

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

DOCKET NO. 10A-409R

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IN THE MATTER OF THE CITY OF FOUNTAIN FOR AUTHORITY TO CREATE  
ALTERNATIVE AT-GRADE, ROADWAY RAILROAD CROSSINGS FOR DUCKWOOD ROAD  
AND TO CLOSE THE EXISTING MESA ROAD RAILROAD CROSSINGS

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STIPULATION AND SETTLEMENT AGREEMENT  
APPLICANT, UPRR AND CDOT

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Applicant City of Fountain ("Fountain"), Intervenor Union Pacific Railroad Company ("Union Pacific" or "UPRR") and Intervenor, Colorado Department of Transportation ("CDOT"), by and through their respective counsel, hereby enter into this Stipulation and Settlement Agreement ("Stipulation") and in consideration of all of the terms and conditions set forth herein, hereby agree and stipulate as follows:

1. The application commencing this action was filed with the Colorado Public Utilities Commission by Fountain on May 24, 2010. In the Application Fountain seeks, inter alia, to close the Union Pacific railroad public crossing at Mesa Road in Fountain, Colorado and to open a new public road crossing at Duckwood Road in Fountain, Colorado across the two Union Pacific tracks at that location. The proposed closing of Mesa Road is contingent upon the approval to open the new public road crossing at Duckwood Road.
2. On July 13, 2010, Union Pacific filed its *Entry of Appearance and Notice of Intervention* objecting to the Application in this docket. On July 13, 2010, the

Burlington Northern Santa Fe Railroad (“BNSF”) filed its *Entry of Appearance* and *Notice of Intervention Objecting to the Application* related to the Mesa Road alterations in this docket.

3. The Commission Order Deeming Application Complete and Referring to an ALJ was served on August 3, 2010.
4. Union Pacific filed an *Amended Intervention* on August 13, 2010.
5. Fountain amended their Application on September 2, 2010.
6. Union Pacific filed a *Motion for Partial Summary Judgment on the Pleadings for Failure to State a Claim Upon Which Relief Can be Granted* on December 3, 2010. This Motion was later granted and had the effect of removing any property claims from this docket.
7. On July 5, 2011, CDOT formally filed its *Entry of Appearance* and *Motion to Intervene Out of Time*. Late Intervention was granted by the Commission on July 27, 2011.
8. By Order dated September 21, 2011 Administrative Law Judge Keith J. Kirchubel set this matter for hearing on December 7, 2011. The December hearing date was later vacated in order to allow the parties’ time to negotiate settlement of certain issues.
9. Further, on January 6, 2012, BNSF filed its Motion to Dismiss Application as Preempted by Federal Law or in the Alternative to Refer Matter to Surface Transportation Board for Declaratory Order
10. On January 17, 2011, the parties filed a Stipulated Procedural Schedule stipulating, in part, that any further hearing in this matter should occur on June 21, 2012.

11. Fountain, Union Pacific and CDOT are now in Agreement as a partial settlement of this case as follows:

- a. That contingent upon approval of the opening of the Duckwood Crossing, the public road crossing of the Union Pacific tracks at Mesa Road (the “UP/Mesa Road Crossing”) shall, within 30 days of the opening of the new Duckwood Road railroad crossing, be closed and abolished by Fountain, at Fountain’s sole expense, by erecting a Type Three barrier and a drainage swale on the east side of the UP/Mesa Road Crossing and, on the west side of the UP/Mesa Road Crossing, by removing the existing pavement and installing a drainage swale, all as shown on **Exhibit “A”** attached hereto. Union Pacific shall be responsible for removing (at Fountain’s expense) all railroad crossing materials, signals and appurtenances located to the west of the Type III Barrier Road Closure east of the Union Pacific/Mesa Road Crossing and west of the BNSF Mesa Road crossing. All materials removed by Union Pacific shall be retained by or disposed of by Union Pacific in its sole discretion, and the reference to “salvage” on the Exhibit shall have no meaning.
- b. That the new Duckwood Road railroad crossing shall not be used for any construction activities or other private use prior to the opening of the Duckwood Road crossing to the public. Such opening shall include having all surface work on the crossing completed, all signal work on the crossing completed, the adjoining intersection (US 85 and Duckwood Road) shall be fully completed with all surface and signal improvements installed, including interconnecting the signals at that intersection to the signals at the new Duckwood Road railroad crossing and Duckwood Road shall be open

to the public as a through roadway. If the Duckwood Road crossing is completed with all signal and surface improvements prior to the time of interconnection to the adjoining intersection signals (US 85 and Duckwood Road) and/or prior to the time that Duckwood Road is fully open to the public as a through highway from US 85 to a point east of the new Duckwood Road crossing, then the Duckwood Road railroad crossing shall be barricaded, at Fountain's sole expense, with a Type III barricade on both sides of the Union Pacific track until such time as all improvements are complete, Duckwood Road can be opened as a through roadway, the US 85/Duckwood Road intersection is signalized and interconnected to the signals at the Duckwood Road Railroad crossing and such interconnection is fully operational. The current Union Pacific cost estimates for the automatic flashing light signals with gates and surfacing materials for the Duckwood Road Crossing is attached hereto as **Exhibit "B"**.

c. That prior to the opening of the new Duckwood Road railroad crossing, the berm now existing to the south and west of that crossing shall be removed by Fountain, at Fountain's sole cost and expense, in the locations and to the extent shown on **Exhibit "C"**.

d. That CDOT, Fountain and Union Pacific hereby agree to the appropriateness of the signal timing calculations attached hereto as **Exhibit "D"** and that the advanced preemption timing is equal to 55 seconds.

e. That the configuration of the new Duckwood Road / Union Pacific railroad crossing and the adjoining intersection of US 85 and Duckwood Road shall be as depicted on the plans filed with the Colorado Public Utilities Commission on October 11,

2011 as modified by the plans filed on November 16, 2011 and by replacement Plan Sheet C-10B (**Exhibit “D”**), all of which are attached hereto and **Exhibit “E”**, including Plan Sheets C-1 through C-26, inclusive (the “Plans”). Any and all costs of the new Duckwood Road crossing and any changes to the adjoining intersection of US 85 and Duckwood Road (including all signal systems) reflected on the Plans shall be borne solely by Fountain.

f. That Fountain and Union Pacific , and also, CDOT and Union Pacific hereby agree to enter into separate interconnection agreements within 90 days after approval of this stipulation and after final approval of the Duckwood Road crossing by the PUC. The purpose of the interconnection agreements shall be to cover the interconnection of the signal system at the new Duckwood Road railroad crossing and the traffic signal system to be placed at the intersection of US 85 and Duckwood Road. The Fountain and Union Pacific agreement will be in effect until such time as CDOT approves and accepts the signals at Duckwood and US 85, including maintenance of such signals. The CDOT and Union Pacific agreement shall be entered into at the same time as the Fountain interconnection agreement, however, the CDOT agreement will remain in place after the Fountain agreement terminates.

g. That Fountain and CDOT agree that the hardware and software specifications described on the attached **Exhibit “F”** will be used as and for signaling and operations equipment.

h. Upon completion of the installation and interconnection of all the hardware and software as contained in **Exhibits “E” and “F”** attached hereto, CDOT and Union

Pacific will perform their own inspection and testing to confirm compliance with **Exhibits “E” and “F”**. Upon acceptance by Union Pacific and confirmation of compliance by CDOT, CDOT will accept future maintenance responsibilities for the US 85 Duckwood Road intersection signals and interconnects as set forth in the attached **Exhibits “E” and “F”**, and subject to the interconnection agreement as described in subparagraph 11 F above.

- i. Fountain agrees and understands that it must apply for and be granted a CDOT Access Permit prior to connecting the new Duckwood Road to US 85. Fountain further agrees and understands that prior to connecting the new Duckwood Road to US 85 it must also receive a CDOT "Notice to Proceed" and agree to and follow all terms and conditions contained therein.
- j. That Fountain and Union Pacific will enter into a Construction and Maintenance agreement covering the new Duckwood Road railroad crossing within 90 days following final approval of the Duckwood Road crossing by the PUC. Additionally, Fountain or its Contractor will execute a Contractor's Right of Entry agreement with Union Pacific prior to beginning any construction activity relative to the berm removal and will also submit all berm removal plans to Union Pacific and receive approval of plans from Union Pacific prior to beginning any work. All costs associated with berm removal, including, but not limited to, any Contractor's Right of Entry fees, fees for temporary easements, flagging and insurance requirements, shall all be borne solely by Fountain. The easements to be acquired shall be in accordance with the legal descriptions filed by Fountain in this

docket as Applicant Exhibit DKG-27 and Applicant Exhibit DKG-28 on October 17, 2011, unless amended by written agreement between Fountain and Union Pacific.

k. This Stipulation and Agreement only covers the physical attributes of the proposed closure of the UPRR/Mesa Road crossing and the proposed opening of the UPRR/Duckwood Road crossing. This Stipulation and Agreement does not cover any other issues outside of the immediate area of the existing UPRR/Mesa Road crossing and the proposed UPRR/Duckwood Road crossing.

l. The parties to this Stipulation and Agreement acknowledge that BNSF has raised objections to the Duckwood crossing which remain unresolved. The parties request that the Commission approve this Stipulation and Agreement to govern the issues addressed herein in the event that a crossing is approved at Duckwood as requested by Fountain.

12. As a result of executing this Stipulation and Agreement, and subject to the conditions set forth herein, Union Pacific hereby withdraws any objection that it had pertaining to Fountain's requested closure of the UP/Mesa Road Crossing and also withdraws any objections it had to the new proposed UPRR railroad crossing at Duckwood Road. By so doing, UPRR does not take a position as to the BNSF Motion filed on January 6, 2012. UPRR's Stipulation herein is expressly contingent on the BNSF's objections being fully resolved in a manner that is not in any way objectionable to Union Pacific or that does not in any way require Union Pacific to configure its wayside signal system in a way to which Union Pacific objects. By entering into this Stipulation and Agreement, UPRR expresses no opinion on whether the issues raised by BNSF, in regard to wayside signals and train staging, are capable of resolution.

Furthermore, any proposed wayside signal relocation on the UPRR trackage must be fully approved by UPRR, with no costs of engineering or relocation of the wayside signals being borne by UPRR.

13. If and when all BNSF issues are resolved in such a way that would allow the Duckwood crossing to open, Fountain, Union Pacific and CDOT hereby request that the Commission enter an Order approving the closure of the UP/Mesa Road Crossing and the opening of the Duckwood crossing as set forth in the Application and in this Stipulation and Settlement Agreement, with closure of the UP/Mesa Road crossing contingent upon the opening of the Duckwood crossing.
14. This Stipulation may be enforced only by the parties hereto or their successors. The parties agree to cooperate and otherwise perform this Stipulation in good faith, and shall execute such additional documents or instruments as may be reasonably necessary or required in order to properly carry out and effectuate the terms, provisions and intent of this Stipulation.
15. This Stipulation constitutes a settlement of disputed and compromised claims regarding the proposed closure and is made for settlement purposes only. Each party also agrees that except as expressly provided in this Stipulation, it will take no action in any administrative or judicial proceeding which would have the effect, directly or indirectly of contravening the provisions of this Stipulation, excepting that nothing in this Stipulation shall prevent Union Pacific from appropriately addressing Union Pacific's issues in connection with the BNSF request that signals be moved on the Union Pacific line, even if such position makes further agreement between all parties

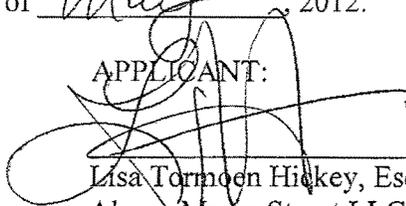
to this matter impossible; thus having the effect of nullifying Union Pacific's agreements in this Stipulation and any approvals by the Commission. Furthermore, except as otherwise provided herein, nothing in this Stipulation shall constitute a waiver by any party with respect to any matter not specifically addressed in this Stipulation.

16. This Stipulation shall not become effective until the Commission issues an Order approving the Stipulation, which Order does not contain any modification of the terms and conditions of this Stipulation that is unacceptable to any of the parties to the Stipulation. In the event the Commission modifies this Stipulation in a manner unacceptable to any party hereto, that party may withdraw from the Stipulation and shall so notify the Commission and the other parties to the Stipulation in writing within 10 days of the date of the final Commission Order. In the event a party exercises its right to withdraw from the Stipulation, the Stipulation shall be null and void and have no effect.
17. In the event this Stipulation becomes null and void, or in the event the Commission does not approve this Stipulation, this Stipulation as well as the negotiations undertaken in conjunction with this Stipulation shall not be admissible into evidence in any subsequent proceeding.
18. The parties state that they have reached this Stipulation by means of a negotiated process that is in the public interest, and that the results reflected in this Stipulation are just, reasonable and in the public interest.

19. This Stipulation may be exercised in separate counterparts, including facsimile. The counterparts taken together shall constitute the Stipulation. The parties represent that the signatories to the Stipulation shall have full authority to bind their respective parties to the terms of the Stipulation.
20. The Stipulation shall be governed by and construed in accordance with the laws of the State of Colorado.

Respectfully submitted this 16<sup>th</sup> day of May, 2012.

APPLICANT:



\_\_\_\_\_  
Lisa Tormoen Hickey, Esq., #15046  
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Attorney for Applicant City of Fountain

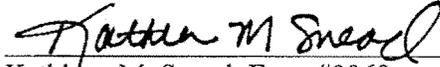
CITY:

The City of Fountain, a municipal  
corporation and Colorado home rule city,

By:

  
\_\_\_\_\_  
Scott Trainor, City Manager

UNION PACIFIC RAILROAD COMPANY:

A handwritten signature in black ink that reads "Kathleen M. Snead". The signature is written in a cursive style and is positioned above a horizontal line.

Kathleen M. Snead, Esq., #9969  
1331 Seventeenth St., Suite 406  
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303.405.5407  
303.405.5413 (FAX)  
Attorney for Intervenor  
Union Pacific Railroad Company

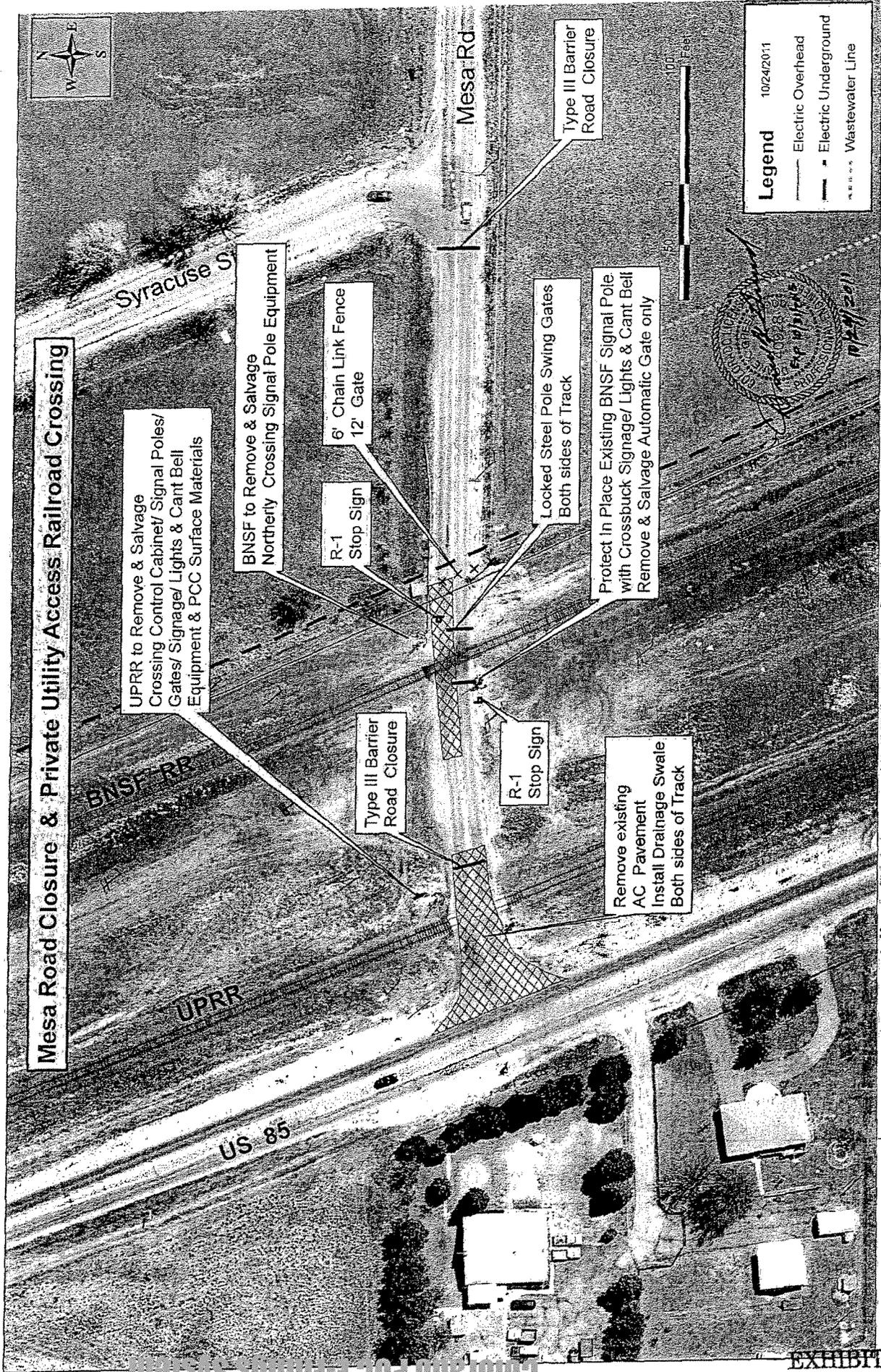
COLORADO DEPARTMENT OF TRANSPORTATION:

