE A BOXOUT AT CATCH BASINS, MANHOLES, AND OTHER ROADWAY APPURTENANCES OF SIMILAR AND LARGER SIZE. SEE CCD STD DWG NO. 11.5.
3. SIDEWALK SHALL BE CLASS P CONCRETE.
4. BENDER BOARDS (TWO INCH MINIMUM THICKNESS) SHALL BE USED ON ALL CURVES OF LESS THAN 75 FOOT RADIUS.
5. CURB AND GUTTER ANGLE BREAKS SHALL BE SMOOTHED WITH A 2 FT RADIUS UNLESS OTHERWISE SHOWN ON THE PLANS.
6. PROVIDE A 2 FT CURB AND GUTTER TRANSITION AT EACH END OF INLETS.
7. THE CONTRACTOR SHALL INSTALL 1/2 IN EXPANSION JOINT MATERIAL BETWEEN THE CURB, CURB AND GUTTER AND THE SIDEWALK, OR AS DIRECTED BY THE PROJECT MANAGER.
8. CURB RAMPS SHALL BE CONSTRUCTED USING TRUNCATED DOMES AS SHOWN IN THE CITY AND COUNTY OF DENVER STANDARD DETAILS. TRUNCATED DOMES AND GROOVES SHALL NOT BE PAID SEPARATELY, BUT INCLUDED IN THE COST OF THE CONCRETE CURB RAMP.

TRAFFIC

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE TRAFFIC CONTROL THROUGHOUT THE PROJECT, INCLUDING PROPER TRAFFIC CONTROL DEVICES AND PERSONNEL. A TRAFFIC CONTROL PLAN (TCP) IS SUBJECT TO CITY APPROVAL PRIOR TO COMMENCING WORK ON ROADWAY ROW. A COPY OF APPROVED TCPS MUST BE AVAILABLE ON SITE DURING WORK. TRAFFIC CONTROL IS TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. ALL PAVEMENT MARKINGS MUST BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. COORDINATE ALL TRAFFIC SIGNAL EQUIPMENT RELOCATIONS WITH PUBLIC WORKS TRAFFIC ENGINEERING SERVICES (TES).

DRAINAGE

1. ALL SEWER PIPES SHALL BE INSTALLED WITH CLASS B BEDDING AS A MINIMUM.
2. SANITARY SEWER PIPES SHALL BE PVC AND CONFORM TO: ASTM D3034 SDR 35 FOR SIZES 8 INCHES TO 15 INCHES IN DIAMETER (SOLID WALL), ASTM F789 FOR 18 INCHES (SOLID WALL), ASTM F679 FOR SIZES 18 TO 36 INCHES (SOLID WALL), ASTM F949 FOR SIZES 8 TO 36 INCHES (PVC PROFILE WALL), ASTM F794 FOR SIZES 8 TO 48 INCHES (PROFILE WALL), OR ASTM F1803 FOR SIZES 18 TO 60 INCHES (CLOSED PROFILE GRAVITY PIPE).
3. THE CONTRACTOR PERFORMING WORK ON ANY PUBLIC OR PRIVATE STORM SEWER FACILITY OR APPURTENANCE MUST BE PROPERLY TRADE LICENSED AS A COMPANY AND HAVE A LICENSED PLUMBER OR CERTIFIED JOURNEYMAN DRAINLAYER ON SITE DURING THE WORK.
4. ACCESS MUST BE MAINTAINED FOR ALL SEWER MANHOLES DURING CONSTRUCTION. MINIMUM ACCESS TO EACH MANHOLE IS A 20 FOOT WIDE LANE FROM THE NEAREST PUBLIC RIGHT OF WAY, CENTERED AT THE MANHOLE INCLUDING A 10 FOOT RADIUS AROUND THE MANHOLE AND 22.0 FEET OF VERTICAL CLEARANCE.

STORMWATER MANAGEMENT

A CASDP WILL NOT BE REQUIRED FOR THIS PROJECT, HOWEVER, THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL ENSURE THAT ALL POTENTIAL POLLUTANTS GENERATED DURING DEMOLITION OR CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT, BE PREVENTED FROM DISCHARGE TO STORMWATER CONVEYANCE SYSTEMS IN THE VICINITY OF THIS PROJECT SITE.

1. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING, OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM, RECEIVING WATERS, WATERWAYS, WETLANDS, AND OR OTHER PUBLIC OR PRIVATE PROPERTIES, RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
2. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO OR ACCUMULATE IN THE FLOW LINES STORM DRAINAGE APPURTENANCES, AND PUBLIC RIGHTS OF WAYS OF THE CITY AND COUNTY OF DENVER AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT. ALL REMOVALS SHALL BE CONDUCTED IN A TIMELY MANNER.
3. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHTS OF WAY. (SEC.49-552; REVISED MUNICIPAL CODE)
4. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL IMPLEMENT THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) ON SITE DURING CONSTRUCTION:

- i. VEHICLE TRACKING CONTROL: THIS BMP IS REQUIRED AT ALL ACCESS POINTS FOR INGRESS/EGRESS FROM OFF-SITE IMPERVIOUS SURFACES TO CONSTRUCTION SITE PERVIOUS AREAS THAT ARE USED BY VEHICULAR TRAFFIC OR CONSTRUCTION EQUIPMENT.

- ii. INLET PROTECTION: THIS BMP IS REQUIRED ON ALL EXISTING OR PROPOSED STORM SEWER INLETS IN THE VICINITY OF THE CONSTRUCTION SITE THAT MAY RECEIVE SITE RUNOFF. THE BMP MUST BE APPROPRIATE TO THE TYPE OF STORM INLET AND APPROPRIATE FOR THE GROUND SURFACE AT THE INLET.
 - iii. INTERIM SITE STABILIZATION: THIS BMP IS REQUIRED TO PROVIDE A MEASURE FOR PREVENTING THE DISCHARGE OF SEDIMENT FROM CONSTRUCTION SITES WHERE OVERLOT GRADING OR OTHER SITE DISTURBANCE HAS OCCURRED. THIS BMP IS PARTICULARLY NECESSARY ON SITES WHERE CONSTRUCTION ACTIVITIES/DISTURBANCE WILL BE LIMITED TO SMALL AREAS OF THE PROJECT SITE. ACCEPTABLE BMPS INCLUDE:
 - A) PRESERVING EXISTING VEGETATION
 - B) SEEDING AND PLANTING
 - C) MULCHING
 - D) MULCHING AND SEEDING
 - E) TEMPORARY/PERMANENT RE-VEGETATION OPERATIONS
 - F) CHEMICAL SOIL STABILIZER APPLICATION (REQUIRES WMD APPROVAL)
 - iv. WASTE MANAGEMENT/CONTAINMENT: THIS BMP REQUIRES THAT ALL CONSTRUCTION WASTES, FUELS, LUBRICANTS, CHEMICAL WASTES, TRASH, SANITARY WASTES, CONTAMINATED SOILS OR DEBRIS SHALL BE CONTAINED ON SITE, PROTECTED FROM CONTACT WITH PRECIPITATION OR SURFACE RUNOFF, PERIODICALLY REMOVED FROM THE CONSTRUCTION SITE, AND PROPERLY DISPOSED OF.
 - v. SPILL PREVENTION /CONTAINMENT: THIS BMP DEFINES THE MEASURES PROPOSED FOR PREVENTING, CONTROLLING, OR CONTAINING SPILLS OF FUEL, LUBRICANTS, OR OTHER POLLUTANTS; AND PROTECTING POTENTIAL POLLUTANTS FROM CONTACT WITH PRECIPITATION OR RUNOFF.
 - vi. CHUTE WASHOUT CONTAINMENT: WATER USED IN THE CLEANING OF CEMENT TRUCK DELIVERY CHUTES SHALL BE DISCHARGED INTO A PREDEFINED, BERMED CONTAINMENT AREA ON THE JOB SITE. THE REQUIRED CONTAINMENT AREA IS TO BE BERMED SO THAT WASH WATER IS TOTALLY CONTAINED. WASH WATER DISCHARGED INTO THE CONTAINMENT AREA SHALL BE ALLOWED TO INFILTRATE OR EVAPORATE. DRIED CEMENT WASTE IS REMOVED FROM THE CONTAINMENT AREA AND PROPERLY DISPOSED OF.
 - A) SHOULD A PREDEFINED BERMED CONTAINMENT AREA NOT BE AVAILABLE DUE TO THE PROJECT SIZE, OR LACK OF AN AREA WITH A SUITABLE GROUND SURFACE FOR ESTABLISHING A CONTAINMENT AREA, PROPER DISPOSAL OF READY MIX WASHOUT AND RINSE OFF WATER AT THE JOB SITE SHALL CONFORM TO THE APPROVED TECHNIQUES AND PRACTICES IDENTIFIED IN THE COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT'S TRAINING VIDEO ENTITLED "BUILDING FOR A CLEANER ENVIRONMENT, READY MIX WASHOUT TRAINING", AND ITS ACCOMPANYING MANUAL ENTITLED, "READY MIX WASHOUT GUIDEBOOK, VEHICLE AND EQUIPMENT WASHOUT AT CONSTRUCTION SITES."
 - B) THE DIRECT OR INDIRECT DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER SYSTEM IS PROHIBITED (SEC.56-102A, C; REVISED MUNICIPAL CODE, CITY AND COUNTY OF DENVER).
 - C) INFORMATION ABOUT, OR COPIES OF THE VIDEO AND TRAINING MANUAL ARE AVAILABLE FROM THE WATER QUALITY CONTROL DIVISION, COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT, 4300 CHERRY CREEK DRIVE SOUTH, DENVER, COLORADO 80222-1530, (303) 692-3555.
 - vii. STREET SWEEPING: THIS BMP REQUIRES THAT PAVED SURFACES WHICH ARE ADJACENT TO CONSTRUCTION SITES BE SWEEPED IN A TIMELY MANNER WHEN SEDIMENT AND OTHER MATERIALS ARE TRACKED OR DISCHARGED ON TO THEM. EITHER SWEEPING BY HAND OR USE OF STREET SWEEPERS IS ACCEPTABLE. STREET SWEEPERS USING WATER WHILE SWEEPING IS PREFERRED IN ORDER TO MINIMIZE DUST. FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.
 - viii. PERIMETER CONTROL: THIS BMP REQUIRES THAT A CONSTRUCTION SITE INSTALL A PERIMETER CONTROL MEASURE ALONG THE EDGE OF THE CONSTRUCTION SITE, TO PREVENT, OR FILTER THE DISCHARGE OF SURFACE RUNOFF FROM THE CONSTRUCTION SITE. THE TYPE OF PERIMETER CONTROL USED SHALL BE DETERMINED BASED ON SITE CONDITIONS AND LOCATION. MAINTENANCE AND REPAIR OF THE CONTROL MEASURE SHALL OCCUR AS NEEDED, IN A TIMELY MANNER.
 - ix. STOCK PILES: SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE PROTECTED FROM WIND AND WATER EROSION WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION. STABILIZATION OF STOCKPILES LOCATED WITHIN 100 FEET OF RECEIVING WATERS, OR WITH SLOPES 3 TO 1 OR GREATER SHALL BE COMPLETED WITHIN SEVEN (7) DAYS FOLLOWING STOCKPILE CONSTRUCTION. STABILIZATION AND PROTECTION OF THE STOCKPILE MAY BE ACCOMPLISHED BY ANY OF THE FOLLOWING: MULCHING, TEMPORARY/PERMANENT REVEGETATION OPERATIONS, CHEMICAL SOIL STABILIZER APPLICATION (REQUIRES DENVER PUBLIC WORKS APPROVAL), OR EROSION CONTROL MATTING/GEOTEXTILES. IF STOCKPILES ARE LOCATED WITHIN 100 FEET OF RECEIVING WATERS, A DRAINAGEWAY OR THE SITE PERIMETER, ADDITIONAL SEDIMENT CONTROLS SHALL BE REQUIRED.
 - x. SAW CUTTING OPERATIONS: "THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING, OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS OR AS NEEDED THROUGHOUT THE WORK DAY. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED." (SEC.56-102A, C; REVISED MUNICIPAL CODE, CITY AND COUNTY OF DENVER)
 - xi. STRUCTURAL CONTROLS: DEVELOPMENT SITES THAT ARE REQUIRED TO PROVIDE DETENTION AND WATER QUALITY ENHANCEMENT FACILITIES FOR STORM RUNOFF NEED TO INSTALL THE DETENTION FACILITIES EARLY IN THE CONSTRUCTION BUILD-OUT OF THE SITE. PROJECTS THAT ARE USING UNDERGROUND DETENTION ARE REQUIRED TO INSTALL A PRETREATMENT STRUCTURE OR SEDIMENTATION BASINS AS A MEANS OF TREATING POTENTIALLY POLLUTED STORM WATER PRIOR TO ENTERING THE DETENTION STRUCTURE. USE OF THESE STRUCTURES IS REQUIRED FOR ENTRAPPING SEDIMENT AND CONSTRUCTION DEBRIS DURING THE ACTIVE CONSTRUCTION PHASE OF THE PROJECT. THE NARRATIVE SECTION OF THE MANAGEMENT PLAN IS ALSO REQUIRED TO ADDRESS OPERATION AND MAINTENANCE OF THE STRUCTURAL CONTROLS BEING USED AS AN ACTIVE CONSTRUCTION BMP.
5. APPROVED EROSION AND SEDIMENT CONTROL 'BEST MANAGEMENT PRACTICES' SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IMMEDIATELY UPON DISCOVERY OF ANY DEFICIENCY OR DEFECT.

COMPUTER FILE INFORMATION		SHEET REVISIONS		 City & County of Denver		AS CONSTRUCTED		INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE	
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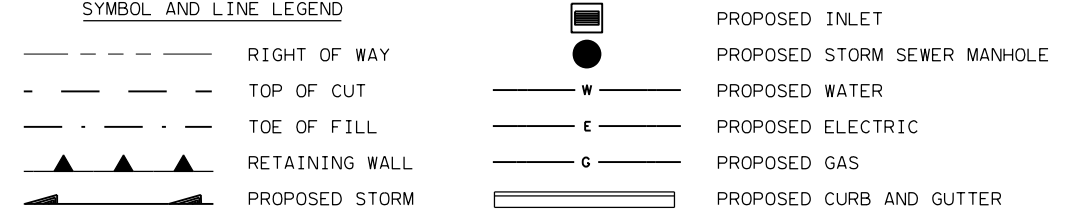
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WASTEWATER

1. CONTRACTORS PERFORMING WORK ON ANY WASTEWATER FACILITY OR APPURTENANCE MUST BE PROPERLY LICENSED AND HAVE A LICENSED PLUMBER OR DRAINLAYER ON SITE DURING THE WORK.
2. THE MOST RECENT EDITION OF THE WASTEWATER MANAGEMENT DIVISION STANDARD DETAILS AND TECHNICAL SPECIFICATIONS APPLY TO ALL WORK. THE CONTRACTOR MUST BE IN POSSESSION OF THE STANDARD DETAILS AND TECHNICAL SPECIFICATIONS AT THE PRE-CONSTRUCTION CONFERENCE AND A COPY MUST REMAIN ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION. WASTEWATER MANAGEMENT DIVISION STANDARD DETAILS AND TECHNICAL SPECIFICATIONS CAN BE VIEWED AT THE FOLLOWING WEBSITE ADDRESS: WWW.DENVERGOV.ORG.
 -TYPE PUBLIC WORKS INTO THE SEARCH BOX (TOP RIGHT OF PAGE),
 -SELECT DIVISIONS AND AGENCIES,
 -UNDER ENGINEERING DIVISION, SELECT CAPITAL PROJECTS MANAGEMENT,
 -ON THE RIGHT SIDE UNDER RELATED LINKS CLICK ON WASTEWATER CAPITAL PROJECTS,
 -SELECT CONSTRUCTION DETAIL AND TECHNICAL SPECIFICATIONS.
3. STREET-CUT PERMIT AND STREET OCCUPANCY PERMIT (INCLUDING THE ASSOCIATED TRAFFIC CONTROL PLANS) ARE REQUIRED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL OF THESE PERMITS. APPROVED COPIES OF ALL REQUIRED PERMITS MUST BE SUBMITTED TO THE PROJECT CONSTRUCTION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
4. A PARKS AND RECREATION PERMIT WILL BE REQUIRED FOR ANY WORK OR OCCUPANCY OF PARK LAND, THIS INCLUDES BUT IS NOT LIMITED TO: DESIGNATED CITY PARKS, PARKWAYS, OPEN SPACE, TRAILS AND BIKE PATHS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL MAINTENANCE OF PARKS FACILITIES AFFECTED BY CONSTRUCTION ACTIVITIES. THIS INCLUDES BUT IS NOT LIMITED TO THE MAINTENANCE AND IRRIGATION OF LANDSCAPING ITEMS OUTSIDE OF THE WORK AREA WHICH ARE DISCONNECTED FROM SERVICE DUE TO CONSTRUCTION OPERATIONS. ALL COST FOR THIS WORK SHALL BE INCLUDED WITHIN ASSOCIATED BID ITEMS AND NO ADDITIONAL PAYMENT WILL BE MADE.
5. ALL DESIGN DRAWINGS PROVIDED AS PART OF THIS CONTRACT ARE FORMATTED FOR PRINTING FULL SIZE, ON STANDARD 22 X 34 INCH (ANSI D) PAPER SIZE AND TO HALF-SIZE (AND SCALE WHERE APPROPRIATE) ON STANDARD 11 X 17 PAPER SIZE. IT IS THE USER'S RESPONSIBILITY TO ENSURE THAT HARD COPIES OF PLANS UTILIZED FOR BIDDING OR CONSTRUCTION ARE PRINTED ON THE PROPER MEDIA SIZE AND THAT SCALES PROVIDED WITHIN THE DRAWINGS ARE CORRECTLY INTERPRETED.
6. "RED-LINED" DRAWINGS AND PRINTS ARE TO BE MAINTAINED BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT CONSTRUCTION ENGINEER AT THE COMPLETION OF THE PROJECT. ANY AND ALL FIELD CHANGES MADE DURING CONSTRUCTION MUST BE NOTED. THE DRAWINGS WILL STATE "RED LINES" IN LARGE BLOCK LETTERS. THE RED-LINED DRAWINGS MUST BE RECEIVED AND ACCEPTED BY THE PROJECT CONSTRUCTION ENGINEER PRIOR TO FINAL ACCEPTANCE AND SETTLEMENT.
7. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY OF "ANY" DISCREPANCIES OR VARIATIONS IN DRAWINGS & SPECIFICATIONS THAT AFFECT PRICING OR THAT COULD REQUIRE MODIFICATION TO THE DESIGN.
8. THE CITY AND COUNTY OF DENVER ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. THE UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
9. ALL RANGE POINTS OR OTHER SURVEY MONUMENTS WHICH MAY BE DESTROYED DURING CONSTRUCTION SHALL BE TIED OUT AND RESET BY THE CONTRACTOR'S SURVEYOR PER CITY SURVEYING STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR PROPER NOTIFICATION AND PROTECTION OF ALL MONUMENTS ENCOUNTERED DURING CONSTRUCTION.
10. ALL ELEVATIONS SHOWN ARE NAVD88 DATUM, UNLESS OTHERWISE NOTED.
11. INLETS AND MANHOLES ARE NOT SHOWN TO SCALE ON THE PLAN AND PROFILE SHEETS.
12. INVERT ELEVATIONS AND CALCULATED PIPE SLOPES ON STORM AND SANITARY PROFILES ARE TO THE OUTSIDE OF MANHOLE OR STRUCTURE. PIPE LENGTHS ARE TWO DIMENSIONAL LENGTHS AND ARE OUTSIDE TO OUTSIDE BETWEEN MANHOLES AND TO THE INSIDE EDGE OF INLETS.
13. NORTHING AND EASTING CALLOUTS ON TYPE 16 AND TYPE 14 INLETS ARE TO THE CENTER OF THE STRUCTURE AT THE FLOWLINE. NORTHING AND EASTING CALLOUTS ON MANHOLES ARE TO THE CENTER OF THE MANHOLE.
14. LOCATION OF INLETS AND/OR INLET CONNECTORS MAY BE ADJUSTED IN THE FIELD AT THE DIRECTION OF THE PROJECT MANAGER IN CONJUNCTION WITH DESIGN INTENTION. ALL INLET CONNECTIONS SHOWN IN PLAN AND PROFILE ARE APPROXIMATE LOCATIONS AND DEPTHS.
15. DEPTHS OR BOTTOM OF STRUCTURE ELEVATIONS ARE PROVIDED FOR INFORMATION ONLY FOR INLETS AND MANHOLES WITHIN THE PROJECT SCOPE, AS THESE ARE REQUIRED TO BE DETERMINED BASED ON FIELD CONDITIONS IN ACCORDANCE WITH APPLICABLE STANDARD DETAIL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ESTABLISH INLET AND MANHOLE DEPTHS AND COMPLETE CONSTRUCTION IN CONFORMANCE WITH APPLICABLE STANDARD DETAIL DRAWINGS BASED ON CLEARANCES OF ADJACENT UTILITIES WHILE MAINTAINING MINIMUM REQUIRED GRADES ON LATERAL CONNECTIONS.
16. ALL SEWER MANHOLES MUST BE MAINTAINED AND ACCESSIBLE DURING CONSTRUCTION.
17. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL LIVE SANITARY SEWER SERVICES (TAPS) AND ENSURE THAT ALL ACTIVE TAPS AFFECTED BY THE CONSTRUCTION OPERATIONS ARE PROPERLY RECONNECTED. IN THE EVENT OF A SANITARY SEWER BACKUP, WITHIN THE CONSTRUCTION LIMITS, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ENSURING BUSINESSES AND RESIDENCES AFFECTED ARE IMMEDIATELY ADDRESSED AND PLACED BACK INTO SERVICE.
18. ALL SANITARY MANHOLES ARE 4' DIAMETER WITH "A" BASE AND CONCENTRIC CONE UNLESS NOTED OTHERWISE.
19. CHANGES IN THE ELEVATION OF AN EXISTING BRICK MANHOLE RING AND COVER MAY REQUIRE THE USE OF A PRE-CAST CONCRETE MANHOLE FLAT-TOP SECTION OR MANHOLE RECONSTRUCTION AT THE DISCRETION OF THE PROJECT INSPECTOR OR THE PROJECT MANAGER.
20. ALL MANHOLES BUILT WITHIN THIS PROJECT SHALL INCLUDE EITHER A 4" OR 8" CAST IRON RISER WITH 3" STEEL ADJUSTING RINGS.
21. REINFORCING STEEL:
 - A. ALL REBAR SHALL BE PLACED PER SHOP DRAWINGS APPROVED BY THE PROJECT MANAGER.
 - B. REINFORCING STEEL SHALL BE HOT ROLLED DEFORMED BARS, ASTM DESIGNATION A615, GRADE 60, UNLESS OTHERWISE SHOWN OR NOTED.
 - C. LAPS SHALL BE CLASS B (SPLICE NO MORE THAN HALF OF BARS AT ANY LOCATION), EXCEPT WHERE OTHERWISE SHOWN OR NOTED. LAPS IN HORIZONTAL STEEL SHALL BE STAGGERED UNLESS OTHERWISE SHOWN.
 - D. ALL CROSSING REINFORCING BARS SHALL BE TIED.
 - E. FOR ALL CAST-IN-PLACE REINFORCED CONCRETE STRUCTURES THE CONTRACTOR SHALL SUPPLY ADEQUATE BAR CHAIRS AND SUPPORTS FOR REINFORCING SUBJECT TO THE APPROVAL OF THE PROJECT MANAGER.
22. EXACT LOCATION OF ALL SAW CUTS SHALL BE DETERMINED IN THE FIELD BY THE CONSTRUCTION PROJECT MANAGER.

23. DOWELS, PIPES, WATER STOPS AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
24. #67 BEDDING OR SPECIAL BEDDING IS REQUIRED FOR ALL STORM AND SANITARY SEWER PIPE, IN ACCORDANCE WITH THE STANDARD DETAILS AND TECHNICAL SPECIFICATIONS. OTHER FACILITIES MAY REQUIRE DIFFERENT BEDDING TYPES, PER SPECIFIC OWNER REQUIREMENTS.
25. THE CONTRACTOR SHALL BACKFILL AND FINE GRADE ALL CUT OR FILL SLOPES TO MATCH EXISTING CONDITIONS TO THE SATISFACTION OF THE PROJECT MANAGER. WHERE EXISTING LAWNS ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS THE CONTRACTOR SHALL RE-SEED AND/OR SOD THE AFFECTED AREA TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL COSTS ARE INCLUDED WITHIN APPURTENANT BID ITEMS.
26. DENVER WATER
 - A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE WHATEVER STEPS NECESSARY TO PROTECT ALL WATER FACILITIES. IF ANY WATER FACILITIES CANNOT BE ADEQUATELY PROTECTED, THEN SAID WATER FACILITIES SHALL BE RELOCATED OR REMOVED IN ACCORDANCE WITH THE DENVER WATER DEPARTMENT REQUIREMENTS, BY A DENVER WATER PREQUALIFIED CONTRACTOR.
 - B. CONSTRUCTION ACTIVITIES BY ANY PARTY THAT DISTURB, RELOCATE, SEVER, OR IN ANY OTHER WAY IMPACT A SERVICE LINE SHALL BE REQUIRED TO MEET CURRENT DENVER WATER REQUIREMENTS FOR SERVICE LINES AS SPECIFIED IN CHAPTER 3 OF THE LATEST DENVER WATER STANDARDS.
27. TREE PROTECTION
 IF EXISTING TREES ARE TO BE REMOVED THEY MUST FIRST BE EVALUATED BY THE CITY AND COUNTY OF DENVER FORESTRY (PARKS) DEPARTMENT AND A PERMIT MUST BE OBTAINED. EXISTING TREES TO REMAIN MUST HAVE FORESTRY APPROVED TREE PROTECTION SET UP AROUND THEM DURING THE CONSTRUCTION AS SHOWN IN THE "INDIVIDUAL TREE PROTECTION DETAIL" WHICH CAN BE FOUND BY GOING TO WWW.DENVERGOV.ORG. TYPE "LANDSCAPE PLANNING" INTO THE SEARCH BOX (TOP RIGHT OF PAGE). THE CONTRACTOR MUST FOLLOW ALL OF THE CITY AND COUNTY OF DENVER TREE RETENTION AND PROTECTION GUIDELINES.
28. METRO WASTEWATER RECLAMATION DISTRICT
 METRO WASTEWATER RECLAMATION DISTRICT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ON METRO FACILITIES IN ORDER FOR A DISTRICT INSPECTOR TO BE PRESENT DURING CONSTRUCTION. CONTRACTOR MUST CONTACT METRO WASTEWATER RECLAMATION DISTRICT TO SCHEDULE THE INSPECTION 303-286-6000.

SYMBOL AND LINE LEGEND



STANDARD ABBREVIATIONS / DEFINITIONS

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THE CONTRACT DOCUMENTS:

HCL - HORIZONTAL CONTROL LINE	ID - INSIDE DIAMETER
PGL - PROFILE GRADE LINE	E - EAST
NTS - NOT TO SCALE	EL OR ELEV - ELEVATION
ROW - RIGHT OF WAY	EQ - EQUAL
POB - POINT OF BEGINNING	HGL - HYDRAULIC GRADE LINE
POE - POINT OF ENDING	I - INLET
PI - POINT OF INTERSECTION	INV - INVERT
PC - POINT OF CURVATURE	LF - LINEAR FEET
PT - POINT OF TANGENT	LT - LEFT
PVI - VERTICAL POINT OF CURVATURE	MH - MANHOLE
PVT - VERTICAL POINT OF TANGENT	MSE - MECHANICALLY STABILIZED EARTH
NIC - NOT IN CONTRACT	N - NORTH
@ - AT	Q - FULL FLOW CAPACITY, Q DESIGN FLOW
CDOT - COLORADO DEPARTMENT OF TRANSPORTATION	RCP - REINFORCED CONCRETE PIPE
CCD - CITY AND COUNTY OF DENVER	RT - RIGHT
CFS - CUBIC FEET PER SECOND	S - SOUTH
DIP - DUCTILE IRON PIPE	TYP - TYPICAL
	W - WEST
	WMD - WASTEWATER MANAGEMENT DIVISION

COMPUTER FILE INFORMATION		SHEET REVISIONS		 	AS CONSTRUCTED	INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE	
CREATION DATE:	INITIALS:				NO REVISIONS:	GENERAL NOTES DESIGNER: C. NGUYEN CHECKER: DETAILER: K. ROTH SUBSET SHEETS: 3 OF 3		AQC M320-067	
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SUMMARY OF APPROXIMATE QUANTITIES

INDEX			ITEM NO.	ITEM DESCRIPTION	UNIT	ROADWAY/ SIDEWALK										PROJECT TOTALS
BOOK	PAGE	SHEET				PLAN	AS CONST									
			201	CLEARING AND GRUBBING	LS	1										1
			202	REMOVAL OF TREE	EACH	4										4
			202	REMOVAL OF INLET	EACH	3										3
			202	REMOVAL OF MANHOLE	EACH	1										1
			202	REMOVAL OF PIPE	LF	228										228
			202	REMOVAL OF SIDEWALK	SY	20										20
			202	REMOVAL OF CURB AND GUTTER	LF	47										47
			202	REMOVAL OF ASPHALT MAT	SY	1,498										1,498
			202	PLUG CULVERT	EACH	2										2
			203	POTHOLING	HR	16										16
			203	MUCK EXCAVATION	CY	155										155
			206	STRUCTURE EXCAVATION	CY	563										563
			206	STRUCTURE BACKFILL (CLASS I)	CY	1069										1069
			206	MECHANICAL REINFORCEMENT OF SOIL	CY	1006										1006
			208	CONSTRUCTION FENCE	LF	567										567
			208	STABILIZED CONSTRUCTION/STAGING AREA	SY	285										285
			208	SILT FENCE	LF	1190										1190
			208	CONCRETE WASHOUT STRUCTURE	EACH	2										2
			208	STORM DRAIN INLET PROTECTION (TYPE I)	LF	169										169
			208	VEHICLE TRACKING CONTROL	EACH	2										2
			210	MODIFY MANHOLE	EACH	1										1
			212	SEEDING (NATIVE)	ACRE	0.25										0.25
			212	SOIL PREPARATION	ACRE	0.25										0.25
			250	ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	LS	1										1
			306	RECONDITIONING	SY	631										631
			403	HOT MIX ASPHALT (PATCHING)(ASPHALT)	TON	60										60
			403	HOT MIX ASPHALT (GRADING S)(75)(PG 58-28)	SY-IN	4417										4417
			412	CONCRETE PAVEMENT (8 INCH)	SY	328										328
			420	GEOMEMBRANE	SY	432										432
			503	DRILLED CAISSON (24 INCH)	LF	151										151
			504	BLOCK FACING	SF	5,334										5,334
			514	PEDESTRIAN RAILING (STEEL)	LF	724										724
			601	CONCRETE CLASS D (BRIDGE)	CY	76										76
			601	CONCRETE CLASS D (WALL)	CY	87										87
			601	CUT STONE VENEER	SF	452										452
			601	STRUCTURAL CONCRETE COATING	SF	4,349										4,349
			602	REINFORCING STEEL (EPOXY COATED)	LB	11,465										11,465
			603	15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	LF	77										77
			603	18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	LF	23										23
			603	24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, W/ CLASS B BEDDING	LF	135										135
			604	SINGLE NO.16 INLET OPEN THROAT	EACH	1										1
			604	SINGLE NO.16 INLET VALLEY	EACH	3										3
			604	DOUBLE NO.16 INLET VALLEY	EACH	2										2
			604	4-FOOT I.D. MANHOLE W/ CONCENTRIC CONE	EACH	5										5
			606	GUARDRAIL TYPE 7 (STYLE CA)	LF	70										70

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SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
SUMMARY OF APPROXIMATE QUANTITIES	
DESIGNER: C. NGUYEN	CHECKER: C. NGUYEN
DETAILER: K. ROTH	SUBSET SHEETS: 1 OF 2

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 6

SUMMARY OF APPROXIMATE QUANTITIES



INDEX			ITEM NO.	ITEM DESCRIPTION	UNIT	ROADWAY/ SIDEWALK										PROJECT TOTALS
BOOK	PAGE	SHEET				PLAN	AS CONST									
			608	CONCRETE SIDEWALK (W/FIBER)(6 INCH)	SY	934										934
			608	CONCRETE CURB RAMP (TYPE 4)(W/ FIBER)	SY	33										33
			609	6" CURB AND GUTTER - 2' PAN (W/ FIBER)	LF	315										315
			609	6" CURB AND GUTTER - 1' PAN (W/ FIBER)	LF	30										30
			609	4" MOUNTABLE CURB (W/ FIBER)	LF	35										35
			609	GUTTER TYPE 2 (4 FOOT)	LF	513										513
			614	SIGN PANEL (CLASS I)	SF	43										43
			614	STEEL SIGN POST (2X2 INCH TUBING)	LF	95										95
			622	BOLLARD	EACH	4										4
			625	CONSTRUCTION SURVEYING	LS	1										1
			626	MOBILIZATION	LS	1										1
			627	EPOXY PAVEMENT MARKING	GAL	2										2
			628	BRIDGE GIRDER AND DECK UNIT (110 FEET TO 115 FEET)	EACH	1										1
			629	SURVEY MONUMENT	EACH	5										5
			629	MONUMENT BOX	EACH	5										5
			630	CONSTRUCTION TRAFFIC CONTROL	LS/DAY	50										50
			700	FA ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT	FA	1										1

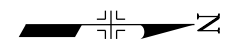
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COMPUTER FILE INFORMATION		SHEET REVISIONS		 City & County of Denver	 HARTWIG & Associates, Inc.	AS CONSTRUCTED		INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE	
CREATION DATE:	INITIALS:					NO REVISIONS:		SUMMARY OF APPROXIMATE QUANTITIES		AQC M320-067	
LAST MODIFICATION DATE: 9/26/2011	INITIALS:					REVISED:		DESIGNER: C. NGUYEN CHECKER: C. NGUYEN		17903	
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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-922-1987)

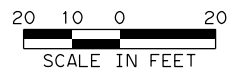
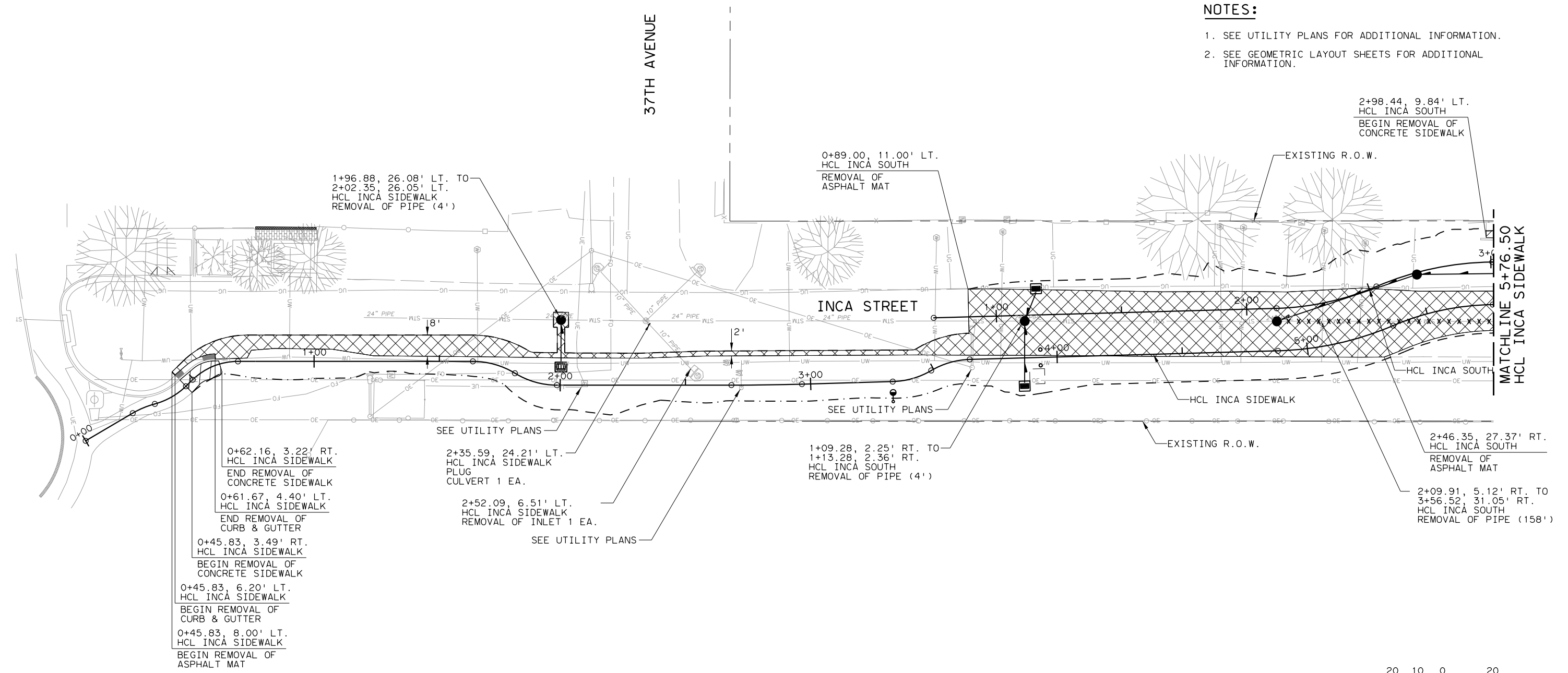
UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org





LEGEND:

-  REMOVAL OF ASPHALT MAT
-  REMOVAL OF CONCRETE SIDEWALK
-  REMOVAL OF CURB AND GUTTER

- NOTES:**
- SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.
 - SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 08*Inca Ped Bridge*Removal Plan 01.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
REMOVAL PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2

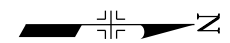
PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	8