By: Sasan A. Delshad  
Sasan A. Delshad, PE  
CDOT Region II Traffic Program Engineer

Approved as to form:

OFFICE OF ATTORNEY GENERAL:

Gregg Carson  
Gregg Carson #25460  
Office of the Attorney General  
Attorney for Intervenor Colorado  
*Department of Transportation*  
1525 Sherman Street, 7<sup>th</sup> Floor  
Denver, CO 80203  
(303) 866-5129



Colorado PUC E-Filing System

EXHIBIT

A

DATE: 2011-11-04

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK  
 BY THE  
 UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2012-05-04

DESCRIPTION OF WORK:  
 INSTALL AUTOMATIC FLASHING LIGHT CROSSING SIGNALS  
 WITH GATES AT FOUNTAIN, CO. DUCKWOOD RD, N.P. 86.18  
 ON THE COLORADO SPRINGS SUB. DOT #253121W  
 WORK TO BE PERFORMED BY RAILROAD WITH EXPENSE AS BELOW:  
 SIGNAL - CITY OF FOUNTAIN - 100%  
 ESTIMATED USING FEDERAL ADDITIVES WITH INDIRECT AND  
 OVERHEAD CONSTRUCTION COST'S - 167.76%

PID: 71799 AEO: 06916 MP, SUBDIV: 86.18, COLSPRINGS  
 SERVICE UNIT: 14 CITY: FOUNTAIN STATE: CO

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
<b>ENGINEERING WORK</b>							
ENGINEERING			7117		7117		7117
LABOR ADDITIVE 167.76%			19936		19936		19936
STG-RMY ENG			4821		4821		4821
<b>TOTAL ENGINEERING</b>			<b>31874</b>		<b>31874</b>		<b>31874</b>
<b>SIGNAL WORK</b>							
BILL PREP			900		900		900
CONTRACT				11233	11233		11233
LABOR ADDITIVE 167.76%			112362		112362		112362
MATL STORE EXPENSE				32	32		32
PERSONAL EXPENSES				36150	36150		36150
POLELINE REMOVAL				5000	5000		5000
ROCK/GRAVEL/FILL				2500	2500		2500
SIGNAL			66076	112331	178409		178409
TRANSP/IB/OB/SCIM CONTR				15108	15108		15108
ENVIRONMENTAL - PERMITS				1	1		1
<b>TOTAL SIGNAL</b>			<b>179340</b>	<b>182335</b>	<b>361675</b>		<b>361675</b>
<b>LABOR/MATERIAL EXPENSE</b>			<b>211214</b>	<b>182335</b>			
<b>RECOLLECTIBLE/UPRR EXPENSE</b>					<b>353549</b>	<b>0</b>	
<b>ESTIMATED PROJECT COST</b>							<b>393549</b>

Colorado PUC E-Things System

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

SIGNAL  
 ESTIMATE  
 EXHIBIT "B"

B, p.1

FORM 30-1  
WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 01 MORE

RAILROAD: UPRR CO.  
LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
DEPARTMENT: ENGINEERING SERVICES

SERVICE UNIT: 14

PROJ NO: 71199  
A.N.O. NO: 06916  
W.O. NO:  
B.I. NO: 108N10  
STATE: CO  
VAL SEC: 0502V

-----  
INSTALL AUTOMATIC FLASHING LIGHT CROSSING SIGNALS  
WITH GATES AT FOUNTAIN, CO, DUCKWOOD RD, M.P. 86.18  
ON THE COLORADO SPRINGS SUB. DOT #253121W  
WORK TO BE PERFORMED BY RAILROAD WITH EXPENSE AS BELOW:  
SIGNAL - CITY OF FOUNTAIN - 1004

EXHIBIT Bp.2

FORM 10-1  
WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 02 MORE

RAILROAD: UPRR CO.  
LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71799  
A.W.O. NO: 06916  
W.O. NO:  
R.I. NO: 10EN10  
STATE: CO  
VAL SEC: 0502V

SCOPE OF WORK

PROJECT NUMBER	VAL SEC	STATE	M.P. FROM	M.P. TO	SEGMENT	JOINT FACILITY
71799	0502V	CO	85.73	85.73	4716	

FORM 30-1  
 WORK ORDER AUTHORIZATION-DETAILS OF ESTIMATED EXPENDITURES

PAGE 04 MORE

RAILROAD: UPRR CO.  
 LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
 DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71799  
 A.H.O. NO: 06216  
 W.O. NO:  
 E.I. NO: 10EN10  
 STATE: CO  
 VAL SEC: 0502V

----- STOCK MATERIAL PLAN -----

ITEM NUMBER	ITEM DESCRIPTION	UNIT COST	QTY	UM	DIRECT MATL \$
02040660	BATTERY, GNB, 5CG27, 620 AH.	389.32	13	EA	4671
09010800	CABLE SPLICING KIT, N-2	32.03	5	EA	160
09011240	CABLE TIE, NYLON 1 1/8" MAX. DIA.	0.02	200	EA	4
09011980	CABLE TIE, NYLON 1 1/2" MAX. DIA.	0.18	20	EA	4
09014950	CIRCUIT BRKR, 120V/240V 20A 2 POLE	14.64	1	EA	15
09015270	CIRCUIT BREAKER, 120V/240V 20A AC	6.46	1	EA	6
09054360	RELAY, GEN. PURPOSE 120V, TAB 856	5.24	1	EA	5
09057650	SOCKET, P-B 27E122 TAB 836A & 856	2.17	1	EA	2
09065700	TAPE, ELECTRICAL PLASTIC	3.75	2	RL	8
09066300	TERMINAL, SPADE, 10-12 WIRE, #8 STUD	0.17	10	EA	2
09137100	TERM. LUG 3/16 CABLE-1/4 POST 2412	0.55	30	EA	17
09215100	33456 TERMINAL, RING TONGUE AMP	0.19	44	EA	8
09224750	216-107 TERMINAL, FERRULE, FOR #10	0.05	20	EA	1
09224300	216-104 TERMINAL, FERRULE, W	0.02	50	EA	1
09264350	TERMINAL, #16-14 #8 SPADE	0.07	35	EA	2
09261420	321524-1 TERMINAL, TEST 16-22 A	1.79	4	EA	7
09261570	321527-1 TERMINAL, TEST	1.72	15	EA	26
09401140	ADAPTER, 4 INCH CARLON PLASTIC	2.95	2	EA	6
09409820	BUSHING, 4" PLASTIC, INSULATING	0.82	2	EA	2
09424920	CONDUIT, 4", PVC, TYPE 40	1.90	210	LF	199
09467930	LOCKNUT, 4 INCH, GALVANIZED	5.78	2	EA	12
09844170	GROUND ROD, 5/8 INCH X 8 FEET	8.95	15	EA	134
09846750	GRND. ROD CONN. 4WAY ONESHOT.	5.20	15	EA	78
09904000	WIRE, #2 AWG 3 COND 300 FT. SPOOL	8.87	300	LF	1761
09908640	WIRE, #6 AWG 1 COND. COPPER, SOLID	0.48	375	LF	180
09912200	WIRE #6 AWG 2 COND 500' ROLL SHIELD	2.05	500	LF	1025
09912350	WIRE #6 AWG 2 COND 1000 LF. SHIELD	1.99	5000	LF	9950
09913200	WIRE, #6, 5 COND 500' ROLL SHIELDED	4.00	1000	LF	4000
09915610	WIRE #6 AWG 1 COND COPPER, STRAN	0.77	210	LF	162
09930550	WIRE #10 AWG 1 COND COPPER, STRAN	0.24	1050	LF	252
09932310	WIRE #10 AWG 1 COND COPPER, TWIST	0.55	90	LF	50
09946200	WIRE #14, 7 COND 500' ROLL SHIELDED	1.63	1000	LF	1630
99960090	WIRE #16 AWG 1 COND COPPER, STRAN	0.10	850	LF	85
02276180	WIRE, #22, TH. PR. BELDEN #8761	0.13	20	LF	3
13547570	SHEET METAL SCREW, #10 X 1 INCH	3.50	1	BX	4
13552450	SHEET METAL SCREW, #12 X 3/4"	2.10	2	BX	4
13553150	SHEET METAL SCREW #12 X 1"	3.05	2	BX	6
17061400	PADLOCK, SIGNAL, WITHOUT KEY, AMERIC	15.10	19	EA	287
20033210	CARTON, 39 1/8" L X 23 1/4" W X 17	6.23	1	EA	6
24933230	CARTON, 47 3/8" L X 39 1/2" W X 18"	12.11	1	EA	12

EXHIBIT B, p. 4

FORM 30-1  
 WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 05 MORE

RAILROAD: UPRR CO.  
 LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
 DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71799  
 A.W.O. NO: 06916  
 W.O. NO:  
 B.I. NO: 10EN10  
 STATE: CO  
 VAL SEC: 0502V

29041980	PALLET, 48 X 40 INCH 2/WAY	9.89	2 EA	20
33013860	OAKUM, TREATED PLUMBER SPUN	6.46	5 LB	32
35040020	PLASTER OF PARIS, HDAP 10308	3.01	2 BX	6
39300710	SIGN, -2 TRACKS- MP STD PAGE 403,	18.21	4 EA	73
39440220	SIGN, HIGHWAY CROSSING, STANDARD	50.00	2 EA	100
52001370	SURGE PROTECTOR SP20-2A TAB 585	71.28	2 EA	143
52003630	POWER CABLE, CABIN TO GENERATOR -	105.01	1 EA	105
52005690	BOND WIRE, 7 STRANDS 500 LF. ROLL	0.86	200 LF	172
52005700	BOND WIRE, 7 STRANDS 100 LF. ROLL	0.87	700 LF	609
52016830	WIRE DUCT, 2X3	0.68	8 EA	69
52016940	WIRE DUCT, 3X3	10.23	7 EA	72
52017510	WIRE DUCT COVER 2*X6'	1.89	8 EA	16
52017620	WIRE DUCT COVER 3*X6'	2.79	6 EA	17
52019530	ENCLOSURE, SHUNT, FOLE MOUNTED, 24X2	181.81	6 EA	3091
52019560	EQUALIZER, H.D. TAB 593	9.31	17 EA	158
52021550	FOUNDATION, 4', STEEL, FOR FLSHR/GAT	328.65	4 EA	1315
52025270	HOUSE, 6X6, W/TIB, W/CLIMATE CONT	7996.68	1 EA	7997
52027350	CLIP BOARD - FOR SIGNAL PRINTS	8.02	1 EA	8
52027420	STEP BOX	16.32	1 EA	16
52028420	LIGHTNING ARRESTOR, CLR-COMM TAB 3	7.00	40 EA	280
52029780	LIGHTNING ARR, HD TAB 582 W/O BASE	10.03	12 EA	120
52030010	LIGHTNING ARRESTOR CONN, STRIP	6.58	4 EA	26
52039210	RECTIFIER, 20EC, 12V, TAB575	279.03	1 EA	279
52039390	RECTIFIER, 40RC, 12V, TAB577	384.83	1 EA	385
52042650	POST, MOUNTING, FOR SHUNT HOUSING	19.50	12 EA	234
52068650	TERMINAL, #6 - 5 WIRE - RING TYPE	0.16	55 EA	9
52070010	TERMINAL, #12-10 WIRE, RING TONGUE	0.22	450 EA	99
52071600	TERMINAL, #20-16 WIRE, RING TONGUE	0.09	150 EA	14
52072280	TERMINAL BLOCK, SIGNAL 2 POST BAK	4.48	52 EA	231
52072740	TERMINAL BLOCK, SIGNAL 12 POST 6 UN	15.86	1 EA	16
52072960	TERMINAL BLOCK, SIGNAL 12 POST	15.36	12 EA	184
52074570	TEST LINK, 1" CENTER TO CENTER	1.53	22 EA	34
52074580	TEST LINK, 2-3/8" CENTER TO CENTE	1.89	1 EA	2
52079550	WIRE TAG, PLASTIC - WHITE	0.14	100 EA	14
52079560	MARKING PEN (FOR WHITE TAG)	1.95	1 EA	2
52108120	LED FL/GATE ASSY, 2 WAY LIGHTS	6703.54	4 EA	26814
52109370	ONTE ARM, ADJ, 16-32'	428.26	4 EA	1713
52122140	HIGH WIND BRACKET 5'OR 4"	65.70	4 EA	263
52136380	SHEAR BOLT, 740S2M-1, NEG	5.48	4 EA	22
52136480	SHEAR PIN, 740B2H-2, NEG	4.73	4 EA	19
52200300	EVENT ANALYZER RECORDER (SEAR111)	1931.43	1 EA	1931
52207150	GRD XING PREDICTR GCP 4000 GTX.MA	14863.07	1 EA	14863
52214260	DUMMY LOAD, 4000 FT. TAB 644	38.61	2 EA	77
52231000	COUPLER, BI, DIR. 62664- 66HZ TAB627	852.63	2 EA	1705
52258380	NBS, TAB 640, 62775-8621	491.25	6 EA	2948
52263600	SURGE ARRESTOR, METER LOOP.	30.87	1 EA	31

EXHIBIT B.p.5

FORM 30-1  
 WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 06 MORE

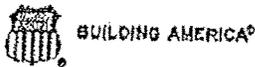
RAILROAD: UPRR CO.  
 LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
 DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71759  
 A.W.O. NO: 06916  
 W.O. NO:  
 S.I. NO: 10EN10  
 STATE: CO  
 VAL SEC: 0502V

52263630	SURGE PANEL - TAB 619	122.55	4 EA	490
52264040	SURGE PANEL - TAB 618	183.54	1 EA	184
52267200	TRANSCIVER MODULE, FOR GCP 4000	2771.75	6 EA	16631
52276150	SS XING CONTROLLER MODULE FOR GCP	1565.14	2 EA	3130
52745830	RELAY, TAB 884, NEUTRAL, A62-277	299.20	1 EA	898
52773800	RELAY BRACKET, HOLDS 2 B1 RELAYS.	81.98	2 EA	164
52775370	RELAY PLEXBOARD, CRS B1, TAB 900	30.67	1 EA	92
52777970	FLAG TERMINAL, FOR CRS, 14-10	2.17	45 EA	98
52778110	FLAG TERMINAL, FOR CRS, 20-16	1.58	45 EA	71
52779280	RELAY TEST TERM, CRS B1	6.42	3 EA	19
53331490	EXTRACTOR FOR "B" TERMINALS P3-308	9.13	1 EA	9
53331510	TEST NUT WRENCH, CRS #P3-120	33.01	1 EA	33
53448010	INSULATING CAP & SHIELD ASSY.	2.34	4 EA	9
53903460	EPD 120/240DFL SURGE PROTECTOR	276.21	1 EA	276
53954500	180429-000 ROOTLEG KIT	50.58	18 EA	910
TOTAL				112,334

EXHIBIT B, p 6

AREMA UNIT STATEMENT OF RAILROAD HIGHWAY GRADE CROSSING SIGNALS  
 ESTIMATED MAINTENANCE COSTS



FOR PID #71799  
 BY THE UNION PACIFIC RAILROAD

STREET DUCKWOOD RD.  
 TOWN FOUNTAIN, CO.  
 MILEPOST 86.18  
 SUBDIVISION COLORADO SPRINGS  
 AAR/DOT NO. 253121W  
 WORK ORDER# 6918

DESCRIPTION	UNIT VALUE	QUANTITY	UNITS
NON-CODED TRK. CIRCUIT, (Stand alone APTAC or Ring 10)	2	0	0
SUPERIMPOSED CIRCUIT (APTAC) / DETECTION LOOP	2	0	0
HIGHWAY GRADE CROSSING SIGNAL (ONE PAIR OF FLASHING LIGHTS)	2	4	8
ADDITIONAL PAIR OF LIGHTS	1	4	4
GATE MECHANISM, AUTOMATIC WITH ARM UP TO 26 FT	8	4	32
GATE MECHANISM, AUTOMATIC WITH ARM OVER 26 FT	10	0	0
GCP/HXP (Constant warning device, per track circuit)	15	4	60
EXIT GATE MANAGEMENT SYSTEM RACK*	10	0	0
MOVEMENT DETECTOR (PMD)	6	0	0
MOVEMENT DETECTOR (STANDBY UNIT)	3	0	0
RADIO DATA LINK, PER UNIT	1	0	0
PREEMPTION CIRCUIT	2	0	0
DATA RECORDER	1	0	0
REMOTE MONITORING DEVICE*	2	1	2
BONDED RAIL JOINTS (per mile, each rail, single bonded)	1	0	0
BATTERY AND CHARGER (per unit)	1	2	2
<b>TOTAL UNIT COUNT</b>			<b>108</b>
<b>PAVEMENT RESTORATION COSTS</b>			<b>(Actual)</b>
	Annual Maintenance Cost at \$170/Unit		<b>\$18,360</b>

\*UP supplied Unit Value  
 November 4, 2011

EXHIBIT B, p. 7



DATE: 2011-12-01

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK  
 BY THE  
 UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2012-05-31

DESCRIPTION OF WORK:  
 2011 RECOLLECTIBLE PROGRAM  
 COLORADO SPRINGS SUBDIVISION  
 MP 86.18 DUCKWOOD ROAD DOT 253-121W  
 RELOCATE CROSSING FROM MP 85.73 TO MP 86.18  
 PROJECT TO BE FUNDED 100% BY THE CITY OF FOUNTAIN COLOSADO

PID: 71798 AWO: 06914 MP, SUBDIV: 85.73, COLSPRINGS  
 SERVICE UNIT: 14 CITY: FOUNTAIN STATE: CO

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
<b>ENGINEERING WORK</b>							
ENGINEERING			10000		10000		10000
LABOR ADDITIVE 204%			20400		20400		20400
<b>TOTAL ENGINEERING</b>			<b>30400</b>		<b>30400</b>		<b>30400</b>
<b>SIGNAL WORK</b>							
LABOR ADDITIVE 204%			465		465		465
SALES TAX				2	2		2
SIGNAL			228	59	287		287
<b>TOTAL SIGNAL</b>			<b>693</b>	<b>61</b>	<b>754</b>		<b>754</b>
<b>TRACK &amp; SURFACE WORK</b>							
BACKHOE DUMP TRUCK				10000	10000		10000
BALAST	4.00	CL	1623	2979	4602		4602
BILL PREP				900	900		900
ENVIRONMENTAL - PERMITS				10	10		10
FOREIGN FREIGHT				838	838		838
HOME LINE FREIGHT				900	900		900
LABOR ADDITIVE 204%			21402		21402		21402
MATL STORE EXPENSE				606	606		606
OTM			1179	6034	7213		7213
RDXNG	176.00	TF	2957	38721	41678		41678
SALES TAX				2228	2228		2228
SWTIE	130.00	EA	4537	7757	12294		12294
TRACK-RETIRE			587		587		587
TRK-SURF, LIN			4524		4524		4524
WELD				254	254		254
XTIE		EA	857		857		857
<b>TOTAL TRACK &amp; SURFACE</b>			<b>37666</b>	<b>71227</b>	<b>198893</b>		<b>108893</b>
<b>LABOR/MATERIAL EXPENSE</b>							
RECOLLECTIBLE/UPRR EXPENSE			68759	71288	140047	0	140047
ESTIMATED PROJECT COST							140047
EXISTING REUSEABLE MATERIAL CREDIT					0		0
SALVAGE NONUSEABLE MATERIAL CREDIT					0		0

RECOLLECTIBLE LESS CREDITS

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

□

EXHIBIT B pg 9

FORM 30-1  
WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 01 MORE

RAILROAD: UPRR CO.  
LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
DEPARTMENT: ENGINEERING SERVICES

SERVICE UNIT: 14

PROJ NO: 71798  
A.W.O. NO: 06914  
W.O. NO:  
B.I. NO: 10EN10  
STATE: CO  
VAL SEC: 0502V

-----  
2011 RECOLLECTIBLE PROGRAM

COLORADO SPRINGS SUBDIVISION

MP 86.18 DUCKWOOD ROAD DOT 253-121W

RELOCATE CROSSING FROM MP 85.73 TO MP 86.18

PROJECT TO BE FUNDED 100% BY THE CITY OF FOUNTAIN COLORADO

FEDERAL LABOR RATE OF 204.59¢

EXHIBIT B, pg 10

FORM 30-1  
 WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 02 MORE

RAILROAD: UPRR CO.  
 LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
 DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71798  
 A.W.O. NO: 06914  
 W.O. NO:  
 B.I. NO: 10EN10  
 STATE: CO  
 VAL SEC: 0502V

-----  
 SCOPE OF WORK  
 -----

PROJECT NUMBER	VAL SEC	STATE	M. P. FROM	M. P. TO	SEGMENT	JOINT FACILITY
71798	0502V	CO	85.73	86.18	4716	
71798	0502V	CO	86.18	86.18	4719	

PROJECT NUMBER 71798

M. P. FROM	M. P. TO	TRACK TYPE	SEGMENT NUMBER	NUMBER OF XTIES	NUMBER OF SWTIES	TNS OF BALAST	TRACK FEET	TRACK LINE
85.73	86.18	NO 1	4716	0	0	190	0	0
86.18	86.18	NO 2	4719	0	0	190	0	0

EXHIBIT B, pg 11

FORM 30-1  
 WORK ORDER AUTHORIZATION-DETAIL OF ESTIMATED EXPENDITURES

PAGE 04 MORE

RAILROAD: UPRR CO.  
 LOCATION: FOUNTAIN, CO, FOUNTAIN MESA RD  
 DEPARTMENT: ENGINEERING SERVICES

PROJ NO: 71798  
 A.W.O. NO: 06914  
 W.O. NO:  
 B.I. NO: 108N10  
 STATE: CO  
 VAL SEC: 0502V

-----  
 STOCK MATERIAL PLAN  
 -----

ITEM NUMBER	ITEM DESCRIPTION	UNIT COST	QTY	UM	DIRECT MATL \$
09874890	STAPLE, COPPERWELD 3/8 X 1 3/4 X	0.24	10	EA	2
13054000	TIMBER SPIKE, TORXHEAD 3/4" X 12"	1.83	396	EA	725
50210000	SWITCH TIE 7" X 9" X 10'	59.67	130	EA	7757
50361010	ECL2055 GALV RH E-CLIP PANDROL	2.45	520	EA	1274
50386210	WOOD SCREW SPIKE 15/16 X 6-1/2	1.66	1040	EA	1726
50390200	TIE PLATE 7.75 X .16, 6" BASE E-CL	11.67	260	EA	3034
52005690	BOND WIRE, 7 STRANDS 500 LF. ROLL	0.86	10	LF	9
52005700	BOND WIRE, 7 STRANDS 100 LF. ROLL	0.87	10	LF	9
52007040	WEB WELD BOND WIRE TK.CIRC.CONN.	3.98	10	EA	40
54002000	ASPHALT, CROSSING FILL	90.00	132	TN	11880
54013010	131-141# CONC XING 8'L (10' WOODT	1187.15	22	ST	26117
55255300	FIELD WELD KIT, 136# ONE SHOT	58.79	4	EA	235
55264570	PACKING SAND, PRB-MIXED (PER SACK	22.35	0	CA	18
55264930	REFRACTORY PASTE	1.84	1	EA	2
56207660	BALLAST, CLASS 1 "D"	7.84	380	TN	2979

TOTAL 55,807

MATL STORE EXP 606  
 SALES TAX 2,232

EXHIBIT Bypg 12





CAMPBELL TECHNOLOGY CORPORATION  
 GUIDE FOR DETERMINING TIME REQUIREMENTS FOR  
 TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City City of Fountain  
 County El Paso  
 District \_\_\_\_\_

Date 12/6/2011  
 Completed by CTC- Hollingsworth

Parallel Street Name  
US 85

Crossing Street Name  
Duckwood Rd

Railroad UPRR MP 86.18  
 DOT No. Pending PUC Approval

Railroad Contact Kelly Abaray  
 Phone 303-405-5036

Enter values in non-shaded boxes. Shaded boxes are calculated.

SECTION 1: RIGHT-OF-WAY TRANSFER TIME CALCULATION

Preempt verification and response time

1. Programmed preempt delay time (sec) .....	1.	<u>1.0</u>	Remarks  Controller type: <u>170</u>
2. Controller response time to preempt (sec) .....	2.	<u>0.1</u>	
3. Preempt verification and response time (sec): add lines 1 and 2 .....	3.	<u>1.1</u>	

Worst-case conflicting vehicle time

4. Worst-case conflicting vehicle phase number(s) .....	4.	<u>2</u>	Remarks _____ _____ _____
5. Minimum green time during right-of-way transfer (sec) .....	5.	<u>0.0</u>	
6. Other green time during right-of-way transfer (sec) .....	6.	<u>0.0</u>	
7. Yellow change time (sec) .....	7.	<u>4.0</u>	
8. Red clearance time (sec) .....	8.	<u>2.0</u>	
9. Worst-case conflicting vehicle time (sec): add lines 5 through 8 .....	9.	<u>6.0</u>	

Worst-case conflicting pedestrian time

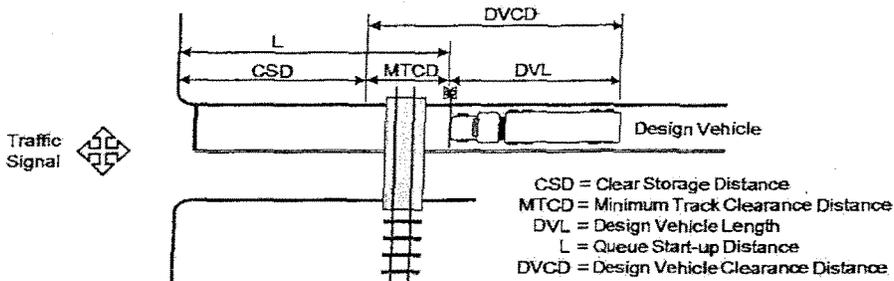
10. Worst-case conflicting pedestrian phase number(s) .....	10.	<u>2</u>	Remarks _____ _____ _____
11. Minimum walk time during right-of-way transfer (sec) .....	11.	<u>0.0</u>	
12. Pedestrian change time during right-of-way transfer (sec) .....	12.	<u>0.0</u>	
13. Vehicle yellow change time, if not included on line 12 (sec) .....	13.	<u>4.0</u>	
14. Vehicle red clearance time, if not included on line 12 (sec) .....	14.	<u>2.0</u>	
15. Worst-case conflicting pedestrian time (sec): add lines 11 through 14 .....	15.	<u>6.0</u>	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time(sec): maximum of lines 9 and 15 .....	16.	<u>6.0</u>
17. Right-of-way transfer time (sec): add lines 3 and 16 .....	17.	<u>7.1</u>

EXHIBIT D pp. 1

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



		Remarks
18. Clear storage distance (CSD, feet)	18. 132	Per City of Fountain
19. Minimum track clearance distance (MTCD, feet)	19. 46	Per City of Fountain
20. Des Veh - WB 50+15' overhang per CRS 42-4-504.	20. 70	Design vehicle type: Tractor-Trailer
21. Average grade over crossing (%)	21. 0.0%	See instructions if L>400'
22. Queue start-up distance (L, feet): add lines 18 and 19	22. 178	
23. Time required for design vehicle to start moving (sec): calculated as $2+(L/20)$	23. 32.9	
24. Design vehicle clearance distance (DVCD, feet): add lines 19 and 20	24. 116	
25. Time for design vehicle to accelerate through the DVCD (sec)	25. 14.7	From Fig. 2 and Table 2
26. Queue clearance time (sec): add lines 23 and 25	26. 47.6	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

		Remarks
27. Right-of-way transfer time (sec): line 17	27. 7.1	
28. Queue clearance time (sec): line 26	28. 47.6	
29. Desired minimum separation time (ST, sec)	29. 4.0	Minimum of 4 sec
30. Maximum preemption time (sec): add lines 27 through 29	30. 58.7	

SECTION 4: SUFFICIENT WARNING TIME CHECK

		Remarks
31. Required minimum time (MT, sec), per regulations	31. 20	
32. Wide crossing clearance time (CT, sec): verify w/ railroad	32. 2	round up (MTCD-35)/10
33. Additional CT (sec): from railroad or public agency	33.	
34. Minimum warning time provided by railroad (MWT, sec): add lines 31 thru 33	34. 22.0	
35. Minimum amount of advance preemption time needed from railroad (sec): subtract line 34 from line 30, round up to nearest full second; enter zero (0) if less than zero	35. 37	

If the value on line 35 is greater than zero, this is the minimum advance preemption time that should be requested from the railroad. Alternatively, the maximum preemption time (line 30) may be decreased after performing an engineering study to investigate the possibility of reducing the values on lines 1, 5, 6, 7, 8, 11, 12, 13 and 14.

Remarks: The worst-case conflicting pedestrian phase is the NB ped crossing. Crosswalk length = 97'. 97/3.5 fps - (4 sec of Yellow + 2 sec of Red) = 22 sec. Add 22 sec to (2+L/20) = 32.9 = Queue Start Up Time (Line 23). The Colorado State Law requires any vehicle receiving a green light to yield to any pedestrian legally in the crosswalk. Crosswalk length provided by the City of Fountain.

**SECTION 5: VEHICLE-GATE INTERACTION CHECK (OPTIONAL)**

36. Right-of-way transfer time (sec): line 17..... 36.
37. Time required for design vehicle to start moving (sec): line 23..... 37.
38. Time required for design vehicle to accelerate through DVL (on line 20, sec)..... 38.  From Fig. 2 and Table 2
39. Time required for design vehicle to clear descending gate (sec): add lines 36 through 38..... 39.  Remarks
40. Duration of flashing lights before gate descent start (sec): get from railroad..... 40.  Remarks
41. Full gate descent time (sec): get from railroad..... 41.
42. Distance from center of gate support to design vehicle (ft)..... 42.  See Figure 4
43. Proportion of non-interaction gate descent time..... 43.  From Figure 5
44. Non-interaction gate descent time (sec): multiply lines 41 and 43..... 44.
45. Time available for design vehicle to clear descending gate (sec): add lines 40 and 44..... 45.
46. Advance preemption time (APT) required to avoid design vehicle-gate interaction (sec):  
 subtract line 45 from line 39, round up to nearest full second, enter zero (0) if less than zero..... 46.

Use Vehicle Gate Interaction ? No  
 Is Gate Down Circuit Present ? Yes

**SECTION 6: TRACK CLEARANCE GREEN TIME CALCULATION**

Preempt Trap Check (Use if gate-down circuit not present)

47. Advance preemption time (APT) to be provided (sec) ..... 47.  NA Enter APT from line 35 or line 46
48. Multiplier for maximum APT due to train deceleration ..... 48.  NA See Instructions for details.
49. Maximum APT (sec): multiply line 47 and 48 ..... 49.  NA Remarks
50. Time from start of flashing lights until gate is horizontal (sec) ..... 50.  NA
51. Gates down after start of preemption (sec): add lines 49 and 50 ..... 51.  NA
52. Preempt verification and response time (sec): line 3 ..... 52.  NA Remarks
53. Best-case conflicting vehicle or pedestrian time (sec): usually zero (0) ..... 53.  NA
54. Minimum right-of-way transfer time (sec): add lines 52 and 53 ..... 54.  NA
55. Minimum track clearance green time (sec): subtract line 54 from line 51 ..... 55.  NA

**CLEARING OF CLEAR STORAGE DISTANCE (OPTIONAL)**

56. Time required for design vehicle to start moving (sec): line 23 ..... 56.
57. Design vehicle clearance distance (DVCD, feet): line 24 ..... 57.  Remarks
58. Portion of CSD to clear during track clearance green (feet) ..... 58.
59. Design vehicle relocation distance (DVRD, feet): add lines 57 and 58 ..... 59.
60. Time required for design vehicle to accelerate through DVRD (sec) ..... 60.  From Fig. 2 and Table 2
61. Time to clear portion of clear storage distance (sec): add lines 56 and 60 ..... 61.
62. Track clearance green interval (seconds): maximum of lines 26, 55, or 61, round up to full second ..... 62.

DRAFT TIMELINE - 11/10/09

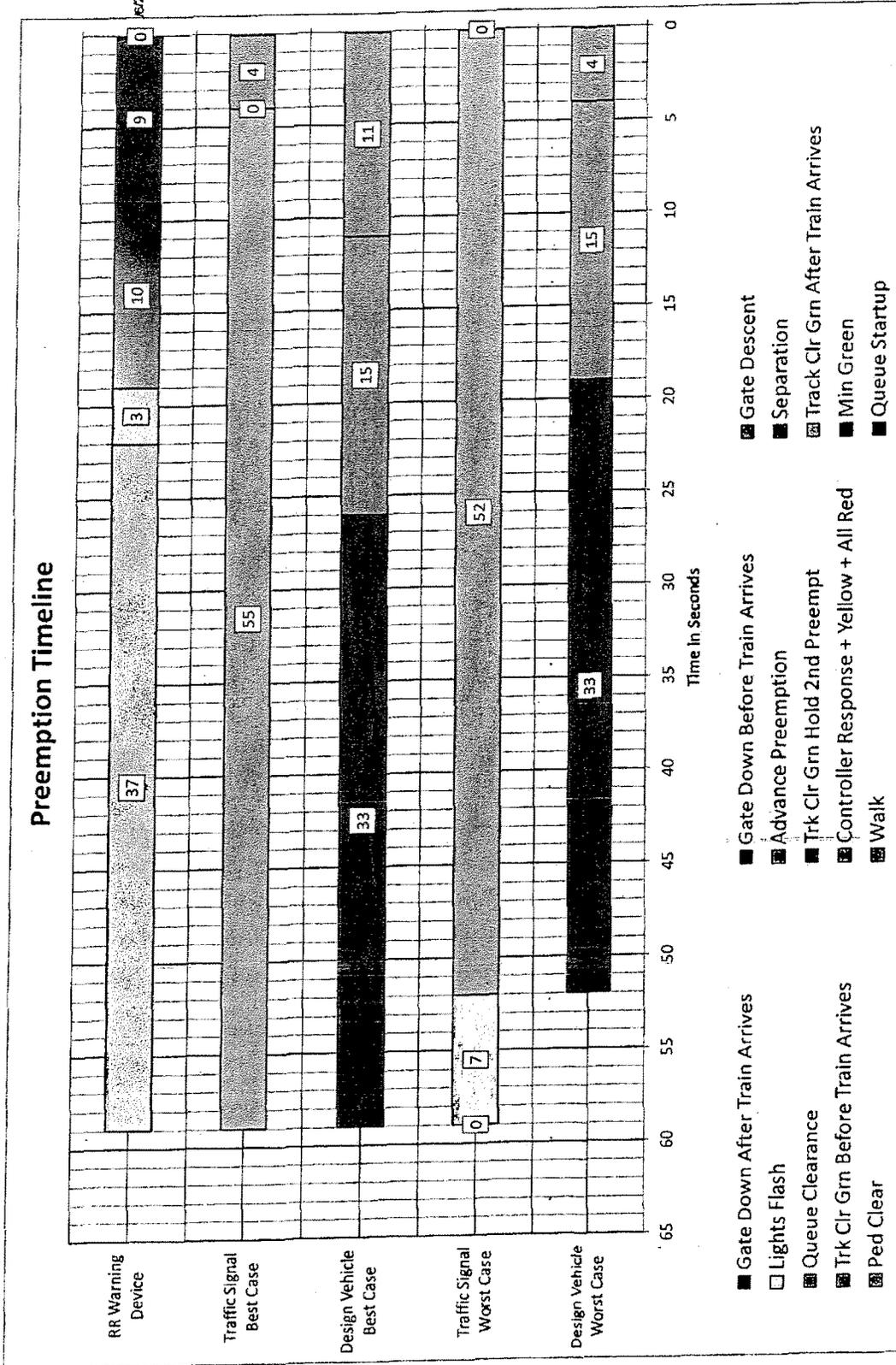


EXHIBIT D.p.4

CONSTRUCTION DOCUMENTS  
 FOR

# S.H. 85/DUCKWOOD ROAD IMPROVEMENTS

FOUNTAIN, COUNTY OF EL PASO, STATE OF COLORADO,  
 JANUARY 2011

PREPARED BY

Drexel, Barrell & Co.,  
 Engineers - Surveyors  
 3 SOUTH 7TH STREET  
 COLORADO SPRINGS, COLORADO 80905  
 (719) 586-0887



CONTACT:  
 TIM D. MCCONNELL, P.E.