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org

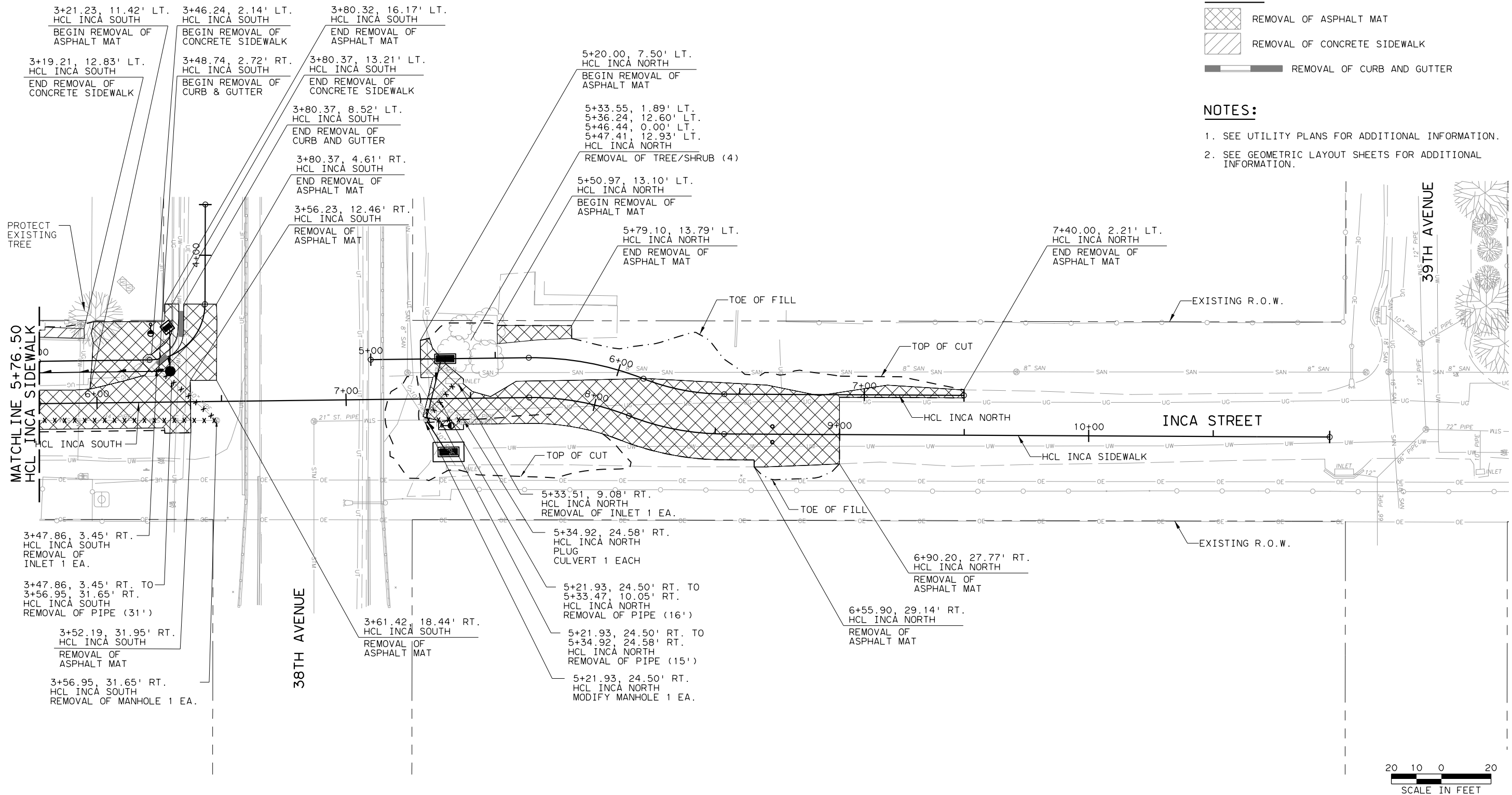


FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811 (or 1-800-922-1987)



PLOT DRIVER: S:\081\Workspace\System\p11c1fg\h0a*11x17*.pdf.p11c1fg
PEN TABLE: S:\081\Workspace\System\p11c1fg\0v8i*datestamp.tbl

9/23/2011 7:45:31 AM User: Peter
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COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/23/2011	INITIALS:
FILE: 09*Inca Ped Bridge*Removal Plan 02.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	

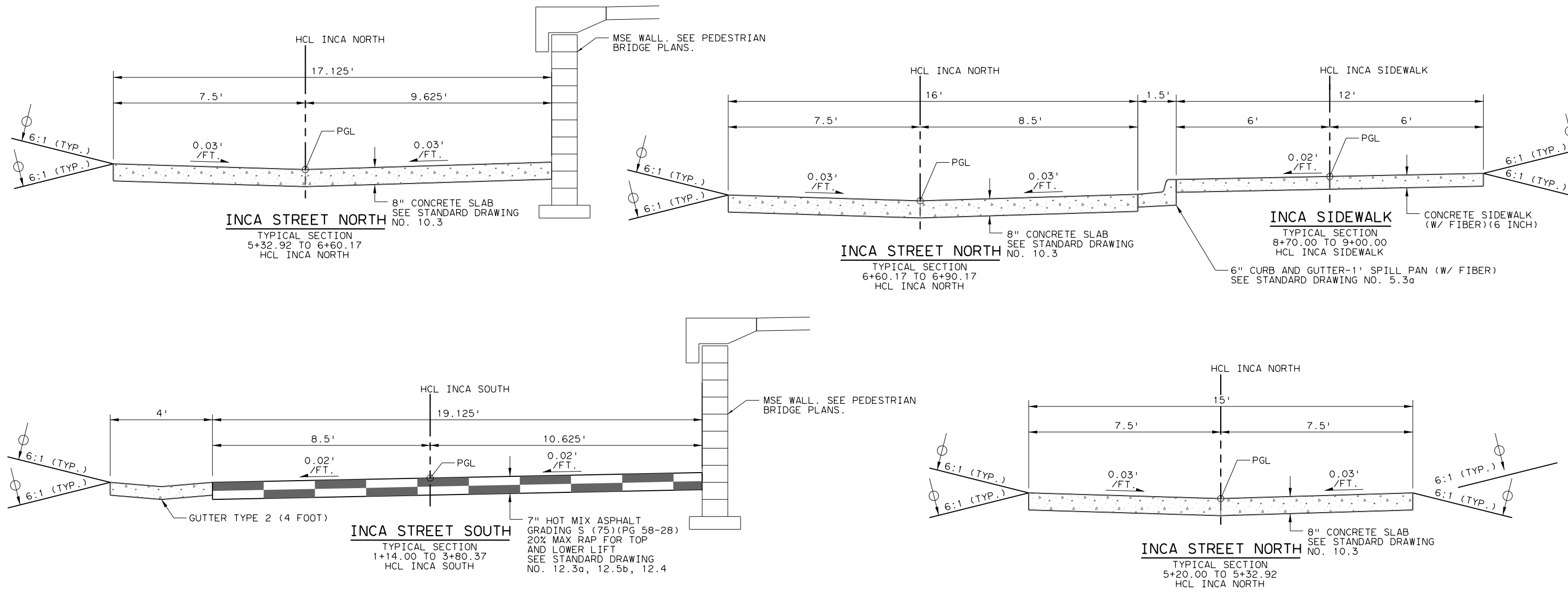


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
REMOVAL PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	9

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 9/9/2011 9:16:09 AM
 P:\CCD\Inca Pedestrian Bridge\Civil\Sheets\10*Inca Ped Bridge*Typical Sections 01.dgn



NOTES:

- BREAK POINTS ON SLOPES AND IN BOTTOM OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
- WHEN ORDERED BY THE PROJECT MANAGER, A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED BETWEEN PAVEMENT COURSES TO IMPROVE THE BOND. DILUTED EMULSIFIED ASPHALT FOR TACK SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.
- RATES OF APPLICATION SHALL BE AS DETERMINED BY THE PROJECT MANAGER AT THE TIME OF APPLICATION.
- EMULSIFIED ASPHALT COST TO BE INCLUDED IN THE HMA WORK.
- TRANSITION FROM TYPICAL SECTION TO EXISTING CROSS SLOPES:
 INCA STREET NORTH - STA. 5+20 TO 5+35
 STA. 6+60 TO 6+90
 INCA STREET SOUTH - STA. 0+89 TO 1+14
 STA. 3+65 TO 3+80

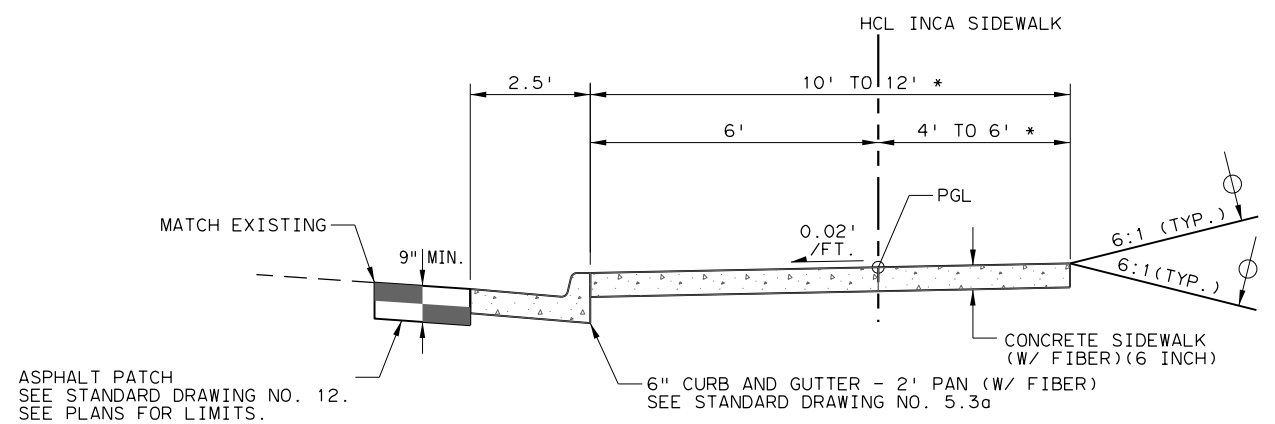
LEGEND:

- SOIL PREPARATION AND NATIVE SEEDING
- * SEE PLANS FOR LIMITS

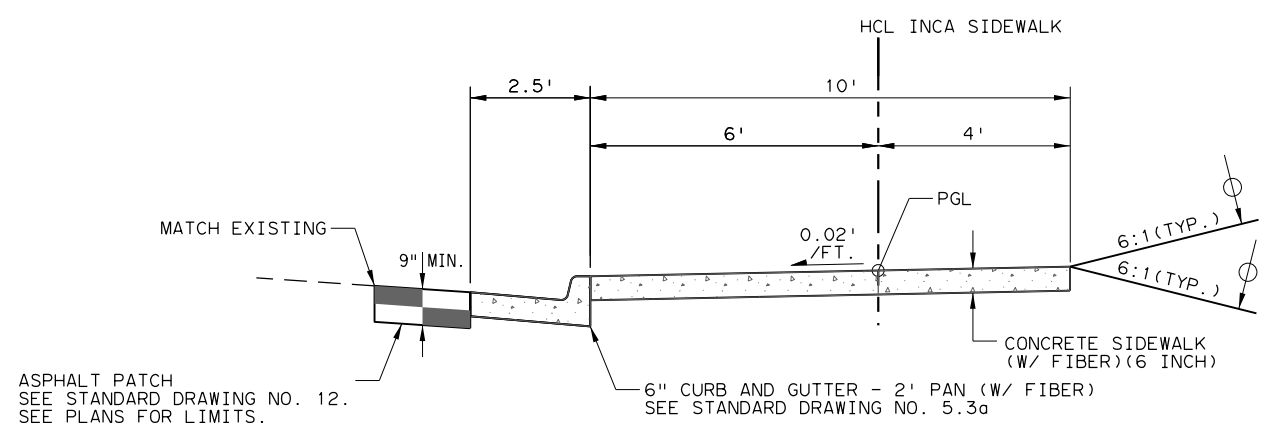
FOR PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:
 DILUTED EMULSIFIED ASPHALT (SLOW SETTING) AT 0.10 GAL. PER SQ. YD. (DILUTED)
 BITUMINOUS PAVEMENT AT 110 LBS. PER SQ. YD. PER 1" THICKNESS

COMPUTER FILE INFORMATION		SHEET REVISIONS		 HARTWIG & Associates, Inc.	AS CONSTRUCTED	INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE
CREATION DATE:	INITIALS:				NO REVISIONS:	TYPICAL SECTIONS		AQC M320-067
LAST MODIFICATION DATE: 9/9/2011	INITIALS:				REVISED:	DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN	17903
FILE: 10*Inca Ped Bridge*Typical Sections 01.dgn					VOID:	DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2	PILAR 2011-0285-01
SCALE: 4.000' / in.	UNITS: ENGLISH							SHEET NUMBER 10

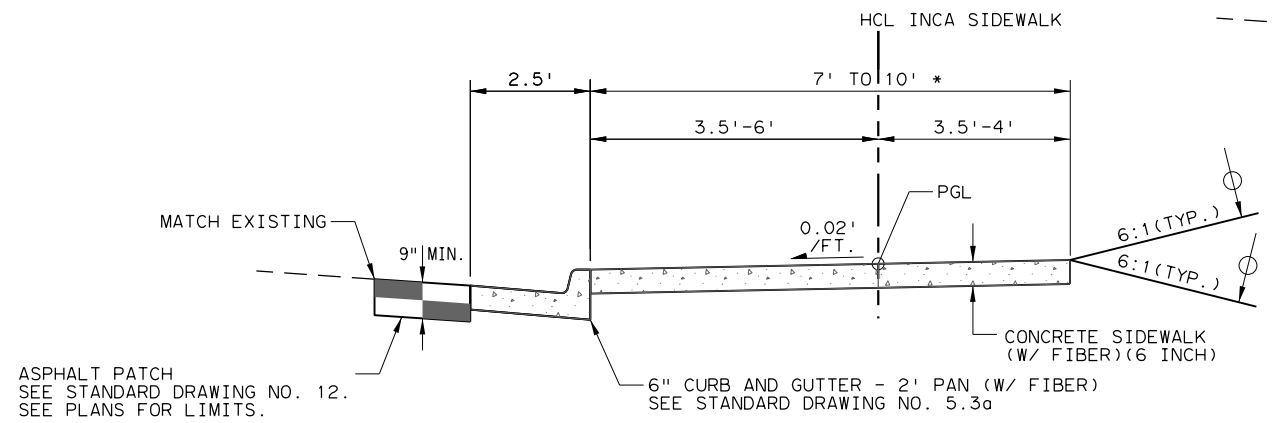
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 PEN TABLE: S:\081\workspace\System\plc\fcg\ho*11x17*.tbl
 User: untitled
 9/9/2011 9:16:10 AM
 P:\0CCD\Inca Pedestrian Bridge\Civil\Sheets\11*Inca Ped Bridge*Typical Sections 02.dgn



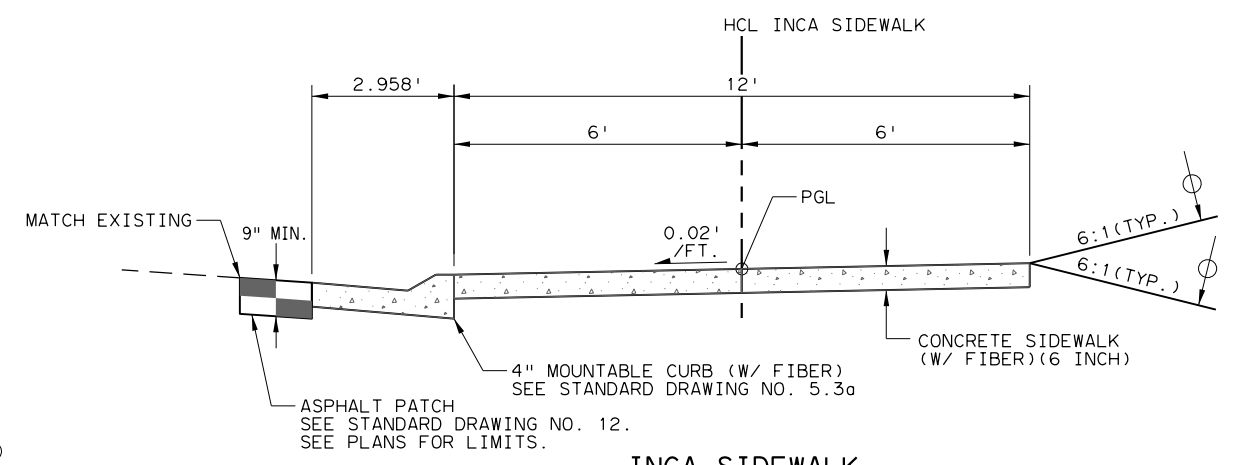
INCA SIDEWALK
 TYPICAL SECTION
 1+60.02 TO 1+98.68
 HCL INCA SIDEWALK



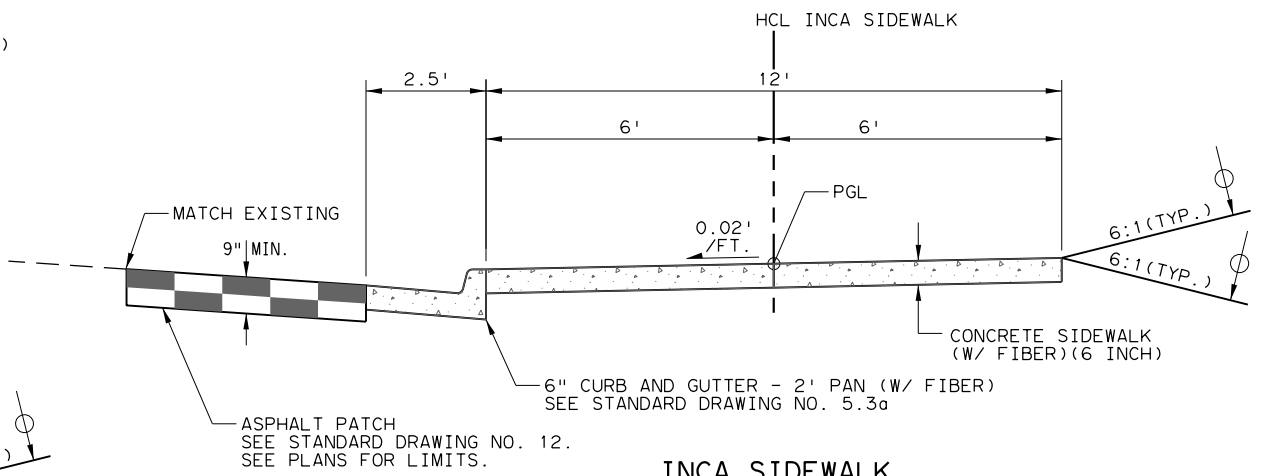
INCA SIDEWALK
 TYPICAL SECTION
 0+73.17 TO 1+60.02
 HCL INCA SIDEWALK



INCA SIDEWALK
 TYPICAL SECTION
 0+45.83 TO 0+73.17
 HCL INCA SIDEWALK



INCA SIDEWALK
 TYPICAL SECTION
 3+30.00 TO 3+65.11
 HCL INCA SIDEWALK



INCA SIDEWALK
 TYPICAL SECTION
 1+98.68 TO 3+30.00
 HCL INCA SIDEWALK

NOTES:

- BREAK POINTS ON SLOPES AND IN BOTTOM OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.

LEGEND:

- SOIL PREPARATION AND NATIVE SEEDING
- * SEE PLANS FOR LIMITS

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 11*Inca Ped Bridge*Typical Sections 02.dgn	
SCALE: 4.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	

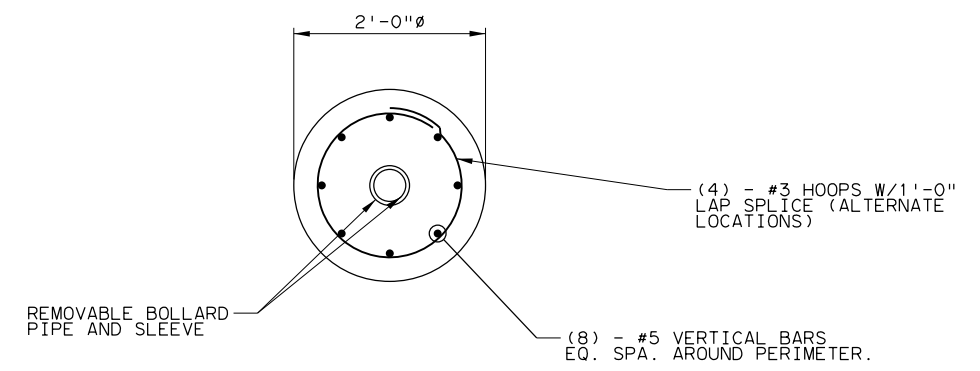
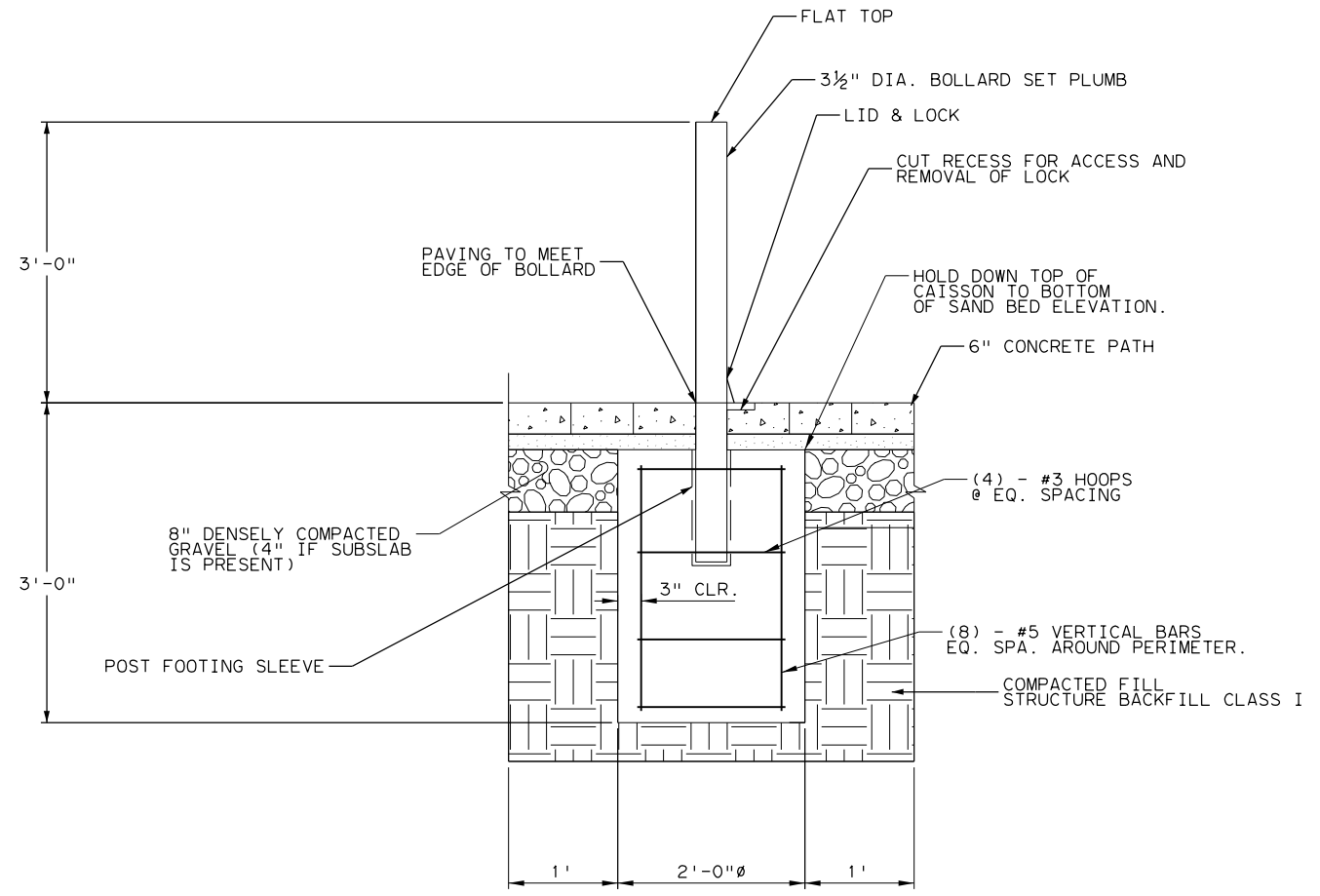


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
TYPICAL SECTIONS	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

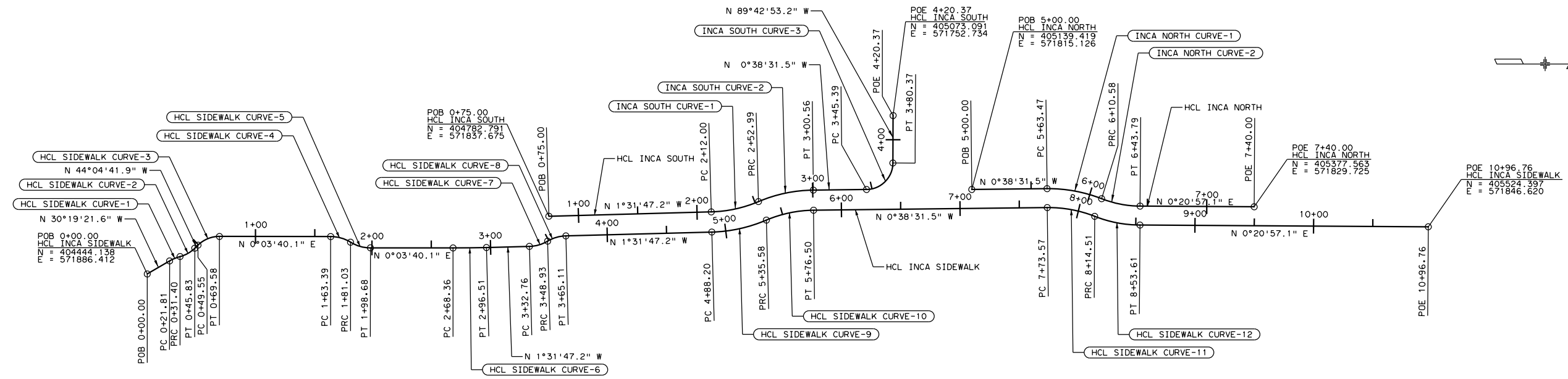
PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	11

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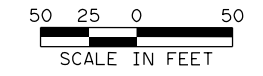
BOLLARD (REMOVABLE) FOUNDATION

COMPUTER FILE INFORMATION		SHEET REVISIONS		 	AS CONSTRUCTED	INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE	
CREATION DATE:	INITIALS:				NO REVISIONS:			BOLLARD DETAIL	
LAST MODIFICATION DATE: 9/9/2011	INITIALS:				REVISED:			17903	
FILE: 12*Inca Ped Bridge*Bollard Detail.dgn					VOID:	DESIGNER: C. NGUYEN	CHECKER: C. NGUYEN	PILAR 2011-0285-01	
SCALE: 2.000' / in.	UNITS: ENGLISH					DETAILER: K. ROTH	SUBSET SHEETS: 1 OF 1	SHEET NUMBER 12	



HCL INCA SOUTH				
	ELEMENT: LINEAR	STATION	NORTHING	EASTING
	POB:	0+75.00	404782.791	571837.675
	PC:	2+12.00	404919.743	571834.017
	TANGENT DIRECTION:	N 1°31'47.2" W		
	TANGENT LENGTH:	137.00		
INCA S. CURVE-1	ELEMENT: CIRCULAR			
	PC:	2+12.00	404919.743	571834.017
	PT:	2+52.74	404940.473	571835.464
	PRC:	2+52.99	404959.553	571825.336
	RADIUS:	121.55		
	DELTA:	52°33'53.8" LEFT		
	D.O.C. (ARC):	40.99		
	LENGTH:	40.99		
	TANGENT:	20.74		
	TANGENT DIRECTION:	N 1°31'47.2" W		
CHORD DIRECTION:	N 12°18'07.7" W			
TANGENT DIRECTION:	N 23°04'28.1" W			
INCA S. CURVE-2	ELEMENT: CIRCULAR			
	PC:	2+52.99	404959.553	571825.336
	PT:	2+77.08	404981.718	571815.893
	PRC:	3+00.56	405005.810	571815.623
	RADIUS:	121.55		
	DELTA:	47°09'14.5" RIGHT		
	D.O.C. (ARC):	47.57		
	LENGTH:	47.57		
	TANGENT:	24.09		
	TANGENT DIRECTION:	N 23°04'28.1" W		
CHORD DIRECTION:	N 11°51'29.8" W			
TANGENT DIRECTION:	N 0°38'31.5" W			
ELEMENT: LINEAR	PT:	3+00.56	405005.810	571815.623
	PC:	3+45.39	405050.645	571815.121
	TANGENT DIRECTION:	N 0°38'31.5" W		
	TANGENT LENGTH:	44.84		
INCA S. CURVE-3	ELEMENT: CIRCULAR			
	PC:	3+45.39	405050.645	571815.121
	PT:	3+67.59	405072.789	571814.872
	PRC:	3+80.37	405072.892	571792.734
	RADIUS:	22.50		
	DELTA:	89°04'52.6" LEFT		
	D.O.C. (ARC):	34.98		
	LENGTH:	34.98		
	TANGENT:	22.14		
	TANGENT DIRECTION:	N 0°38'31.5" W		
CHORD DIRECTION:	N 45°10'42.4" W			
TANGENT DIRECTION:	N 89°42'53.2" W			
ELEMENT: LINEAR	PT:	3+80.37	405072.892	571792.734
	POE:	4+20.37	405073.091	571752.734
	TANGENT DIRECTION:	N 89°42'53.2" W		
	TANGENT LENGTH:	40.00		

HCL INCA NORTH				
	ELEMENT: LINEAR	STATION	NORTHING	EASTING
	POB:	5+00.00	405139.419	571815.126
	PC:	5+63.47	405202.881	571814.414
	TANGENT DIRECTION:	N 0°38'31.5" W		
	TANGENT LENGTH:	63.47		
INCA N. CURVE-1	ELEMENT: CIRCULAR			
	PC:	5+63.47	405202.881	571814.414
	PT:	5+87.32	405226.736	571814.147
	PRC:	6+10.58	405248.934	571822.885
	RADIUS:	122.00		
	DELTA:	22°07'43.1" RIGHT		
	D.O.C. (ARC):	46°57'49.5" RIGHT		
	LENGTH:	47.12		
	TANGENT:	23.86		
	TANGENT DIRECTION:	N 0°38'31.5" W		
CHORD DIRECTION:	N 10°25'20.0" E			
TANGENT DIRECTION:	N 21°29'11.5" E			
INCA N. CURVE-2	ELEMENT: CIRCULAR			
	PC:	6+10.58	405248.934	571822.885
	PT:	6+27.38	405264.559	571829.036
	PRC:	6+43.79	405281.351	571829.138
	RADIUS:	90.00		
	DELTA:	21°08'14.5" LEFT		
	D.O.C. (ARC):	63°39'43.1" LEFT		
	LENGTH:	33.20		
	TANGENT:	16.79		
	TANGENT DIRECTION:	N 21°29'11.5" E		
CHORD DIRECTION:	N 10°55'04.3" E			
TANGENT DIRECTION:	N 0°20'57.1" E			
ELEMENT: LINEAR	PT:	6+43.79	405281.351	571829.138
	POE:	7+40.00	405377.563	571829.725
	TANGENT DIRECTION:	N 0°20'57.1" E		
	TANGENT LENGTH:	96.21		



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 13*Inca Ped Bridge*Geometric Layout.dgn	
SCALE: 100.000 ' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GEOMETRIC LAYOUT SHEET	
DESIGNER: C. NGUYEN	CHECKER:
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	13

9/9/2011 9:16:11 AM User: unittled
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 PEN TABLE: S:\V81*Workspace\System\plc\g\ho*11x17*.pdf;.tbl

HCL INCA SIDEWALK			
	STATION	NORTHING	EASTING
ELEMENT: LINEAR	POB:	0+00.00	404444.138
	PC:	0+31.81	404462.964
TANGENT DIRECTION:	N 30°19'21.6" W		
TANGENT LENGTH:	21.81		
SIDEWALK CURVE-1 ELEMENT: CIRCULAR	PC:	0+21.81	404462.964
	PI:	0+26.63	404467.126
	PT:	0+31.40	404471.782
	PRC:	0+31.40	404471.782
	RADIUS:	36.00	
	DELTA:	15°15'27.4" Right	
	D.O.C. (ARC):	159°09'17.8"	
	LENGTH:	9.59	
	TANGENT:	4.88	
	TANGENT DIRECTION:	N 30°19'21.6" W	
CHORD DIRECTION:	N 28°41'57.3" W		
TANGENT LENGTH:	15°03'54.2" W		
SIDEWALK CURVE-2 ELEMENT: CIRCULAR	PC:	0+31.40	404471.782
	PI:	0+38.77	404478.903
	PT:	0+45.83	404484.200
	PRC:	0+45.83	404484.200
	RADIUS:	28.50	
	DELTA:	29°00'47.6" Left	
	D.O.C. (ARC):	201°02'16.2"	
	LENGTH:	14.43	
	TANGENT:	7.37	
	TANGENT DIRECTION:	N 15°03'54.2" W	
CHORD DIRECTION:	N 29°34'18.0" W		
TANGENT LENGTH:	N 44°04'41.9" W		
ELEMENT: LINEAR	PT:	0+45.83	404484.200
	PC:	0+49.55	404486.877
TANGENT DIRECTION:	N 44°04'41.9" W		
TANGENT LENGTH:	3.73		
SIDEWALK CURVE-3 ELEMENT: CIRCULAR	PC:	0+49.55	404486.877
	PI:	0+60.10	404494.450
	PT:	0+69.58	404504.992
	PRC:	0+69.58	404504.992
	RADIUS:	26.00	
	DELTA:	44°08'21.9" Right	
	D.O.C. (ARC):	220°22'06.2"	
	LENGTH:	20.03	
	TANGENT:	10.54	
	TANGENT DIRECTION:	N 44°04'41.9" W	
CHORD DIRECTION:	N 22°00'50.9" E		
TANGENT LENGTH:	N 0°03'40.1" E		
ELEMENT: LINEAR	PT:	0+69.58	404504.992
	PC:	1+63.39	404598.795
TANGENT DIRECTION:	N 0°03'40.1" E		
TANGENT LENGTH:	93.80		
SIDEWALK CURVE-4 ELEMENT: CIRCULAR	PC:	1+63.39	404598.795
	PI:	1+72.44	404607.849
	PT:	1+81.03	404615.555
	PRC:	1+81.03	404615.555
	RADIUS:	32.00	
	DELTA:	31°35'43.4" Right	
	D.O.C. (ARC):	179°02'57.5"	
	LENGTH:	17.65	
	TANGENT:	9.05	
	TANGENT DIRECTION:	N 0°03'40.1" E	
CHORD DIRECTION:	N 15°51'31.8" E		
TANGENT LENGTH:	N 31°39'23.5" E		
SIDEWALK CURVE-5 ELEMENT: CIRCULAR	PC:	1+81.03	404615.555
	PI:	1+90.09	404623.262
	PT:	1+98.68	404632.316
	PRC:	1+98.68	404632.316
	RADIUS:	32.00	
	DELTA:	31°35'43.4" Left	
	D.O.C. (ARC):	179°02'57.5"	
	LENGTH:	17.65	
	TANGENT:	9.05	
	TANGENT DIRECTION:	N 31°39'23.5" E	
CHORD DIRECTION:	N 15°51'31.8" E		
TANGENT LENGTH:	N 0°03'40.1" E		
ELEMENT: LINEAR	PT:	1+98.68	404632.316
	PC:	2+68.36	404701.994
TANGENT DIRECTION:	N 0°03'40.1" E		
TANGENT LENGTH:	69.68		

HCL INCA SIDEWALK			
	STATION	NORTHING	EASTING
SIDEWALK CURVE-6 ELEMENT: CIRCULAR	PC:	2+68.36	404701.994
	PI:	2+89.24	404716.073
	PT:	2+96.51	404730.146
	PRC:	2+96.51	404730.146
	RADIUS:	1014.00	
	DELTA:	1°35'27.3" Left	
	D.O.C. (ARC):	5°39'01.7"	
	LENGTH:	28.16	
	TANGENT:	14.08	
	TANGENT DIRECTION:	N 0°03'40.1" E	
CHORD DIRECTION:	N 0°44'03.6" W		
TANGENT LENGTH:	N 1°31'47.2" W		
ELEMENT: LINEAR	PT:	2+96.51	404730.146
	PC:	3+32.76	404766.383
TANGENT DIRECTION:	N 1°31'47.2" W		
TANGENT LENGTH:	36.25		
SIDEWALK CURVE-7 ELEMENT: CIRCULAR	PC:	3+32.76	404766.383
	PI:	3+41.03	404774.642
	PT:	3+48.93	404781.762
	PRC:	3+48.93	404781.762
	RADIUS:	32.00	
	DELTA:	28°57'18.1" Left	
	D.O.C. (ARC):	179°02'57.5"	
	LENGTH:	16.17	
	TANGENT:	8.26	
	TANGENT DIRECTION:	N 1°31'47.2" W	
CHORD DIRECTION:	N 16°00'26.3" W		
TANGENT LENGTH:	N 30°29'05.3" W		
SIDEWALK CURVE-8 ELEMENT: CIRCULAR	PC:	3+48.93	404781.762
	PI:	3+57.20	404788.882
	PT:	3+65.11	404797.142
	PRC:	3+65.11	404797.142
	RADIUS:	32.00	
	DELTA:	28°57'18.1" Right	
	D.O.C. (ARC):	179°02'57.5"	
	LENGTH:	16.17	
	TANGENT:	8.26	
	TANGENT DIRECTION:	N 30°29'05.3" W	
CHORD DIRECTION:	N 16°00'26.3" W		
TANGENT LENGTH:	N 1°31'47.2" W		
ELEMENT: LINEAR	PT:	3+65.11	404797.142
	PC:	4+88.20	404920.196
TANGENT DIRECTION:	N 1°31'47.2" W		
TANGENT LENGTH:	123.10		
SIDEWALK CURVE-9 ELEMENT: CIRCULAR	PC:	4+88.20	404920.196
	PI:	5+12.18	404944.161
	PT:	5+35.58	404966.215
	PRC:	5+35.58	404966.215
	RADIUS:	126.00	
	DELTA:	21°32'40.9" Left	
	D.O.C. (ARC):	45°28'22.2"	
	LENGTH:	47.38	
	TANGENT:	23.97	
	TANGENT DIRECTION:	N 1°31'47.2" W	
CHORD DIRECTION:	N 12°18'07.7" W		
TANGENT LENGTH:	N 23°04'28.1" W		
SIDEWALK CURVE-10 ELEMENT: CIRCULAR	PC:	5+35.58	404966.215
	PI:	5+56.51	404985.280
	PT:	5+76.50	405006.001
	PRC:	5+76.50	405006.001
	RADIUS:	104.50	
	DELTA:	22°25'56.6" Right	
	D.O.C. (ARC):	54°49'42.6"	
	LENGTH:	40.91	
	TANGENT:	20.72	
	TANGENT DIRECTION:	N 23°04'28.1" W	
CHORD DIRECTION:	N 11°51'29.8" W		
TANGENT LENGTH:	N 0°38'31.5" W		
ELEMENT: LINEAR	PT:	5+76.50	405006.001
	PC:	7+73.57	405203.060
TANGENT DIRECTION:	N 0°38'31.5" W		
TANGENT LENGTH:	197.07		
SIDEWALK CURVE-11 ELEMENT: CIRCULAR	PC:	7+73.57	405203.060
	PI:	7+94.30	405223.786
	PT:	8+14.51	405243.074
	PRC:	8+14.51	405243.074
	RADIUS:	106.00	
	DELTA:	22°07'43.1" Right	
	D.O.C. (ARC):	54°03'09.4"	
	LENGTH:	40.94	
	TANGENT:	20.73	
	TANGENT DIRECTION:	N 0°38'31.5" W	
CHORD DIRECTION:	N 10°25'20.0" E		
TANGENT LENGTH:	N 21°29'11.5" E		