PREPARED FOR

CITY OF FOUNTAIN  
 118 S. MAIN STREET  
 FOUNTAIN, COLORADO 80817  
 (719) 382-3000

CONTACT:  
 DUANE GREENWOOD

AGENCY CONTACTS

CITY OF FOUNTAIN  
 CONTACT: DUANE GREENWOOD  
 118 SOUTH MAIN STREET  
 FOUNTAIN, CO 80817  
 (719) 382-3000

REGISTRATION: COLORADO DEPARTMENT OF TRANSPORTATION

CONTACT: CARL RUFORD  
 ACCESS  
 P.O. BOX 518  
 PUEBLO, CO 81002  
 (719) 546-3400

RAILROAD: UNION PACIFIC RAILROAD

CONTACT: KELLY ABRAM  
 CENTRAL AND PUBLIC PROJECTS ENGINEERING  
 1410 W. 52nd AVENUE  
 DENVER, CO 80221  
 (303) 984-4099

RAILROAD: RUPUNGTON NORTHERN SANTA FE RAILWAY

CONTACT: ANDY AMPAYAN  
 MANAGER PUBLIC PROJECTS  
 (913) 551-4884  
 (913) 515-7882 (CELL)

ELECTRIC: CITY OF FOUNTAIN ELECTRIC DEPARTMENT

CONTACT: 118 SOUTH MAIN STREET  
 FOUNTAIN, CO 80817  
 (719) 382-5088

GAS: BLACK HILLS ENERGY

CONTACT: GEORGE PETERSON  
 1500 W. 10th Street  
 COLORADO SPRINGS, CO 80907  
 (719) 393-6632

TELEPHONE: QWEST

CONTACT: SALLY ALEX  
 7825 INDUSTRY ROAD  
 COLORADO SPRINGS, CO 80919  
 (719) 538-4299

SANITARY SEWER: FOUNTAIN SANITATION DISTRICT

CONTACT: 801 S. SANTA FE AVENUE  
 FOUNTAIN, CO 80817  
 (719) 382-3300

BENCHMARK:

COLORADO DEPARTMENT OF HIGHWAYS CONTROL MONUMENT, MILE  
 POST 130.37, ELEVATION 5008.87

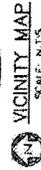
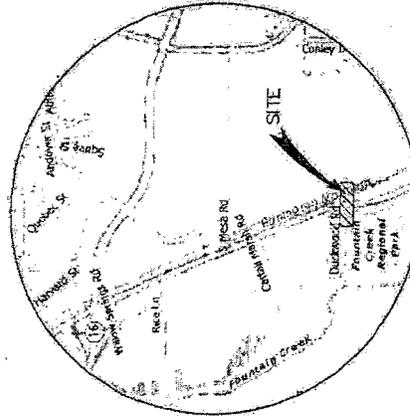
SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	NOTES AND LEGEND
3	SUMMARY OF QUANTITIES/LIST OF STANDARD DETAILS
4	TYPICAL SECTIONS
5	HORIZONTAL CONTROL PLAN
5-B	DUCKWOOD PLAN AND PROFILES
6	INTERSECTION DETAIL
7	RAILROAD CROSSING DETAIL
10A-10B	TRAFFIC SIGNAL PLAN AND PRECISION DATA
11	RAILROAD CROSSING DETAIL
12-14	HWY 85 WRENCHING PLANS
15	ELECTRIC AND RAILROAD CROSSING PLAN
16	DRAINAGE PLAN
16A	R.K. BRIDGE ADJUSTMENT, REMOVAL
17-19	SWAMP
20	STORM SEWER PLAN AND PROFILE
21	SEWER COLLECTION PLAN AND PROFILE
22	STORM SEWER PLAN AND PROFILE
23-28	DETAILS

ACCESS PERMIT NUMBER -

THIS DESIGN IS IN FULL COMPLIANCE WITH SECTION 4 OF THE STATE HIGHWAY ACCESS CODE, 2 CCR 801-1 EXCEPT FOR THE FOLLOWING APPROVED DESIGN WAIVERS:

CITY OF FOUNTAIN APPROVAL

*David R. Leonard*  
 Public Works Director  
 12/19/2011



1-800-922-1987  
 CALL BUSINESS DAYS IN ADVANCE  
 BEFORE YOU USE, GRAB OR EXHAUST  
 ANYTHING FROM OUR  
 MEMBER UTILITIES.

REVISION	DATE
1	12-15-2011
2	12-14-2011
3	12-14-2011
4	12-14-2011
5	12-14-2011
6	12-14-2011
7	12-14-2011
8	12-14-2011
9	12-14-2011
10	12-14-2011
11	12-14-2011
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22	12-14-2011
23	12-14-2011
24	12-14-2011
25	12-14-2011
26	12-14-2011
27	12-14-2011
28	12-14-2011

C7928-1  
 SHEET 1 OF 28

EXHIBIT E pp. 1



PREPARED BY: DREXEL, HARRELL & CO.  
 ENGINEERS ARCHITECTS AND PLANNERS  
 1700 EAST AVENUE, SUITE 100  
 DENVER, COLORADO 80218  
 PHONE: (303) 733-1100  
 FAX: (303) 733-1101

CITY OF FOUNTAIN  
 100 WEST MAIN STREET  
 FOUNTAIN, COLORADO 80902  
 PHONE: (303) 337-2000  
 FAX: (303) 337-2000

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE  
 1/27/87  
 4/27/87  
 10/27/87  
 10/27/87

DESIGNED BY: S.J.  
 DRAWN BY: S.J.  
 CHECKED BY: S.J.  
 APPROVED BY: S.J.

PROFESSIONAL SEAL: 33791  
 STATE OF COLORADO  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL ENGINEERING

SUMMARY OF QUANTITIES/LIST STANDARD DETAIL

PROJECT NO. C-7292-1  
 DRAWING NO. C-3

SHEET: 3 OF 28

LIST OF DETAILS

COLORADO DEPARTMENT OF TRANSPORTATION  
 STANDARD PLAN LIST  
 M & S STANDARDS

TITLE

4-601-10 HEADWALLS FOR PIPE (SHEET 1 OF 1)  
 4-602-10 REINFORCED CONCRETE PIPE (SHEET 1 OF 1)  
 4-603-10 CURBS, SIDEWALKS AND METAL END SECTIONS (SHEET 1 OF 2)  
 4-604-12 CURB RAMP (SHEET 1 OF 1)  
 4-608-1 CURB RAMP (SHEET 1 OF 1)  
 9-014-00A ALTERNATE TRAFFIC SIGNAL INSTALLATION DETAILS (SHEETS 1 TO 5)

COLORADO SPRINGS STANDARD DETAILS

DETAIL NO. TITLE

D-88 PEDESTRIAN RAMP DETAILS FOR DETRACTABLE PAVERS  
 D-218 CURB OPENING/STANDARD INLET DETAIL (SHEETS 1 & 2)

MISCELLANEOUS DETAILS

PATTERNED CONCRETE MEDIAN PAVING DETAIL  
 FIBER ROLLS/GRAVEL BAG CHECK DAM  
 SILL FENCE  
 WALL FENCING CONTROL  
 BLOCK & GRAVEL BRG CURB INLET PROTECTION  
 5' CONCRETE WALK  
 SLOTTED DRAIN CULVERT DETAIL



CALL UTILITY INFORMATION  
 BEFORE YOU START ANY WORK  
 1-800-922-1987  
 RECORD YOU GET FROM US OR ANY STATE  
 FOR THE MOUNTAIN STATES REGION

DESCRIPTION	UNIT	TOTALS	
		QUANTITY	AS COMST.
Sub Cut Asphalt	LF	1840	
Remove Asphalt	LF	1626	
Remove Slips	EA	4	
Remove wire fence	EA	210	
Cleaning and Chipping	LS	1	
Road Closure	LS	1	
Retained Edge Abutment Demolition and Regrading	SY	5600	
East of HWY 85 Crossing Impact Embankment	SY	1750	
West of HWY 85 Excavation	SY	300	
West of HWY 85 Impact Embankment	SY	100	
Contract Not to Remove Pavement, complete in-place (4')	TON	1407	
Aggregate Base Concrete Pavement, complete in-place (5')	TON	3,443	
Removal of Asphalt (Planing)	CY	8881	
1st Bituminous Pavement, (Overlay)	SY	1185	
Curb and Gutter Type 2 (Section 4B)	LF	1,259	
Medians Type 2 (Section B) 10' Barrier	LF	7,418	
4' Shoulder	EA	1	
6' curb openings	EA	605	
6' wide Concrete Sidewalk	EA	5	
Develop Ramp	EA	24,338	
Patterned Median	EA	1	
Driveway Acorn with Curb Cut	EA	1	
Upper Preliminary Engineering	EA	1	
Traffic Crossing Work (Performance by IPRP)	EA	1	
Epoxy Pavement Marking (White)	LS	3,011	
Thermoplastic Pavement Marking (Yellow)	LS	711	
Thermoplastic Pavement Marking (Red)	LS	13,322	
Large Rock Borders or Barbs (Type 4)	EA	254	
(To close existing Du-rac Rd access)	EA	6	
Install 18" RCP, including fittings, bedding, and connections	LF	147	
18" CSP Concrete Encased Solid Pipe	LF	74	
Install 24" ELLIPTICAL RCP, including fittings, bedding, and connections, completely in-place	LF	61	
Install 5' double sided inlet complete in-place	EA	1	
Special Inlet, Nantoh R-3007 Type C Gate	EA	2	
Sidewalk close	EA	2	
Install 24" ELLIPTICAL RCP TEE	EA	2	
Remove utility poles	EA	7	
Overhead	EA	674	
Underground Electric In Conduits	LF	405	
2-inch Electrical Conduit (3-2" Conduits per Signal Board)	LF	340	
Interconnect Relay Wiring	EA	115	
Traffic Signal Assembly (See note below)	EA	1	
Preassembly Circuitry control cabinet, Assembly and Appointments surge protection, Cabinet electrical ground rod	EA	1	
Sill Fence	LF	1,020	
Inlet protector	LF	6	
Rock/Filter Waffle Log Check dams	EA	14	
Wedge Tracking Control	EA	1	
Waffle along Erosion Control blanket	LS	1	

Traffic Signal Assembly to include Signal Heats Poles, Mast arm, Video Detection and Detecion Detector as shown per Traffic Signal Plan.

EXHIBIT E.p.3

PREPARED BY: **DOUGLAS BARRELL & CO.**  
 CIVIL ENGINEERS  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 OWNER/DEVELOPER: **CITY OF FOUNTAIN**  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202

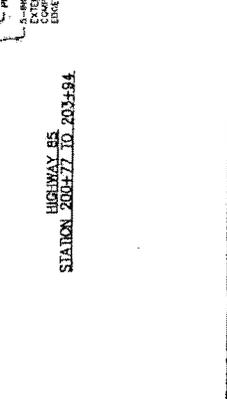
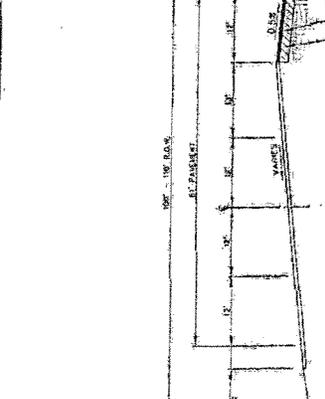
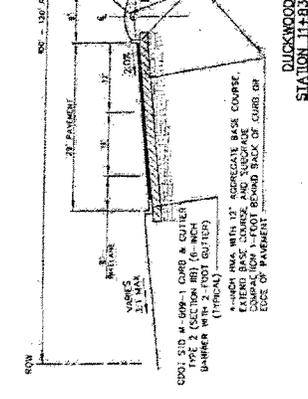
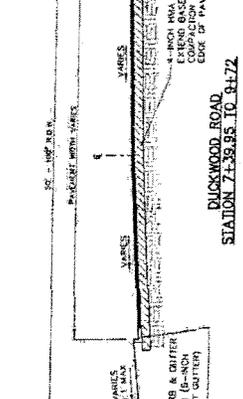
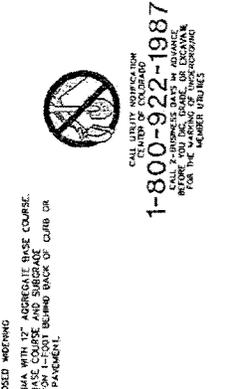
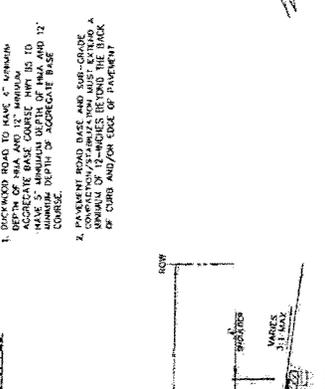
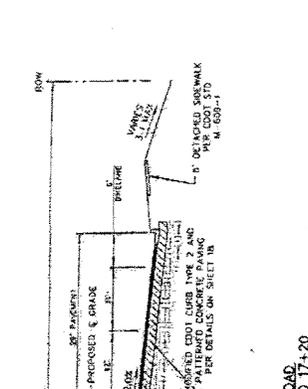
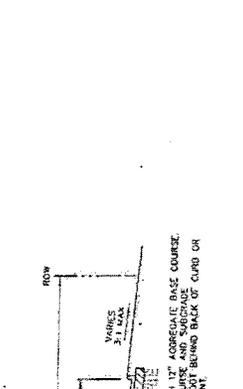
CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CORR. COMMENTS: \_\_\_\_\_

DESIGNED BY: SJS  
 DRAWN BY: CDE  
 CHECKED BY: JRM  
 APPROVED BY: \_\_\_\_\_

REGISTERED PROFESSIONAL ENGINEER  
 NO. 33797  
 STATE OF COLORADO

TYPICAL SECTIONS  
 PROJECT NO. C-4  
 SHEET: 4 OF 26



1. DUCKWOOD ROAD TO HAVE 4" MINIMUM AGGREGATE BASE COURSE WITH 12" MINIMUM DEPTH OF HMA AND 12" COURSE DEPTH OF AGGREGATE BASE COURSE.
2. PAVEMENT ROAD BASE AND SUBGRADE COMPACTION/STABILIZATION MUST EXTEND A MINIMUM OF 12-INCHES BEYOND THE BACK OF CURB AND/OR FACE OF PAVEMENT.



CALL UTILITY INSPECTION CENTER OF COLORADO  
 1-800-922-1987  
 FOR UTILITY LOCATIONS IN ADVANCE OF CONSTRUCTION TO AVOID DAMAGE TO UTILITY LINES AND TO PREVENT DELAYS TO THE PROJECT.