HCL INCA SIDEWALK			
	STATION	NORTHING	EASTING
SIDEWALK CURVE-12 ELEMENT: CIRCULAR	PC:	8+14.51	405243.074
	PI:	8+34.29	405261.477
	PT:	8+53.61	405281.254
	PRC:	8+53.61	405281.254
	RADIUS:	106.00	
	DELTA:	21°08'14.5" Left	
	D.O.C. (ARC):	54°03'09.4"	
	LENGTH:	39.11	
	TANGENT:	19.78	
	TANGENT DIRECTION:	N 21°29'11.5" E	
CHORD DIRECTION:	N 10°55'04.3" E		
TANGENT LENGTH:	N 0°20'57.1" E		
ELEMENT: LINEAR	PT:	8+53.61	405281.254
	PC:	10+96.76	405524.397
TANGENT DIRECTION:	N 0°20'57.1" E		
TANGENT LENGTH:	243.15		

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 14*Inca Ped Bridge*Geometric Data.dgn	
SCALE: 100.000 ' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:


INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GEOMETRIC DATA SHEET	
DESIGNER: C. NGUYEN	CHECKER:
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 14

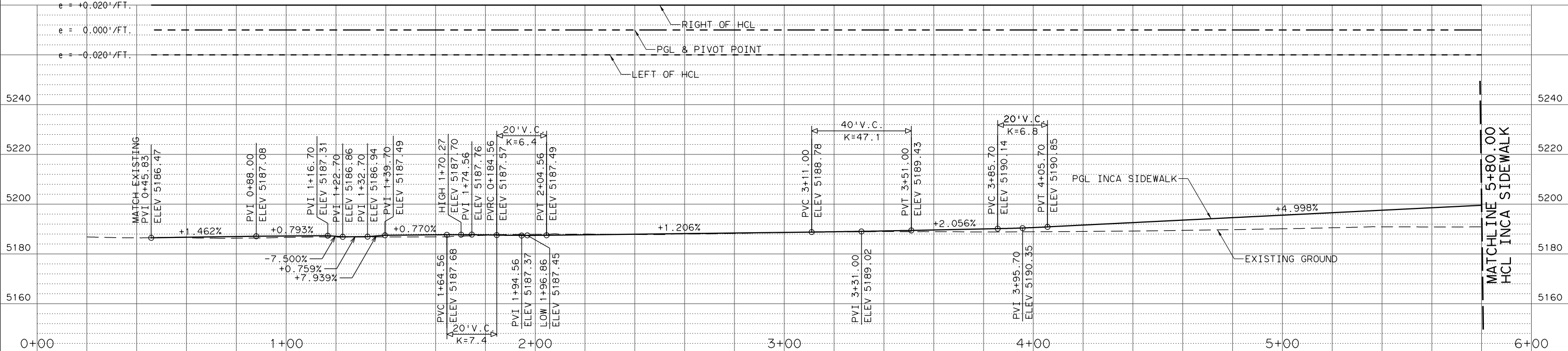
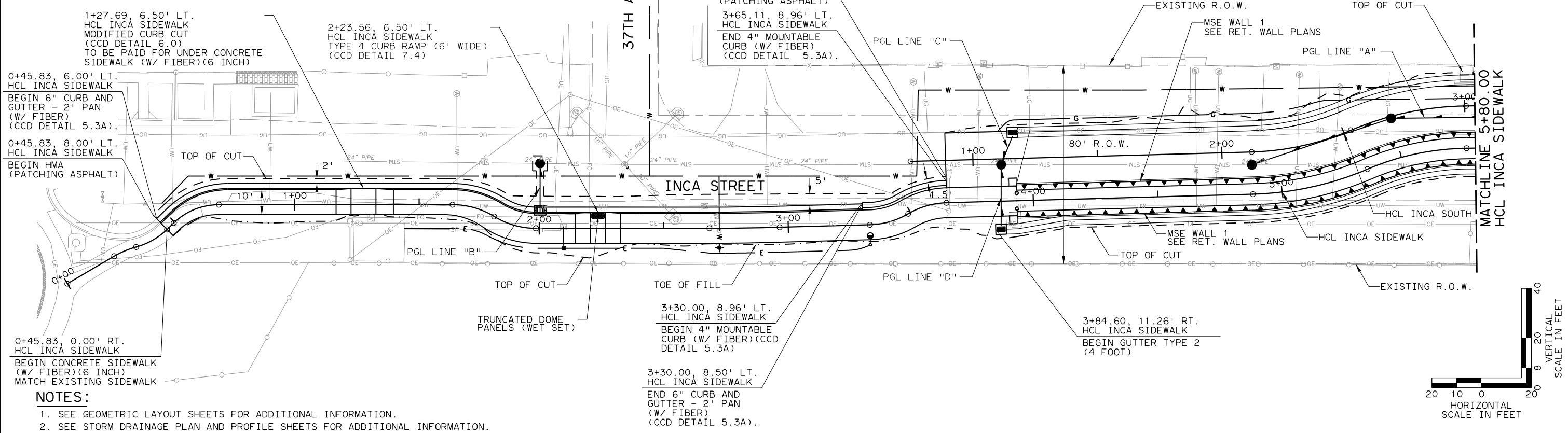
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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org



FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 15*Inca Ped Bridge*Plan & Prof Sht 01.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS SIDEWALK PLAN AND PROFILE 0+00.00 TO 5+80.00	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 3

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	15

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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
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FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)

MSE WALL 1
 SEE RET. WALL PLANS
 WALL PLANS

PGL LINE "A"
 MATCHLINE 5+80.00
 HCL INCA SIDEWALK

HCL INCA SOUTH
 5+00

80' R.O.W.

6+00 7+00 8+00 9+00

38TH AVENUE

MSE WALL 1
 SEE RET. WALL PLANS

6+31.03, 0.00' RT.
 HCL INCA SIDEWALK

END CONCRETE SIDEWALK
 (W/ FIBER) (6 INCH)

6+30.03, 8.37' RT.
 HCL INCA SIDEWALK

END GUTTER TYPE 2
 (4 FOOT)

PGL LINE "F"

MSE WALL 2
 SEE RET. WALL PLANS

HCL INCA NORTH
 TOE OF FILL

TRUNCATED DOME PANELS (WET SET)

TOP OF CUT

INCA STREET
 80' R.O.W.

HCL INCA SIDEWALK

EXISTING R.O.W.

9+00.00, 0.00' RT.
 HCL INCA SIDEWALK

END CONCRETE SIDEWALK
 (W/ FIBER) (6 INCH)

MATCH EXISTING PAVEMENT

PGL LINE "E"

MSE WALL 2
 SEE RET. WALL PLANS

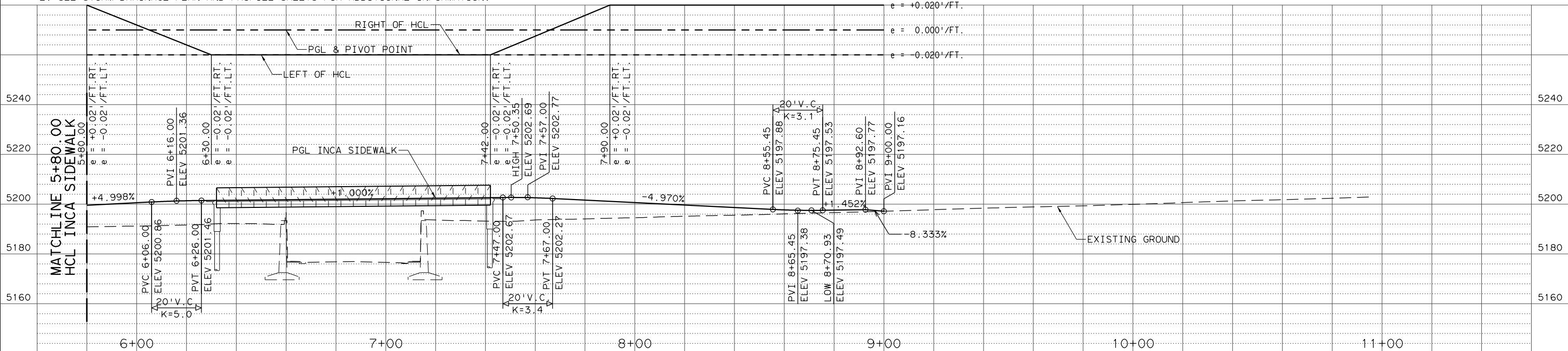
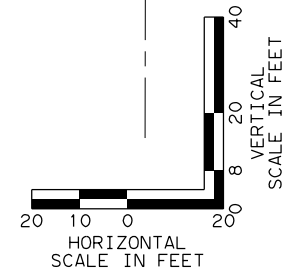
7+43.03, 0.00' RT.
 HCL INCA SIDEWALK

BEGIN CONCRETE SIDEWALK
 (W/ FIBER) (6 INCH)

PGL LINE "E"

NOTES:

- SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
- SEE STORM DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 16*Inca Ped Bridge*Plan & Prof Sht 02.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
SIDEWALK PLAN AND PROFILE 5+80.00 TO 9+00.00	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 3

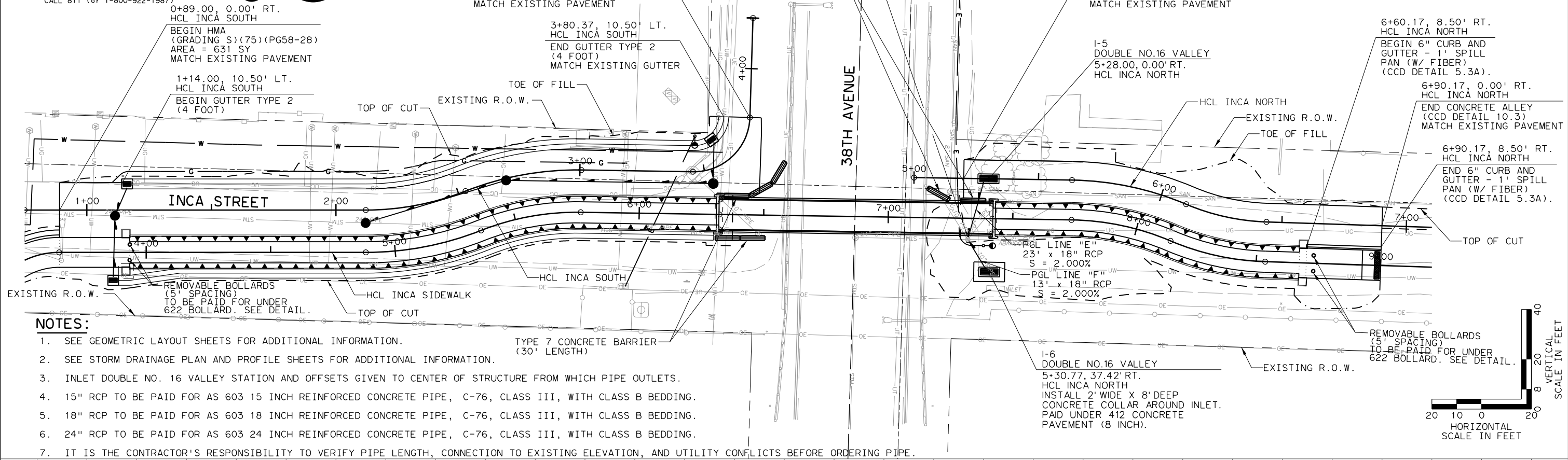
PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	16

9/26/2011 10:03:42 AM User: Peter
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 PEN TABLE: S:\V81\Workspace\System\plott\icfg\vg8i*datestamp.tbl

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

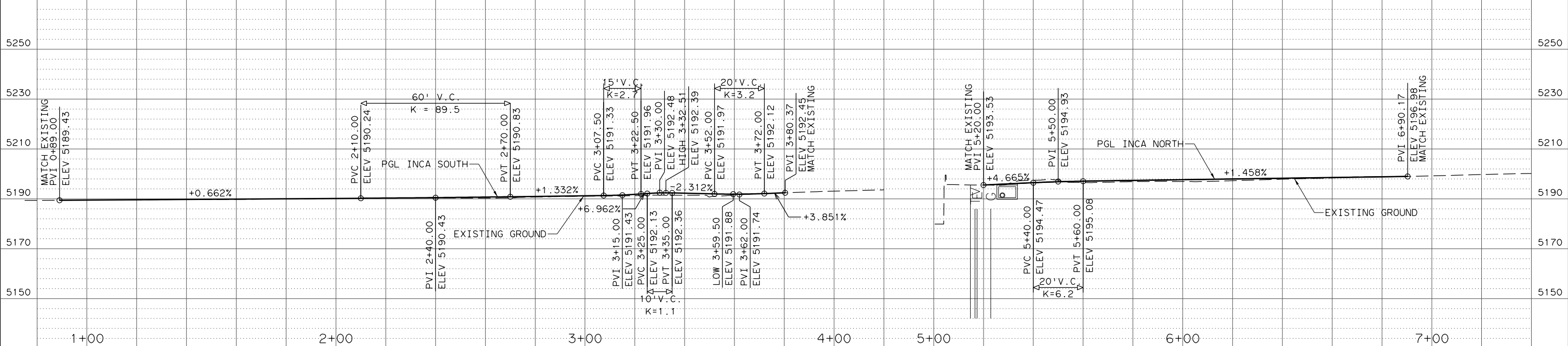


FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)



NOTES:

- SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
- SEE STORM DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
- INLET DOUBLE NO. 16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF STRUCTURE FROM WHICH PIPE OUTLETS.
- 15" RCP TO BE PAID FOR AS 603 15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
- 18" RCP TO BE PAID FOR AS 603 18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
- 24" RCP TO BE PAID FOR AS 603 24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PIPE LENGTH, CONNECTION TO EXISTING ELEVATION, AND UTILITY CONFLICTS BEFORE ORDERING PIPE.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/26/2011	INITIALS:
FILE: 17*Inca Ped Bridge*Plan & Prof Sht 03.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	

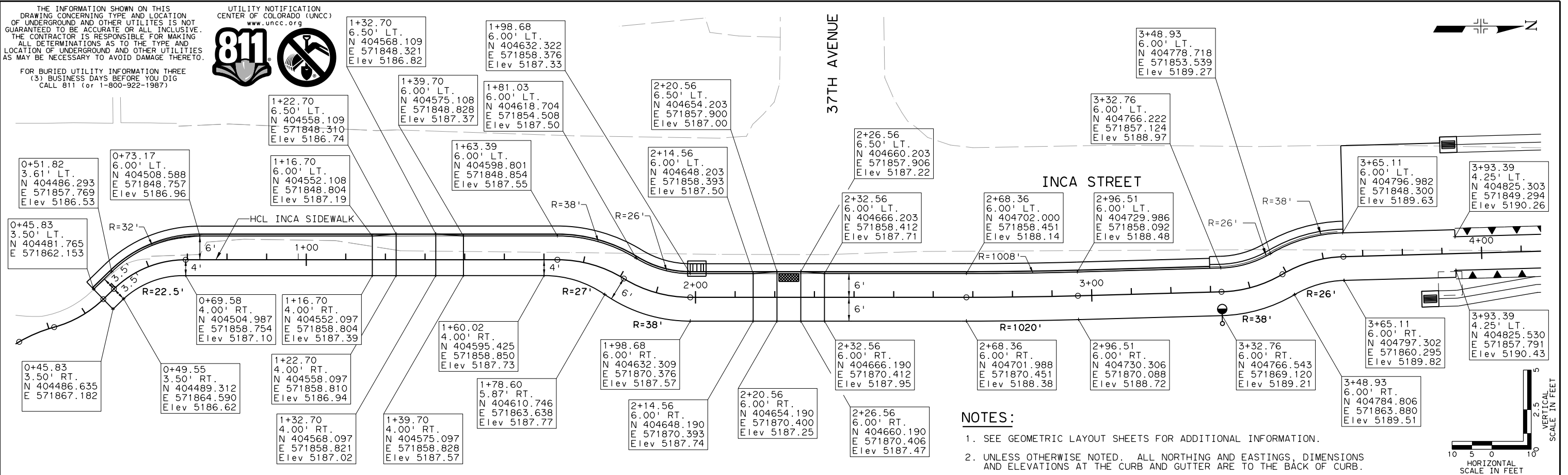


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
INCA STREET PLAN AND PROFILE	
0+75.00 TO 4+00.00	
5+00.00 TO 7+00.00	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 3 OF 3

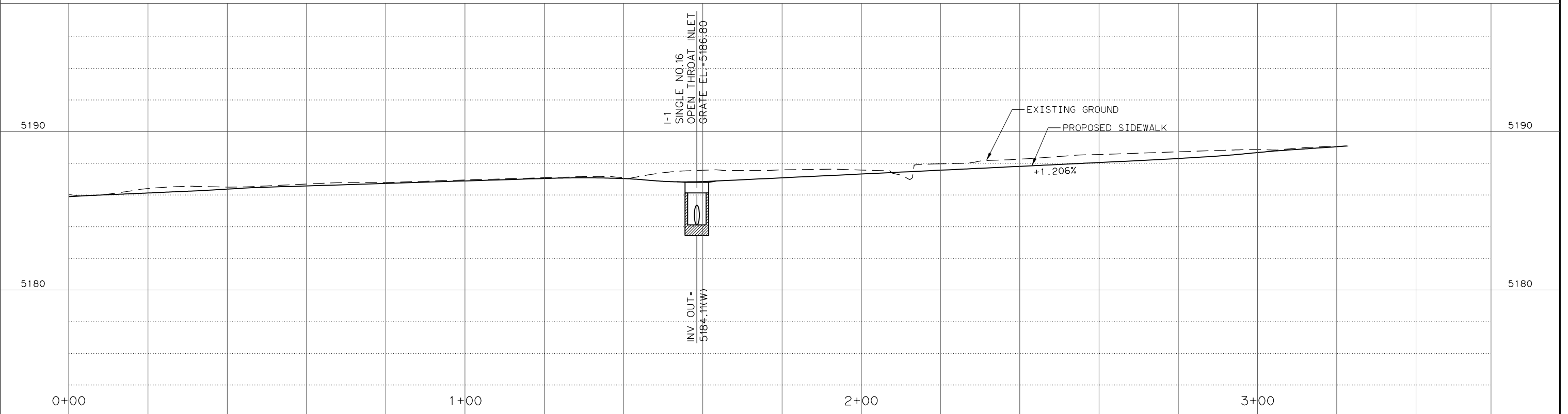
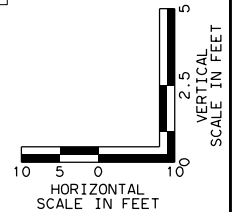
PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	17

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 PEN TABLE: S:\V81*Workspace\System\plc\g\ho*11x17*.pdf.plt



NOTES:

- SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
- UNLESS OTHERWISE NOTED, ALL NORTHING AND EASTINGS, DIMENSIONS AND ELEVATIONS AT THE CURB AND GUTTER ARE TO THE BACK OF CURB.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE#*Inca Ped Bridge*Pedestrian Path Detail 01.dgn	
SCALE: 25.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
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VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
PEDESTRIAN PATH DETAIL AND FLOWLINE PROFILE	
PEDESTRIAN PATH 0+40.00 TO 4+00.00	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 1

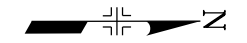
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	17903
	PILAR 2011-0285-01
SHEET NUMBER	18

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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-922-1987)

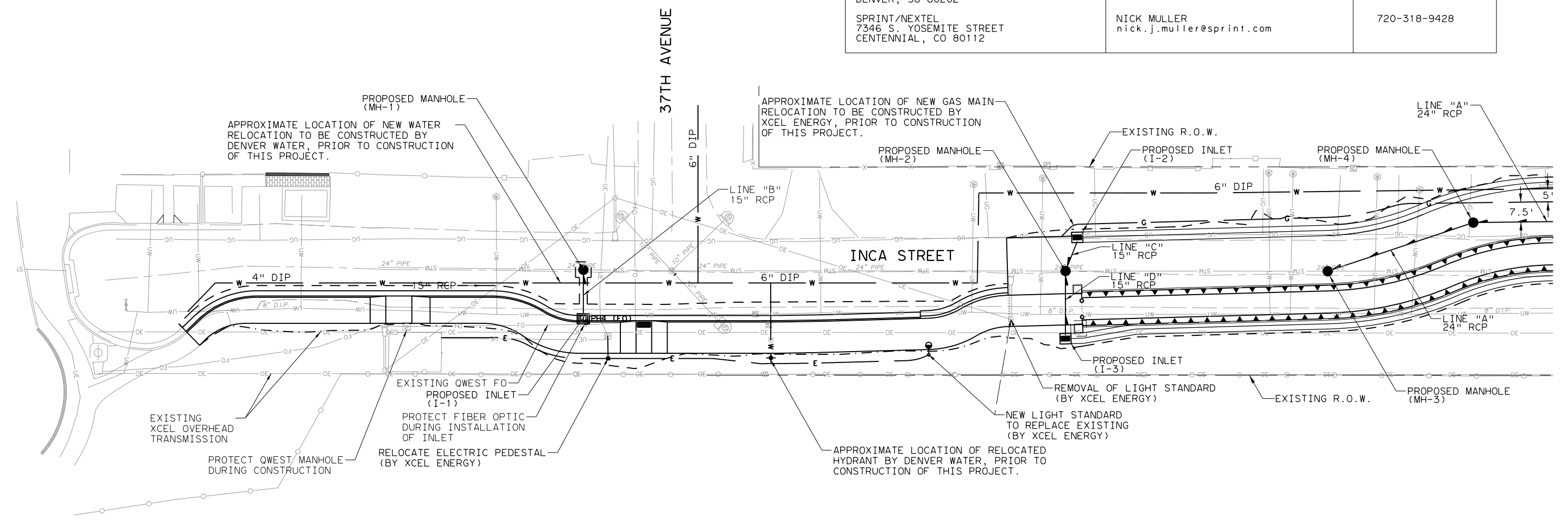


UTILITY LIST:
 THE FOLLOWING IS A LIST OF KNOWN UTILITIES WITH SERVICES WITHIN THE PROJECT LIMITS:



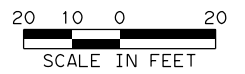
UTILITY	CONTACT/EMAIL	PHONE/FAX
XCEL ENERGY GAS, ELECTRIC & LIGHTING 555 ZANG STREET, SUITE 250 LAKEWOOD, CO 80228	GENO WILSON willie.g.wilson@xcelenergy.com	303-592-2722
DENVER WASTEWATER MANAGEMENT 2000 W. 3RD AVENUE DENVER, CO 80223	STEVE CHOI steve.choi@denvergov.org	303-446-3648
DENVER WATER DEPARTMENT 1600 W. 12TH AVE. DENVER, CO 80204-3412	VINCENT GAITER vincent.gaiter@denverwater.org	303-628-6527
QWEST COMMUNICATIONS 5325 ZUNI STREET, ROOM 728 DENVER, CO 80221	JODIE LEONARD jodie.leonard@qwest.com	303-451-2379
XCEL ENERGY - TRANSMISSION 1800 LARIMER STREET, SUITE 500 DENVER, SO 80202	WILLIAM BRAASCH, P.E. william.braasch@xcelenergy.com	303-571-7082
SPRINT/NEXTEL 7346 S. YOSEMITE STREET CENTENNIAL, CO 80112	NICK MULLER nick.j.muller@sprint.com	720-318-9428

PH #	UTILITY	TYPE	SIZE OF UTILITY	SOILS TYPE	SURFACE TYPE	SURFACE THICKNESS (INCHES)	ASPHALT CORE #	DEPTH TO TOP (INCHES)	DEPTH TO BOTTOM (INCHES)	COMMENTS
1	WATER	STL.	12" O.D.	SAND, CLAY	ASPHALT	4"	1	75"	87"	
2	ELECTRIC	CONDUIT	4", 2"	SAND, CLAY	ASPHALT	4"	1	27"	31"	2" O.D. ELECT NEXT TO 4" O.D.
3	ELECTRIC	CONDUIT	4", 2"	SAND, CLAY	ASPHALT	4"	1	27"	31"	2" O.D. ELECT NEXT TO 4" O.D.
4	QWEST	F/O	3"	SAND, CLAY	DIRT	N/A	N/A	45"	48"	



NOTES:

- SEE STORM DRAINAGE PLAN AND PROFILES FOR ADDITIONAL INFORMATION.
- SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 19\Inca Ped Bridge*Utility Plan 01.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



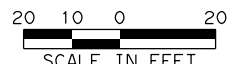
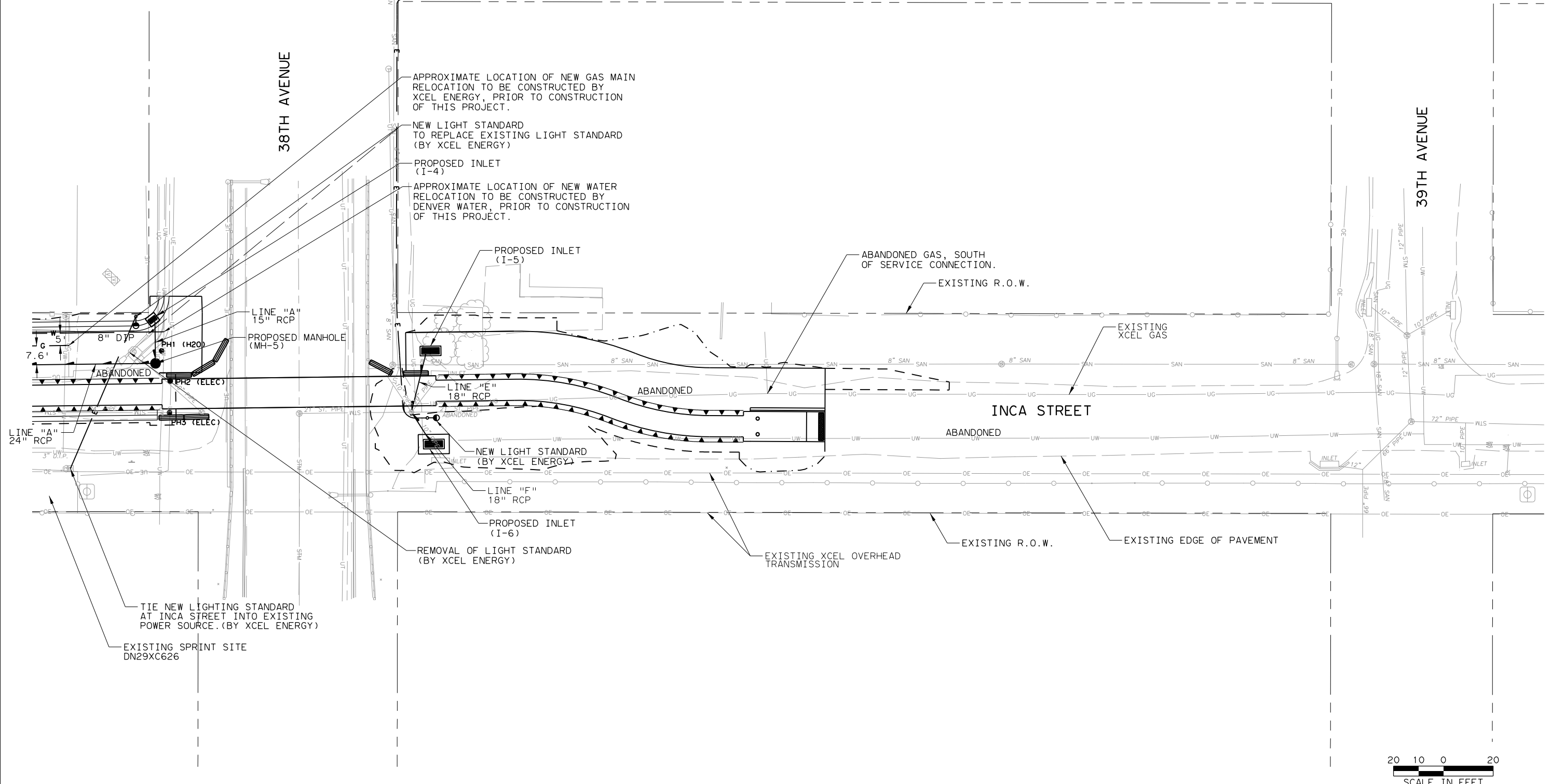
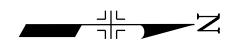
AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
UTILITY PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	19

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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-922-1987)



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 20*Inca Ped Bridge*Utility Plan 02.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	





AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

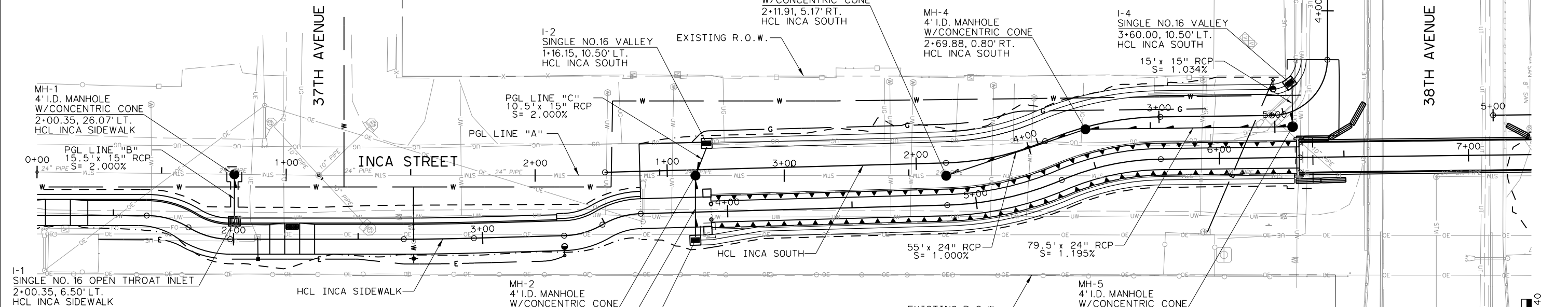
INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
UTILITY PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	20

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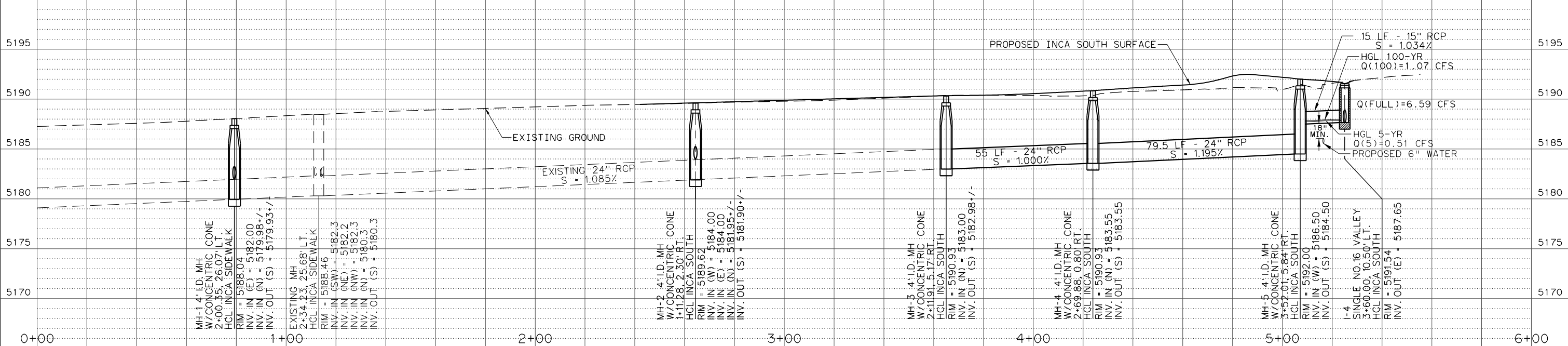
THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org





- NOTES:**
- SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
 - 4' I.D. MANHOLE WITH CONCENTRIC CONE STATION AND OFFSETS GIVEN TO CENTER OF MANHOLE.
 - INLET SINGLE NO. 16 STATION AND OFFSETS GIVEN TO CENTER OF INLET, FLOWLINE.
 - INLET SINGLE NO. 16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF INLET.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PIPE LENGTH, CONNECTION TO EXISTING ELEVATION, AND UTILITY CONFLICTS BEFORE ORDERING PIPE.

- NOTES (CONT'D):**
- HGL'S AND FLOWS NOT SHOWN FOR 24" RCP. MAINTAINING SIMILAR SLOPE AND LENGTH OF PIPE TO EXISTING 24" RCP.
 - WATER LINE TO BE INSTALLED BY OTHERS PRIOR TO CONSTRUCTION.
 - 24" RCP TO BE PAID FOR AS 603 24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
 - 15" RCP TO BE PAID FOR AS 603 15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
 - 18" RCP TO BE PAID FOR AS 603 18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.



COMPUTER FILE INFORMATION

CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
P:\CCD\Inca Ped Bridge\Drainage Plan & Profile 01.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS




AS CONSTRUCTED

NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS

STORM DRAINAGE PLAN AND PROFILE
LINE "A" 0+00.00 TO 5+20.00

DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 1

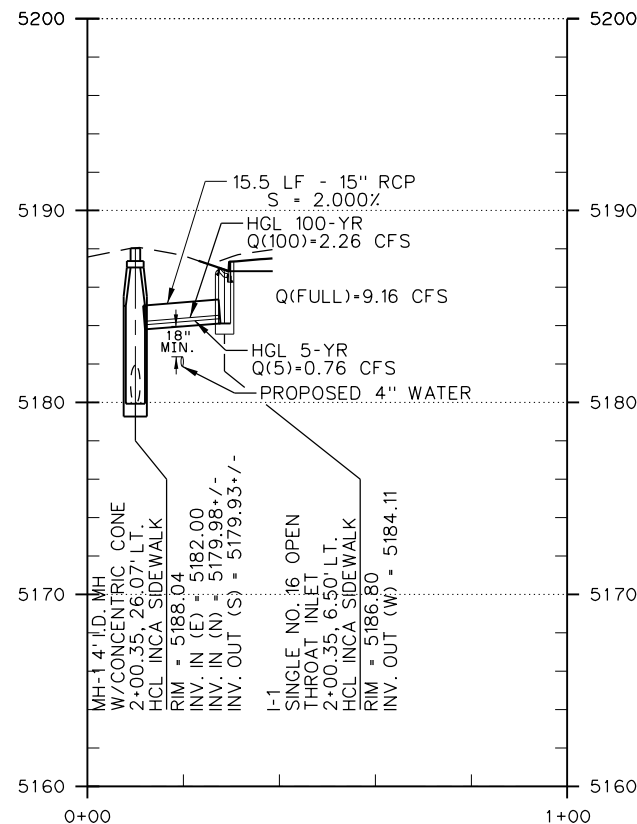
PROJECT NO./CODE

AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 21

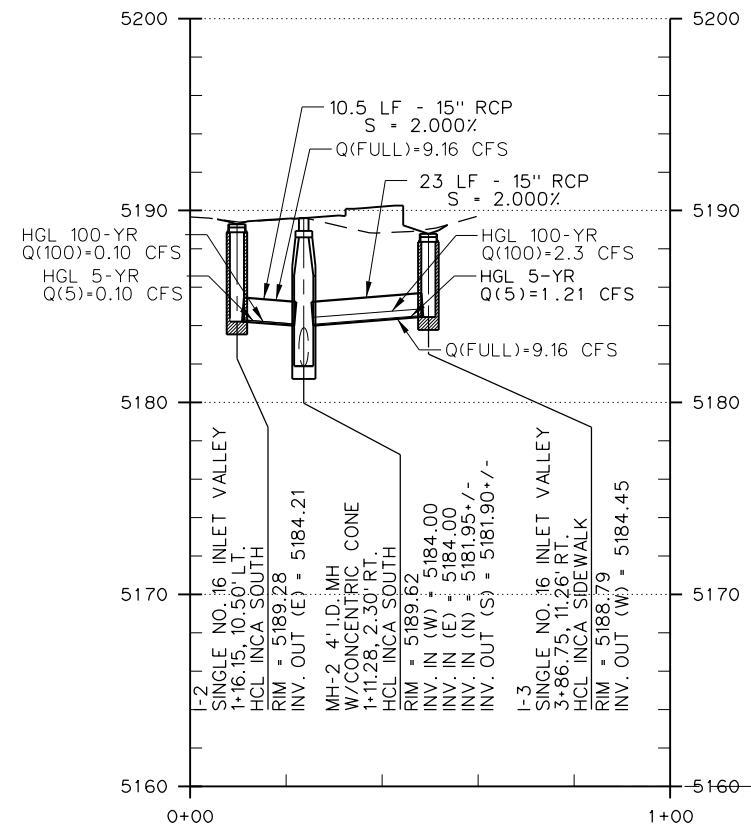
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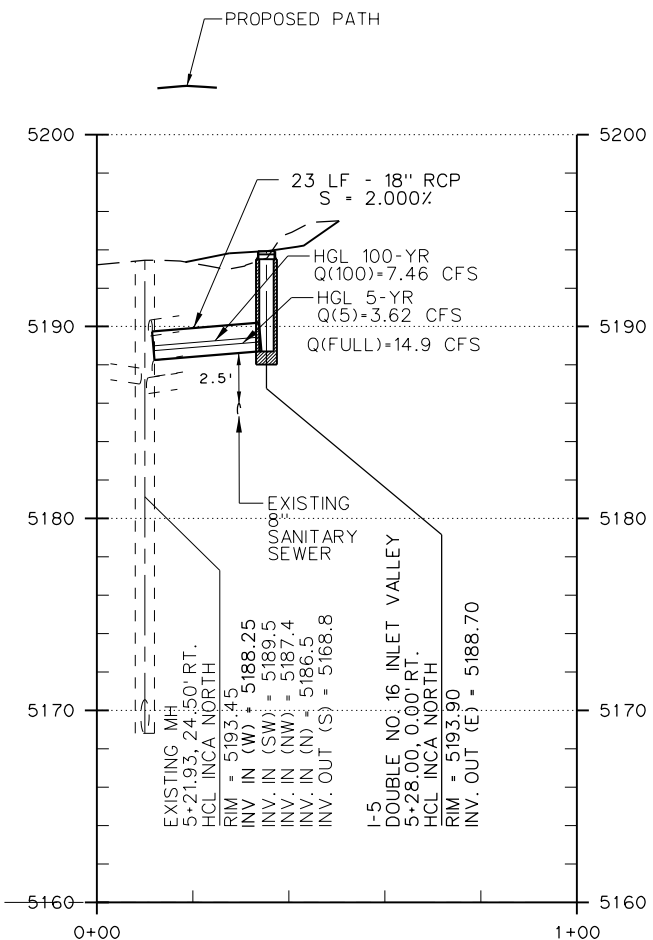
1. INLET DOUBLE NO. 16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF STRUCTURE FROM WHICH PIPE OUTLETS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PIPE LENGTH, CONNECTION TO EXISTING ELEVATION, AND UTILITY CONFLICTS BEFORE ORDERING PIPE.
3. WATER LINE TO BE INSTALLED BY OTHERS PRIOR TO CONSTRUCTION.
4. 15" RCP TO BE PAID FOR AS 603 15 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
5. 18" RCP TO BE PAID FOR AS 603 18 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.
6. 24" RCP TO BE PAID FOR AS 603 24 INCH REINFORCED CONCRETE PIPE, C-76, CLASS III, WITH CLASS B BEDDING.