EXHIBIT E, p. 4



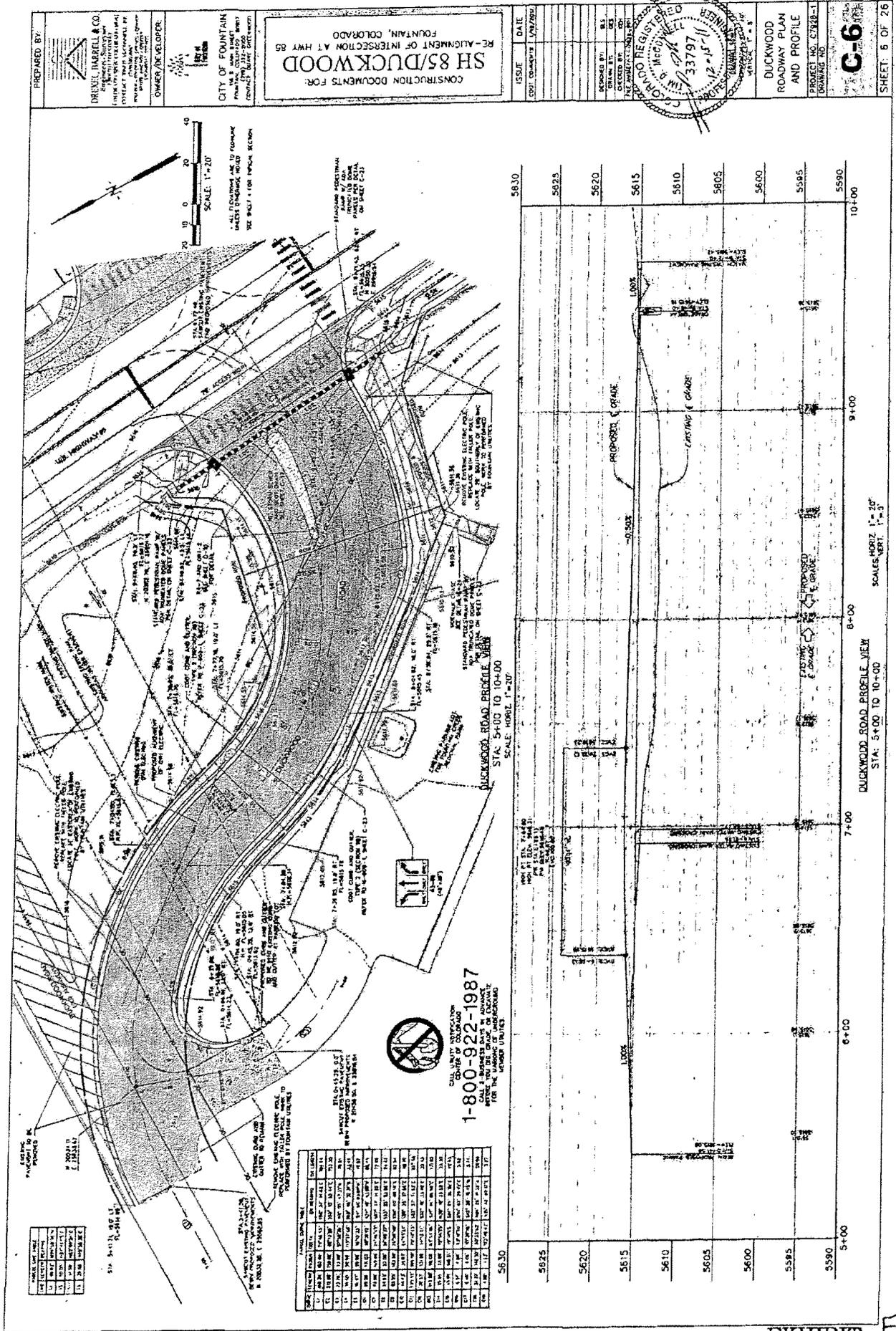


EXHIBIT E, p. 6

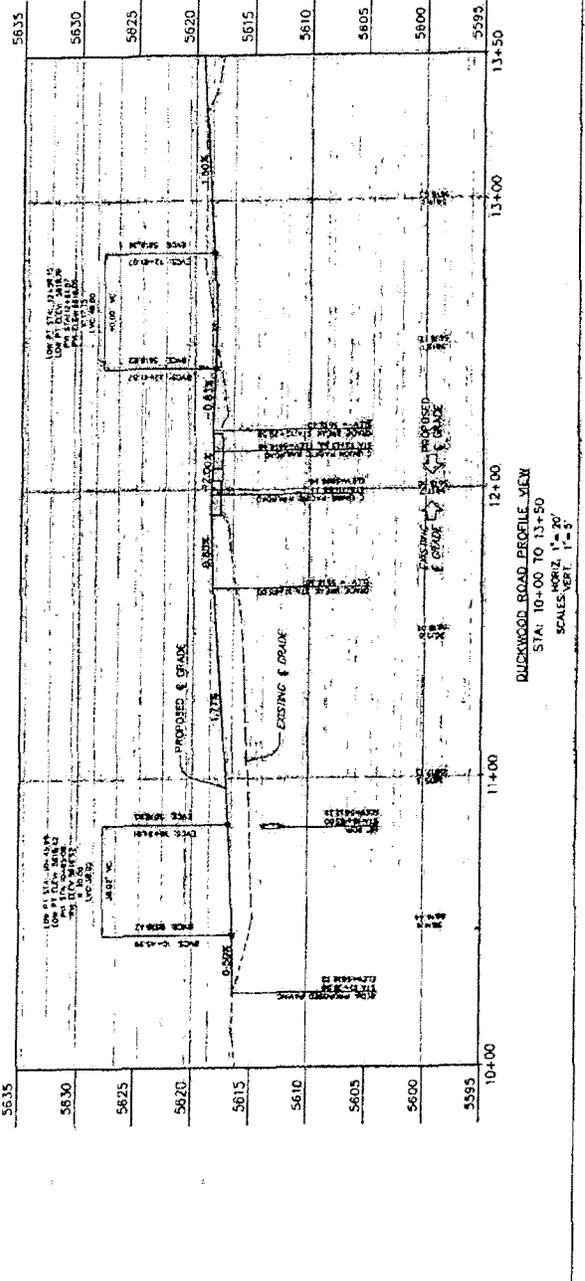
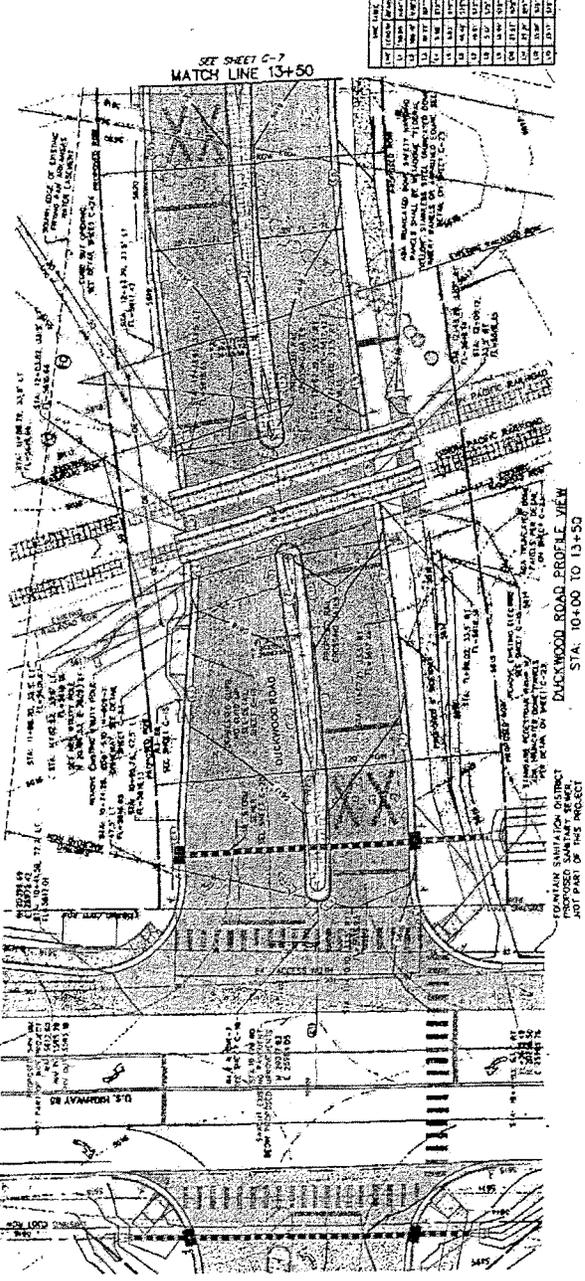
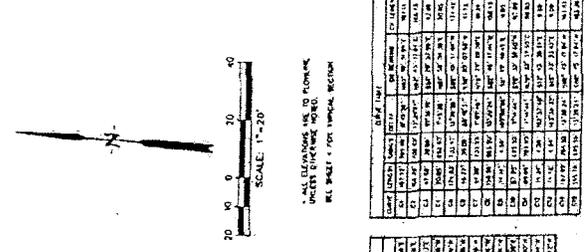
PREPARED BY:  
**DREXEL, BARRELL & CO.**  
 ENGINEERS AND ARCHITECTS  
 1500 MARKET STREET, PHILADELPHIA, PA. 19102  
 PHONE: 215-595-1100  
 FOUNDED 1888

CITY OF FOUNTAIN  
 FOUNTAIN, COLORADO 80017  
 COMMUNITY DEVELOPMENT DEPARTMENT

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE	DATE
CONTRACT	1/13/2011
DESIGNED BY	DES
CHECKED BY	DES
DATE OF REVISION	
BY	
REASON	

DUCKWOOD  
 ROADWAY PLAN  
 AND PROFILE  
 PROJECT NO. 02283-1  
 DRAWING NO.  
**C-7**  
 SHEET 7 OF 26



STATION	PROPOSED ELEVATION	EXISTING ELEVATION
10+00	5600.00	5600.00
10+10	5605.00	5605.00
10+20	5610.00	5610.00
10+30	5615.00	5615.00
10+40	5620.00	5620.00
10+50	5625.00	5625.00
10+60	5630.00	5630.00
10+70	5635.00	5635.00
10+80	5630.00	5630.00
10+90	5625.00	5625.00
11+00	5620.00	5620.00
11+10	5615.00	5615.00
11+20	5610.00	5610.00
11+30	5605.00	5605.00
11+40	5600.00	5600.00
11+50	5595.00	5595.00

CALL UTILITY INDICATIONS  
 CITY OF FOUNTAIN  
 1-800-922-1987  
 BEFORE ANY EXCAVATION  
 WORK BEGINS TO AVOID  
 DAMAGE TO UTILITIES



EXHIBIT E p. 7

PREPARED BY: DURELL BARRELL & CO. ENGINEERS ARCHITECTS  
 1500 17TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: (303) 733-1100  
 FAX: (303) 733-1101  
 WWW: WWW.DURELLBARRELL.COM

OWNER/DEVELOPER: CITY OF FOUNTAIN  
 1500 17TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: (303) 733-1100  
 FAX: (303) 733-1101  
 WWW: WWW.DURELLBARRELL.COM

CITY OF FOUNTAIN  
 1500 17TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: (303) 733-1100  
 FAX: (303) 733-1101  
 WWW: WWW.DURELLBARRELL.COM

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE: 1/27/2011  
 COST COMMENTS: 1/27/2011

DESIGNED BY: [Blank]  
 DRAWN BY: [Blank]  
 CHECKED BY: [Blank]  
 TITLE: ROADWAY PLAN AND PROFILE

PROJECT NO.: 33797  
 SHEET NO.: C-8  
 SHEET 8 OF 26

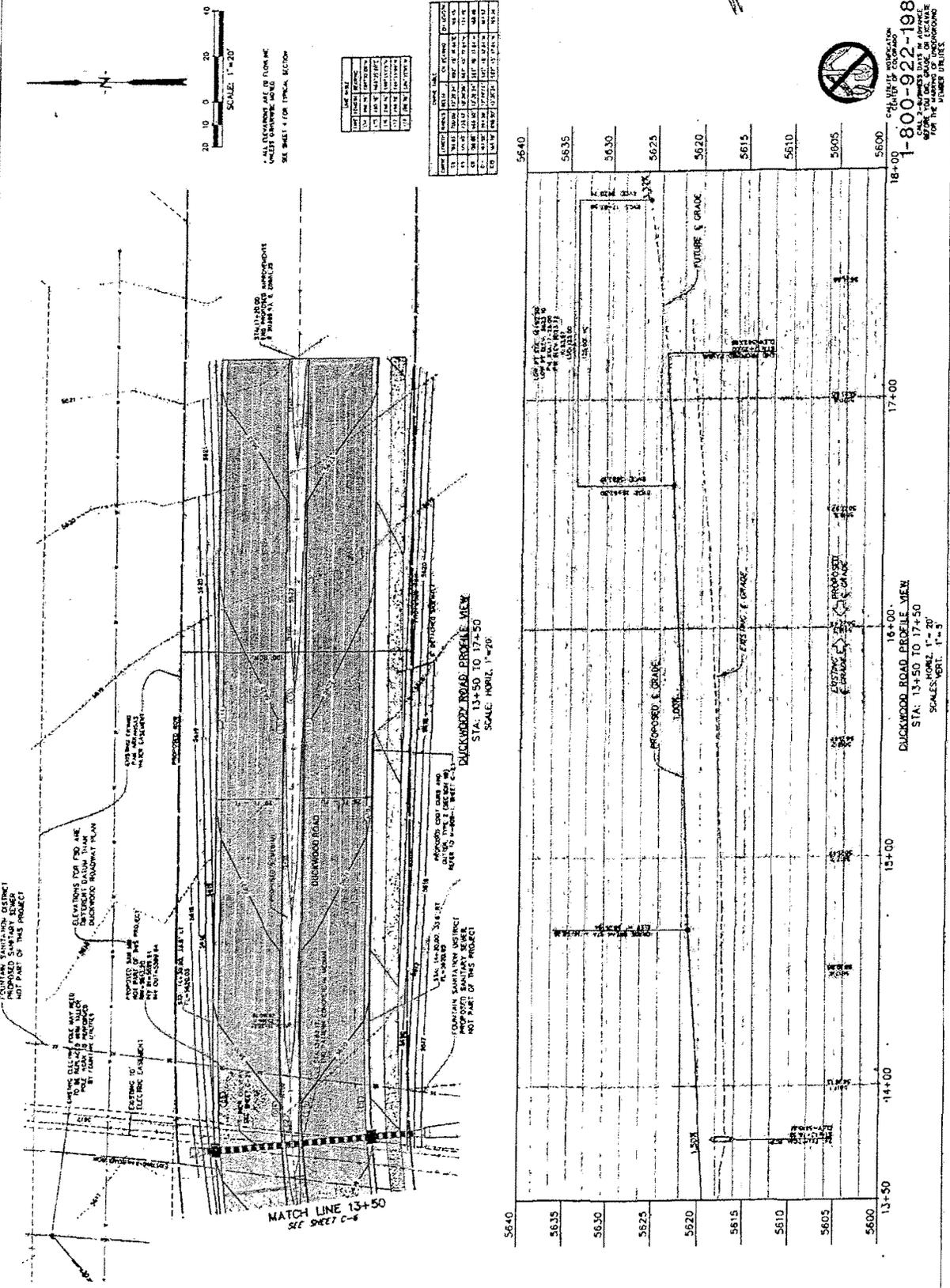


EXHIBIT E.p.8





PREPARED BY: **DREXEL, BARRELL & CO.**  
 ENGINEERS, ARCHITECTS & PLANNERS  
 1500 MARKET STREET, SUITE 1000  
 PHILADELPHIA, PA 19102  
 OWNER/DEVELOPER: **CITY OF FOUNTAIN**  
 FOUNTAIN, COLORADO 80027  
 CHARTERED PUBLIC UTILITIES DISTRICT

**CONSTRUCTION DOCUMENTS FOR:**  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE: 11-12-15  
 SHEET NO.: 10A-07 OF 26  
 PROJECT NO.: C2928-1  
 DRAWING NO.: C-10A

TRAFFIC SIGNAL PHASING AND PREEMPTION DATA

CALL LETTERS NOTIFICATION  
 CITY OF FOUNTAIN  
 1-800-922-1987  
 BEFORE YOU MAKE CHANGES TO ANY PART OF THE MARKING OF THE HIGHWAY NUMBER 10A-07

LINE NO.	DESCRIPTION	DATE	BY	CHECKED	APPROVED
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100	...	...	...	...	...



CALL LETTERS NOTIFICATION  
 CITY OF FOUNTAIN  
 1-800-922-1987  
 BEFORE YOU MAKE CHANGES TO ANY PART OF THE MARKING OF THE HIGHWAY NUMBER 10A-07

PREPARED BY: DWIGEL BARRELL & CO. ENGINEERS-ARCHITECTS  
 1500 17TH AVENUE, SUITE 1000, DENVER, CO 80202  
 CONTACT: TERRY BARRELL, P.E.  
 PROJECT: TRAFFIC SIGNAL PHASING AND PREEMPTION DATA FOR THE INTERSECTION OF HWY 85 AND W 13TH AVENUE

OWNER/DEVELOPER: CITY OF FOUNTAIN  
 1700 W. MAIN STREET, FOUNTAIN, CO 80902  
 CONTACT: BRUCE FERGUSON

CONSTRUCTION DOCUMENTS FOR: SH 85/DUCKWOOD  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

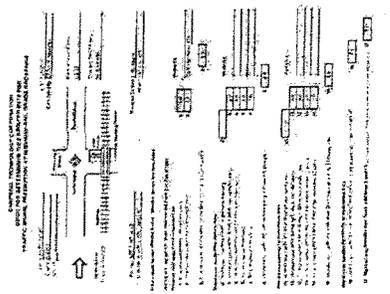
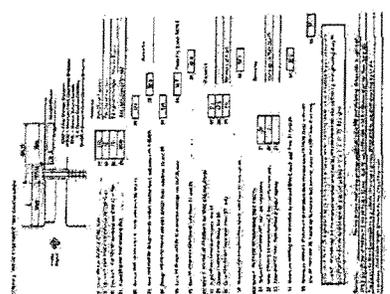
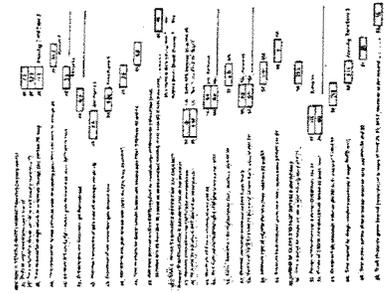
ISSUE	DATE
1.000	1/25/2011
2.000	2/17/2011
3.000	3/7/2011

DESIGNED BY: JAS  
 DRAWN BY: JAS  
 CHECKED BY: JAS  
 FILE NAME: C:\PROJECTS\2011\11-12-15\11-12-15.dwg

TRAFFIC SIGNAL PHASING AND PREEMPTION DATA  
 PROJECT NO. C7929-1  
 DRAWING NO. C-10B

33797  
 11-12-15  
 COLORADO REGISTERED PROFESSIONAL ENGINEER  
 NO. 33797  
 EXPIRES 12/31/15

SHEET 10B OF 26



CALL UTILITY AGENCIES FOR  
 ALL UTILITIES BEFORE CONSTRUCTION.  
 CALL 800-822-1987  
 FOR MORE INFORMATION.  
 BEFORE YOU DIG, CALL 811.  
 FOR THE SAFETY OF THE PUBLIC AND YOUR OWNERS,  
 CALL 800-822-1987 FOR THE LATEST UTILITY  
 INFORMATION.