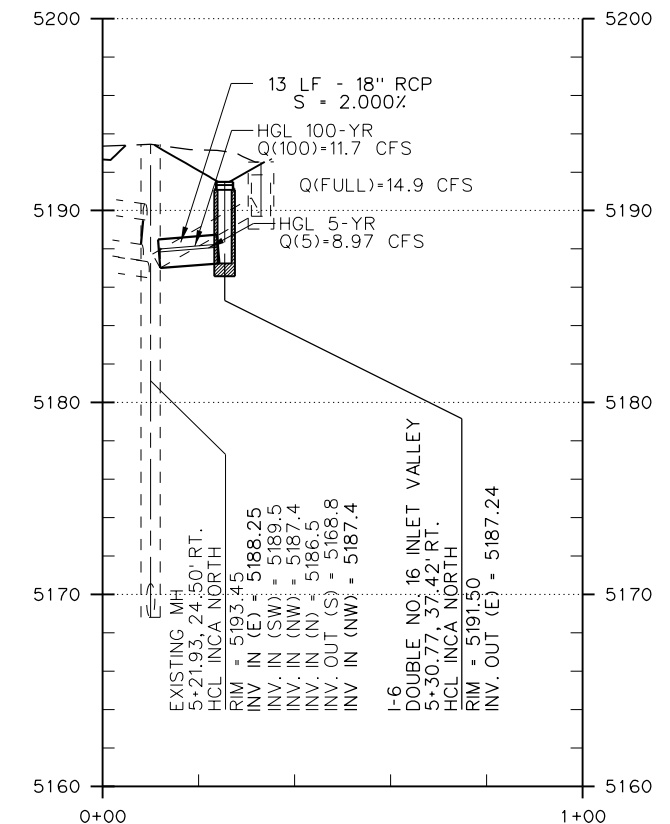
LINE "B"



LINES "C" & "D"



LINE "E"



LINE "F"

COMPUTER FILE INFORMATION	
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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 22*Inca Ped Bridge*Drainage Profiles.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:


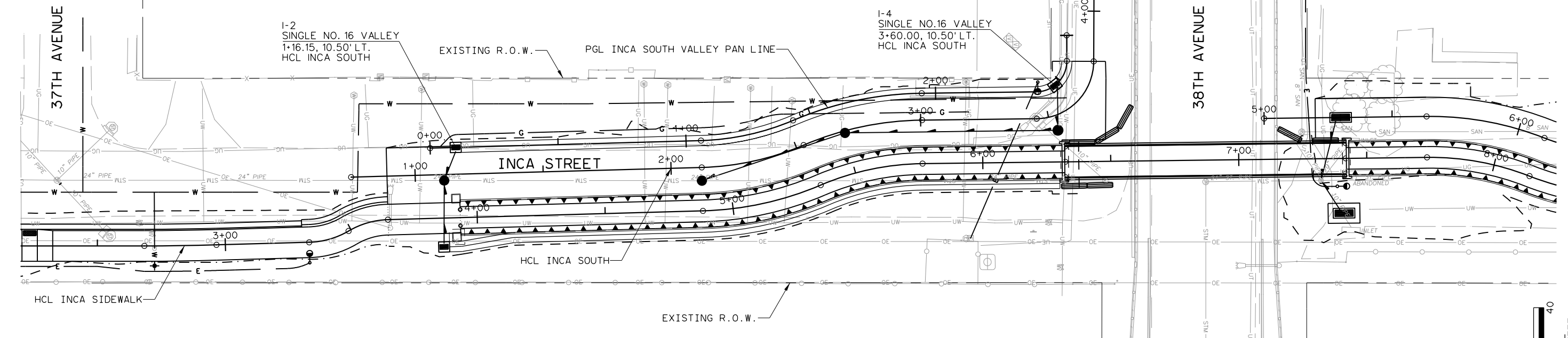
INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
STORM DRAINAGE PROFILES	
LINES "B", "C", "D", "E" & "F"	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: OF

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	22

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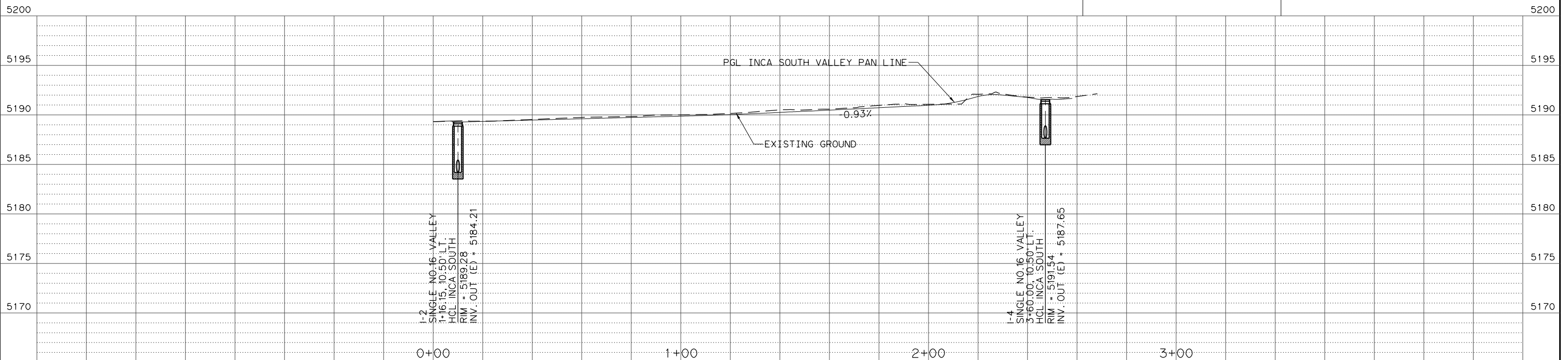
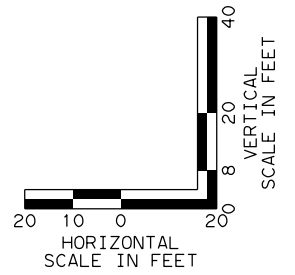
THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org

NOTES:

1. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
2. SEE STORM DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
3. INLET SINGLE NO. 16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF INLET.



COMPUTER FILE INFORMATION	
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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	





AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
INCA SOUTH VALLEY PAN PLAN AND PROFILE 0+00.00 TO 2+68.20	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: K. ROTH	SUBSET SHEETS: 1 OF 1

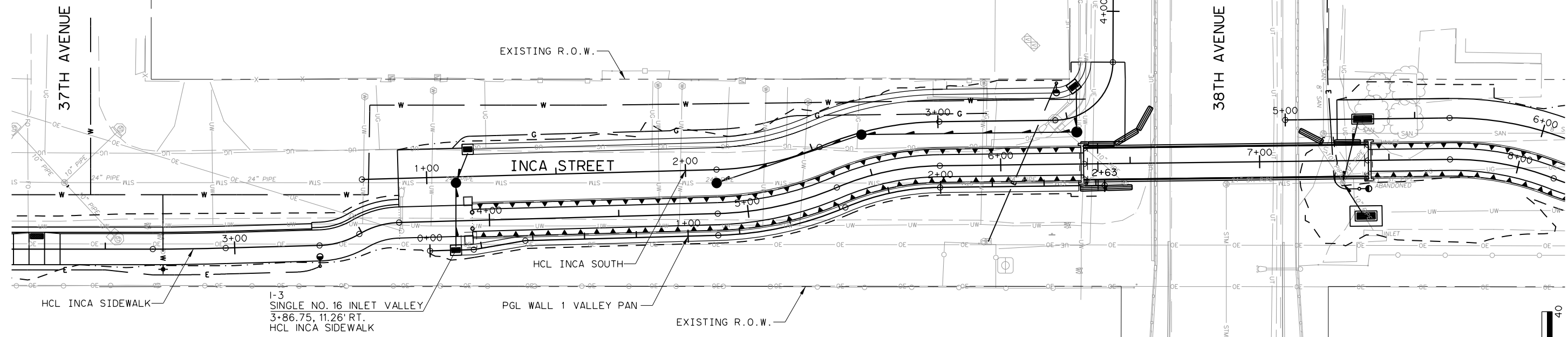
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	17903
	PILAR 2011-0285-01
SHEET NUMBER	23

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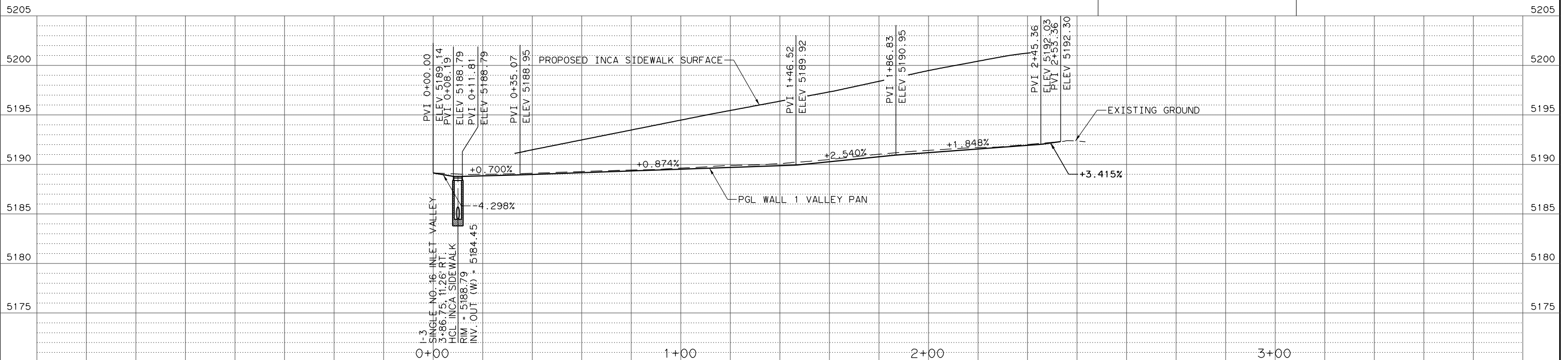
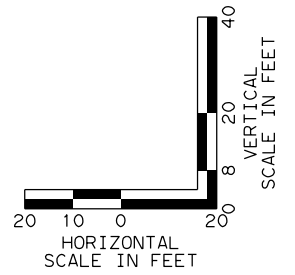
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
 www.uncc.org



FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)



NOTES:

- SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
- SEE STORM DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
- INLET SINGLE NO.16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF INLET.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
SCALE: 40.000' / in. UNITS: ENGLISH	

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
WALL 1 VALLEY PAN PLAN AND PROFILE	
0+00.00 TO 2+53.36	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: K. ROTH	SUBSET SHEETS: 1 OF 1

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	24

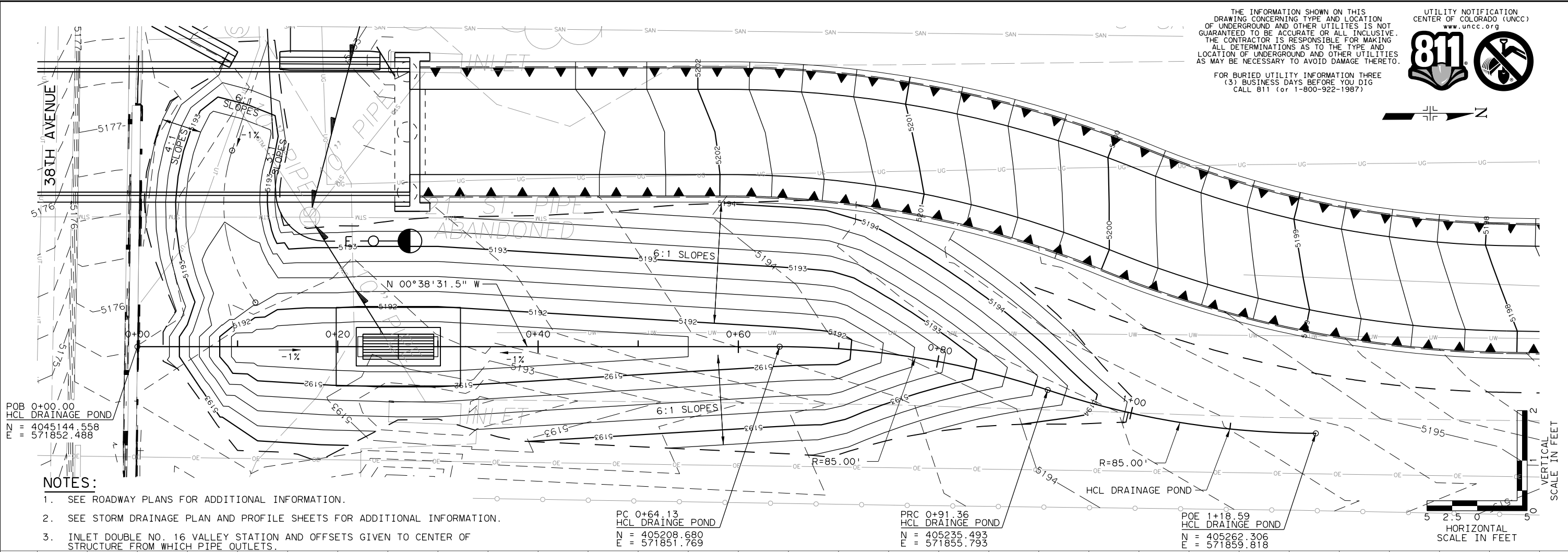
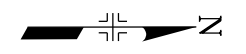
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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) www.uncc.org

811

FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-922-1987)



POB 0+00.00
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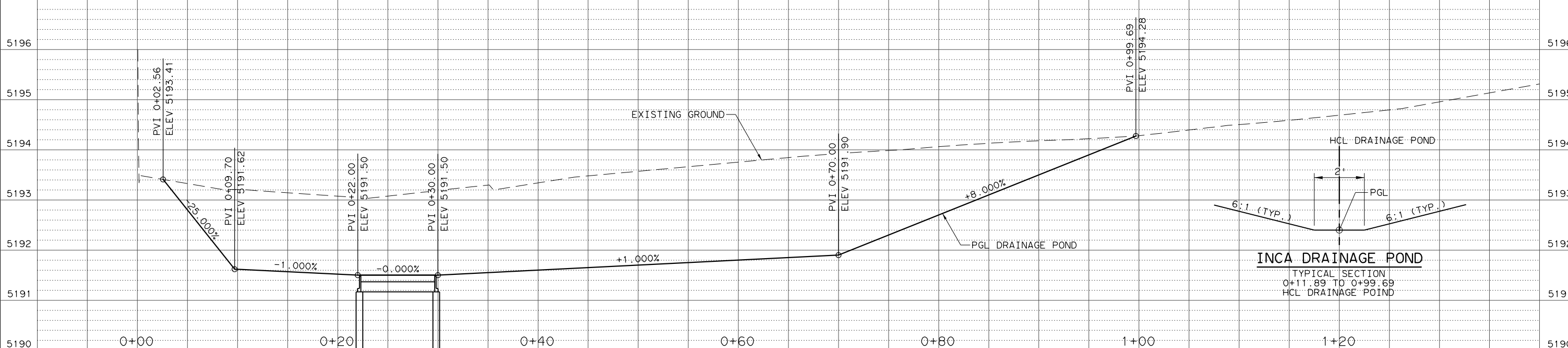
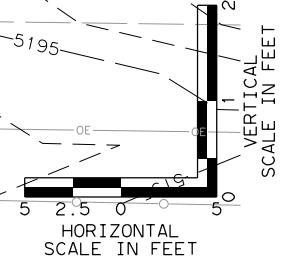
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PRC 0+91.36
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POE 1+18.59
 HCL DRAINAGE POND
 N = 405262.306
 E = 571859.818

NOTES:

- SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
- SEE STORM DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
- INLET DOUBLE NO. 16 VALLEY STATION AND OFFSETS GIVEN TO CENTER OF STRUCTURE FROM WHICH PIPE OUTLETS.



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
SCALE: 10.000' / in. UNITS: ENGLISH	

SHEET REVISIONS	



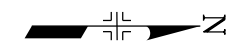
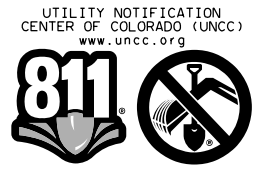
AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
IN-6 SUMP 0+00.00 TO 1+18.59	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 1

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	25

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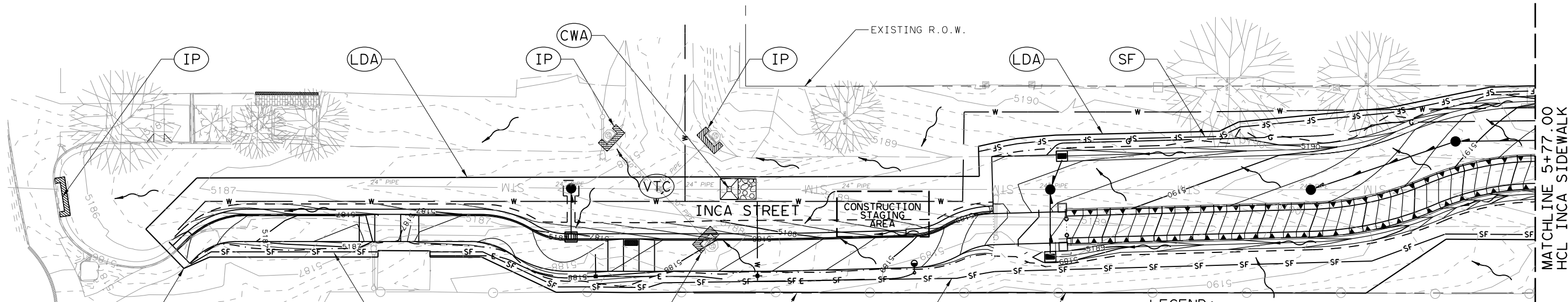
THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-922-1987)



NOTES:

1. SEE CITY AND COUNTY OF DENVER, WASTEWATER MANAGEMENT DIVISION STANDARDS FOR ADDITIONAL INFORMATION.
2. SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
3. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
4. ALL DISTURBED AREAS SHALL REQUIRE SOIL PREPARATION AND NATIVE SEEDING.
5. LOCATION OF SILT FENCE WILL BE REVIEWED IN THE FIELD WITH ENGINEER PRIOR TO INSTALLATION.
6. FINAL CONCRETE WASHOUT AREA, VEHICLE TRACKING CONTROL, AND CONSTRUCTION STAGING AREA LOCATIONS TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER.
7. CONSTRUCTION FENCING WILL BE INSTALLED AT LDA WHERE SILT FENCE IS NOT PRESENT.
8. IT IS ANTICIPATED THAT THE LIMITS OF DISTURBANCE WILL BE LESS THAN 1.0 ACRES. IF THE CONTRACTOR DEEMS THAT AN ADDITIONAL AREA WILL BE REQUIRED EXCEEDING 1.0 ACRE, THEN THE CONTRACTOR WILL BE REQUIRED TO ACQUIRE ALL NECESSARY PERMITS WITH CITY, COUNTY, STATE, AND FEDERAL.

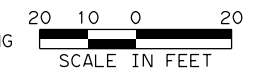
37TH AVENUE



MATCHLINE 5+77.00
HCL INCA SIDEWALK

LEGEND:

- VTC VEHICLE TRACKING CONTROL
- CWA CONCRETE WASHOUT STRUCTURE INITIAL STAGE
- LDA LIMITS OF DISTURBED AREA
- SF SILT FENCE INITIAL STAGE
- IP STORM DRAIN INLET PROTECTION INITIAL/INTERIM STAGE
- DIRECTION OF FLOW
- TOP OF CUT
- TOE OF FILL
- CONSTRUCTION STAGING AREA



COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: 26*Inca Ped Bridge*Grading Plan 01.dgn	
SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



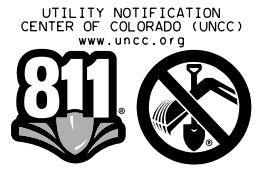
AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GRADING AND EROSION CONTROL PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 26

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THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

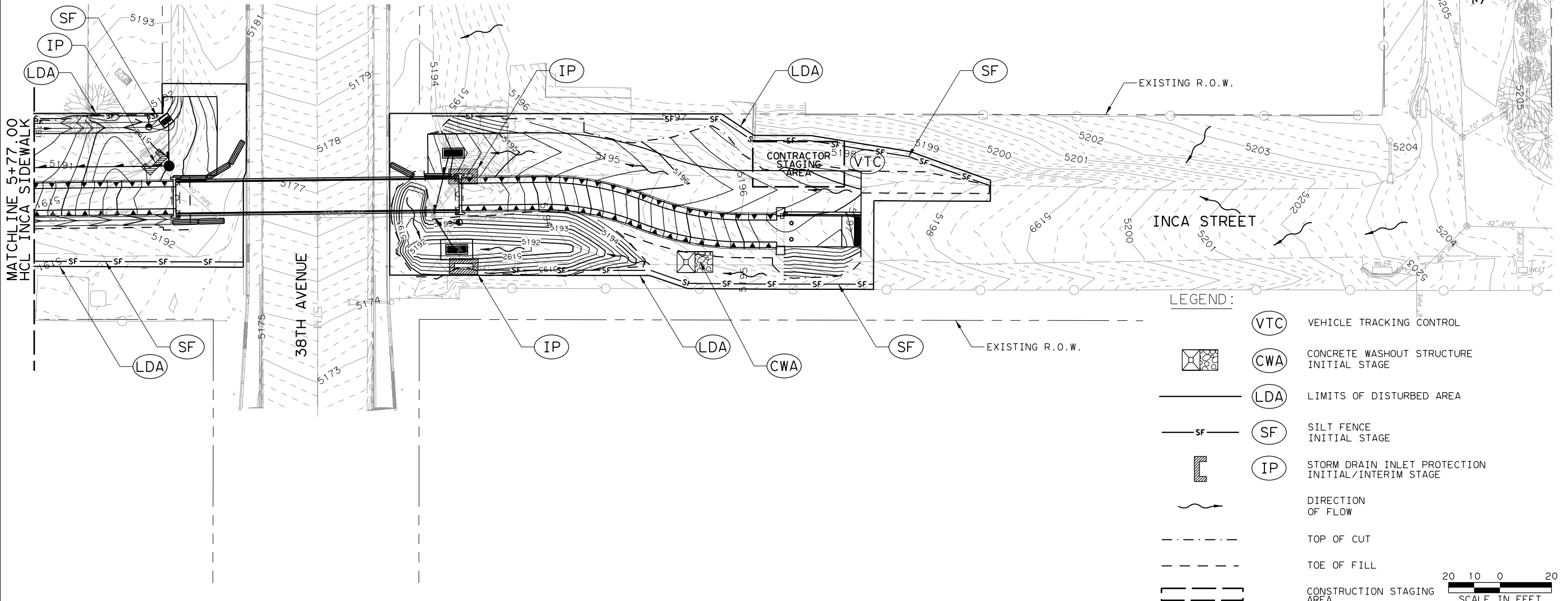


FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)



NOTES:

- SEE CITY AND COUNTY OF DENVER, WASTEWATER MANAGEMENT DIVISION STANDARDS FOR ADDITIONAL INFORMATION.
- SEE GEOMETRIC LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
- SEE DRAINAGE PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
- ALL DISTURBED AREAS SHALL REQUIRE SOIL PREPARATION AND NATIVE SEEDING.
- LOCATION OF SILT FENCE WILL BE REVIEWED IN THE FIELD WITH ENGINEER PRIOR TO INSTALLATION.
- FINAL CONCRETE WASHOUT AREA, VEHICLE TRACKING PAD LOCATIONS, AND CONSTRUCTION STAGING AREA TO BE DETERMINED BY CONTRACTOR AND APPROVED BY PROJECT ENGINEER.
- CONSTRUCTION FENCING WILL BE INSTALLED AT LDA WHERE SILT FENCE IS NOT PRESENT.
- IT IS ANTICIPATED THAT THE LIMITS OF DISTURBANCE WILL BE LESS THAN 1.0 ACRES. IF THE CONTRACTOR DEEMS THAT ADDITIONAL AREA WILL BE REQUIRED EXCEEDING 1.0 ACRES, THEN THE CONTRACTOR WILL BE REQUIRED TO ACQUIRE ALL NECESSARY PERMITS WITH CITY, COUNTY, STATE, AND FEDERAL.



COMPUTER FILE INFORMATION	
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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	

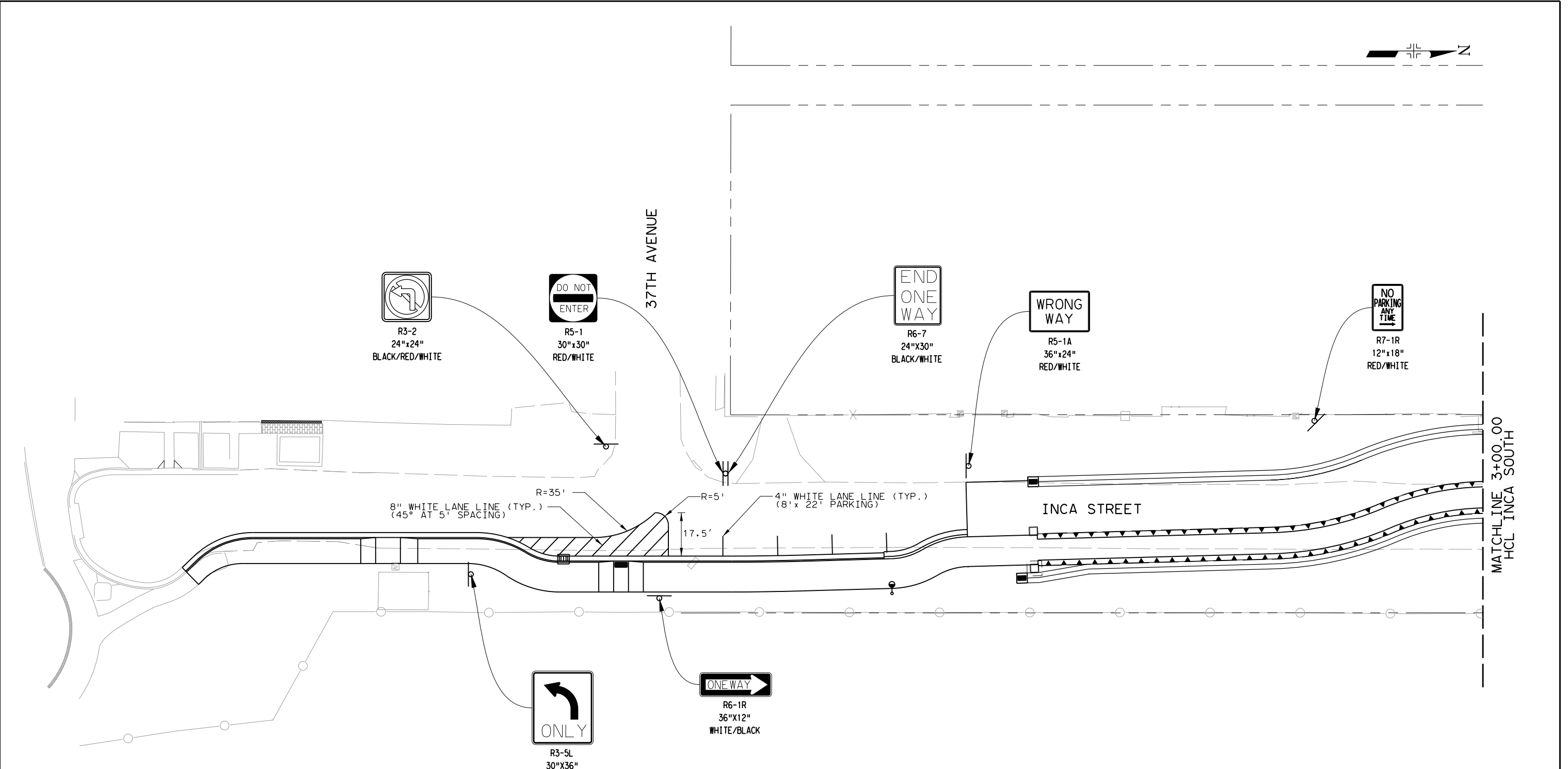


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GRADING AND EROSION CONTROL PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	27

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NOTES:

1. THE HCL IS NOT SHOWN FOR CLARITY. SEE GEOMETRIC LAYOUT SHEETS FOR HCL INFORMATION.
2. PAVEMENT MARKINGS SHALL BE EPOXY PAVEMENT MARKING, UNLESS OTHERWISE NOTED.

LEGEND:

- TRAFFIC SIGN

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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SHEET REVISIONS	

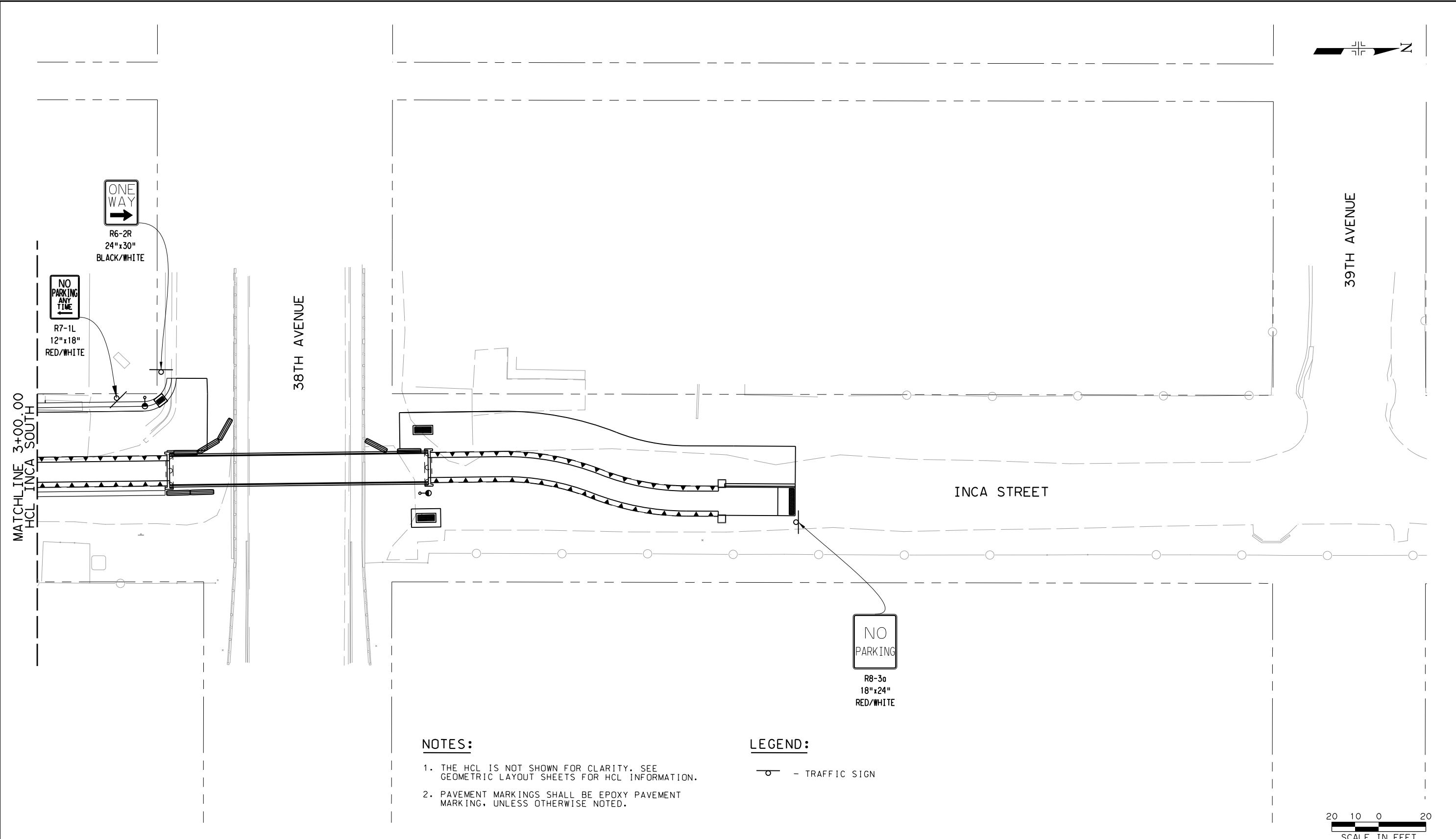


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
SIGNING AND STRIPING PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 1 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	28

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NOTES:

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LEGEND:

- TRAFFIC SIGN

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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SCALE: 40.000' / in.	UNITS: ENGLISH

SHEET REVISIONS	



AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
SIGNING AND STRIPING PLAN	
DESIGNER: P. RONDINONE	CHECKER: C. NGUYEN
DETAILER: P. RONDINONE	SUBSET SHEETS: 2 OF 2

PROJECT NO./CODE	AQC M320-067
	17903
PILAR 2011-0285-01	
SHEET NUMBER	29

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GENERAL NOTES

STRUCTURE EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE PLANS.

A COLORED STRUCTURAL CONCRETE COATING FINISH WILL BE REQUIRED, AS SHOWN ON THE PLANS, ON EXPOSED CONCRETE SURFACES. THE COLOR SHALL BE CHOSEN DURING CONSTRUCTION, AND IS TO BE SELECTED FROM TEST PANELS PROVIDED BY THE CONTRACTOR.

THE FOLLOWING STRUCTURAL STEEL SHALL BE AASHTO M222 GRADE 50 (ASTM A-588): STRUCTURAL STEEL SHAPES AND PLATES.

AASHTO GRADE 50 (ASTM A-588) STEEL SHALL NOT BE PAINTED. THE UNPAINTED STEEL SHALL BE CLEANED IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS.

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

Ⓢ DENOTES NON COATED REINFORCING STEEL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
----------	----	----	----	----	----	----	-----	-----

SPLICE LENGTH FOR CLASS D CONCRETE	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"
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WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS, THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
----------	----	----	----	----	----	----	-----	-----

SPLICE LENGTH FOR CLASS D CONCRETE	1'-1"	1'-4"	1'-7"	1'-11"	2'-6"	3'-1"	3'-11"	4'-10"
------------------------------------	-------	-------	-------	--------	-------	-------	--------	--------

THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

THE ABOVE SPLICE LENGTHS MAY BE REDUCED BY 20% WHEN 3" OF CLEAR COVER EXISTS AND BAR SPACING IS 6" OR GREATER ON CENTER.

PERMANENT STEEL DECK FORMS ARE NOT ALLOWED.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY AND FROM EXISTING PLANS. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY ESCAVATION OR OTHER EARTHWORK.

STRUCTURAL STEEL: AASHTO M222 (ASTM A588) GRADE 50 Fy = 50,000.

ANCHOR BOLT SIZES SHOWN ON THE PLANS ARE THE MINIMUM ALLOWED. A LARGER ANCHOR BOLT MAY BE REQUIRED FOR THE PARTICULAR GIRDER AND DECK UNIT SUPPLIED.

SULFATE EXPOSURE LEVEL FOR CONCRETE SHALL BE CLASS O. CEMENT MAY BE TYPE I OR II.

BRIDGE DESIGN DATA

AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES AND AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN

LIVE LOAD: AASHTO LRFD GUIDE SPECIFICATIONS FOR PEDESTRIAN BRIDGES, 90 POUNDS PER SQUARE FOOT PEDESTRIAN LOAD OR 10,000 POUND MAINTENANCE VEHICLE

DEAD LOAD: DEAD LOAD OF ONE GIRDER AND DECK UNIT, NOT INCLUDING CONCRETE DECK IS ESTIMATED TO BE 46,000 LBS. SUBSTRUCTURE DESIGN ASSUMED A 6" CONCRETE DECK AND A 4"x4" CONCRETE CURB.

REINFORCED CONCRETE:

CLASS D CONCRETE:	f'c = 4,500 psi
REINFORCING STEEL:	fy = 60,000 psi

CAISSON CONCRETE:

CLASS BZ CONCRETE:	f'c = 4,000 psi
REINFORCING STEEL:	fy = 60,000 psi

SUMMARY OF QUANTITIES

Item No.	Description	Unit	Super-structure	Abut. 1	Abut. 2	Bridge Total	Wall 1	Wall 2	Grand Total
206	Structure Excavation	CY		20	21	41	375	147	563
206	Structure Backfill (Class 1)	CY		9	9	18	730	321	1069
206	Mechanical Reinforcement of Soil	CY					686	320	1006
420	Geomembrane	SY					284	148	432
503	Drilled Caisson (24 Inch)	LF		77	74	151			151
504	Block Facing	SF					3,628	1,706	5,334
514	Pedestrian Railing (Steel)	LF					475	249	724
601	Concrete Class D (Bridge)	CY					50	26	76
① 601	Concrete Class D (Wall)	CY		18	18	36	34	17	87
601	Cut Stone Veneer	SF					226	226	452
601	Structural Concrete Coating	SF		302	305	607	2,487	1,255	4,349
② 602	Reinforcing Steel (Epoxy Coated)	LB		1,375	1,376	2,751	5,667	3,047	11,465
628	Bridge Girder and Deck Unit (110 Feet to 115 Feet)	EA	1			1			1

① Includes 28 CY for leveling pads, 16 CY for pilasters, and 16 CY for concrete sidewalk transitions.

② Includes 168 LB for leveling pads, 456 LB for pilasters, and 462 LB for concrete sidewalk transitions.

BLOCK FACING MSE WALL DESIGN DATA

(SEE SHEET PB16)

INDEX OF DRAWINGS

PB01	GENERAL INFORMATION, SUMMARY OF QUANTITIES
PB02	GENERAL LAYOUT - BRIDGE
PB03	RETAINING WALL 1 PLAN & PROFILE (1 OF 6)
PB04	RETAINING WALL 1 PLAN & PROFILE (2 OF 6)
PB05	RETAINING WALL 1 PLAN & PROFILE (3 OF 6)
PB06	RETAINING WALL 1 PLAN & PROFILE (4 OF 6)
PB07	RETAINING WALL 1 PLAN & PROFILE (5 OF 6)
PB08	RETAINING WALL 1 PLAN & PROFILE (6 OF 6)
PB09	RETAINING WALL 2 PLAN & PROFILE (1 OF 2)
PB10	RETAINING WALL 2 PLAN & PROFILE (2 OF 2)
PB11	TYPICAL SECTIONS
PB12	ABUTMENT DETAILS
PB13	CAISSON LAYOUT
PB14	PILASTER DETAILS
PB15	RAILING DETAILS
PB16	MSE WALL DETAILS, SHT. 1
PB17	MSE WALL DETAILS, SHT. 2
PB18	MSE WALL DETAILS, SHT. 3
PB19	EARTHWORK DETAILS

ABBREVIATIONS

Abut.	Abutment
e	Spaced at
Bot.	Bottom
Brg.	Bearing
Clr.	Clear
€	Centerline
∅	Diameter
E.F.	Each Face
El.	Elevation
Est.	Estimated
HCL	Horizontal Control Line
Max.	Maximum
Min.	Minimum
o.c.	On Center
Psi	Pounds per Square Inch
Sta.	Station
Typ.	Typical

BRIDGE DESCRIPTION

PREFABRICATED STEEL PEDESTRIAN BRIDGE (112'-0")

12'-8" CLEAR WIDTH FACE TO FACE OF TRUSS

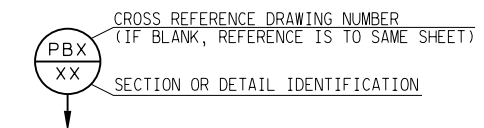
90°00'00" SKEW

2"x6" TIMBER RUB RAIL

BLOCK FACING MSE WALL DESCRIPTION

WALL 1: MSE WALL (237'-7⁵/₈"), 12'-6" MAXIMUM HEIGHT

WALL 2: MSE WALL (124'-3¹/₄"). 10'-6³/₈" MAXIMUM HEIGHT



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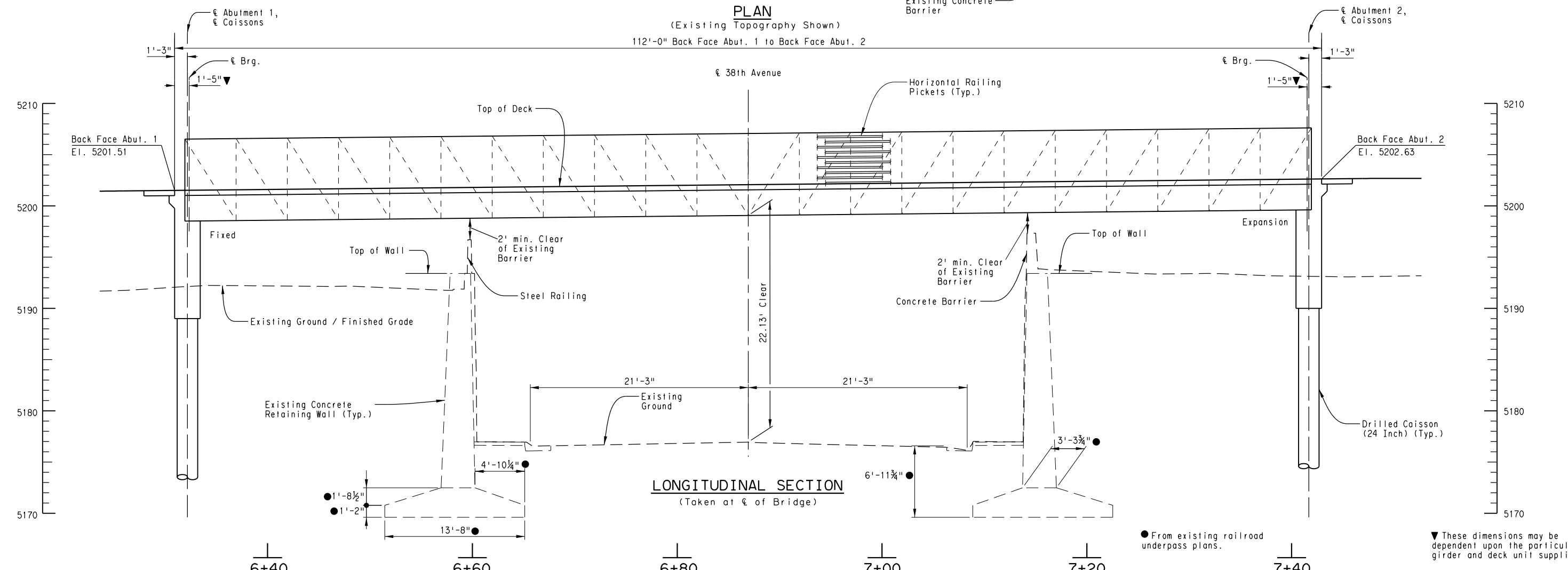
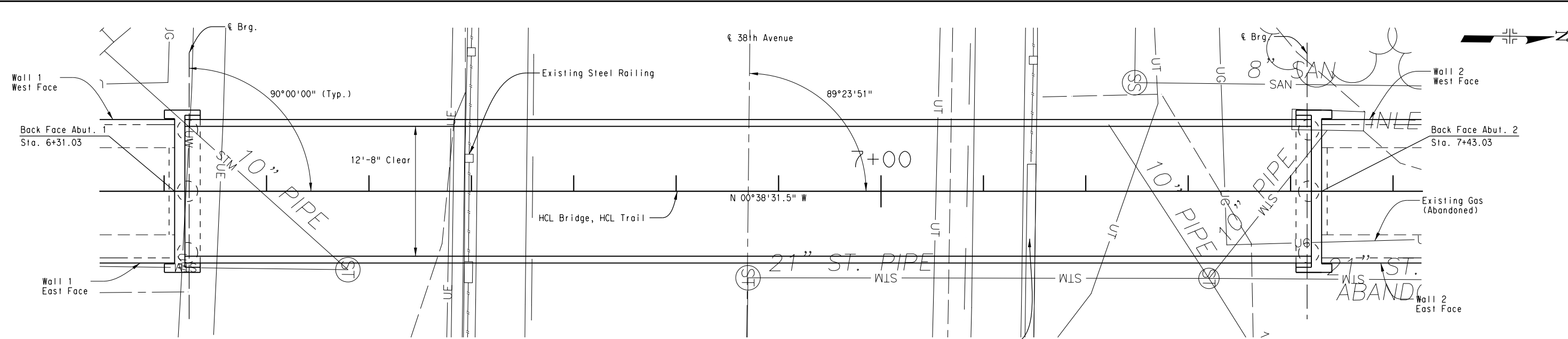
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REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
GENERAL INFORMATION, SUMMARY OF QUANTITIES	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB01 OF PB19

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 30

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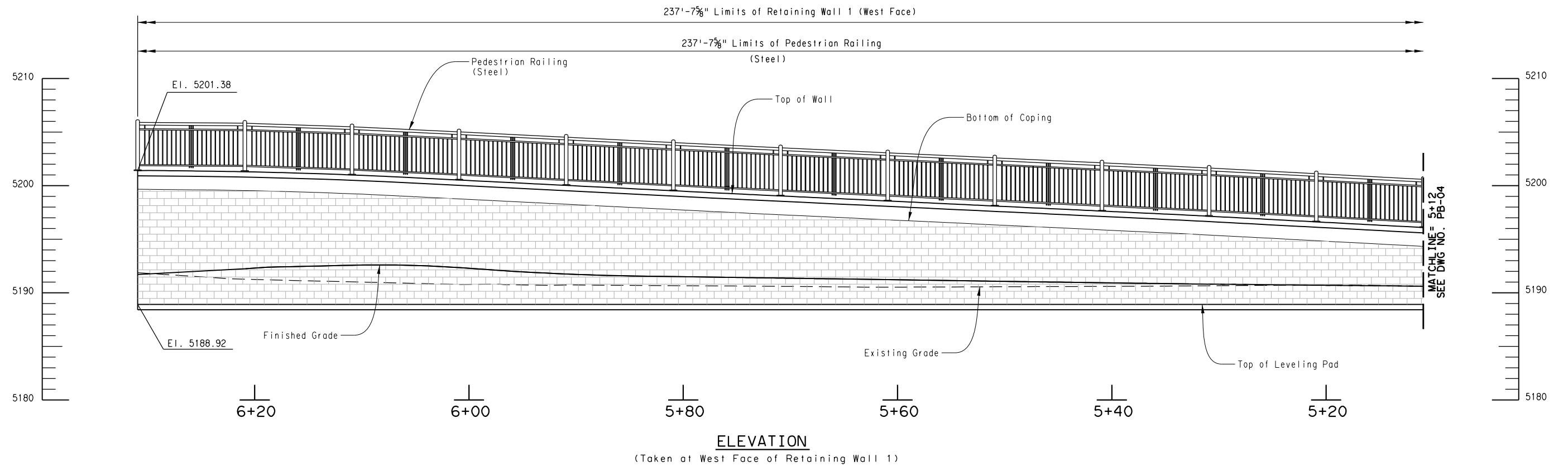
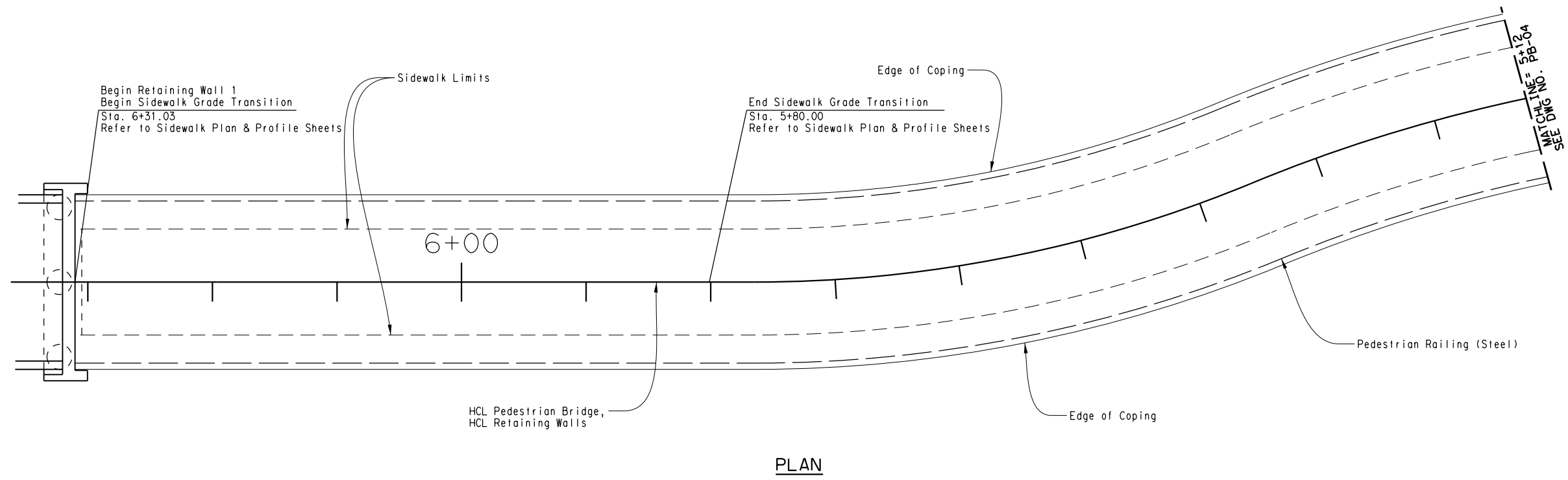
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GENERAL LAYOUT - BRIDGE	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB02 OF PB19

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	31

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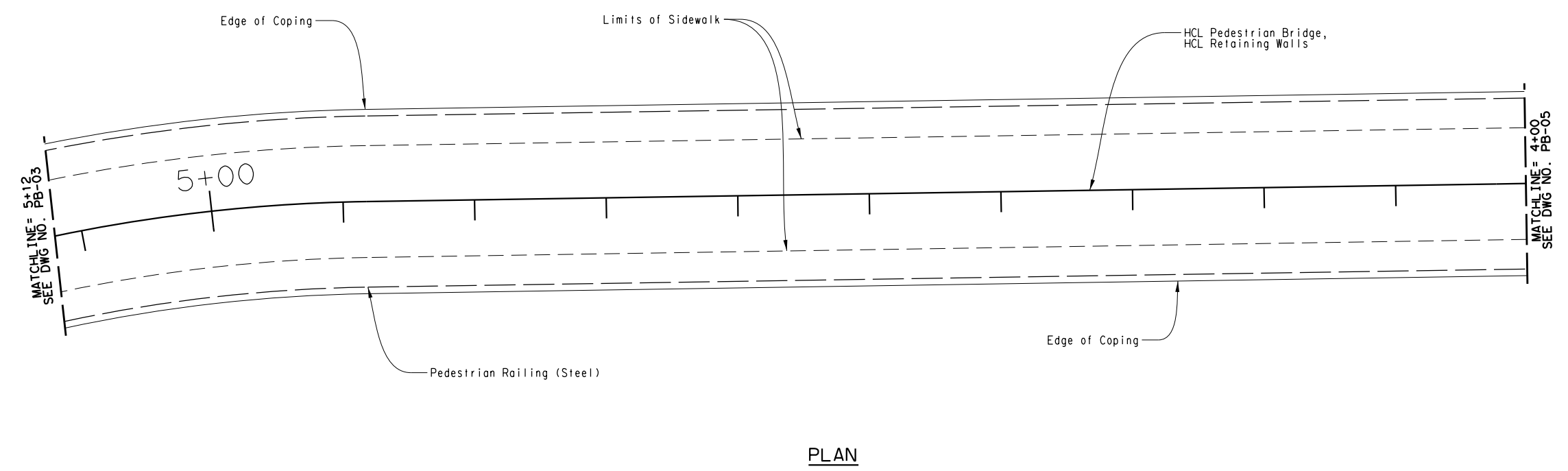
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RETAINING WALL 1 (WEST) - STA. 5+12 TO STA. 6+31	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB03 OF PB19

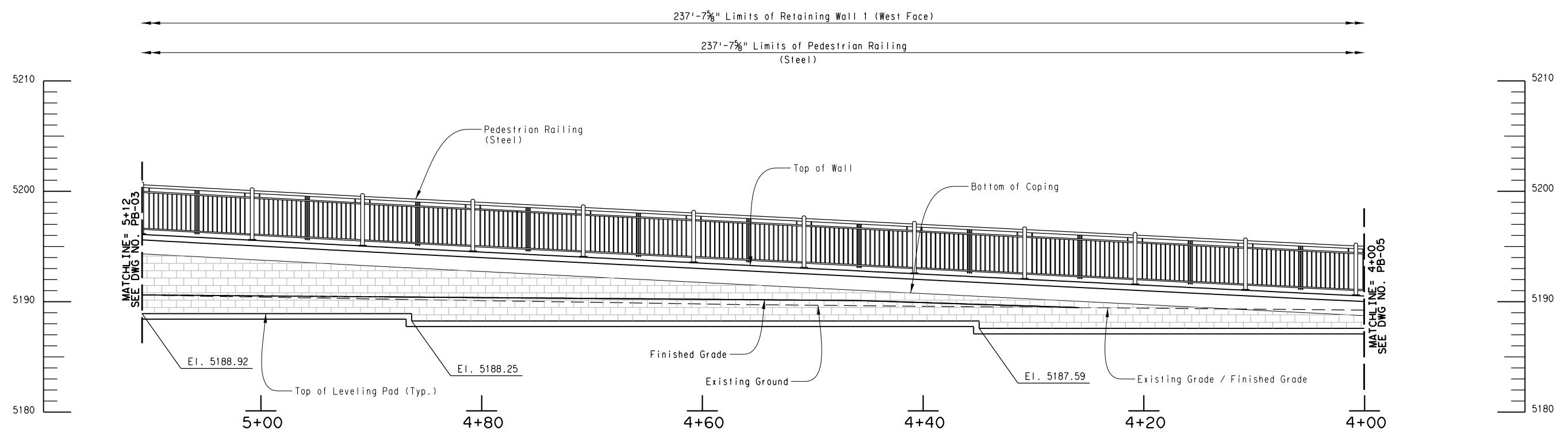
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	17903
	PILAR 2011-0285-01
SHEET NUMBER	32

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PLAN



ELEVATION

(Taken at West Face of Retaining Wall 1)

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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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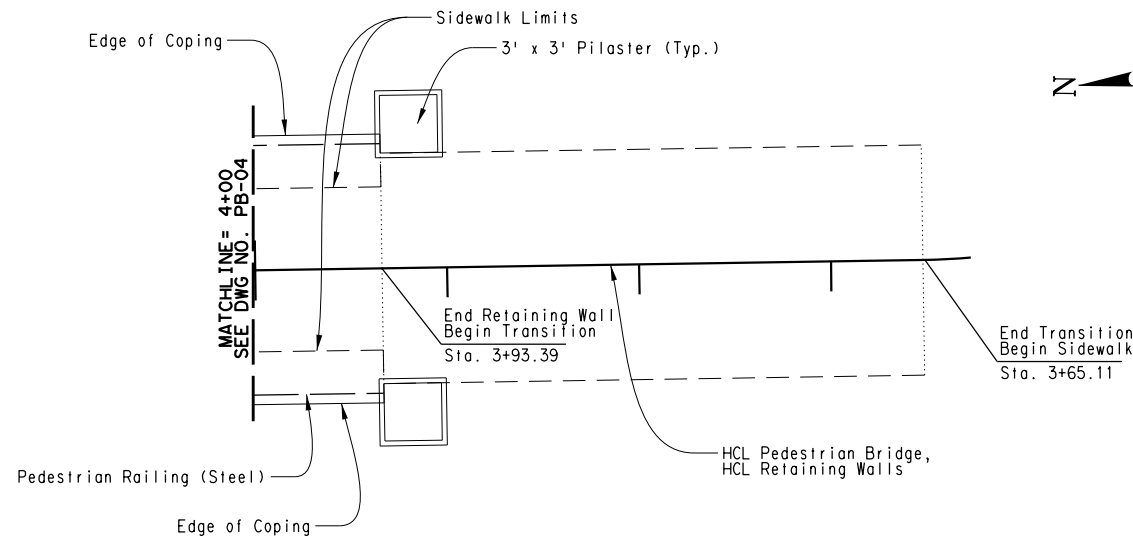


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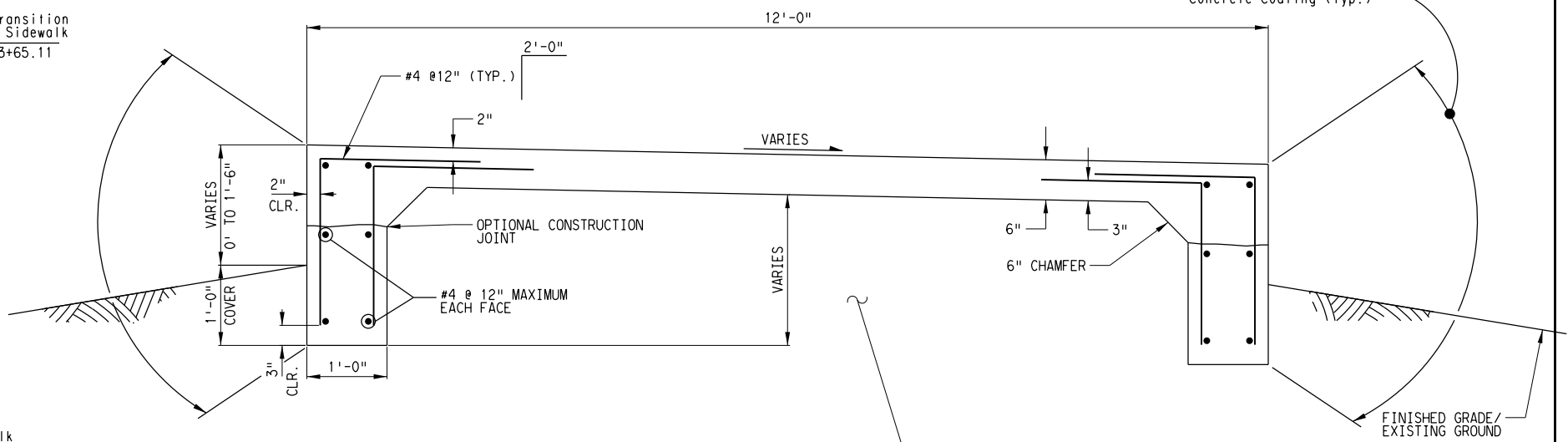
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RETAINING WALL 1 (WEST) - STA. 4+00 TO STA. 5+12	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB04 OF PB19

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 33

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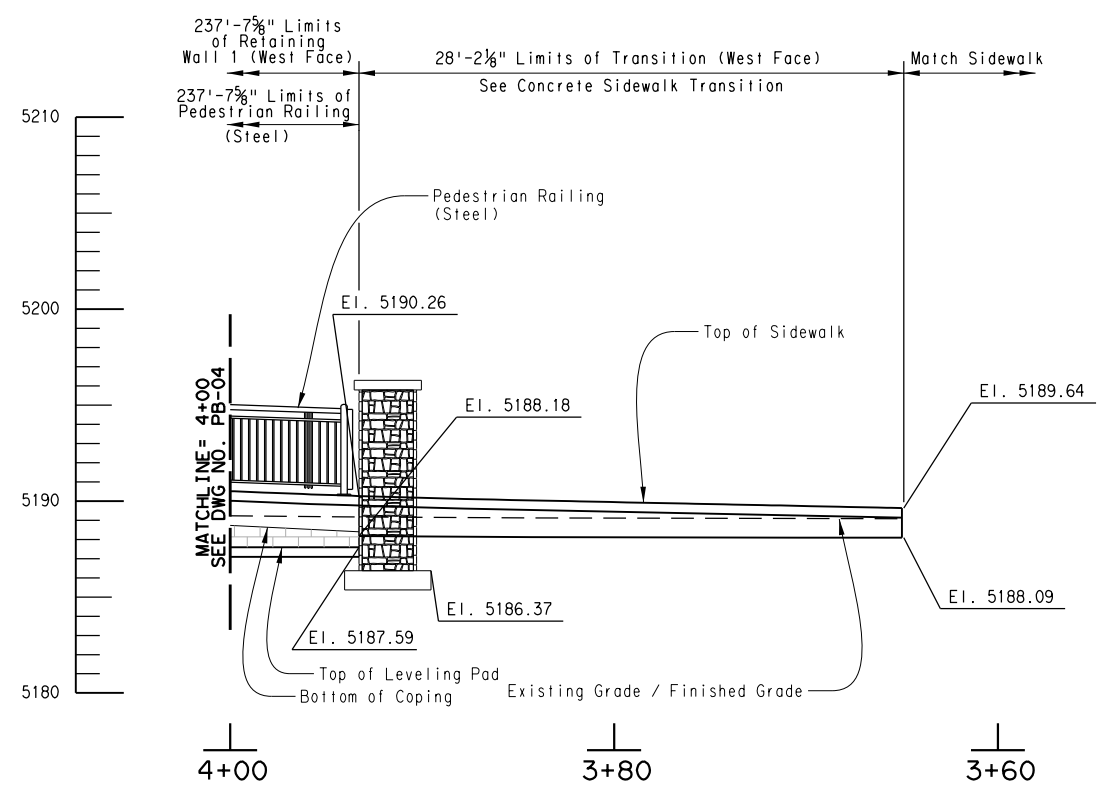
PLAN



CONCRETE SIDEWALK TRANSITION

NOTES:

1. Sidewalk Transition section is quantified and paid for as Item 601 Concrete Class D (Wall) and Item 602 Reinforcing Steel (Epoxy-Coated).
2. Concrete side transition shall have a transverse broom finish.
3. Provide sidewalk control joints per City of Denver standards.



ELEVATION

(Taken at West Face of Retaining Wall 1)

Station	Top of Wall
6+31.03	5201.41
6+20.00	5201.28
6+00.00	5200.48
5+80.00	5199.48
5+60.00	5198.52
5+40.00	5197.58
5+20.00	5196.57
5+00.00	5195.51
4+80.00	5194.48
4+60.00	5193.48
4+40.00	5192.48
4+20.00	5191.48
4+00.00	5190.51
3+93.39	5190.26
3+80.00	5189.94
3+65.11	5189.64

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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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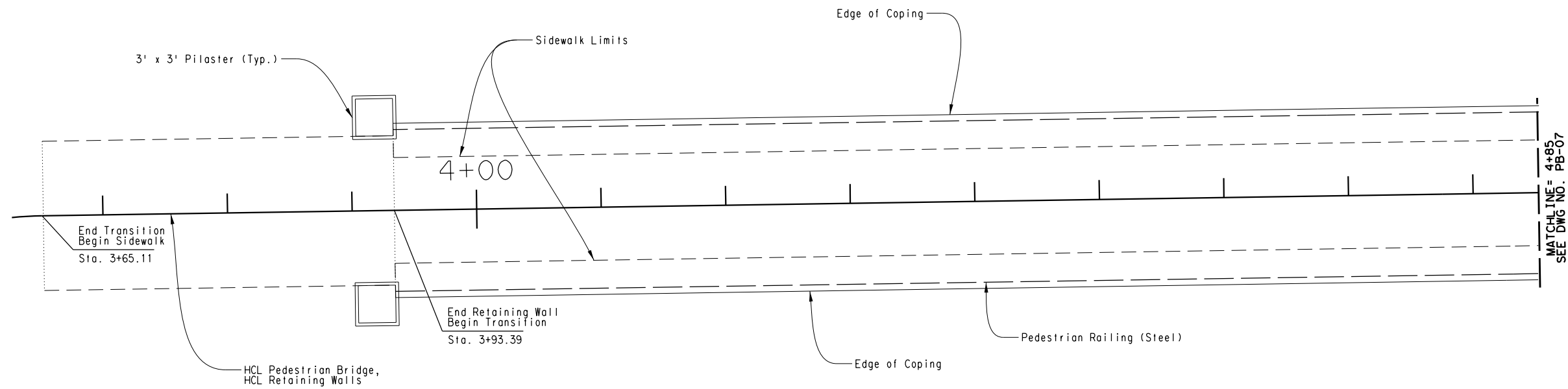


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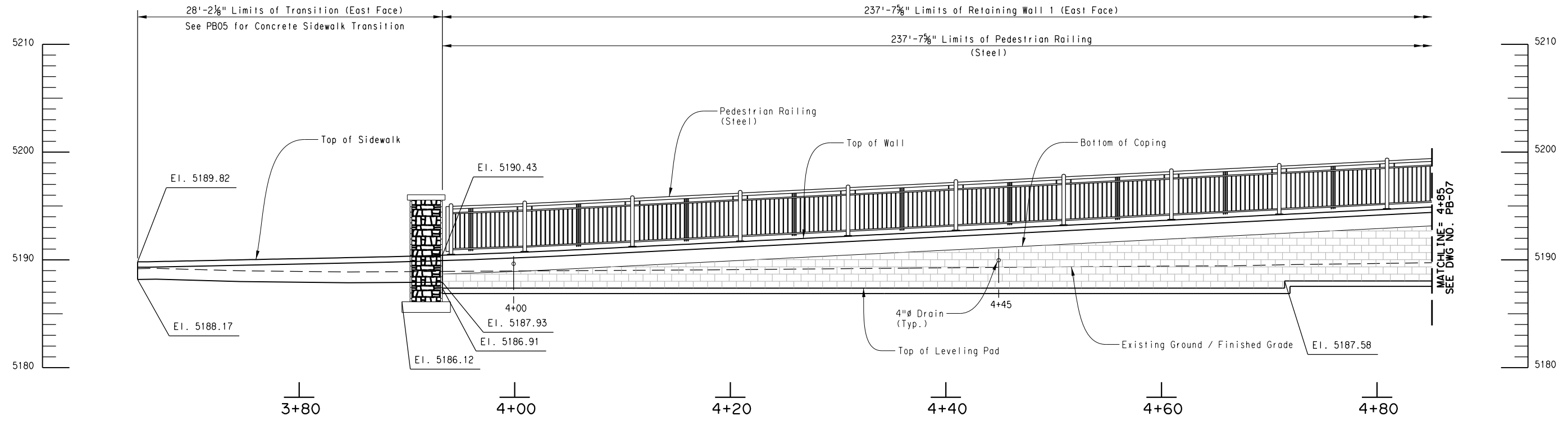
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RETAINING WALL 1 PLAN & PROFILE (3 of 6)	
RETAINING WALL 1 (WEST) - STA. 3+65 TO STA. 4+00	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB05 OF PB19

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	34

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PLAN



ELEVATION

(Taken at East Face of Retaining Wall 1)

COMPUTER FILE INFORMATION	
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LAST MODIFICATION DATE: 9/9/2011	INITIALS:
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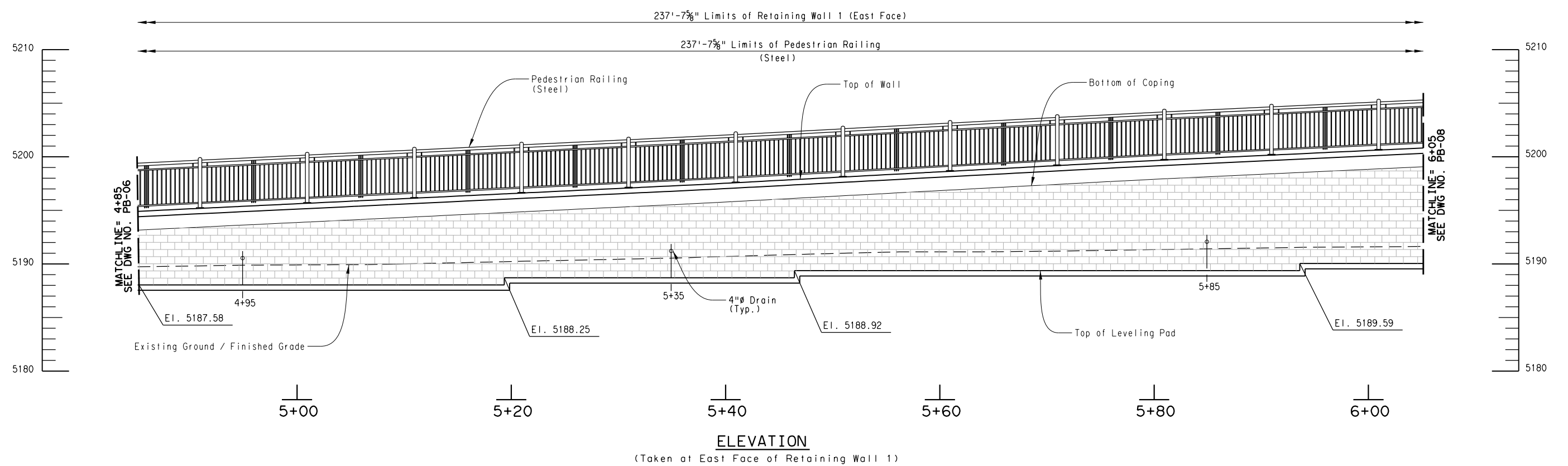
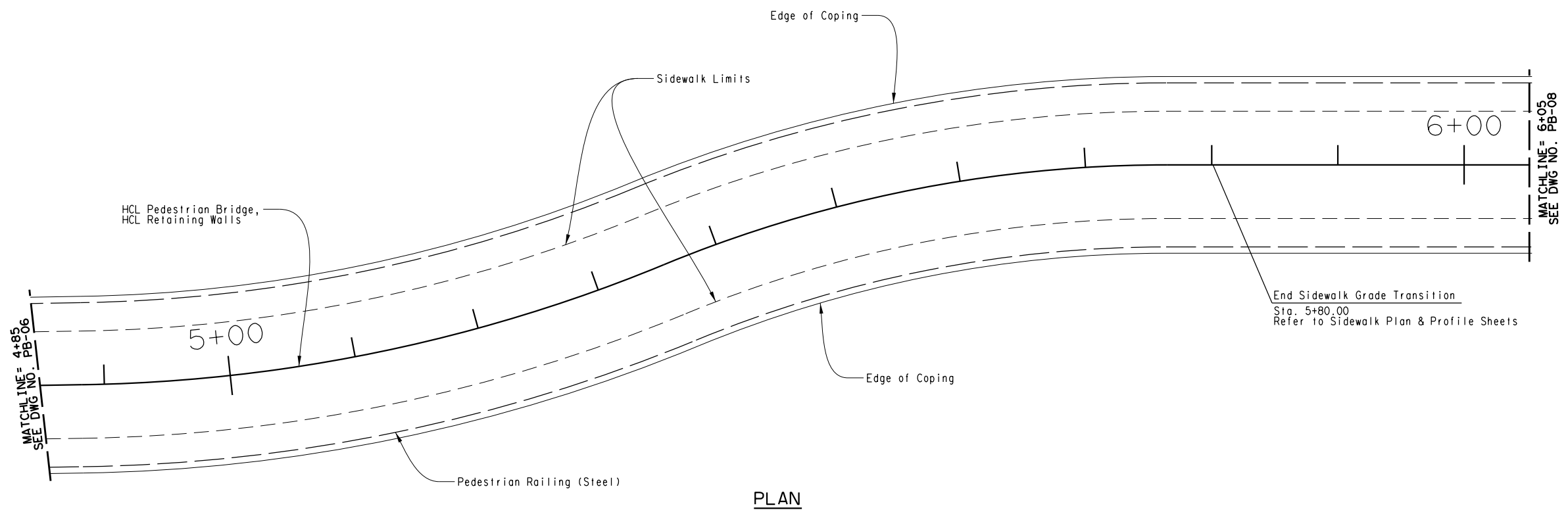


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RETAINING WALL 1 PLAN & PROFILE (4 of 6)	
RETAINING WALL 1 (EAST) - STA. 3+65 TO STA. 4+85	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB06 OF PB19

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 35

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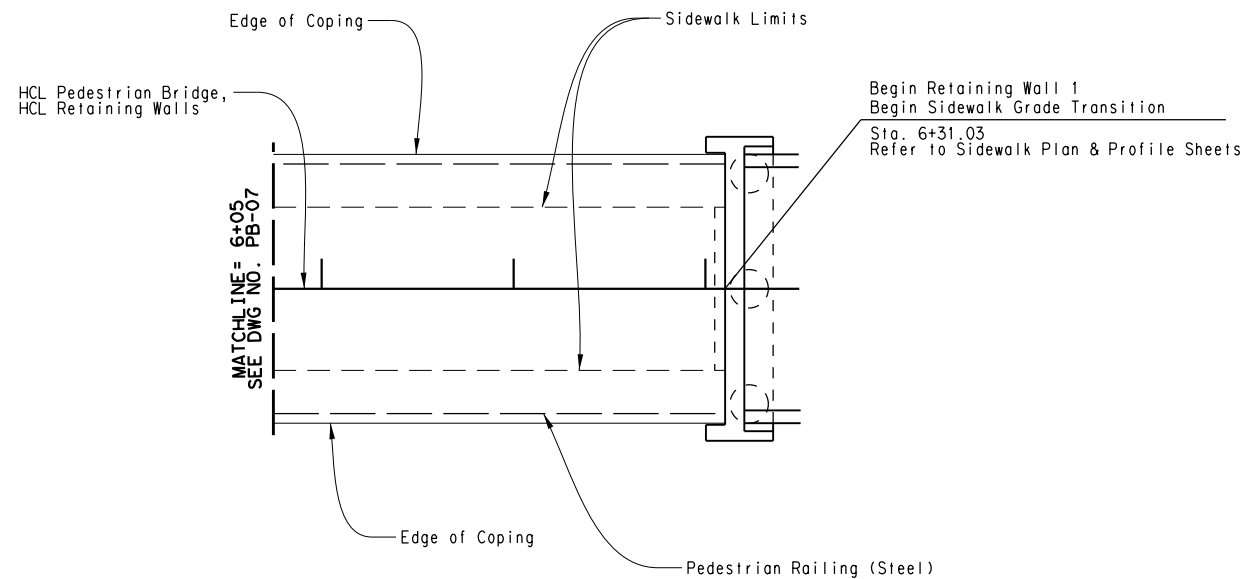