PREPARED BY: DREXEL, BARRELL & CO. ENGINEERS, ARCHITECTS, PLANNERS  
 1700 17TH AVENUE, SUITE 1000, DENVER, CO 80202  
 PHONE: (303) 733-1000 FAX: (303) 733-1001  
 WWW.DREXELBARRELL.COM

DRAWN/DEVELOPER: [Signature]

CITY OF FOUNTAIN  
 118 S. MAIN STREET, SUITE 100, FOUNTAIN, CO 80902  
 PHONE: (303) 333-2000 FAX: (303) 333-2001  
 WWW.CITYOFFOUNTAIN.CO

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

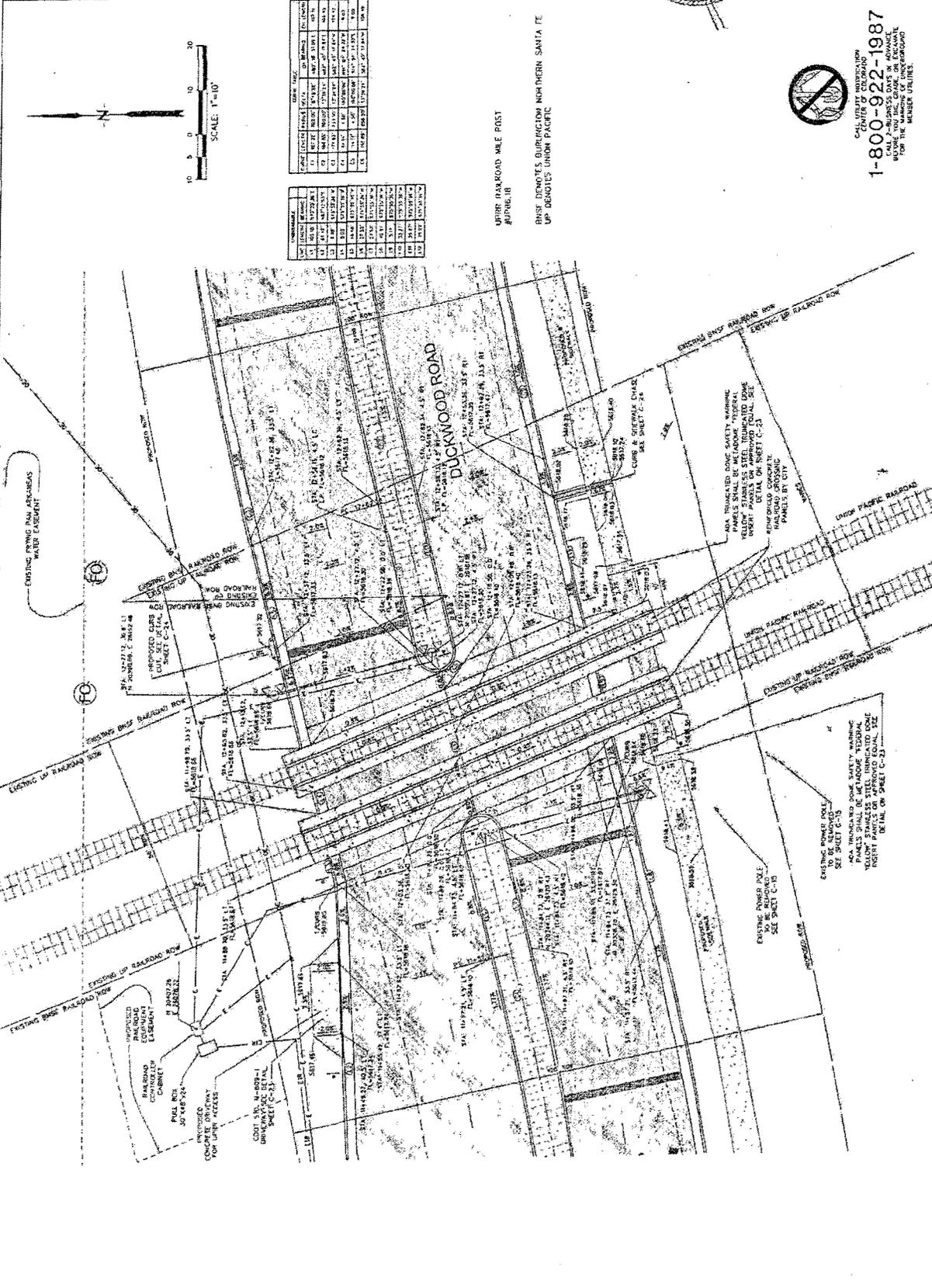
ISSUE DATE: [Blank] DATE: [Blank]  
 CONTRACT NO.: [Blank] CONTRACT DATE: 1/27/2017

DESIGNED BY: [Blank] CHECKED BY: [Blank]  
 DRAWN BY: [Blank] DATE: [Blank]

PROJECT NO.: C-11  
 DRAWING NO.: [Blank]

RAILROAD CROSSING DETAIL

PROJ. NO. C-11  
 SHEET 11 OF 26



LINE NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMITS	1/27/2017	[Blank]
2	ISSUED FOR CONSTRUCTION	1/27/2017	[Blank]
3	ISSUED FOR BIDDING	1/27/2017	[Blank]
4	ISSUED FOR RECORDS	1/27/2017	[Blank]
5	ISSUED FOR AS-BUILT	1/27/2017	[Blank]
6	ISSUED FOR FINAL RECORDS	1/27/2017	[Blank]
7	ISSUED FOR ARCHIVE	1/27/2017	[Blank]
8	ISSUED FOR [Blank]	1/27/2017	[Blank]
9	ISSUED FOR [Blank]	1/27/2017	[Blank]
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BNSF RAILROAD WALE POST  
 ALPHING, IR

BNSF PROMOTES BURIEDITION NON HERRN SANTA FE  
 UP DENOTES UNION PACIFIC



1-800-922-1987  
 CALL 2-BUSINESS DAYS IN ADVANCE  
 TO REQUEST A BIDDING DOCUMENT FOR THE PROJECT.  
 FOR A MEMBER UTILITIES.

PREPARED BY: DRESKEI BARRELL & CO.  
 1100 W. UNIVERSITY  
 DENVER, COLORADO 80202  
 PHONE: 333-7971  
 FAX: 333-7972

OWNER/DEVELOPER:  
 CITY OF FOUNTAIN  
 1000 W. UNIVERSITY  
 DENVER, COLORADO 80202  
 PHONE: 333-7971  
 FAX: 333-7972

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE  
 NO. 000001 1/27/80  
 NO. 000002 2/28/80  
 NO. 000003 3/28/80  
 NO. 000004 4/28/80  
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 NO. 00

PREPARED BY: **INEXEL BARRELL & CO.**  
 ENGINEERS ARCHITECTS  
 1000 17th Street, Suite 1000  
 Denver, Colorado 80202  
 PHONE: 303.733.1100  
 FAX: 303.733.1101  
 WWW: www.inexel.com

OWNED/DEVELOPER:  
**CITY OF FOUNTAIN**  
 1000 17th Street, Suite 1000  
 Fountain, Colorado 80902  
 PHONE: 303.733.1100  
 FAX: 303.733.1101  
 WWW: www.fountainco.gov

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

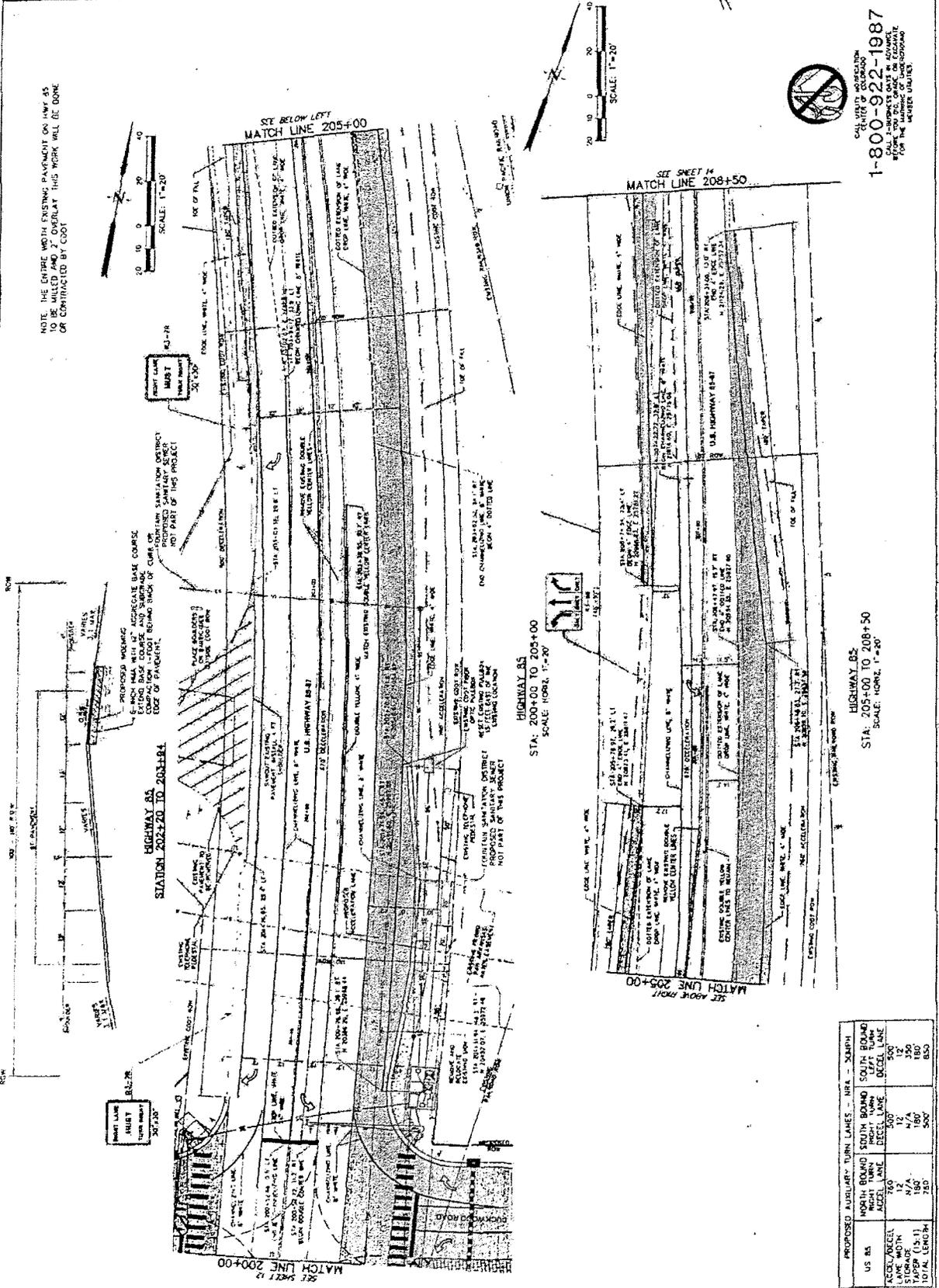
ISSUE DATE  
 CITY COMPLETION DATE  
 BILL NUMBER

DESIGNED BY: SA  
 CHECKED BY: SA  
 DRAWN BY: SA  
 PROJECT NUMBER: 33797  
 DATE: 12-15-11  
 SCALE: 1"=20'

PROJECT NO. COVERED  
**HWY 85**  
**WIDENING PLAN**

**C-13**

SHEET 13 OF 26



US 85	PROPOSED AUXILIARY TURN LANES - AREA - SQUARE FEET	AREA - SQUARE FEET	SOFT BOUNDARY	SOFT BOUNDARY
ACCEL/DECEL	750	300	DECEL LANE	DECEL LANE
STORAGE	177A	177A	DECEL LANE	DECEL LANE
TAPER (1.5:1)	180	180	DECEL LANE	DECEL LANE
TOTAL LENGTH	750	300	DECEL LANE	DECEL LANE



CALL WITH PROBLEMS  
**1-800-922-1987**  
 PROJECT NO. COVERED  
 FOR THE PROJECT NO. 33797

EXHIBIT E.p.15

PREPARED BY: DREXEL, BARRELL & CO. ENGINEERS ARCHITECTS PLANNERS  
 1501 SOUTH UNIVERSITY AVENUE  
 DENVER, COLORADO 80202  
 OWNER/DEVELOPER: CITY OF FOUNTAIN  
 1001 W. FOUNTAIN AVENUE  
 FOUNTAIN, COLORADO 80902  
 CONTRACT NO. 17-12-15-11

CONSTRUCTION DOCUMENTS FOR:  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 SH 85/DUCKWOOD  
 FOUNTAIN, COLORADO

ISSUE DATE: 1/27/2011  
 0001 COMMENTS: 1/27/2011

DESIGNED BY: S.S.  
 DRAWN BY: S.S.  
 CHECKED BY: S.S.  
 PROJECT NO.: 17-12-15-11  
 SHEET NO.: 33797

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF COLORADO  
 NO. 22143  
 EXPIRES 12-15-11

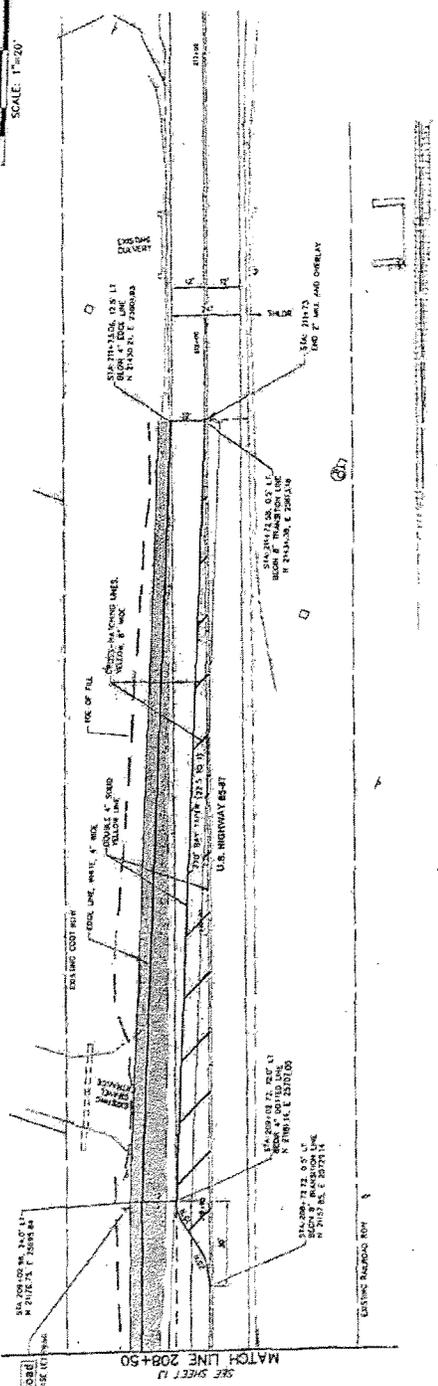
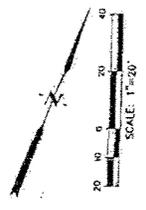
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 HORIZONTAL: N/A

HWY 85  
 WIDENING PLAN  
 PROJECT NO. C-112-11  
 DRAWING NO.

**C-14**

SHEET: 14 OF 26

NOTE: THE ENTIRE WIDTH EXISTING PAVEMENT ON HWY 85  
 WILL BE REPAVED AND 2' OVERLAY THIS WORK WILL BE DONE  
 OR CONTRACTED BY 4001



HIGHWAY 85  
 STA: 208+50 TO 212+60  
 SCALE: HORIZ. 1"=20'



CALL UNITY NOTIFICATION  
 1-800-922-1987  
 BEFORE YOU START OR PROCEED  
 WITH ANY WORK ON THIS PROJECT  
 FOR THE WARDEN OF THE WARDEN  
 PROJECT OFFICE.