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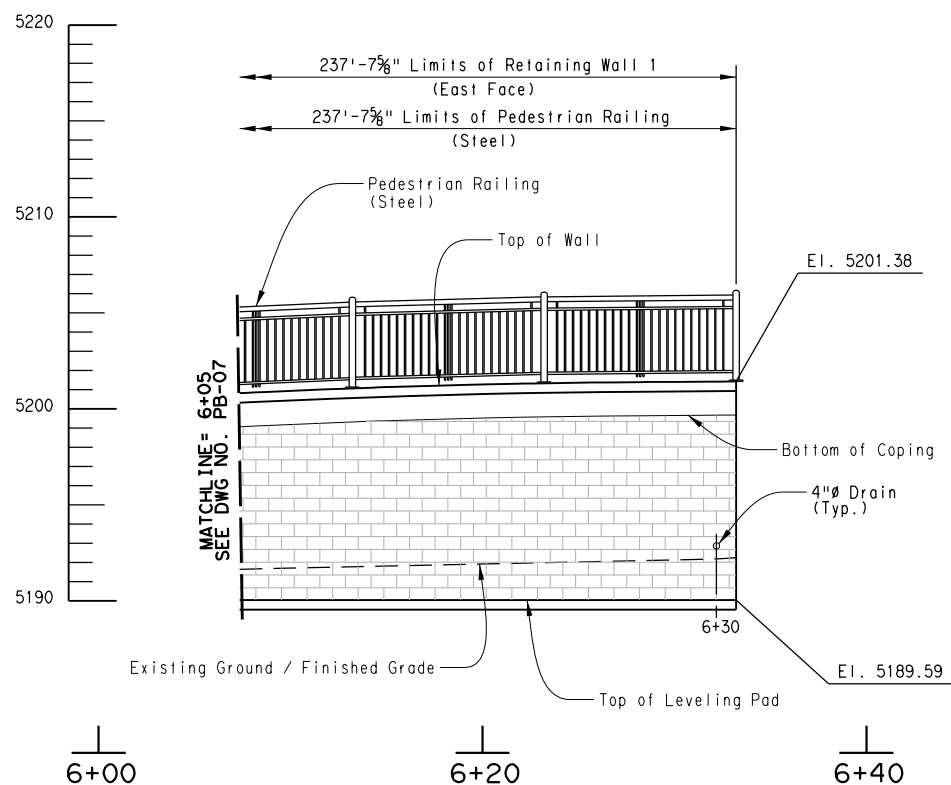
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RETAINING WALL 1 (EAST) - STA. 4+85 TO STA. 6+05	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB07 OF PB19

PROJECT NO./CODE
AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 36

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PLAN



Station	Top of Wall
6+31.03	5201.43
6+20.00	5201.32
6+00.00	5200.58
5+80.00	5199.65
5+60.00	5198.59
5+40.00	5197.53
5+20.00	5196.57
5+00.00	5195.61
4+80.00	5194.64
4+60.00	5193.64
4+40.00	5192.64
4+20.00	5191.64
4+00.00	5190.67
3+93.39	5190.43
3+80.00	5190.11
3+65.11	5189.82

ELEVATION

(Taken at East Face of Retaining Wall 1)

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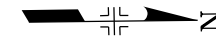
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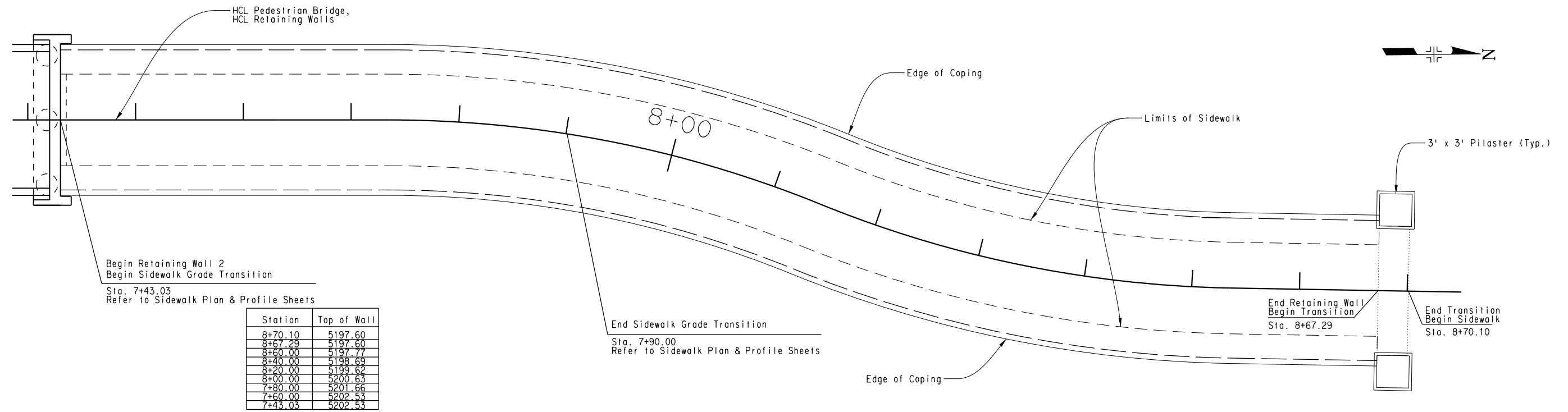
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RETAINING WALL 1 PLAN & PROFILE (6 of 6)	
RETAINING WALL 1 (EAST) - STA. 6+05 TO STA. 6+31	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB08 OF PB19

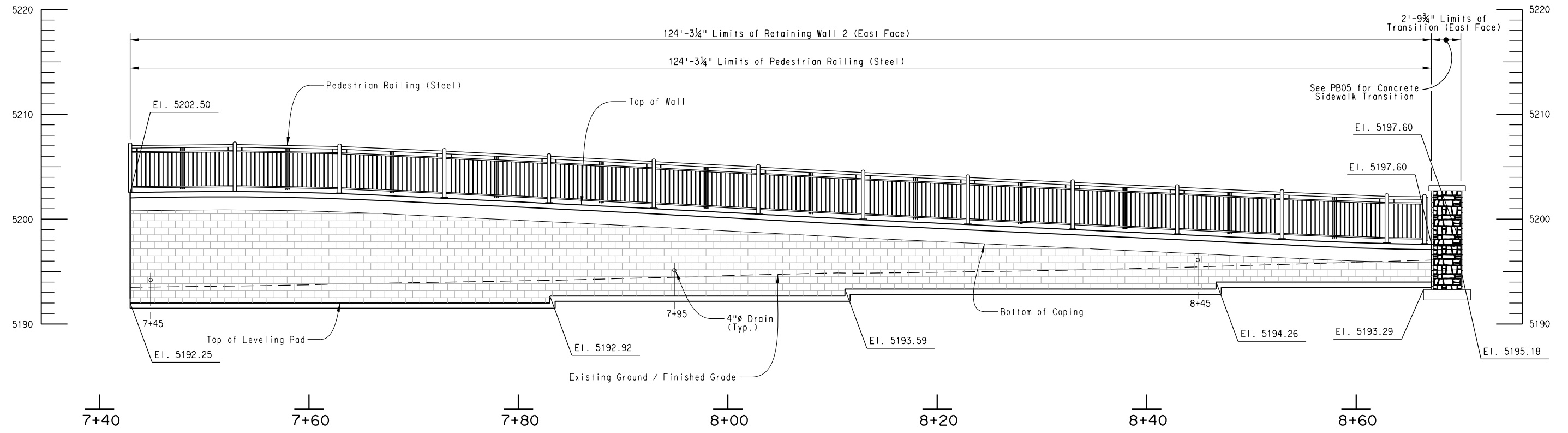
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SHEET NUMBER	37



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PLAN



ELEVATION

(Taken at East Face of Retaining Wall 2)

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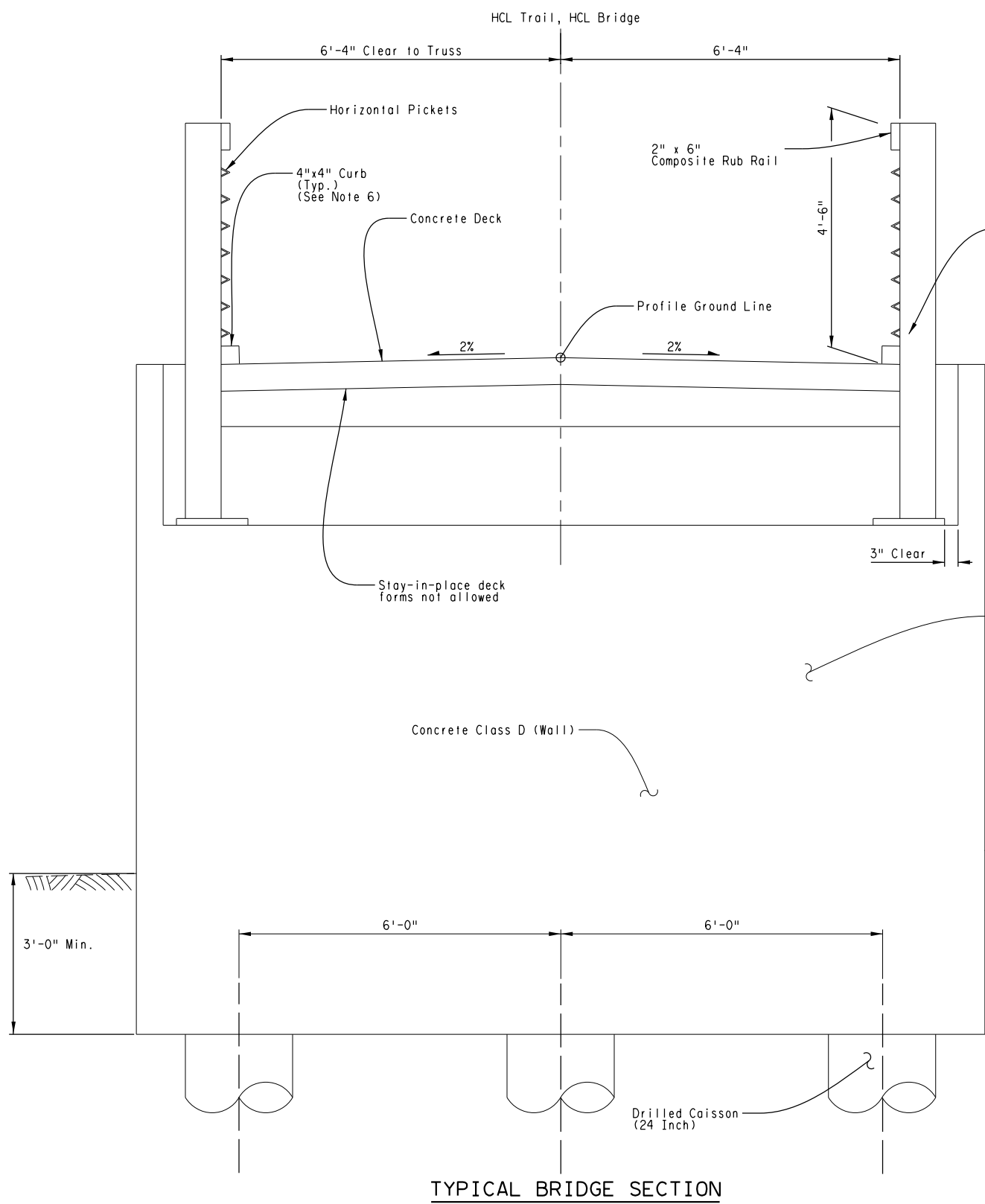


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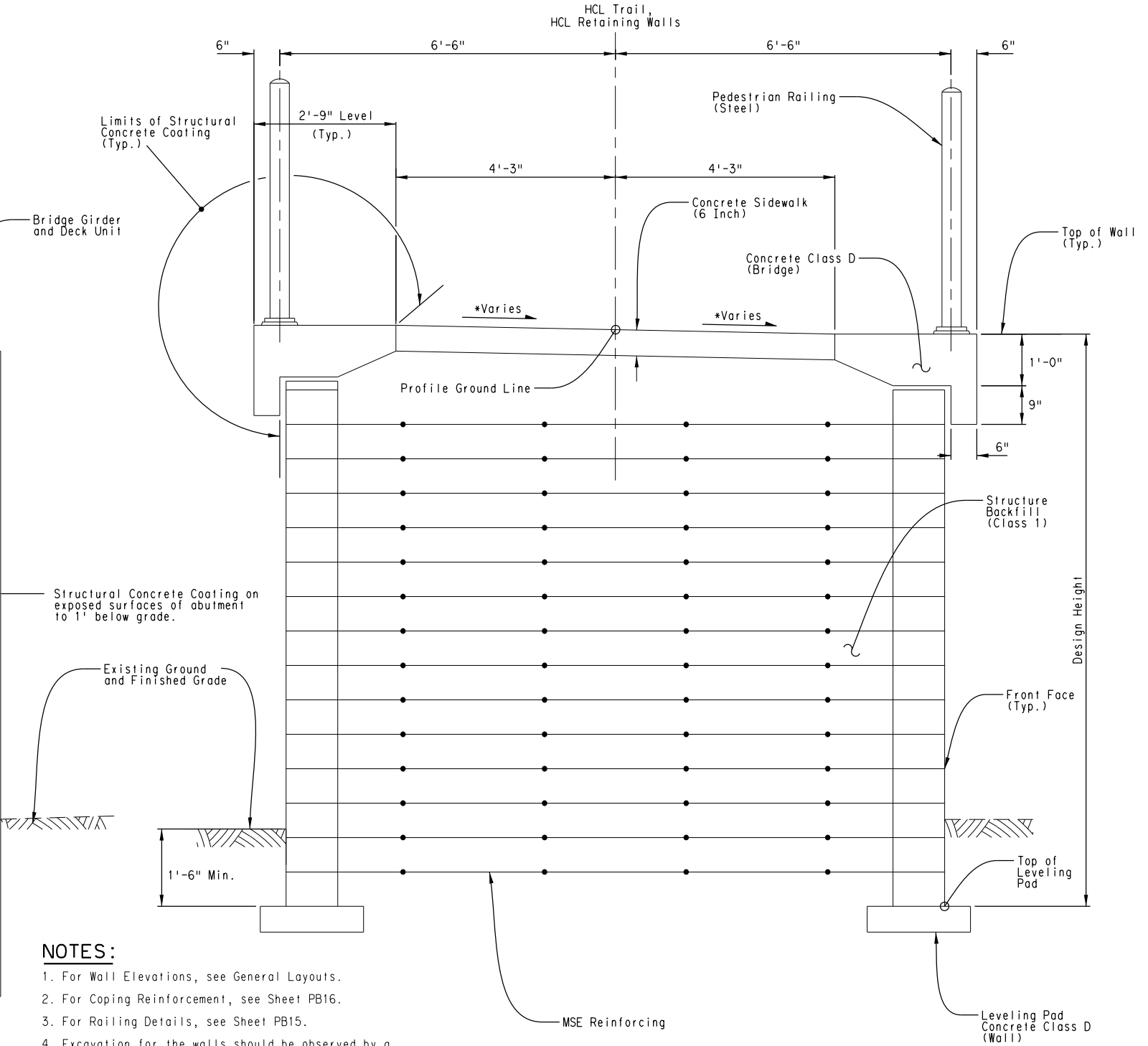
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RETAINING WALL 2 (EAST) - STA. 7+43 TO STA. 8+70	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB10 OF PB19

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	39

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TYPICAL BRIDGE SECTION



TYPICAL RETAINING WALL SECTION

NOTES:

1. For Wall Elevations, see General Layouts.
2. For Coping Reinforcement, see Sheet PB16.
3. For Railing Details, see Sheet PB15.
4. Excavation for the walls should be observed by a representative of the Engineer. Some material below footing level may need to be removed and recompacted at the Engineer's direction.
5. All Block for Mechanically Stabilized Earth Wall shall have a fractured face as approved by the Engineer. The color shall be chosen during construction.
6. 4"x4" curb replaces steel toe plate.

* Match 2% bridge cross slope at Back Face of Abutment

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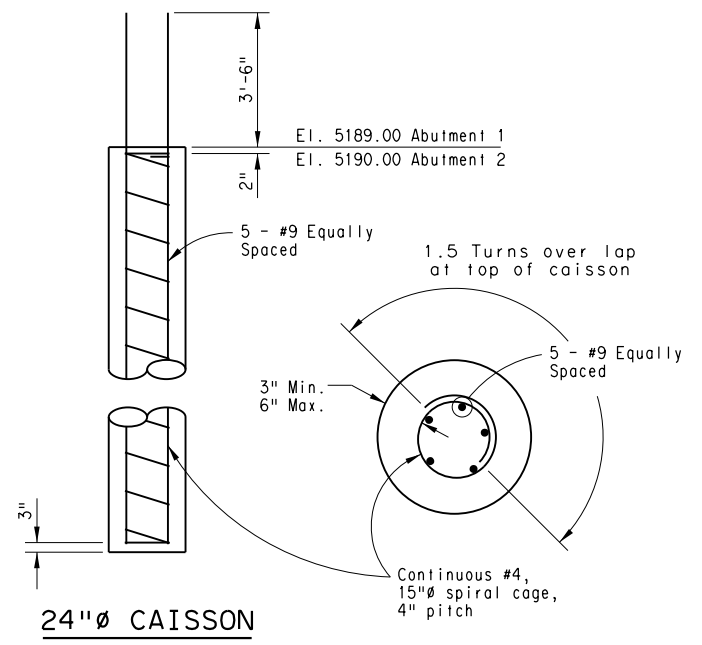
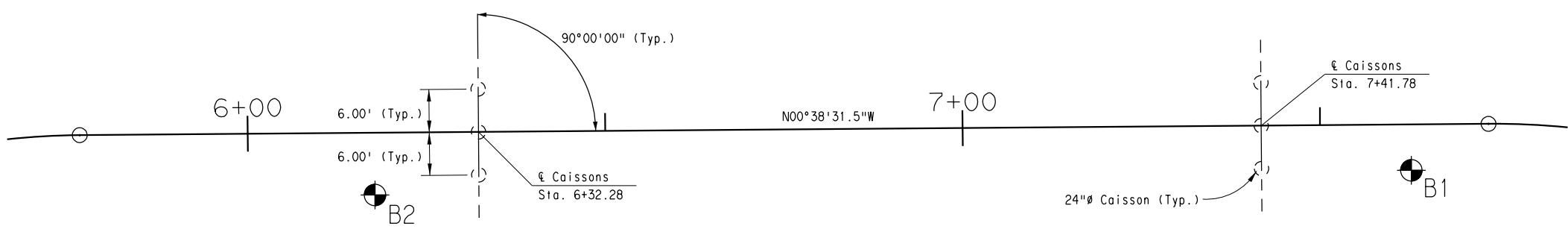
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INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
TYPICAL SECTIONS	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB11 OF PB19

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	40

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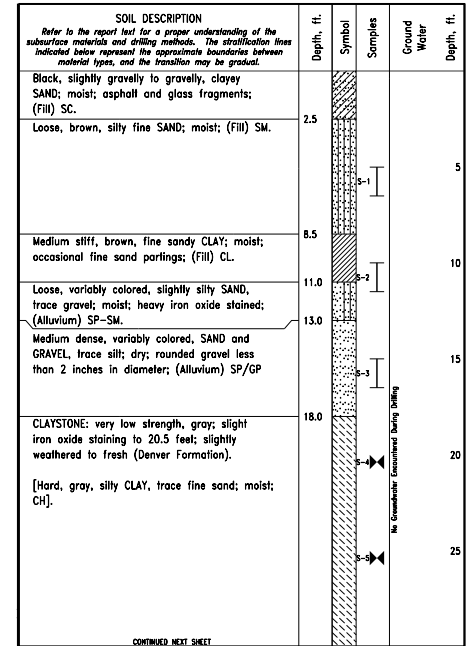


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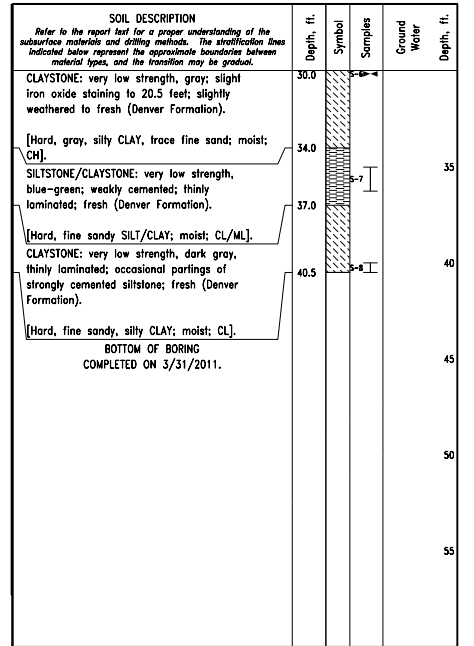
1. Casing will be required to support the soils overlying the bedrock during excavation of the drilled shafts. Dewatering may also be required. This work will not be measured and paid for separately.
2. Minimum caisson embedment into bedrock shall be 10'.
3. Represents approximate locations of Geotechnical Borings.

CAISSON LAYOUT

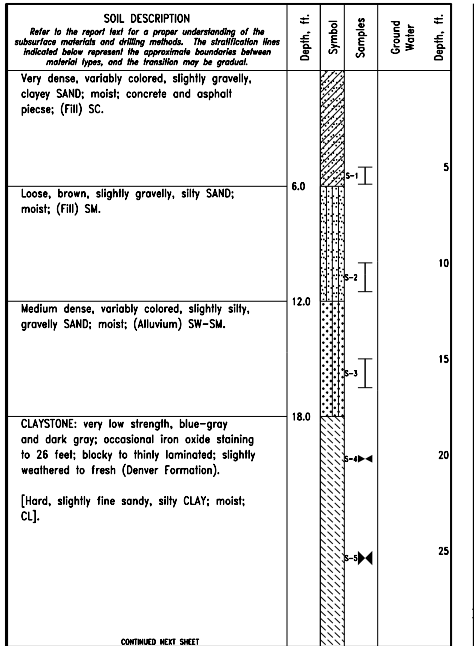
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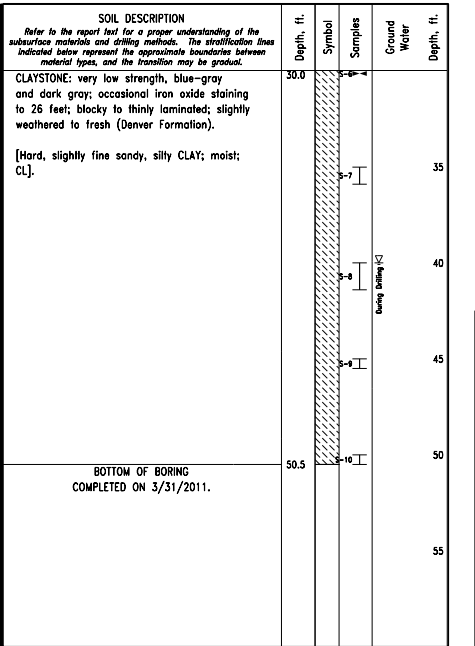
Boring 1
(Sheet 2 of 2)



Boring 2
(Sheet 1 of 2)



Boring 2
(Sheet 2 of 2)



Location	Max. Load (Unfactored) (kips)	Max. Load (Factored) (kips)	Top of Est. Competent Bedrock Elev.	Est. Caisson Tip Elev.
South Abutment 1	81	118	5173.5	5163.5
North Abutment 2	81	118	5175.5	5165.5

LEGEND		NOTES	
* Sample Not Recovered		1. Refer to Figures A-1 and A-2 for explanation of symbols, codes, abbreviations and definitions.	
Standard Penetration Test		2. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.	
Modified California Sampler		3. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.	
		4. Groundwater level, if indicated above, is for the date specified and may vary.	
		5. USCS designation is based on visual-manual classification and selected lab testing.	
SHANNON & WILSON, INC. Geotechnical and Environmental Consultants		Project No. 23-1-01266-001	

CREATION DATE:	INITIALS:	<input type="text"/>
LAST MODIFICATION DATE: 9/9/2011	INITIALS:	<input type="text"/>
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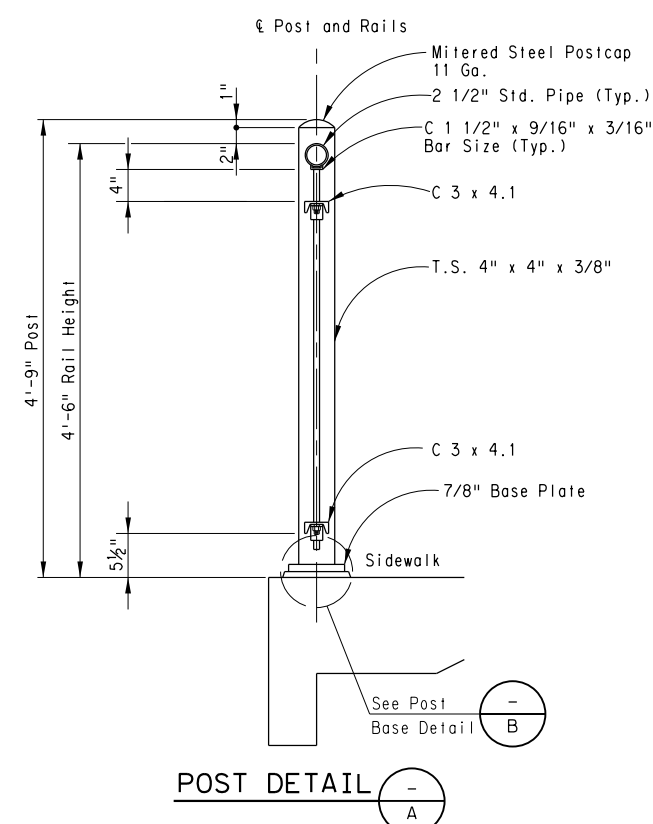
AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
CAISSON LAYOUT	
DESIGNER: H. REED	CHECKER: L. FELZIEN
DETAILER: H. REED	SUBSET SHEETS: PB13 OF PB19

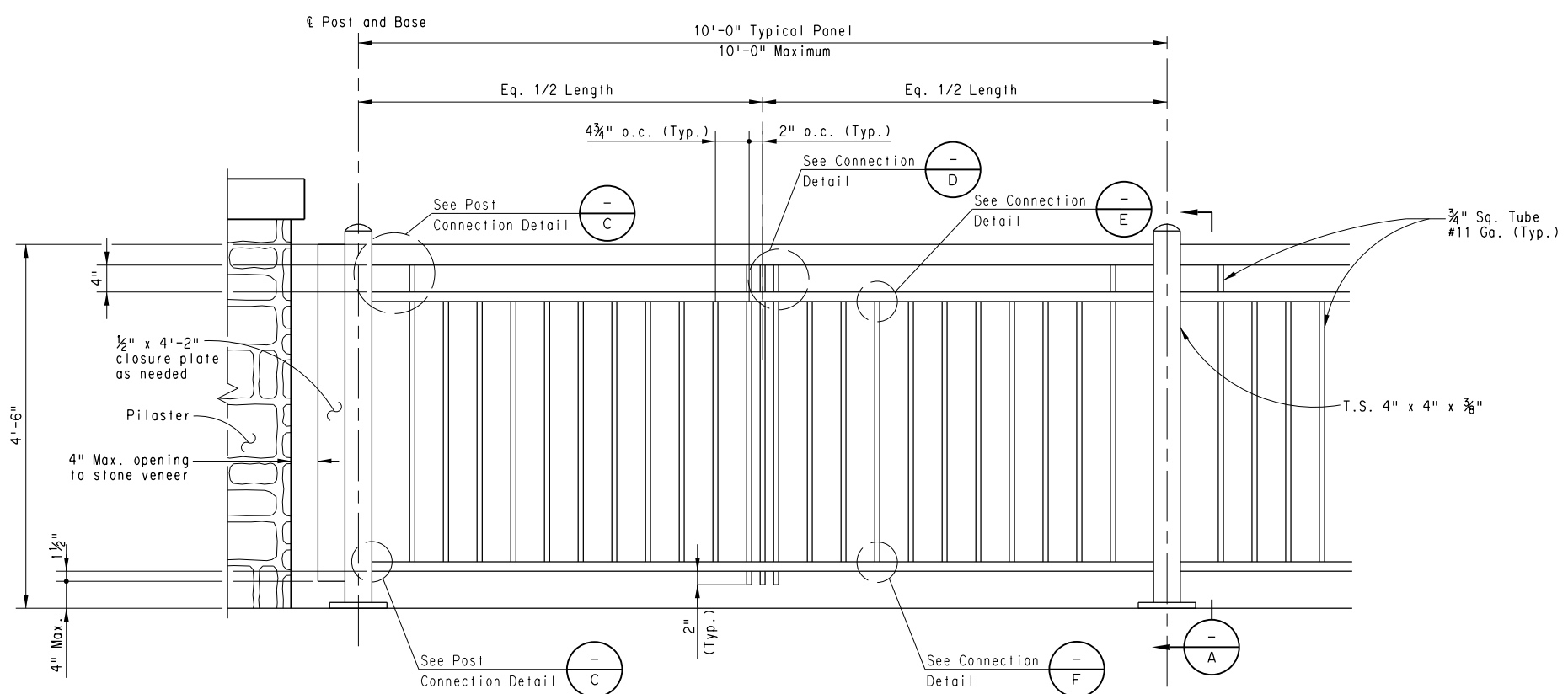
PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	42

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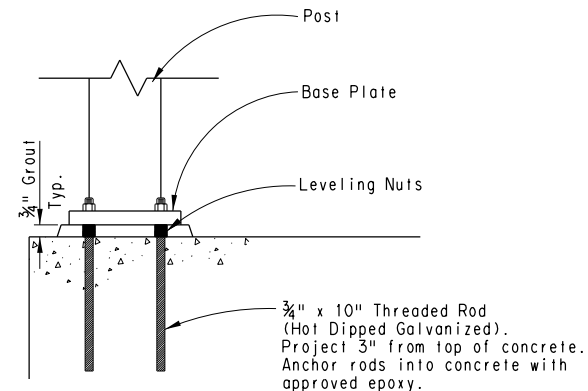
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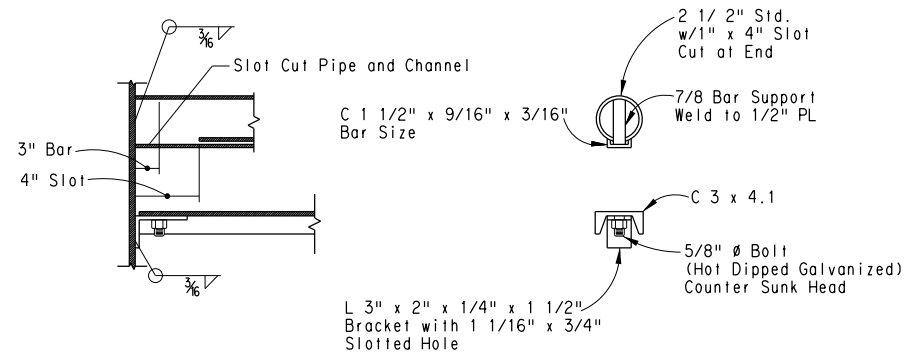
POST DETAIL (A)



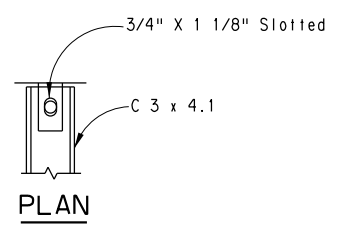
TYPICAL RAILING ELEVATION



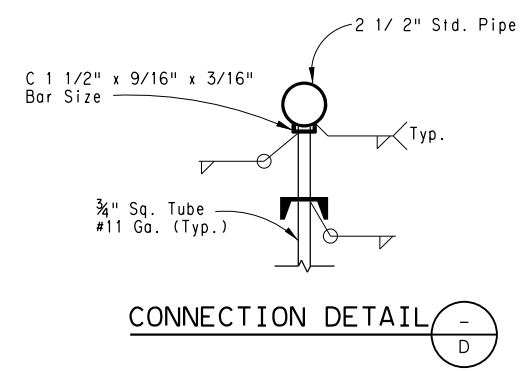
POST BASE DETAIL (B)



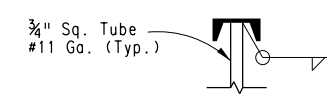
CONNECTION DETAIL (C)



PLAN



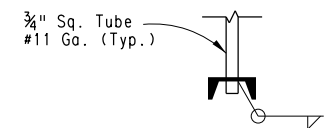
CONNECTION DETAIL (D)



CONNECTION DETAIL (E)

NOTES:

1. All steel railing shall be painted in accordance with Revision of Section 514.
2. All visible welds are to be ground smooth.
3. All steel cuts shall be deburred and ground clean of all sharp edges.
4. Once installed, field touch up and paint any marks, scratches, marred or unpainted areas, fasteners, weld marks/beads. Apply paint and primer as necessary as per manufacturer requirements.
5. All rail connection bolts, anchor bolts, and hardware shall be hot dipped galvanized.
6. Rail posts shall be constructed plumb.



CONNECTION DETAIL (F)

COMPUTER FILE INFORMATION		SHEET REVISIONS		 City & County of Denver	 HARTWIG & Associates, Inc.	AS CONSTRUCTED		INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS		PROJECT NO./CODE			
CREATION DATE:	09/05/2007	INITIALS:	REH			NO REVISIONS:				RAILING DETAILS		AQC M320-067	
LAST MODIFICATION DATE:	9/9/2011	INITIALS:	REH			REVISED:		DESIGNER: H. REED		CHECKER: B. MARCATO		17903	
FILE:	PB15*Inca Ped Bridge*Railing Details.dgn					VOID:		DETAILER: H. REED		SUBSET SHEETS: PB15 OF PB19		PILAR 2011-0285-01	
SCALE:	2.0000' / in.					UNITS:		ENGLISH		SHEET NUMBER		44	

9/9/2011 9:20:27 AM User: unittled P:\0CCD\Inca Pedestrian Bridge\Civil\Sheets\PB17*Inca Ped Bridge*MSE 2.dgn PEN TABLE: S:\081*WorkSpace\System\plc\fig\081*11x17*pdf.plc\fig

GENERAL NOTES

The required LTDS for different reinforcement layer depth (Z) is determined with the following equations, using the values as depicted in the loading diagram.

$$\sigma_v = (Z - 1.0)\gamma_{soil} + 1.0 (\gamma_{conc}) + 2.0 (\gamma_{soil})$$

$$LTDS \geq (K \cdot \sigma_v + \text{Rail Impact})S/12$$

Where K = K_a for Geosynthetic reinforcement or K = K₀ to K_a for metallic reinforcement - see AASHTO fig. 5.8.4.1A

$$\text{Rail Impact} = [1 - (Z - 1)/14.1083] \cdot 202.57$$

Where 1.0 ≤ Z ≤ 14.1083

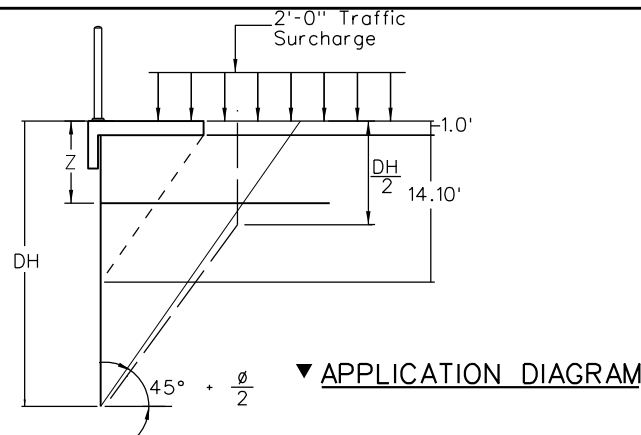
TABLE

*DESIGN PARAMETERS FOR WALL HEIGHTS FROM 2.67' TO 30.00'

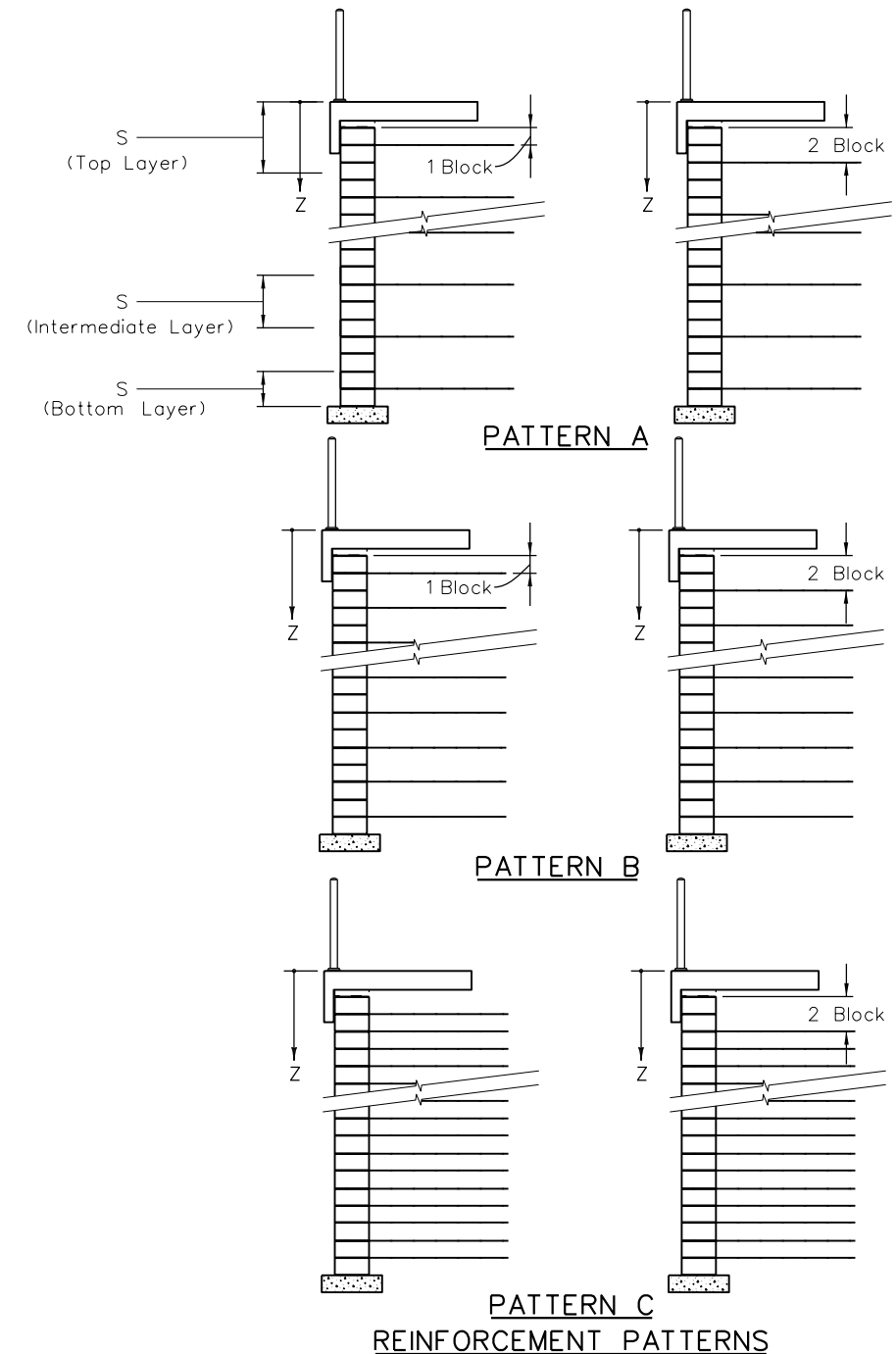
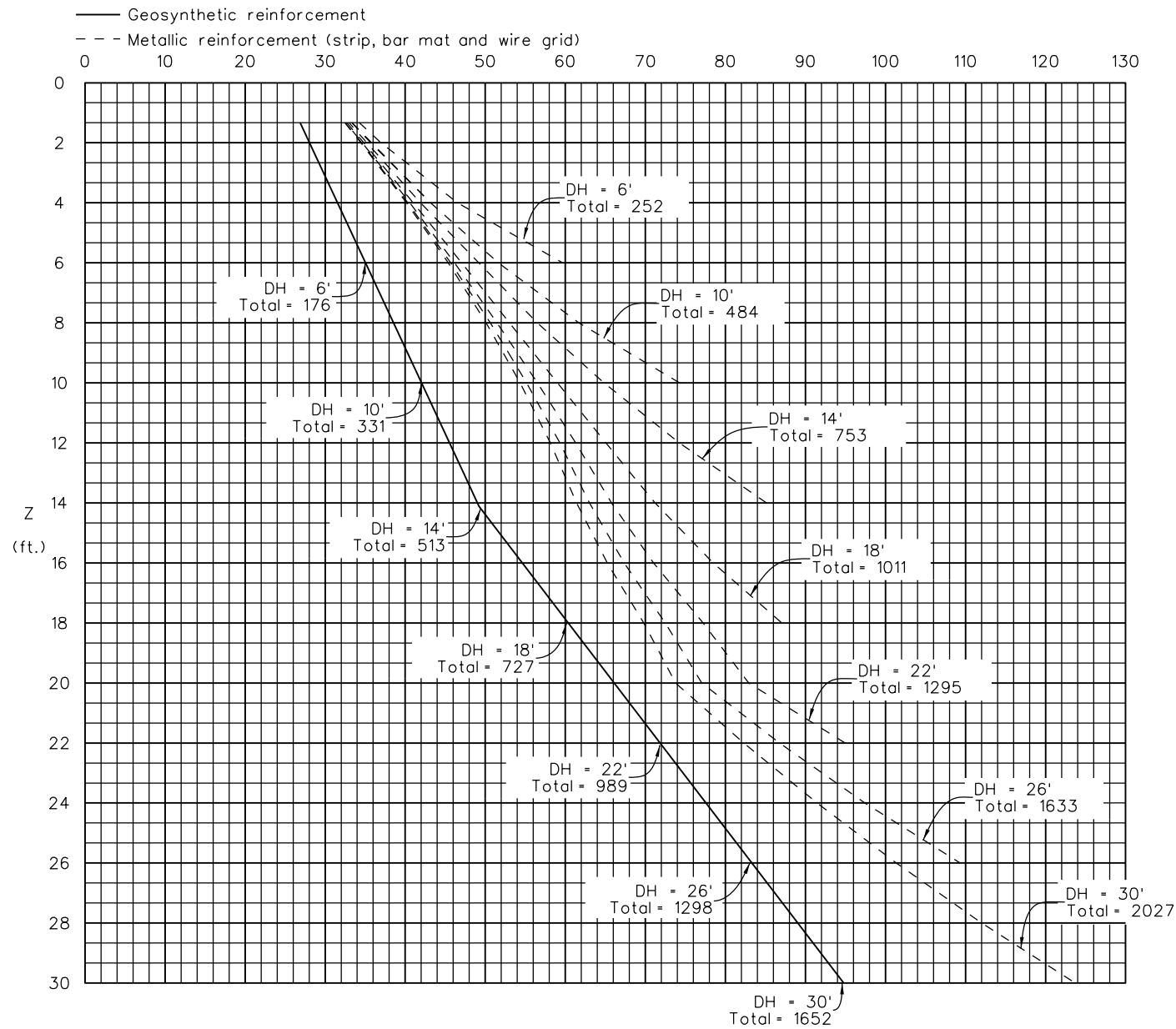
DH	NB	RL **	BP
2.67	2	6.00	0.61
3.33	3	6.00	0.72
4.00	4	6.00	0.83
4.67	5	6.00	0.96
5.33	6	6.00	1.09
6.00	7	6.00	1.23
6.67	8	6.67	1.28
7.33	9	7.33	1.41
8.00	10	8.00	1.55
8.67	11	8.00	1.69
9.33	12	8.00	1.85
10.00	13	8.00	2.02
10.67	14	8.00	2.20
11.33	15	8.00	2.40
12.00	16	8.40	2.52
12.67	17	8.87	2.64
13.33	18	9.33	2.75
14.00	19	9.80	2.87
14.67	20	10.27	2.98
15.33	21	10.73	3.09
16.00	22	11.20	3.21
16.67	23	11.67	3.32
17.33	24	12.13	3.43
18.00	25	12.60	3.54
18.67	26	13.07	3.66
19.33	27	13.53	3.77
20.00	28	14.00	3.88
20.67	29	14.47	3.99
21.33	30	14.93	4.11
22.00	31	15.40	4.22
22.67	32	15.87	4.33
23.33	33	16.33	4.44
24.00	34	16.80	4.55
24.67	35	17.27	4.67
25.33	36	17.73	4.78
26.00	37	18.20	4.89
26.67	38	18.67	5.00
27.33	39	19.13	5.12
28.00	40	19.60	5.23
28.67	41	20.07	5.34
29.33	42	20.53	5.45
30.00	43	21.00	5.56

* Based on a nominal block height of 8"

** See Project Special Provisions for minimum RL requirements.



LTDS (lb./in.) (See Note ③)



NOTES:

- ① For the installation of the Geomembrane, the reinforcement shall be started 2 blocks from the top of the wall when the wall top is stepped or when the wall height is greater than 10'-0".
- ② Spacing S for computation of LTDS is shown for Pattern A with the top layer starting 1 block down from the bottom of the rail anchor slab. Use similar logic to determine S for other reinforcement patterns.
- ③ Graph values must be multiplied by S in feet to obtain the required LTDS.

COMPUTER FILE INFORMATION

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SCALE: 2.0000' / in.	UNITS: ENGLISH	<input type="text"/>

SHEET REVISIONS



AS CONSTRUCTED

NO REVISIONS:	
REVISED:	
VOID:	

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS

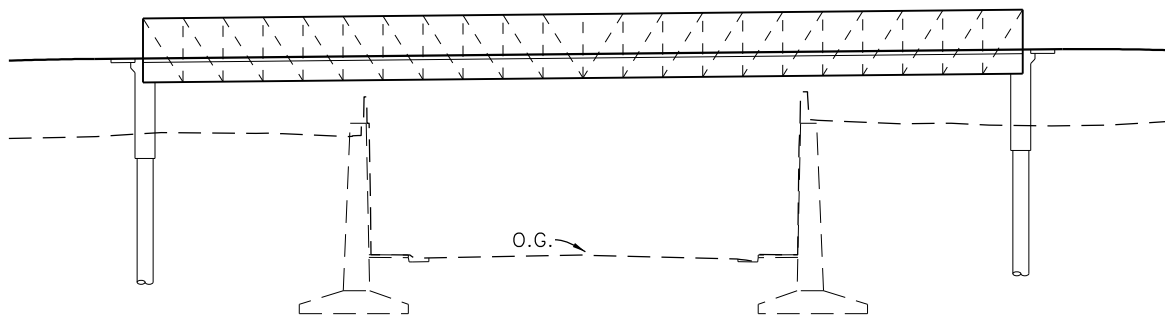
MSE WALL DETAILS
SHEET 2

DESIGNER: H. REED	CHECKER: L. FELZIEN
DETAILER: H. REED	SUBSET SHEETS: PB17 OF PB19

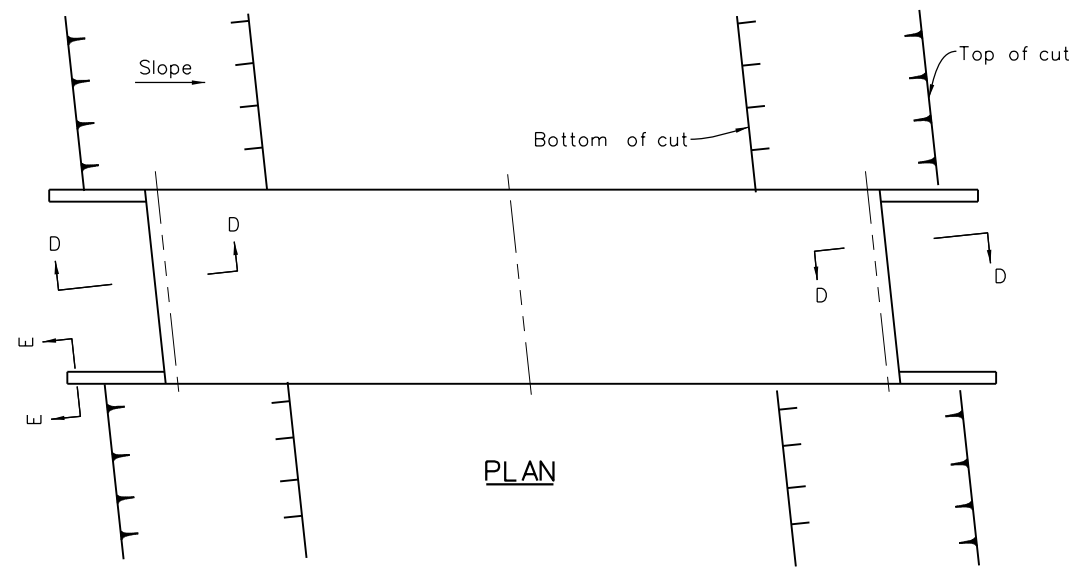
PROJECT NO./CODE

AQC M320-067
17903
PILAR 2011-0285-01
SHEET NUMBER 46

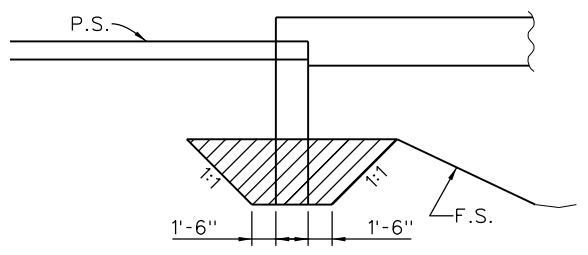
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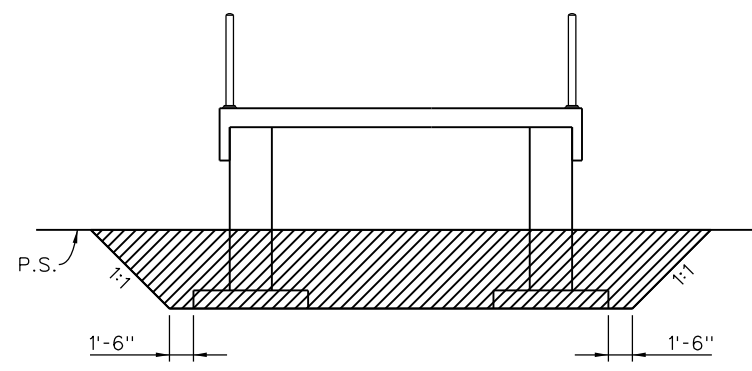
ELEVATION



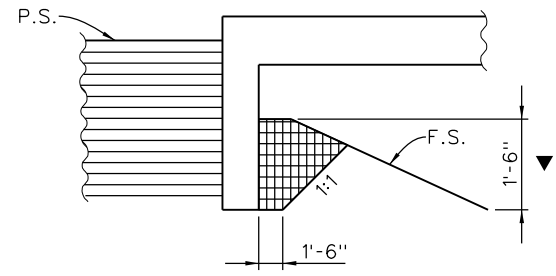
PLAN



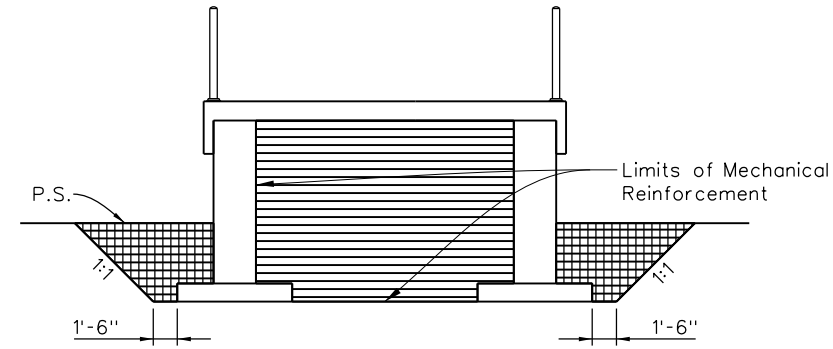
SECTION D-D (EXCAVATION)



SECTION E-E (EXCAVATION)



SECTION D-D (BACKFILL)



SECTION E-E (BACKFILL)

GENERAL NOTES

Unless shown otherwise in the plans, this drawing gives the minimum extent of Structure Excavation and Structure Backfill. The Contractor may elect to extend the Structure Excavation and Structure Backfill beyond the limits shown here. Any additional Excavation or Backfill beyond these limits will not be measured nor paid for.

Structure footings which are located in rock shall be poured out to undisturbed rock, without forming, in conformance with 601.09.

Structure Excavation for Slope Paving not shown.

★ For purposes of quantity calculations this template applies out to end of wingwall.

LEGEND

- Structure Excavation
- Structure Backfill (Class 1) with Mechanical Reinforcement of Soil, as shown elsewhere in the plans.
- Structure Backfill (Class 1)

ABBREVIATIONS

- O.G. Original Ground
- P.S. Plan Subgrade
- F.S. Plan Finished Surface

- * = Minimum berm dimension.
- ▼ = Minimum embedment, of abut., in Structure Backfill.

COMPUTER FILE INFORMATION	
CREATION DATE:	INITIALS:
LAST MODIFICATION DATE: 9/9/2011	INITIALS:
FILE: PB19*Inca Ped Bridge*Earthwork Details.dgn	
SCALE: 2.0000' / in.	UNITS: ENGLISH

SHEET REVISIONS	

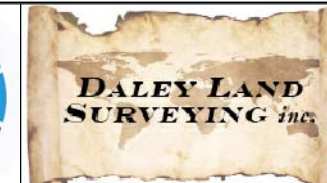


AS CONSTRUCTED
NO REVISIONS:
REVISED:
VOID:

INCA STREET BIKE/PEDESTRIAN BRIDGE OVER 38TH AVENUE UNDERPASS	
EARTHWORK DETAILS	
DESIGNER: H. REED	CHECKER: B. MARCATO
DETAILER: H. REED	SUBSET SHEETS: PB19 OF PB19

PROJECT NO./CODE	AQC M320-067
	17903
	PILAR 2011-0285-01
SHEET NUMBER	48

Sheet Revisions			Sheet Revisions		
Date mm/dd/yy	Description XXXXXXXX	Initials XXX	Date mm/dd/yy	Description XXXXXXXX	Initials XXX

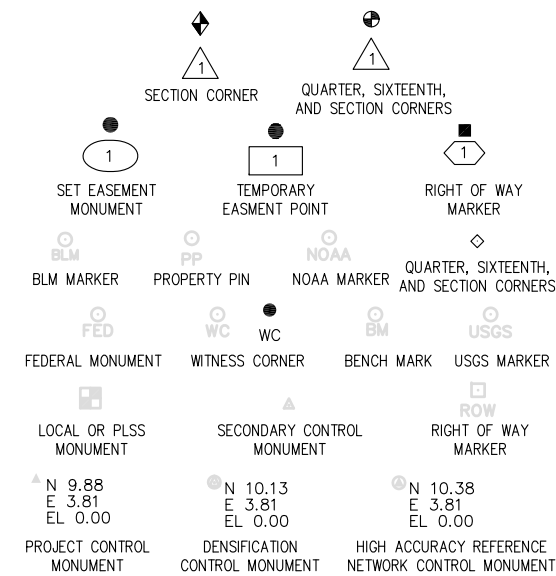


Right of Way Plans			
Title Sheet			
Project Number:	AQC M320-067		
Project Location:	Inca Street W. 37th Ave. to W. 39th Ave City & County of Denver		
Project Code:	Last Mod. Date	Sheet No.	
17903	6-18-2011	1.01	

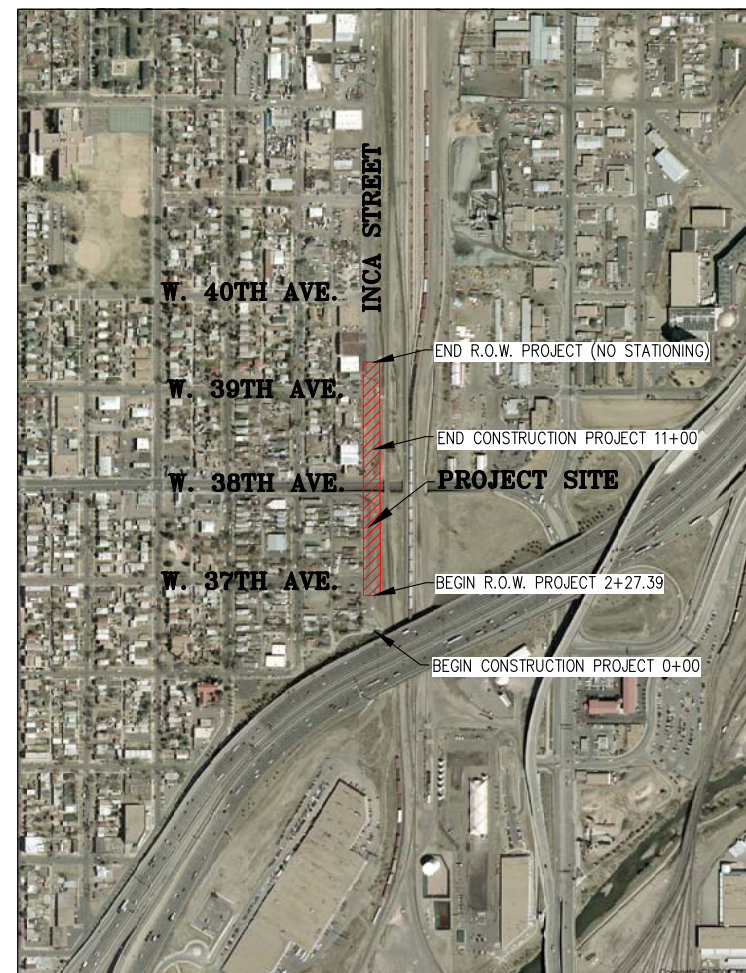
CITY AND COUNTY OF DENVER STATE OF COLORADO

RIGHT OF WAY PLANS OF PROPOSED FEDERAL AID PROJECT NO. AQC M320-067 INCA STREET - W. 37TH AVE. TO W. 39TH AVE.

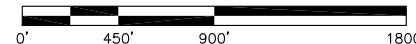
SHEET NO.	INDEX OF SHEETS
1.01	(1) Title Sheet
2.01-2.0X	(NA) Tabulation of Properties
3.01-3.0X	(NA) Project Control Diagram
4.01-4.07	(7) Land Survey Control Diagram
5.01-5.0X	(NA) Monumentation Sheets
6.01-6.0X	(NA) Tabulation of Road Approach Sheets
7.01-7.04	(4) Plan Sheets
8.01-8.04	(4) Ownership Map
<hr/>	
(16) Total Sheets	
Scales of Original 11x17 Drawings	
Plan Sheets 1"=50'	
Ownership Map 1"=50'	



R.O.W. Length of Project = 0.24± Miles
Const. Length of Project = 0.21± Miles



PROJECT LOCATION MAP



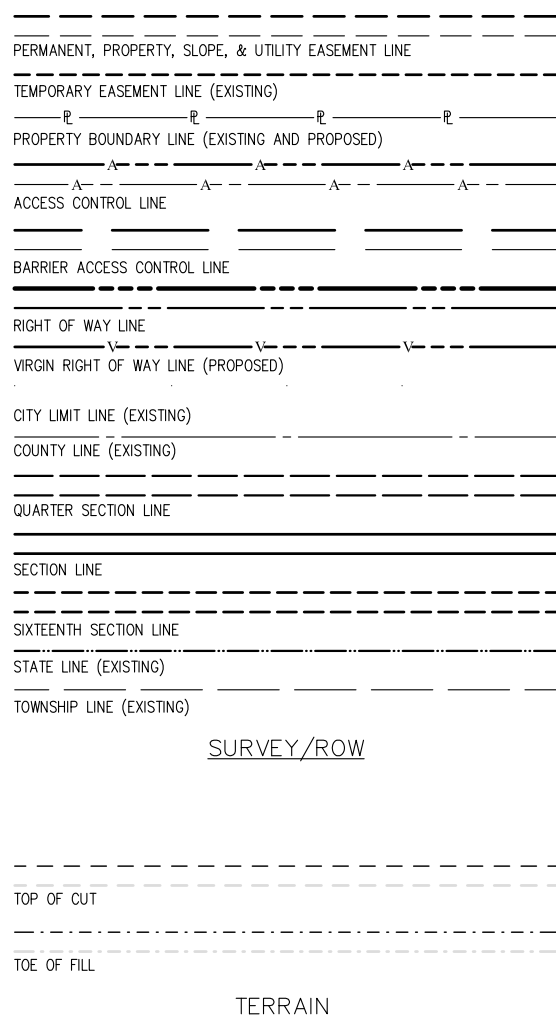
Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of the City and County of Denver Local Zone. The line between the Northeast corner of Section 28 and the North Quarter corner of Section 28 bears N89°51'04"W. The survey data was obtained from a Global Positioning System (GPS) survey.

1. This Right-of-Way Plan is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. No title information, was relied on in preparing this survey.
3. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.

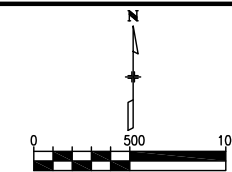
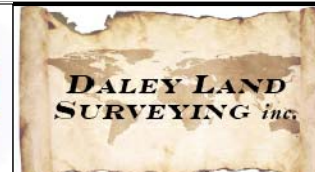
NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
AUTHORIZED: _____	DATE _____
DIVISION ADMINISTRATOR	

SURVEYOR STATEMENT (ROW PLAN)	
<p><i>I, _____, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation that based upon my knowledge, information and belief, research, calculations and evaluation of the survey evidence were performed and this Right-of-Way Plan was prepared under my responsible charge in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.</i></p>	
PLS No. 35597	



Note: For a complete listing of symbology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale), except as noted with the word (existing). Proposed or new features are shown as full weight without screening, except as noted with the word (proposed).



Project Number: AQC M320-067				
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.				
City & County of Denver				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.01 to 4.01	4.01	7

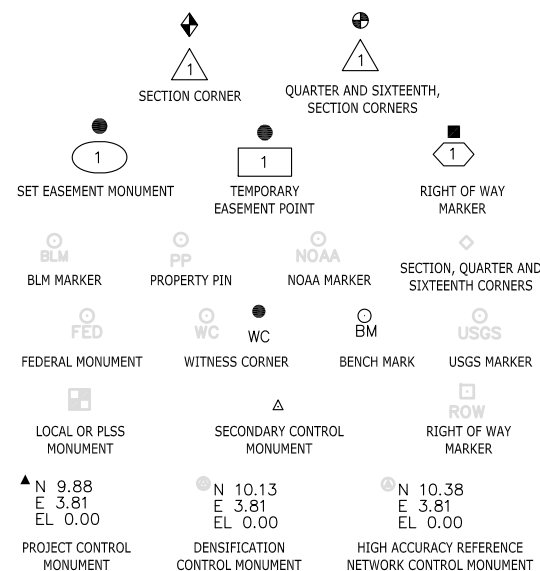
CITY AND COUNTY OF DENVER

STATE OF COLORADO

LAND SURVEY CONTROL DIAGRAM

Inca Street Bike/Pedestrian Bridge
Sections 21 and 28
Township 3 South, Range 68 West
of the 6th Principle Meridian
City and County of Denver

SHEET NO.	INDEX OF SHEETS
4.01	(1) Title Sheet
4.02-4.03	(2) Monument Coordinate Tables
4.04-4.07	(4) Plan Sheet
	(7) Total Sheets



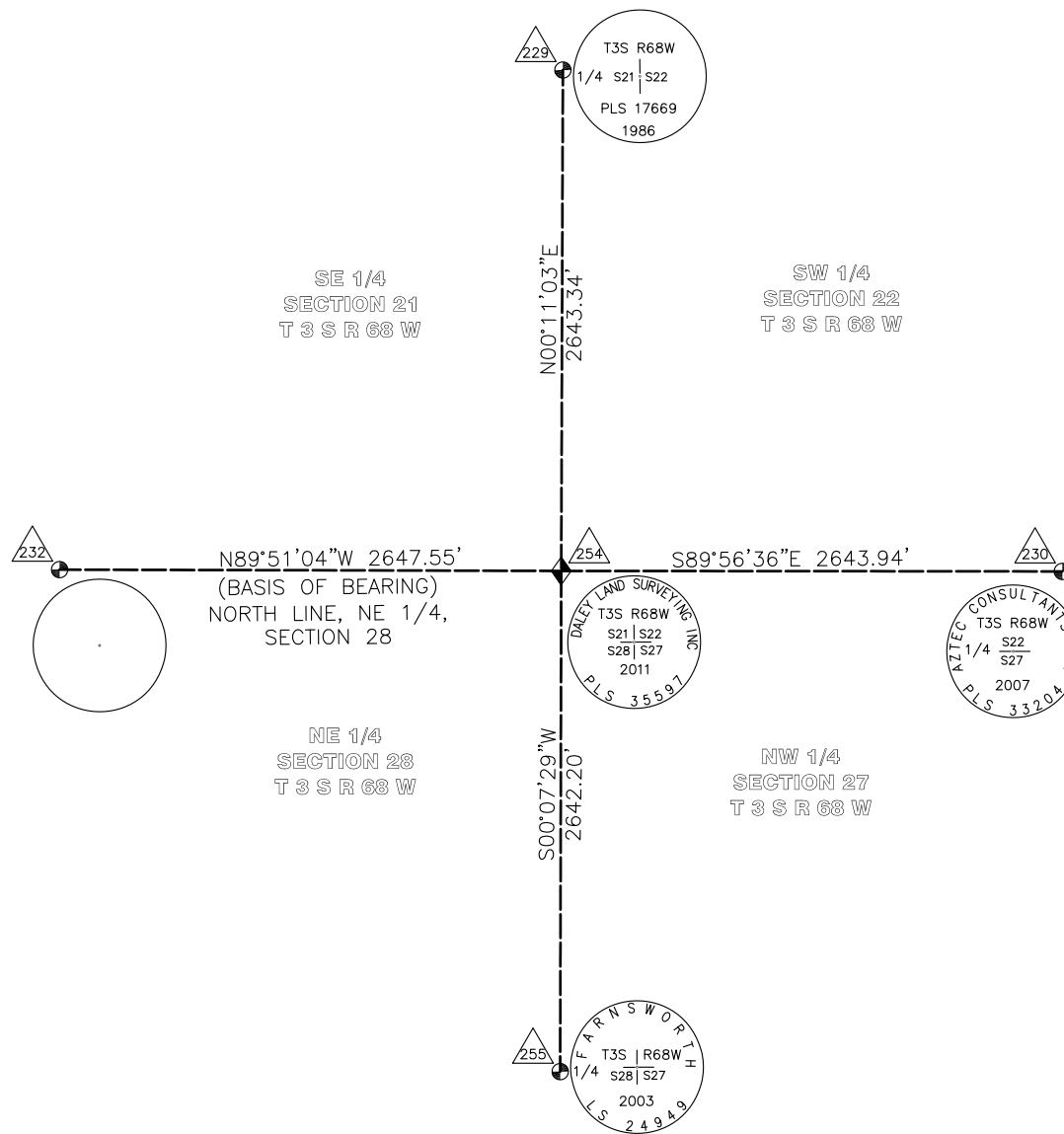
Note: For a complete listing of symbolology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.

General Notes:

1. This Land Survey Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation and City and County of Denver purposes only. No determination has been made to determine if the found monuments as shown are in their proper position or if they are at the corners they are intended to monument.
2. Title policy, title commitment, and title research are not part of this survey, therefore easements, rights, and restrictions of record were not researched and are not shown on this diagram. The verification of the physical evidence with relation to easements, rights of ways, property boundaries, and restrictions, as described in the instruments of record, were not included in this control survey.
3. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
4. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.

LEGEND

- ◆ INDICATES FOUND SECTION CORNER
- ⊕ INDICATES FOUND 1/4 OR 1/16 SECTION CORNER



Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of the City and County of Denver Local Zone. The line between the Northeast corner of Section 28 and the North Quarter corner of Section 28 bears N89°51'04"W. The survey data was obtained from a Global Positioning System (GPS) survey.

Basis of Elevations: This survey is referenced to the City and County of Denver Vertical Datum and originates from CCD Benchmark 496A, elevation: 5244.15. All City and County of Denver benchmarks are NAVD88 datum published elevations updated May, 2001.

COORDINATE DATUM: This survey is referenced to the City and County of Denver Horizontal Control Network which is referenced by the following CHARN Points:

POINT	NORTH	EAST
PENA	406215.62	630174.04
RUBY	373895.58	569215.59
CITY PARK	397395.64	587934.19

CCD Project Mapping Projection

Projection: User Defined Transverse Mercator
Zone: CCD Local
Central Point false Northing: 400,000.000
Central Point false Easting: 600,000.000
Latitude of Origin: N39°45'19.00000"
Central Meridian: W104°53'53.00000"
Zone Width: 6°00'00.0"
Scale Factor at Origin: 1.000254030
Units: US Survey Feet

SURVEYOR STATEMENT (LAND SURVEY CONTROL DIAGRAM):

I, ROBERT DALEY, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF COLORADO, DO HEREBY STATE TO THE CITY AND COUNTY OF DENVER AND THE COLORADO DEPARTMENT OF TRANSPORTATION THAT THIS LAND SURVEY CONTROL DIAGRAM WAS PREPARED AND THE FIELD SURVEY IT REPRESENTS WAS PERFORMED UNDER MY RESPONSIBLE CHARGE AND, BASED UPON MY KNOWLEDGE, INFORMATION AND BELIEF IT IS IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE DEFINED BY COLORADO DEPARTMENT OF TRANSPORTATION PUBLICATIONS. THIS STATEMENT IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

ROBERT DALEY PLS NO. 35597 _____ DATE _____

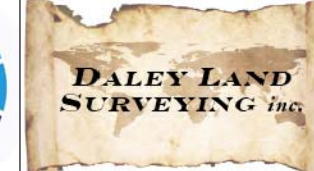
INDEXING STATEMENT

Deposited This _____ Day of _____, 2011, at _____ M., in Book _____ of the County Surveyor's Land Survey/ Right of Way Survey at Page(s) _____, Reception No. _____

County Surveyor / Deputy County Surveyor



NO.	DESCRIPTION



Project Number: AQC M320-067				
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.				
City & County of Denver				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.02-4.03	4.02	7

GEODETIC COORDINATES SUMMARY TABLE (ADJUSTED FIELD DATA U.S. FEET):

POINT NO.	GEODETIC COORDINATES - NAD 83 (2007)		ELLIPSOID HEIGHT (FT)	POINT NO.	PROJECT COORDINATES		NAVD 88 ELEVATION (FT)	DESCRIPTION
	LATITUDE	LONGITUDE			NORTHING (FT)	EASTING (FT)		
*1	39°45'48.48614"N	104°59'38.43782"W	5112.44	1	402998.80	573017.59	5168.59	SET #4 REBAR
101	39°46'04.71916"N	104°59'58.22224"W	5134.93	101	404643.49	571474.08	5191.02	SET MAG NAIL IN CONCRETE
102	39°46'04.98709"N	104°59'53.16133"W	5131.91	102	404670.16	571869.39	5188.02	SET #4 REBAR
103	39°46'08.88864"N	104°59'53.29660"W	5135.88	103	405065.06	571859.27	5191.99	SET #4 REBAR
104	39°46'09.07725"N	104°59'52.66848"W	5135.63	104	405084.09	571908.35	5191.75	SET #4 REBAR
106	39°46'11.09336"N	104°59'53.26759"W	5139.05	106	405288.20	571861.78	5195.16	SET #4 REBAR
107	39°46'13.65963"N	104°59'53.32612"W	5147.57	107	405547.94	571857.50	5203.69	SET #4 REBAR
108	39°46'13.96612"N	104°59'58.16434"W	5152.74	108	405579.39	571479.66	5208.84	SET MAG NAIL IN CONCRETE

*DENOTES CONTROL POINTS NOT SHOWN ON DIAGRAM

TABULATION OF FOUND ALIQUOT CORNERS (U.S. FEET):

POINT NO.	PROJECT COORDINATES		LOCATION	DESCRIPTION
	NORTHING	EASTING		
229	407758.60	572177.65	E 1/4 CORNER SECTION 21, T3S, R68W	FOUND 3.25" ALUMINUM CAP IN RANGE BOX STAMPED IN PART "PLS 17669 1986"
230	405112.66	574813.10	N 1/4 CORNER SECTION 27, T3S, R68W	FOUND 3.25" ALUMINUM CAP IN RANGE BOX STAMPED IN PART "PLS 33204 2007"
232	405122.16	569521.61	N 1/4 CORNER SECTION 28, T3S, R68W	FOUND #8 REBAR IN RANGE BOX
254	405115.28	572169.16	NE CORNER SECTION 28, T3S, R68W	FOUND #8, RESET 2.5" ALUMINUM CAP ON #6 REBAR STAMPED IN PART "PLS 35597 2011" IN RANGE BOX
255	402473.09	572163.41	E 1/4 CORNER SECTION 28, T3S, R68W	FOUND 3.25" ALUMINUM CAP IN RANGE BOX STAMPED IN PART "LS 24949 2003"



No.	Description



Land Survey Control Diagram				
Tabulation of Found Monuments				
Project Number: AQC M320-067				
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.				
City & County of Denver				
Project Code	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.02-4.03	4.03	7

TABULATION OF FOUND PROPERTY EVIDENCE (U.S. FEET):

POINT	NORTHING	EASTING	DESCRIPTION
201	404698.58	571197.64	FOUND CHISELED X
202	405077.26	571328.27	FOUND CHISELED X
203	405077.62	571198.35	FOUND CHISELED X
204	404901.18	571799.48	FOUND 1 1/4" YELLOW PLASTIC CAP
205	404681.36	571818.93	FOUND 3 1/4" ALUMINUM CAP STAMPED "COLO DEPT OF HIGHWAYS"
206	404698.22	571485.00	FOUND CHISELED X
207	405161.03	571472.77	FOUND CHISELED X
208	405206.98	571472.93	FOUND CHISELED X
209	405157.23	571343.74	FOUND 1 1/4" RED PLASTIC CAP STAMPED "LS 28660"
210	405157.68	571137.83	FOUND BRASS TAG ILLEGIBLE
211	405575.34	572419.70	FOUND 1" BAR IN RANGE BOX
212	405155.13	572219.32	FOUND # REBAR
216	405576.09	572220.77	FOUND CHISELED X
221	405531.76	571473.75	FOUND CHISELED X
222	405406.67	571530.29	FOUND CHISELED X
223	405536.56	571199.63	FOUND CHISELED X
224	405536.63	571142.69	FOUND CHISELED X
225	405593.69	571142.82	FOUND CHISELED X
226	406031.68	571474.89	FOUND CHISELED X
228	405056.65	571799.36	FOUND #4 REBAR
229	407758.60	572177.65	FOUND 3 1/4" ALUMINUM CAP STAMPED IN PART "LS 17669"
230	405112.66	574813.10	FOUND 3 1/4" ALUMINUM CAP STAMPED IN PART "LS 33204"
232	405122.16	569521.61	FOUND #8 REBAR
235	405535.77	571473.82	FOUND CHISELED X
236	404679.14	571846.94	FOUND CHISELED X
237	404679.14	571846.93	FOUND CHISELED X

TABULATION OF FOUND RANGE POINTS (U.S. FEET):

POINT	NORTHING	EASTING	DESCRIPTION
205	404681.36	571818.93	FOUND 3 1/4" ALUMINUM CAP STAMPED IN PART "CDOH (PARTIALLY ILLEGIBLE)"
243	405575.66	571821.14	FOUND 6 SIDED BAR
244	406032.61	571159.70	FOUND SQUARE ROD
250	406487.56	571160.99	FOUND AXLE
251	406486.42	571492.20	FOUND AXLE
252	406485.34	571823.20	FOUND PK NAIL
255	405576.73	571489.77	FOUND 6" SQUARE STONE
256	405137.83	571157.56	FOUND AXLE

TABULATION OF FOUND CITY AND COUNTY OF DENVER BENCHMARKS (U.S. FEET):

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
231	405071.63	569537.96	5244.15	CCD BM-496A 38TH & PECOS
233	405991.69	569539.54	5260.53	CCD BM-495 40TH & PECOS
234	404200.11	569537.42	5257.81	CCD BM-497 36TH & PECOS

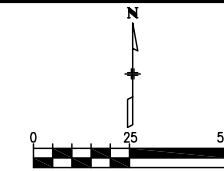


Region 6
2000 South Holly Street
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Phone: (303) 757-9923 FAX: (303) 757-9390
Right of Way Plans Unit: SLK

Sheet Revisions

No.	Description	Date

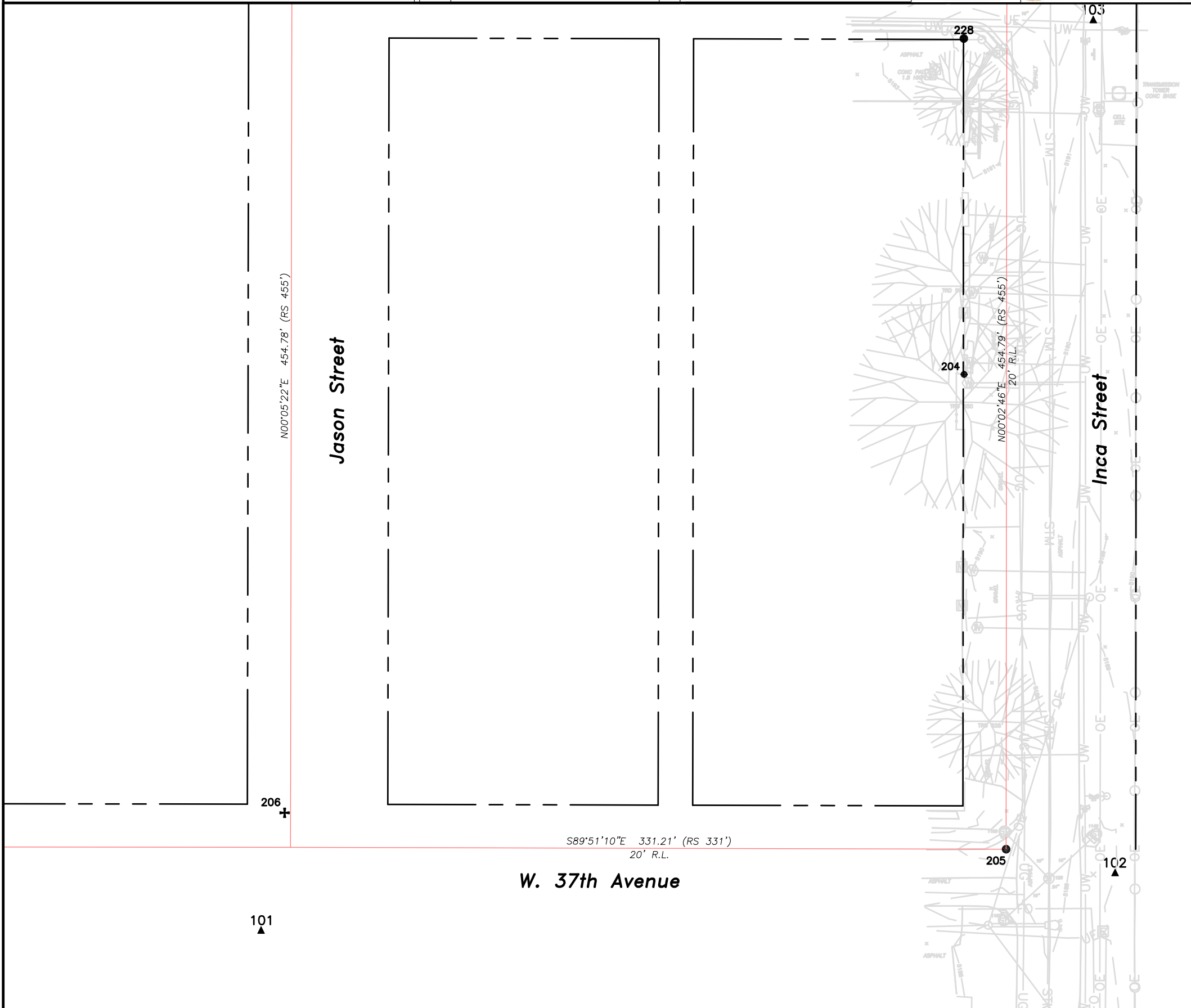
SECTIONS 21 AND 28
T. 3 S., R 68 W.,
OF THE 6TH P.M.