EXHIBIT E, p. 16

PREPARED BY: **DREXEL BARRELL & CO.**  
 ENGINEERS AND ARCHITECTS  
 1500 17TH AVENUE  
 DENVER, COLORADO 80202  
 OWNER: **CITY OF FOUNTAIN**  
 PROJECT NO. **C-15**  
 SHEET NO. **15 OF 26**

**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

CONSTRUCTION DOCUMENTS FOR:

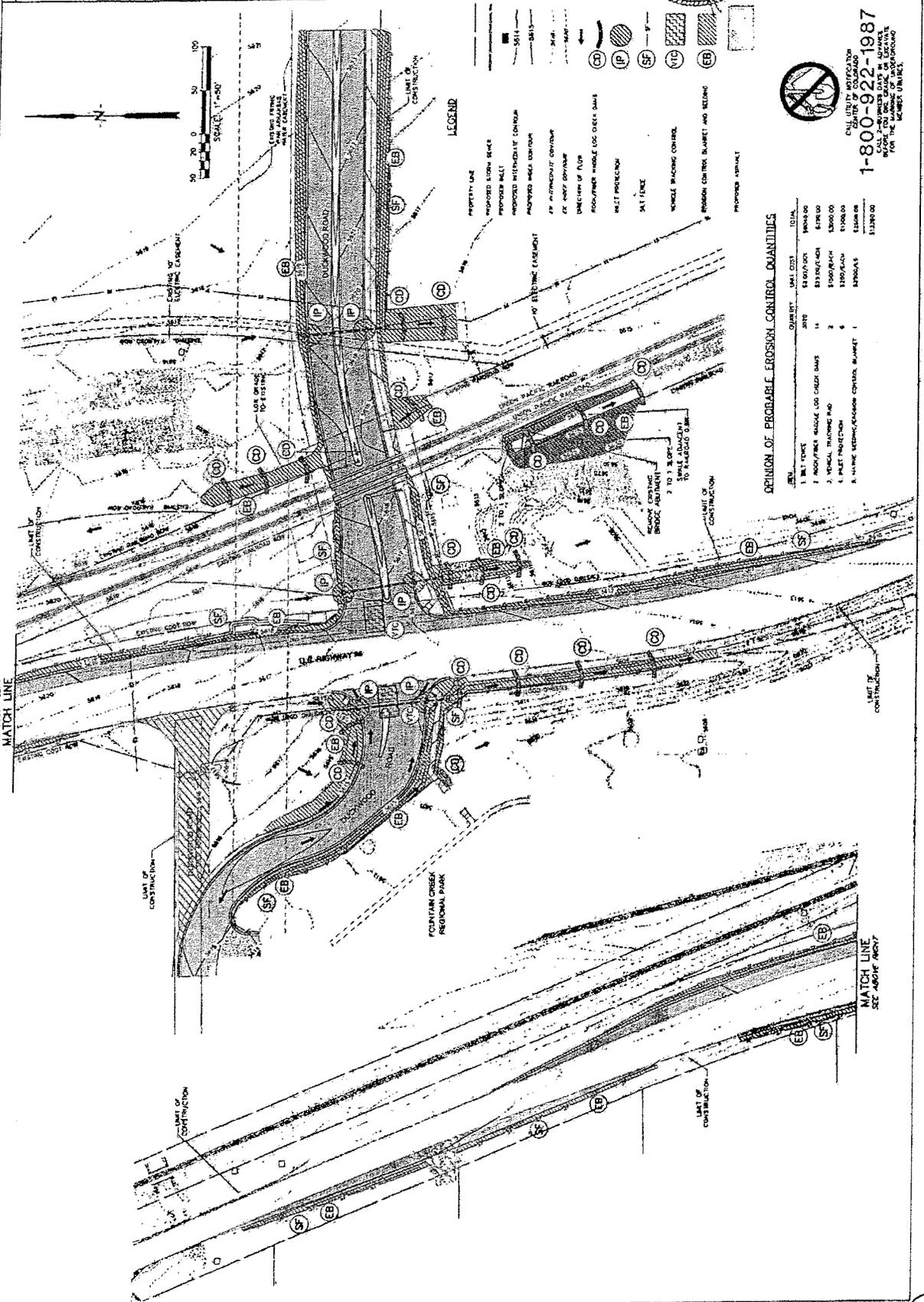
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PREPARED BY: **DREXEL DANIELL & CO.**  
 ENGINEERS ARCHITECTS PLANNERS  
 1000 WEST 10TH AVENUE, SUITE 1000  
 DENVER, COLORADO 80202  
 OWNER: **CITY OF FOUNTAIN**  
 PROJECT: **RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 SH 85/DUCKWOOD**  
 CONSTRUCTION DOCUMENTS FOR:  
 FOUNTAIN, COLORADO

DATE: 12/27/01  
 ISSUE: 1  
 SHEET: 16 OF 26

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF COLORADO  
 NO. 33797  
 EXPIRES 12/31/02

PROJECT NO. C-16-1  
 DRAWING NO. C-16-1  
**C-16**  
 SHEET 16 OF 26



CALL CITY OF FOUNTAIN  
 1-800-922-1987  
 CALL FOR MORE DATA OR ADVISES  
 FOR THE LOCATION OF ALL EROSION  
 CONTROL MEASURES

EXHIBIT E, p. 18



PREPARED BY: DREW BARRILL & CO. ENGINEERS, INC. 1700 W. 10TH AVENUE, SUITE 100 DENVER, CO 80202

PROJECT NO. C-17  
 SHEET: 17 OF 26

DATE: 12-15-11  
 33797

RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 SH 85/DUCKWOOD  
 CONSTRUCTION DOCUMENTS FOR:  
 FOUNTAIN, COLORADO

DESIGNED BY: J.S.  
 DRAWN BY: J.S.  
 CHECKED BY: J.S.

SWAMP

3. SWAMP ADMINISTRATOR FOR DESIGN: TIM D. McDONNELL, PE, PROJECT ENGINEER

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES  
 THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. DESIGNATE A SWAMP ADMINISTRATOR/DESIGNER/CONTRACT SUPERVISOR TO BE FILLED OUT AT THE OF CONSTRUCTION. DESIGNATE THE INDIVIDUAL(S) RESPONSIBLE FOR IMPLEMENTING, MAINTAINING AND REPAIRING SWAMP INCLUDING THE TITLE AND CONTACT INFORMATION. THE ACTIVITIES AND RESPONSIBILITIES OF THE ADMINISTRATOR SHALL ADDRESS ALL ASPECTS OF THE PROJECT'S SWAMP.

B. POTENTIAL POLLUTANT SOURCES  
 EVALUATE, IDENTIFY AND DESCRIBE ALL POTENTIAL SOURCES OF POLLUTANTS AT THE SITE IN ACCORDANCE WITH SUBSECTION 10.0225 AND PLACE IN THE SWAMP NOTEBOOK. ALL BMP'S RELATED TO POTENTIAL POLLUTANTS SHALL BE SHOWN ON THE SWAMP SITE MAP BY THE CONTRACTOR'S E.C.S.

C. BEST MANAGEMENT PRACTICES (BMP'S) FOR STORMWATER POLLUTION PREVENTION PHASED BY IMPLEMENTATION  
 DURING CONSTRUCTION, BMP'S ARE MARKED WHEN USED IN THE SWAMP. DURING CONSTRUCTION, THE E.C.S SHALL UPDATE THE CHECKED ROADS AND THE IMPLEMENTATION OF BMP CONTROLS AND A MARKING TO THE TABLE OR TO THE SITE MAP DESCRIBING WHY THE BMP'S ARE BEING USED IN SPECIFIC LOCATIONS.  
 STRUCTURAL BMP PRACTICES FOR EROSION AND SEDIMENT CONTROL: PRACTICES MAY INCLUDE, BUT ARE NOT LIMITED TO:

BMP	Type of Control	BMP As Designed	In Use On Site	First Construction Activities	During Construction	Interim/Final Stabilization
Earth Berm/Division	Erosion					
Check Dams	Sediment	X			X	
Silt Fence	Sediment	X			X	
Erosion Loop	Sediment	X			X	
Temporary Sediment Trap/Basin	Sediment			X	X	
Permanent Sediment Trap/Basin	Sediment				X	
Enhancement Protector	Erosion				X	X
Inlet Protection	Erosion				X	
Outlet Protection	Erosion				X	
Concrete Washouts	Construction			X	X	
Stabilized Construction Entrances	Construction			X	X	
Dewatering	Sediment				X	
Temporary Stream Crossing	Erosion				X	
Other						

SILT FENCE -- LOCATED DOWN SLOPE OF AREAS OF DISTURBANCE TO CAPTURE SEDIMENT.  
 CONCRETE WASHOUTS -- REQUIRED FOR THE CURB AND GUTTER, INLETS, SLOTTED DRAIN AND CONCRETE SIDEWALK. LOCATED PER CONTRACTOR.

1. SITE DESCRIPTION  
 STORMWATER CONSTRUCTION PERMIT - FOR INFORMATION ONLY TO FULFILL THE CDPS-500 (COLORADO DISCHARGE PERMIT - STORMWATER CONSTRUCTION PERMIT)

A. PROJECT SITE DESCRIPTION: RE-ALIGNMENT OF DUCKWOOD ROAD, PROPOSED INTERSECTION WITH HWY 85, MOVING HWY 85 FOR TURN/ACCELERATION LANES, NEW RAILROAD CROSSING AT DUCKWOOD ROAD.

B. PROPOSED REMEDIATION FOR SWAMP ACTIVITIES: METAL BMP'S, CLEAR AND GRUB, SITE DEMOLITION, GRADING, UTILITY INSTALLATIONS, PAVING AND CONSTRUCTION. PROPOSED ROADWAY INSTALL LANDSCAPING, SIGNAGE AND STRIPING, FINALIZE CONSTRUCTION AND REMOVE TEMPORARY BMP'S.

C. ACRES OF DISTURBANCE:  
 TOTAL AREA OF CONSTRUCTION SITE: 8.7 AC  
 TOTAL AREA OF DISTURBANCE: 8.7 AC  
 AREA OF SEEDING: 2.6 AC

D. RECEIVING WETLAND: BANK AND SANDY LOAM, WELL TO SOMEWHAT EXCESSIVELY DRAINED; LOW TO VERY LOW RUNOFF; RAPID TO VERY RAPID PERMEABILITY.

E. EXISTING VEGETATION, INCLUDING PLURICULT COVER: GRASS AND WEEDS UNK  
 DATE OF SURVEY: FEBRUARY 2008

F. POTENTIAL POLLUTANT SOURCES: SEE FIRST CONSTRUCTION ACTIVITIES UNDER POTENTIAL POLLUTANT SOURCES. THE E.C.S SHALL PREPARE A LIST OF ALL POTENTIAL POLLUTANTS AND THEIR LOCATIONS IN ACCORDANCE WITH SUBSECTION 10.0225.

G. RECEIVING WATER:  
 1. CONCENTRATED FLOWS OR A STORM SYSTEM  
 2. NAME OF RECEIVING WATER: FOUNTAIN CREEK  
 3. DISTANCE UPLAKE RECEIVING WATER: APPROX 1.77 MILE TO PROJECT  
 4. DOES THE RECEIVING WATER HAVE AN APPROVED TMDL: YES, TMDL ID #P3756

H. ALLOWABLE NON-STORMWATER DISCHARGE:  
 1. POTENTIAL POLLUTANT SOURCES: NO CONCENTRATED FLOWS OR A STORM SYSTEM  
 2. NAME OF RECEIVING WATER: FOUNTAIN CREEK  
 3. DISTANCE UPLAKE RECEIVING WATER: APPROX 1.77 MILE TO PROJECT  
 4. DOES THE RECEIVING WATER HAVE AN APPROVED TMDL: YES, TMDL ID #P3756

I. ENVIRONMENTAL IMPACTS:  
 1. METAL IMPACTS: NO  
 2. STREAM IMPACTS: NO  
 3. THREATENED AND ENDANGERED SPECIES: N/A

2. SITE MAP COMPONENTS  
 PRE-COORDINATION OF COMPONENTS  
 A. AREAS OF POTENTIAL DISTURBANCE  
 B. AREAS OF CHRONIC DISTURBANCE  
 C. AREAS OF SOIL AND SILT  
 D. LOCATION OF ALL STRUCTURAL BMP'S AS APPLICABLE IN THE SWAMP  
 E. LOCATION OF ALL TEMPORARY BMP'S AS APPLICABLE IN THE SWAMP  
 F. PROTECTION OF TREE, SHRUB, CULTURAL RESOURCES AND NATURAL VEGETATION

EXHIBIT E p. 20



PREPARED BY:  
  
 DANIEL BARRETT & CO. INC.  
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 FAX: 303.755.1101  
 WWW.DANIELBARRETT.COM

OWNER/DEVELOPER:  
  
 CITY OF FOUNTAIN  
 10000 E. HIGHWAY 103, SUITE 100  
 DENVER, COLORADO 80231  
 PHONE: 303.755.1100  
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CONSTRUCTION DOCUMENTS FOR:  
 SH 85/DUCKWOOD  
 ALIGNMENT OF INTERSECTION AT 73 & 85  
 FOUNTAIN, COLORADO

ISSUE DATE  
 01/20/2011

ISSUE NO. COMMENTS  
 1 1/20/2011

DRAWN BY: SJS  
 CHECKED BY: CES  
 DATE: 12/15/10

PROJECT NO. 0728-1  
 DRAWING NO.

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF COLORADO  
 NO. 33791  
 EXPIRES 12/15/11

SWMP

C-19

SHEET: 19 OF 26

11. TABULATION OF STOPWATER QUANTITIES

Qty Item	Description	Unit	Quantity
208	5ft Fence	Lf	3,020
208	Crack Doin	Each	14
208	Concrete Wash Out Structure	Each	1
208	Storm Drain Inlet Protection	Each	6
208	Stabilized Construction Entrance	Each	2
208	Sediment Removal and Disposal	Hour	24
208	Erosion Control Super-sizer	Hour	24
212	Seeding (Native)	Acre	2.6
213	Mulching (Weed Free Hay)	Acre	2.6
216	Soil Retain Blanket (Spec)	Sq	4710

B. SEEDING APPLICATION: DRILL SEED 0.25 INCH TO 0.5 INCH INTO THE SOIL. IN SMALL AREAS NOT ACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND MAKE 0.25 INCH TO 0.5 INCH INTO SOIL.

C. MULCHING APPLICATION: APPLY 1 1/2 TONS OF CERTIFIED WEED FREE HAY PER ACRE MECHANICALLY CRIMPED INTO THE SOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER. HYDROSEEDING WILL NOT BE ALLOWED.

D. SPECIAL REQUIREMENTS: DUE TO HIGH FAILURE RATES, HYDROMULCHING AND/OR HYDROSEEDING WILL NOT BE ALLOWED.

E. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:

1. REFER TO THE SOIL PREPARATION SPECIFICATION FOR THE APPLIED FERTILIZER.

F. BLANKET APPLICATION: ON SLOPES AND DITCHES REQUIRING A BLANKET, THE BLANKET SHALL BE PLACED IN LIEU OF MULCH AND MULCH TACKIFIER. SEE SWMP FOR BLANKET LOCATIONS.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION PRIOR TO FINAL ACCEPTANCE.

1. SEEDED AREAS SHALL BE REVIEWED DURING THE 14 DAY INSPECTIONS BY THE EROSION CONTROL SUPERVISOR FOR BARE SOILS CAUSED BY SURFACE OR WIND EROSION. BARE AREAS CAUSED BY SURFACE OR GULLY EROSION, BLOWN AWAY MULCH, ETC., SHALL BE REGRADED, SEEDED, MULCHED AND HAVE MULCH TACKIFIER (OR BLANKET) APPLIED AS NECESSARY.

2. AREAS WHERE SEED HAS NOT GERMINATED AFTER ONE SEASON SHALL BE EVALUATED BY THE ENGINEER AND CDOT LANDSCAPE ARCHITECT. AREAS THAT HAVE NOT GERMINATED SHALL HAVE SEED, MULCH AND MULCH TACKIFIER (OR BLANKET) APPLIED. WORK SHALL BE PAID FOR BY THE APPROPRIATE BID ITEM.

3. THE CONTRACTOR SHALL MAINTAIN SEEDING/MULCH/TACKIFIER, MOW TO CONTROL WEEDS OR APPLY HERBICIDE TO CONTROL WEEDS IN THE SEEDED AREAS UNTIL FINAL ACCEPTANCE.