Land Survey Control Diagram
Plan Sheet

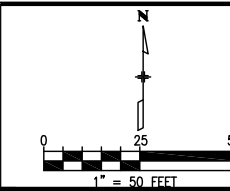
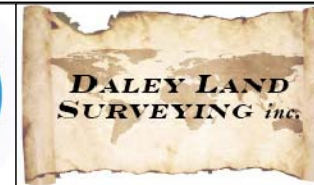
Project Number: AQC M320-067
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.
City & County of Denver

Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.04-4.07	4.04	7

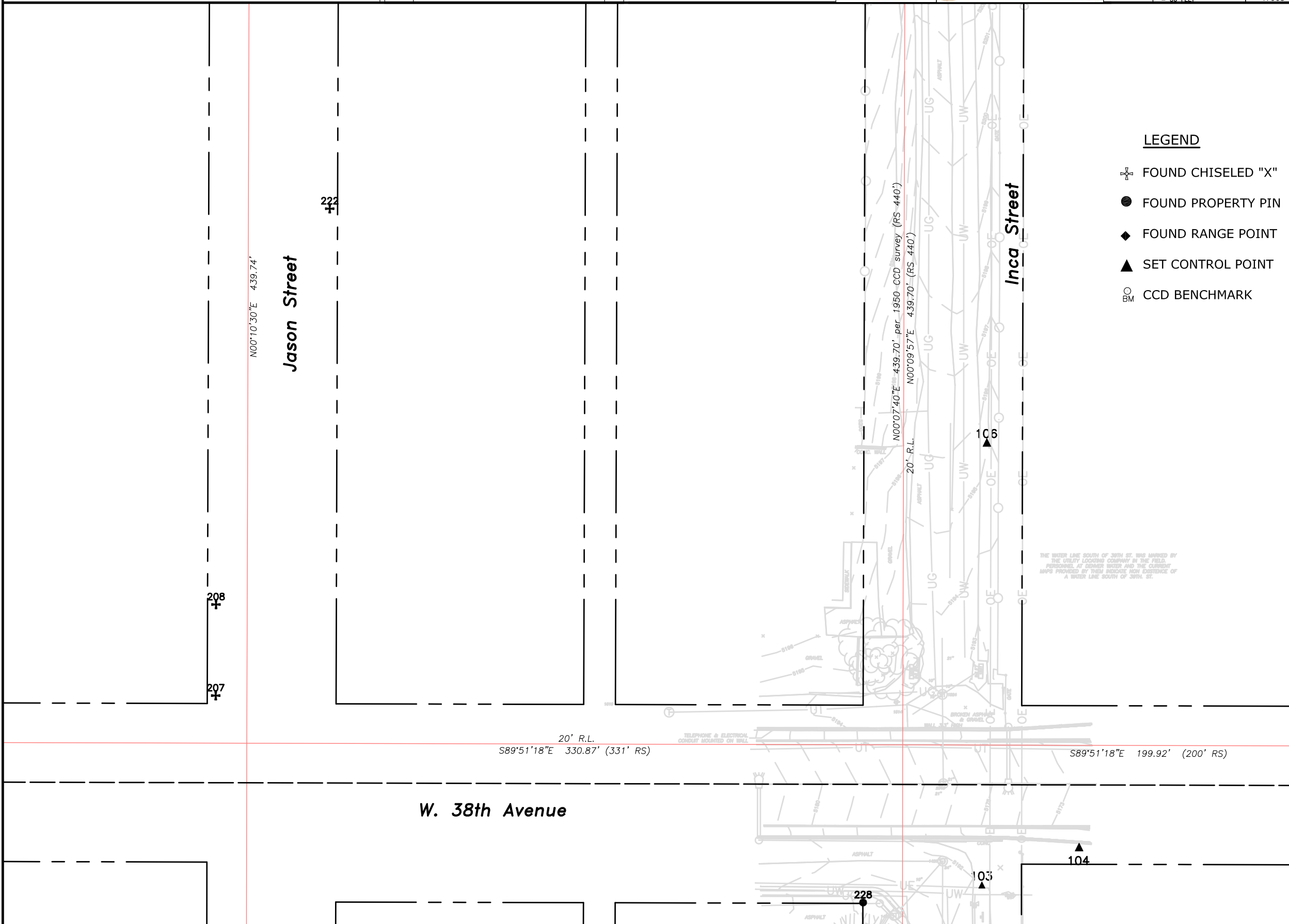


- LEGEND**
- FOUND CHISELED "X"
 - FOUND PROPERTY PIN
 - FOUND RANGE POINT
 - SET CONTROL POINT
 - CCD BENCHMARK

No.	Description



Project Number: AQC M320-067				
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.				
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Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.04-4.07	4.05	7



LEGEND

- FOUND CHISELED "X"
- FOUND PROPERTY PIN
- FOUND RANGE POINT
- SET CONTROL POINT
- CCD BENCHMARK

THE WATER LINE SOUTH OF 38TH ST. WAS SHOWN BY THE UTILITY LOCATING COMPANY IN THE FIELD. PERSONNEL AT CORNER WOOD AND THE CURRENT MAPS PROVIDED BY THEM INDICATE NOW EXISTENCE OF A WATER LINE SOUTH OF 38TH ST.

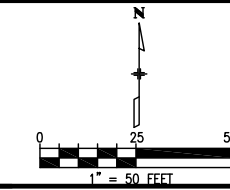
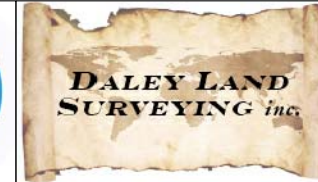


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Right of Way Plans Unit: SLK

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No.	Description

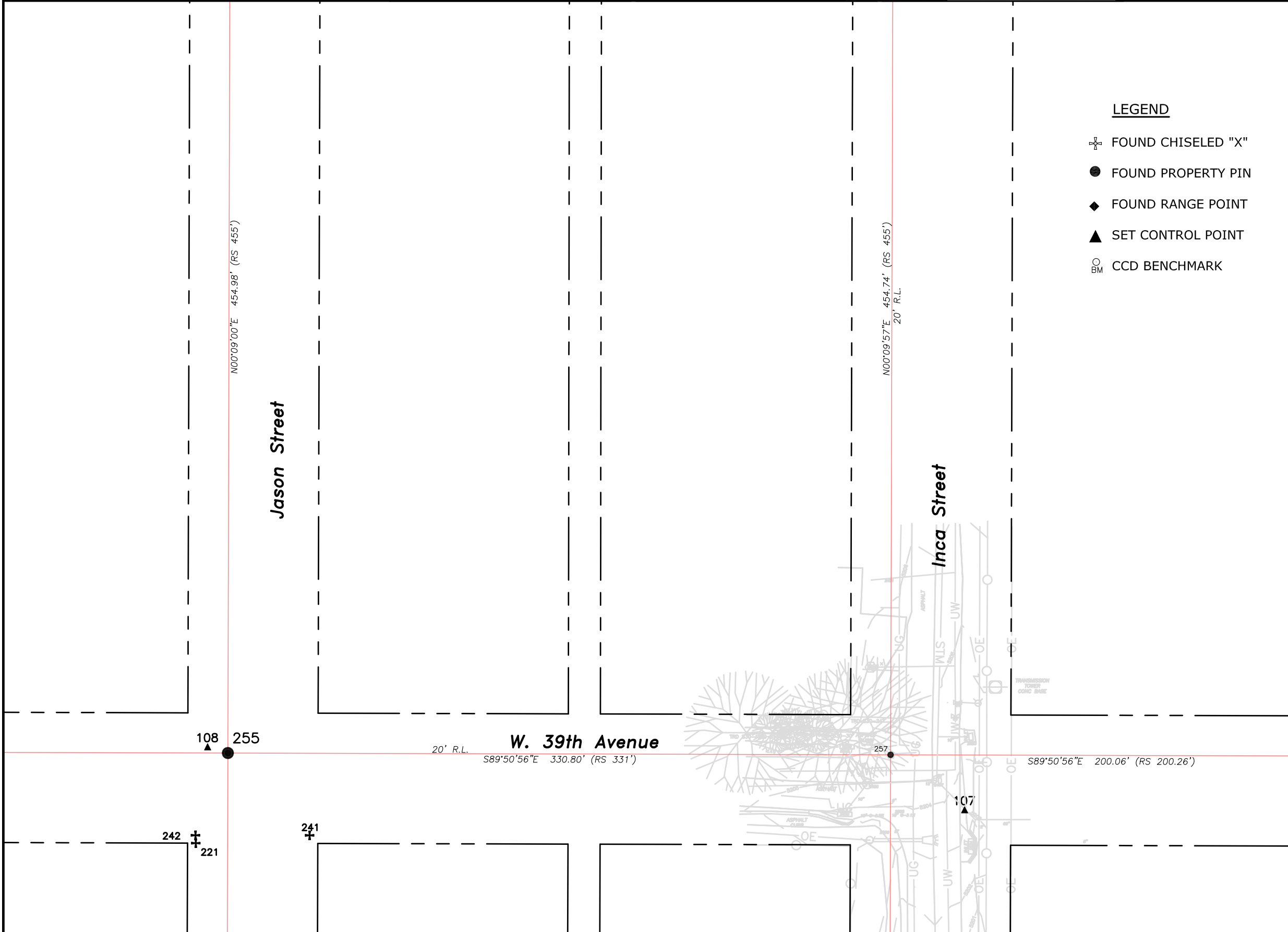
SECTIONS 21 AND 28
T. 3 S., R 68 W.,
OF THE 6TH P.M.



Land Survey Control Diagram

Plan Sheet

Project Number: AQC M320-067				
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.				
City & County of Denver				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.04-4.07	4.06	7

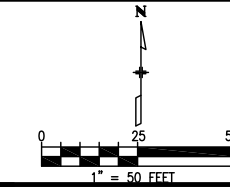
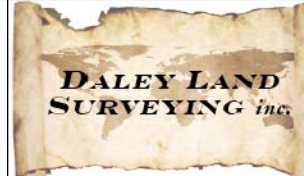


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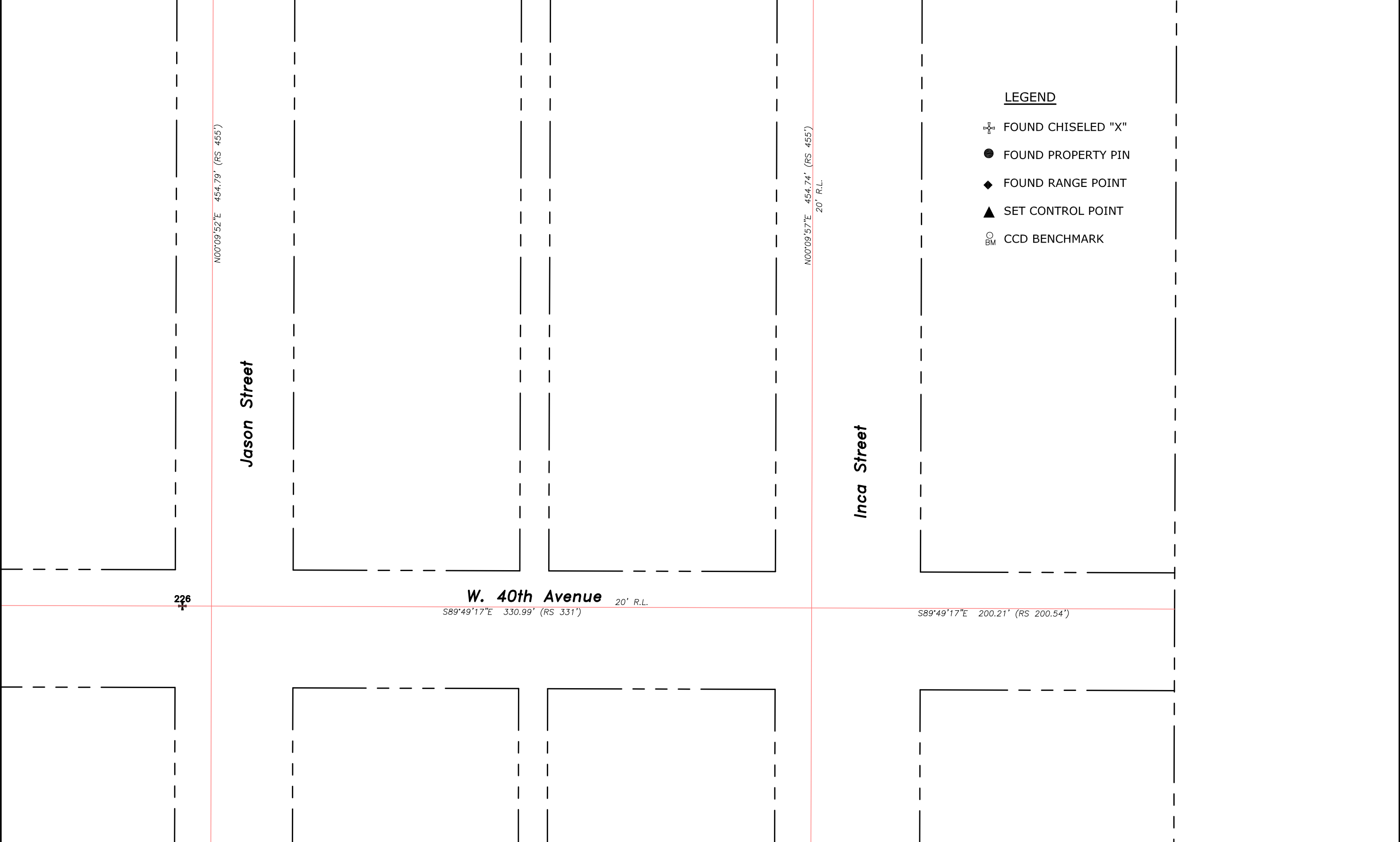
- ⊕ FOUND CHISELED "X"
- FOUND PROPERTY PIN
- ◆ FOUND RANGE POINT
- ▲ SET CONTROL POINT
- BM CCD BENCHMARK



No.	Description



Project Number: AQC M320-067				
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City & County of Denver				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
17903	4-21-2011	4.04-4.07	4.07	7

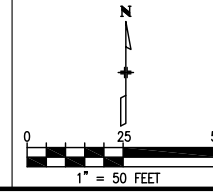


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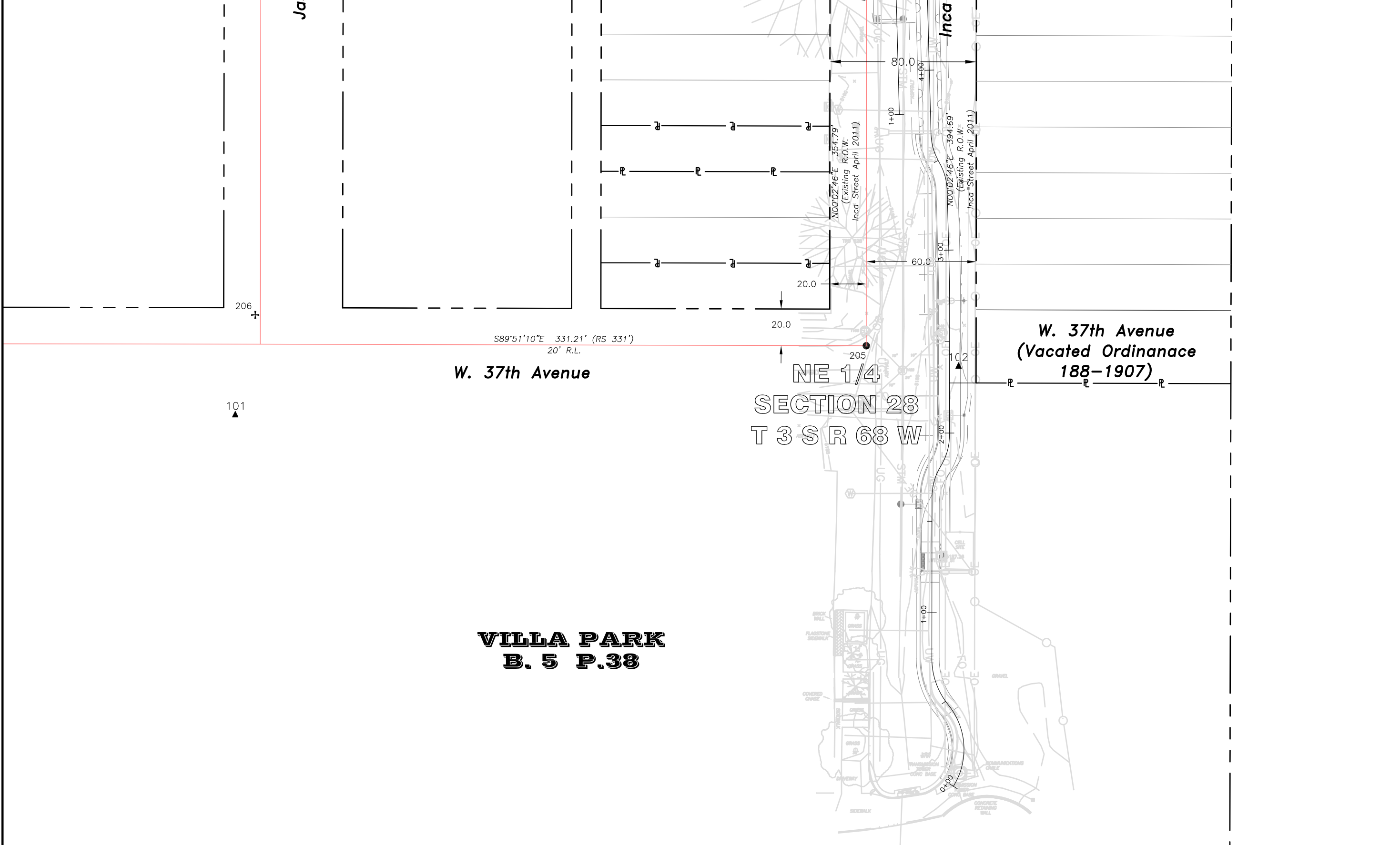
- FOUND CHISELED "X"
- FOUND PROPERTY PIN
- FOUND RANGE POINT
- SET CONTROL POINT
- CCD BENCHMARK

Date	Description	Initials

Date	Description	Initials



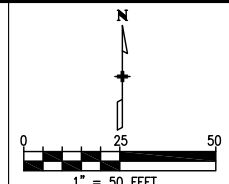
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17903	6-18-2011	1 of 4	7.01





Date	Description	Initials

Date	Description	Initials



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Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
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Project Code: 17903	Last Mod. Date: 6-18-2011	Sheet No.: 2 of 4	Subset: 7.02

**VIADUCT ADDITION
B. 4 P. 46**

W. 38th Avenue

**VIADUCT ADDITION
B. 4 P. 46**

**VIADUCT ADDITION
B. 4 P. 46**

**W. 38th Avenue
(Vacated Ordinance
188-1907)**

Jason Street

53

54

Inca Street

N00°05'22"E 454.78' (RS 455')

S89°51'18"E 124.97'
(Existing R.O.W.
38th Ave. April 2011)

S89°51'18"E 124.93'
(Existing R.O.W.
38th Ave. April 2011)

S89°51'18"E 139.93'
(Existing R.O.W.
38th Ave. April 2011)

S89°51'18"E 199.92' (200' RS)

N89°51'04"W 2647.55'
(BASIS OF BEARING)
NORTH LINE, NE 1/4, SECTION
28

S89°51'18"E 139.82'
(Existing R.O.W.
38th Ave. April 2011)

N00°07'40"E 439.70'
per 1950 CCD survey
(RS 440')

N00°09'57"E 439.70'
(RS 440')

N00°02'46"E 454.79' (RS 455')

THE BOUNDARY LINES OF THIS MAP AS SHOWN BY THE UTILITY LOCATOR COMPANY IN THE FIELD PERSONNEL AT DENVER UNDER AND THE CURRENT MAPS PROVIDED BY THE ABOVE NOW DISTANCE OF A WATER LINE SOUTH OF 38th ST.

20' R.L.

S89°51'18"E 330.87' (331' RS)

100.0

80.0

104

80.0

00+7

228

03

204

2+00

2+00

3+00

4+00

5+00

6+00

7+00

8+00

9+00

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

19+00

20+00

21+00

22+00

23+00

24+00

25+00

26+00

27+00

28+00

29+00

30+00

31+00

32+00

33+00

34+00

35+00

36+00

37+00

38+00

39+00

40+00

208

207

00+7

228

204

2+00

3+00

4+00

5+00

6+00

7+00

8+00

9+00

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

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180+00

181+00

182+00

183+00

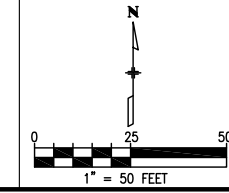


Date	Description	Initials

Date	Description	Initials



Project Number: AQC M320-067			
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
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Project Code:	Last Mod. Date	Subset	Sheet No.
17903	6-18-2011	3 of 4	7.03



SE 1/4
SECTION 21
T 3 S R 68 W

35

36

Jason Street

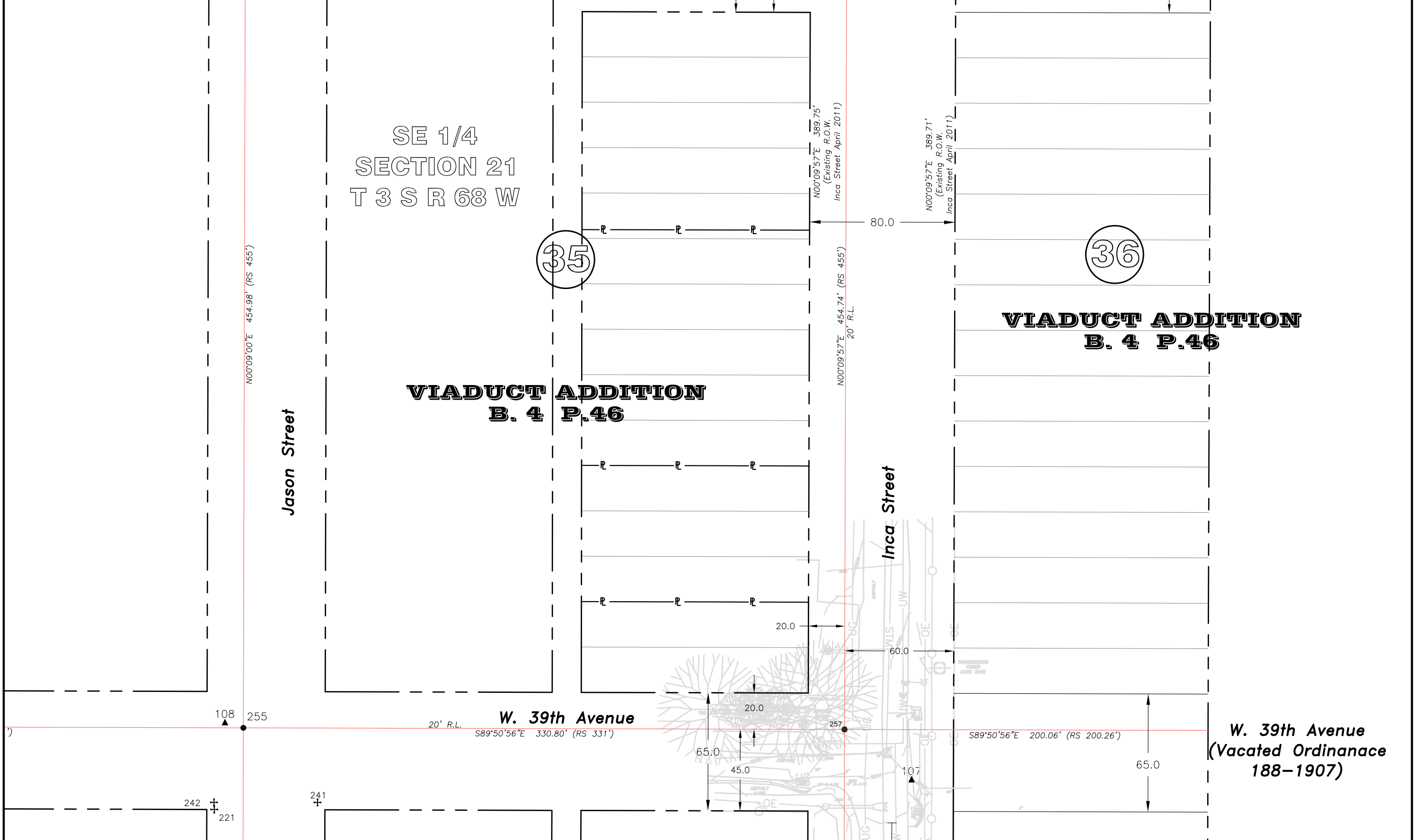
Inca Street

**VIADUCT ADDITION
B. 4 P.46**

**VIADUCT ADDITION
B. 4 P.46**

W. 39th Avenue

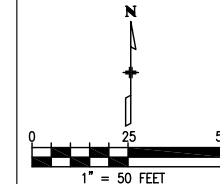
W. 39th Avenue
(Vacated Ordinance
188-1907)



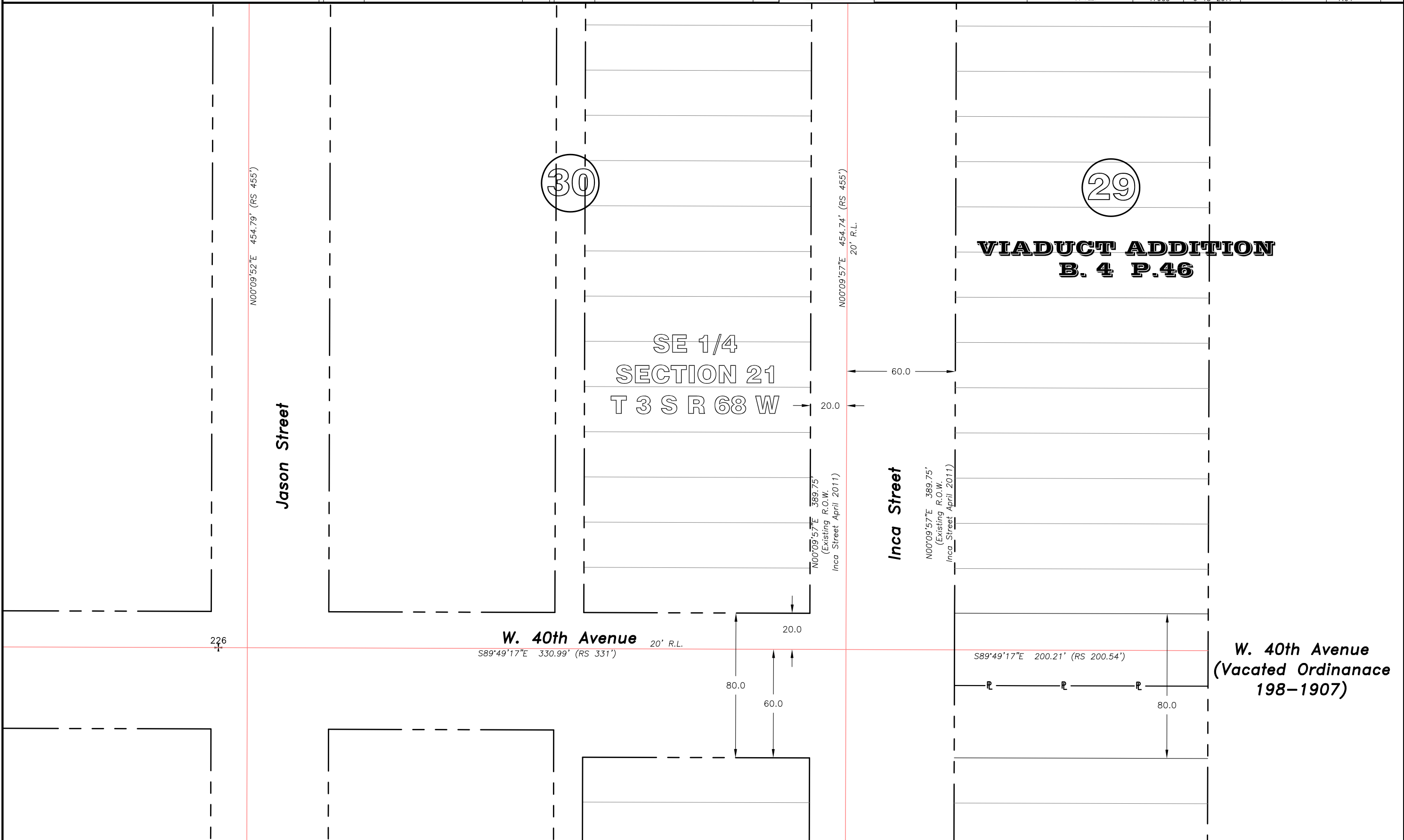


Date	Description	Initials

Date	Description	Initials



Project Number: AQC M320-067			
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
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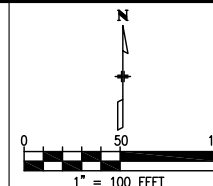
Right of Way Plans Unit: SLK

Sheet Revisions

Date	Description	Initials

Sheet Revisions

Date	Description	Initials



Right of Way Plans

Ownership Sheet

Project Number: AQC M320-067		
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.		
City & County of Denver		
Project Code: 17903	Last Mod. Date:	Sheet No. 8.01
	Subset: 1 of 4	

Jason Street

Inca Street

JEND, ERWIN P TRUST
LOT 29 AND 30, BLOCK 53
EXCEPT N 20 FT OF LOT 30
VIADUCT ADD.
(PARCEL 0228102019000)
3759 Inca St.

RUBIO, GILBERTO
LOTS 27 AND 28, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102025000)
3749 Inca St.

SONG, HUN SUK
LOT 26, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102017000)
3743 Inca St.

RODRIGUEZ, ADRIANA I &
ANGELINA I
LOT 25, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102016000)
3739 Inca St.

MOODY, BRIAN GENE &
LUCERO, ERIKA MARIE
LOT 24, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102015000)
3735 Inca St.

ORR, GABRIELA D
LOT 23, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102014000)
3729 Inca St.

53

BOYS, C D
LOTS 20 TO 22, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102013000)
3717 Inca St.

JIMENEZ, CAESAR & DOROTHY E
LOT 19, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102012000)
3713 Inca St.

**VIADUCT
ADDITION
B. 4 P.46**

MEDINA, FELICITAS &
ROBLES, PASQUALE
LOT 16, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102010000)
1019 W. 37TH AVE.

MEDINA, FELICITAS & ROBLES, PASQUALE
LOTS 17 AND 18, BLOCK 53
VIADUCT ADD.
(PARCEL 0228102011000)
3705 Inca St.

**VIADUCT ADDITION
B. 4 P.46**

54

UNION PACIFIC RAILROAD CO
BLOCK 54
VIADUCT ADD.
AND THE N 1/2 OF VACATED 37TH AVE.
(PARCEL 0228101001000)
3700 Inca St.

W. 37th Avenue
(Vacated Ordinance
188-1907)

W. 37th Avenue

NE 1/4
SECTION 28
T 3 S R 68 W



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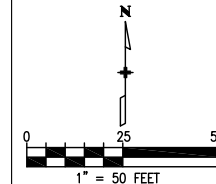
Right of Way Plans Unit: SLK

Sheet Revisions

Date	Description	Initials

Sheet Revisions

Date	Description	Initials



Right of Way Plans
Ownership Sheet

Project Number: AQC M320-067			
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
City & County of Denver			
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17903	6-18-2011	2 of 4	8.02

Jason Street

SE 1/4
SECTION 21
T 3 S R 68 W

46

B-W MASONRY INC
LOTS 25 TO 30, BLOCK 46
VIADUCT ADD.
(PARCEL 0221447010000)
3855 Inca St.

PL

DIAZDELEON, SANDRA VERONICA
LOTS 22 TO 24, BLOCK 46
VIADUCT ADD.
(PARCEL 0221447009000)
3831 Inca St.

PL

3819 INCA STREET LLC
LOTS 16 TO 21, BLOCK 46
VIADUCT ADD.
(PARCEL 0221447016000)
3819 Inca St.

Inca Street

45

**VIADUCT ADDITION
B. 4 P.46**

UNION PACIFIC RAILROAD CO
LOTS 1 TO 15, BLOCK 36
LOTS 1 TO 15, BLOCK 45
VACATED 39TH AND 40TH AVE.
VIADUCT ADD.
EXCEPT W 40' LOTS 12 TO 15, BLOCK 45
(PARCEL 0221448001000)
3900 Inca St.

UNION PACIFIC RAILROAD CO
WEST 40' LOTS 12 TO 15, BLOCK 45
VIADUCT ADD.
(PARCEL 0221448002000)
3800 Inca St.

PL

W. 38th Avenue

W. 38th Avenue
(Vacated Ordinance
188-1907)



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Denver, CO 80222
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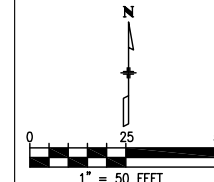
Right of Way Plans Unit: SLK

Sheet Revisions

Date	Description	Initials

Sheet Revisions

Date	Description	Initials



Right of Way Plans

Ownership Sheet

Project Number: AQC M320-067			
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
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17903	6-18-2011	3 of 4	8.03

SE 1/4
SECTION 21
T 3 S R 68 W

EAST HINSDALE OFFICE PARK LTD
LOTS 27 TO 30, BLOCK 35
AND THE NORTH 20.18' OF LOT 26
VIADUCT ADD.
(PARCEL 0221434022000)
3995 Inca St.

35

GIMBERLINE, DALE C & NANCY J
LOTS 21 TO 25, BLOCK 35
AND THE SOUTH 4.82' OF LOT 26
VIADUCT ADD.
(PARCEL 0221434023000)
3931 Inca St.

**VIADUCT ADDITION
B. 4 P.46**

Jason Street

FREDERICKSON, MARIE L
LOTS 18 TO 20, BLOCK 35
VIADUCT ADD.
(PARCEL 0221434021000)
3911 Inca St.

AGUIRRE, PETE
LOTS 16 & 17, BLOCK 35
VIADUCT ADD.
(PARCEL 0221434011000)
3905 Inca St.

W. 39th Avenue

198-1907)

36

**VIADUCT ADDITION
B. 4 P.46**

UNION PACIFIC RAILROAD CO
LOTS 1 TO 15, BLOCK 36
LOTS 1 TO 15, BLOCK 45
VACATED 39TH AND 40TH AVE.
VIADUCT ADD.
EXCEPT W 40' LOTS 12 TO 15, BLOCK 45
(PARCEL 0221448001000)
3900 Inca St.

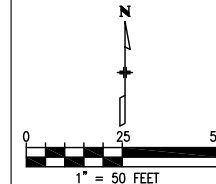
Inca Street

W. 39th Avenue
(Vacated Ordinance
188-1907)



Date	Description	Initials

Date	Description	Initials



Project Number: AQC M320-067			
Project Location: Inca Street - W. 37th Ave. to W. 39th Ave.			
City & County of Denver			
Project Code:	Last Mod. Date	Subset	Sheet No.
17903	6-18-2011	4 of 4	8.04

Jason Street

**VIADUCT ADDITION
B. 4 P.46**

30

HAINEY FAMILY LIMITED
LOTS 16 TO 30, BLOCK 30
VIADUCT ADD.
(PARCEL 0221431009000)
4001 Inca St.

W. 40th Avenue

Inca Street

29

**VIADUCT ADDITION
B. 4 P.46**

UNION PACIFIC RAILROAD CO
LOTS 1 TO 15, BLOCK 29
VACATED 41ST AND N 1/4 40TH AVE.
VIADUCT ADD.
(PARCEL 0221432001000)
4000 Inca St.

W. 40th Avenue
(Vacated Ordinance
198-1907)

SE 1/4
SECTION 21
T 3 S R 68 W

EAST HINSDALE OFFICE PARK LTD
LOTS 27 TO 30, BLOCK 35
AND THE NORTH 20.18' OF LOT 26
VIADUCT ADD.
(PARCEL 0221434022000)
3995 Inca St.