10. PRIOR TO FINAL ACCEPTANCE

A. FINAL ACCEPTANCE SHALL BE IN ACCORDANCE WITH SUBSECTION 208.061.

- BMP MAINTENANCE SHALL BE PAID FOR AS INCLUDED IN THE COST OF THE EROSION CONTROL DEVICE
- IT IS ESTIMATED THAT ONE CONCRETE WASHOUT STRUCTURES WILL BE REQUIRED ON THE PROJECT. ONE CONCRETE WASHOUT STRUCTURE SHALL BE USED FOR THE FIELD LABORATORIES.
- IT IS ESTIMATED THAT TWO STABILIZED CONSTRUCTION ENTRANCE(S) WILL BE REQUIRED AS DIRECTED TO MINIMIZE VEHICLE TRACKING CONTROL. CONTRACTOR TO LOCATE BMP ON THE SWMP MAP.
- MAINTENANCE OF SEEDED AREAS SHALL BE PAID FOR AS INCLUDED IN THE PRICE OF THE WORK

EXHIBIT E p. 22

PREPARED BY: DANIEL HANRELL & CO. ENGINEERS  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 CONTRACT NO. 03-00000-01-0000  
 SHEET NO. 20 OF 26

OWNER/DEVELOPER: CITY OF FOUNTAIN  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 CONTRACT NO. 03-00000-01-0000  
 SHEET NO. 20 OF 26

CONSTRUCTION DOCUMENTS FOR:  
 SH 85/DUCKWOOD  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE: 10/12/2011  
 SHEET COMMENTS: 10/12/2011

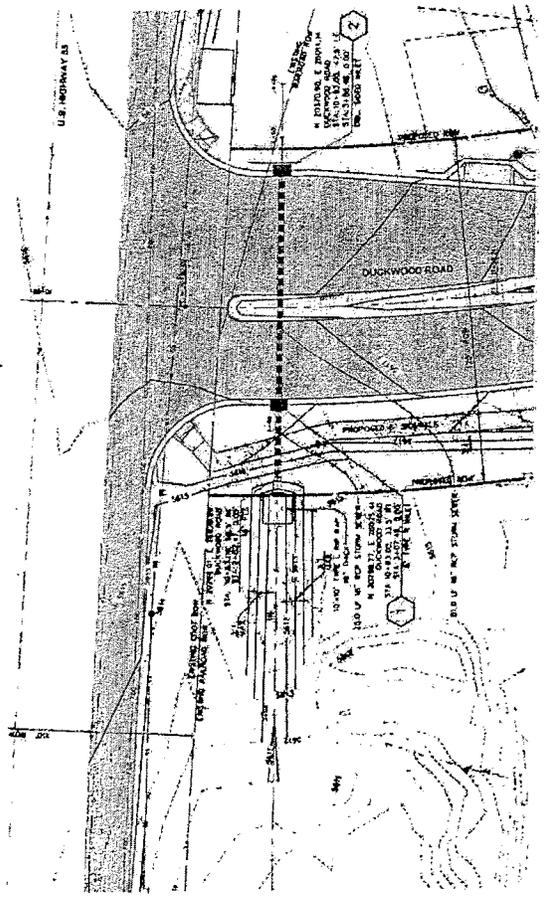
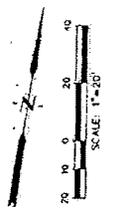
DESIGNED BY: B.S.  
 DRAWN BY: B.S.  
 CHECKED BY: B.S.  
 PROJECT NO.: 03-00000-01-0000  
 SHEET NO.: 20 OF 26

PROFESSIONAL ENGINEER  
 STATE OF COLORADO  
 NO. 33797  
 EXPIRES 12-31-11

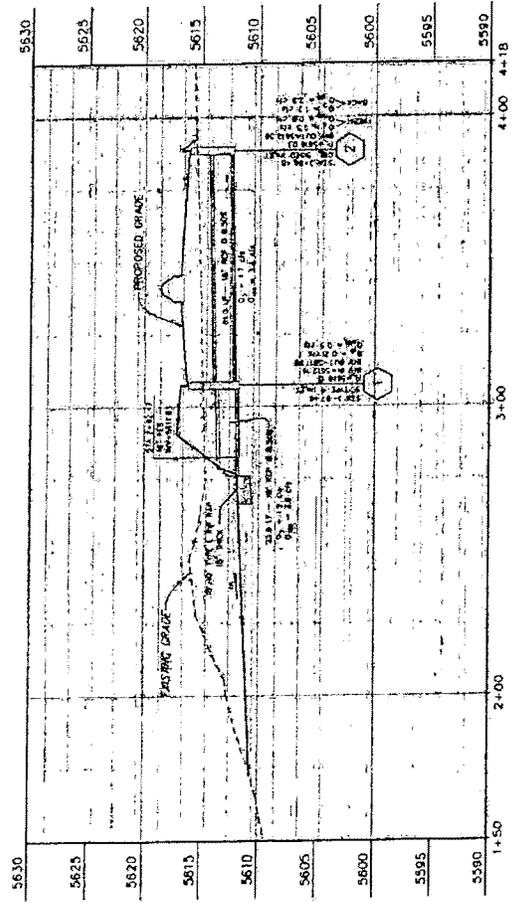
STORM SEWER PLAN AND PROFILE

PROJECT NO. 03-00000-01-0000  
 SHEET NO. 20 OF 26

**C-20**



STORM SEWER PLAN VIEW  
 SCALE: HORIZ. 1" = 20'



STORM SEWER PROFILE VIEW  
 SCALES: HORIZ. 1" = 20'  
 VERT. 1" = 5'



CALL US TO LOCATE  
 CALL 1-800-922-1987  
 CALL US TO LOCATE  
 CALL 1-800-922-1987  
 CALL US TO LOCATE  
 CALL 1-800-922-1987

PREPARED BY: **DREXEL BARRELLA CO.**  
 ENGINEERS, ARCHITECTS & PLANNERS  
 1700 W. WASHINGTON ST., SUITE 100  
 DENVER, COLORADO 80202

OWNER/DEVELOPER: **CITY OF FOUNTAIN**  
 1700 W. WASHINGTON ST., SUITE 100  
 FOUNTAIN, COLORADO 80902

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 REALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE: 1/23/2011  
 SHEET NO. 21 OF 26

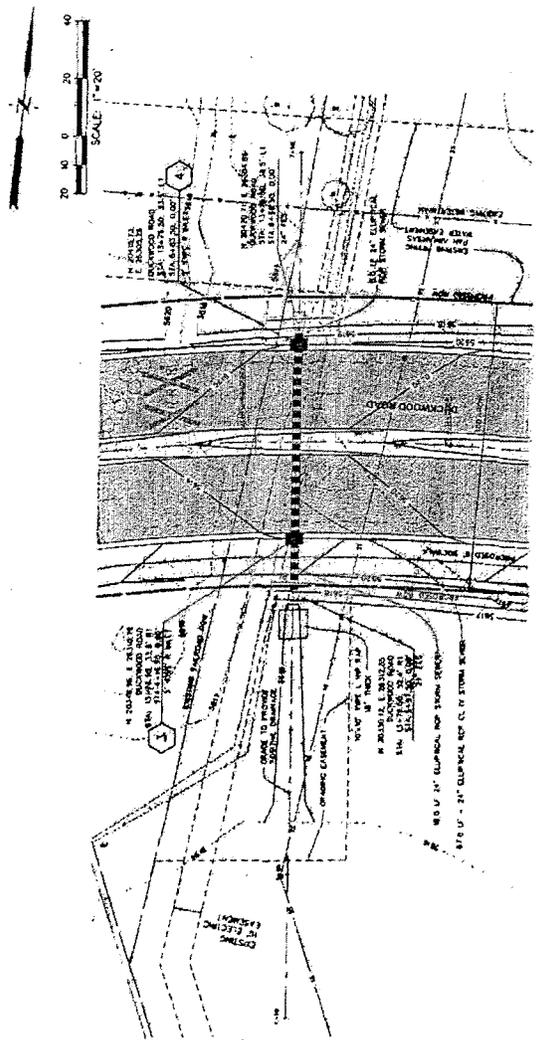
PROJECT NO. 01823-1  
 DRAWING NO. 01823-1-01

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: 1/23/2011

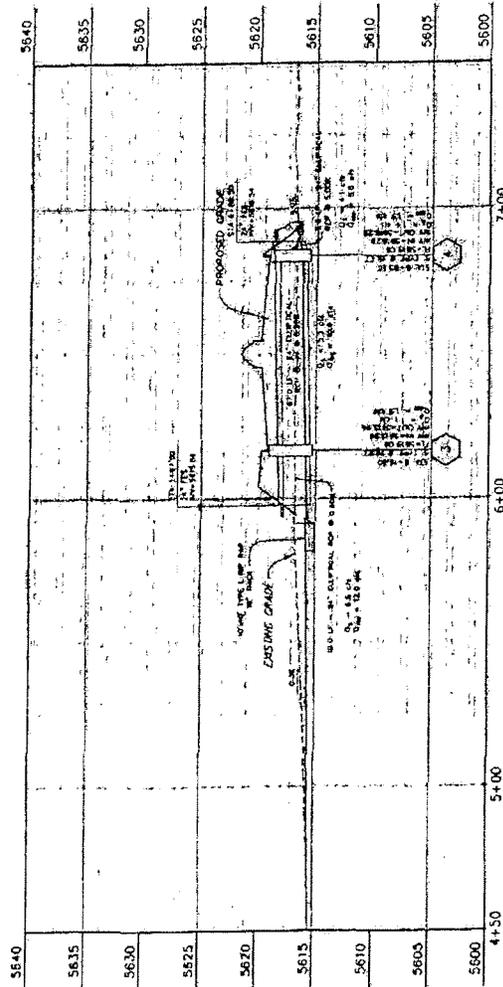
REGISTERED PROFESSIONAL ENGINEER  
 NO. 33797  
 STATE OF COLORADO

**C-21**

**EAST DUCKWOOD CULVERT**  
 PLAN & PROFILE



EAST DUCKWOOD CULVERT PLAN VIEW  
 SCALE: HORIZ. 1" = 20'



EAST DUCKWOOD CULVERT PROFILE VIEW  
 SCALE: VERT. 1" = 20'



CALL US AT WORKING HOURS  
**1-800-922-1987**  
 BEFORE YOU START OR EXCUTE  
 FOR THE SAFETY OF YOUR PROJECT

EXHIBIT E p. 24

PREPARED BY: **DRIVEL, DANIEL & CO.**  
 ENGINEERS, ARCHITECTS & PLANNERS  
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 WWW.DRIVEL.COM

OWNER/DEVELOPER:  
**CITY OF FOUNTAIN**  
 1000 W. UNIVERSITY AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 CONTACT: DAVID BETHUNE  
 PHONE: (303) 733-1111

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE  
 001 02/01/01  
 002 02/01/01  
 003 02/01/01  
 004 02/01/01  
 005 02/01/01  
 006 02/01/01  
 007 02/01/01  
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 011 02/01/01  
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 015 02/01/01  
 016 02/01/01  
 017 02/01/01  
 018 02/01/01  
 019 02/01/01  
 020 02/01/01

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF COLORADO  
 NO. 33791  
 EXPIRES 12-31-11

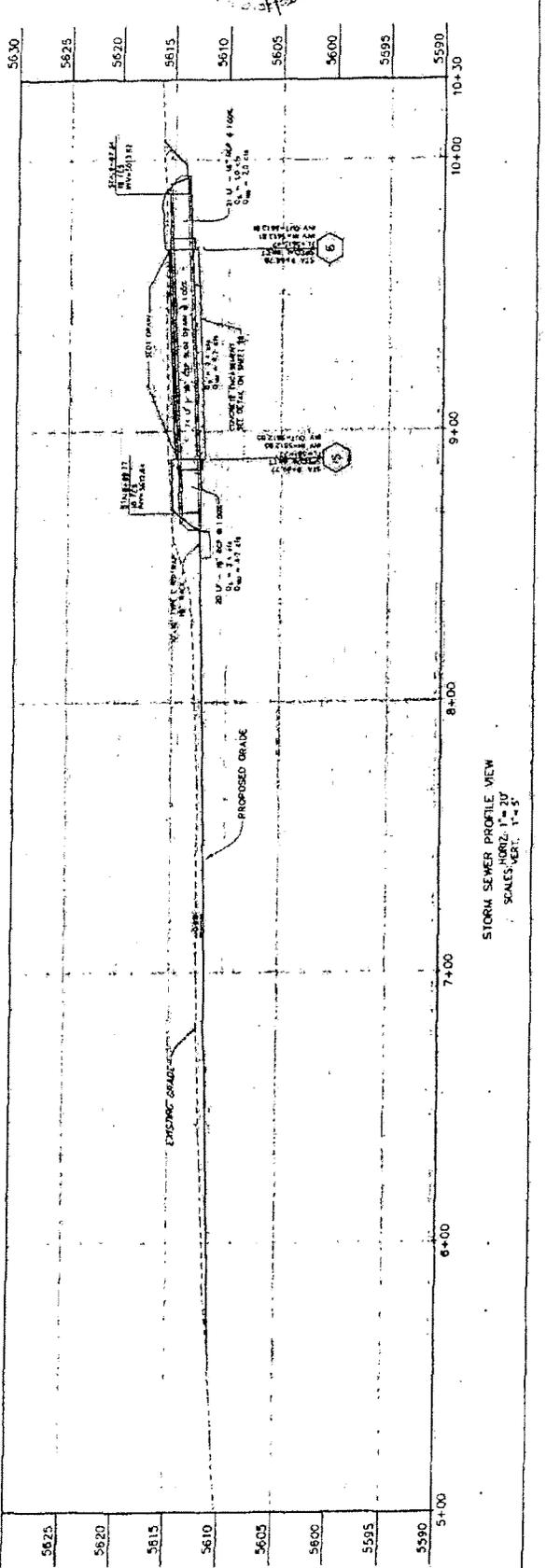
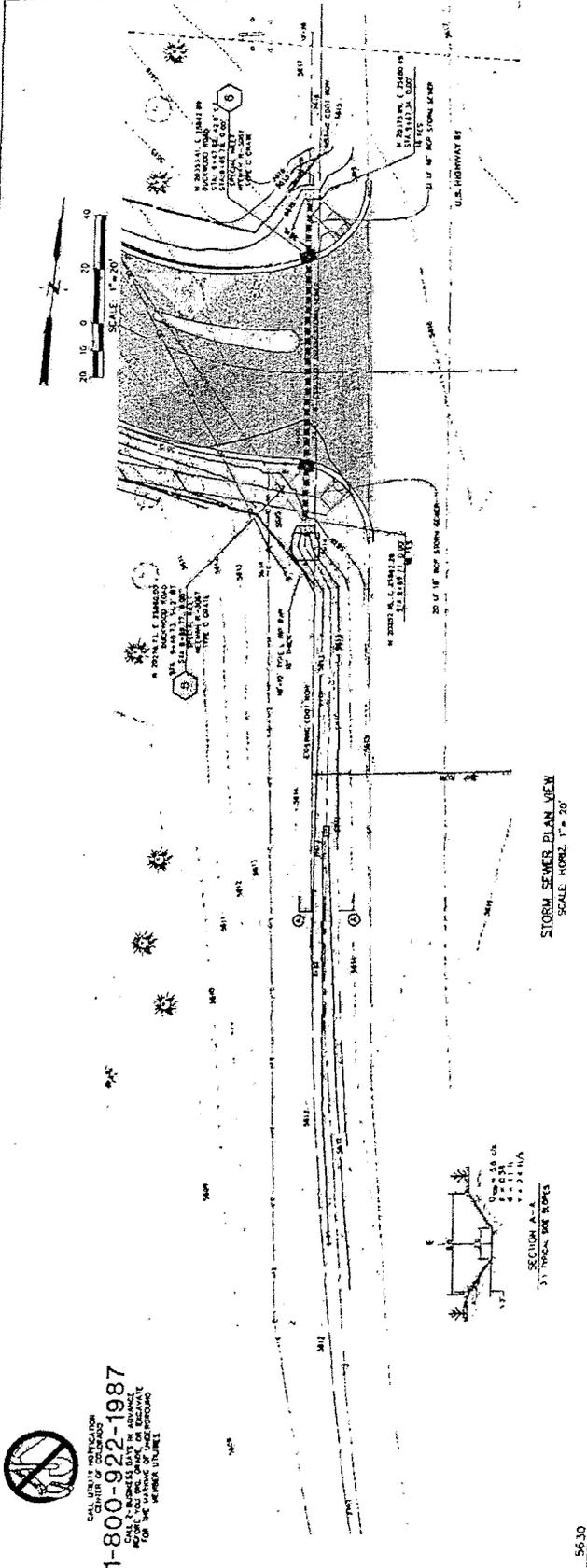
PROJECT NO. C-22-01  
 DRAWING NO.

STORM SEWER  
 PLAN AND  
 PROFILE

SCALE: HORIZ. 1" = 20'  
 VERT. 1" = 5'

**C-22**

SHEET: 22 OF 26



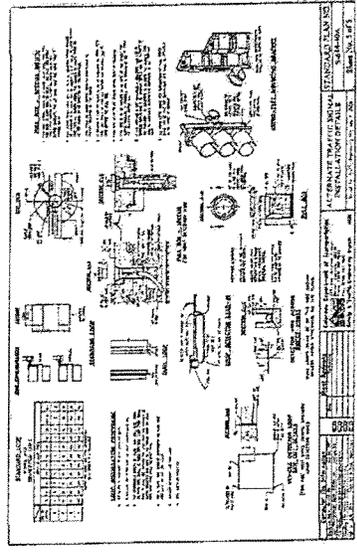
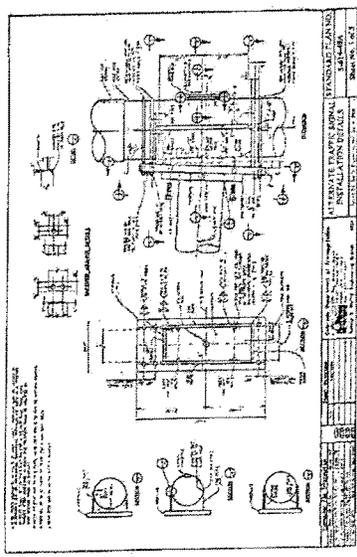
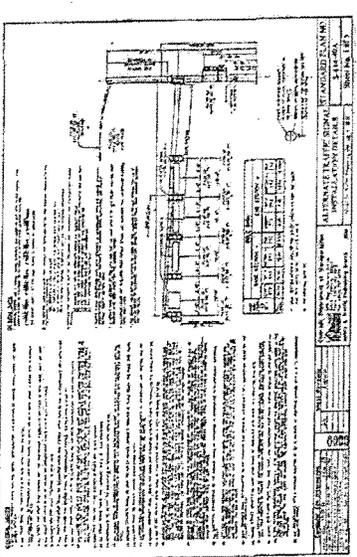
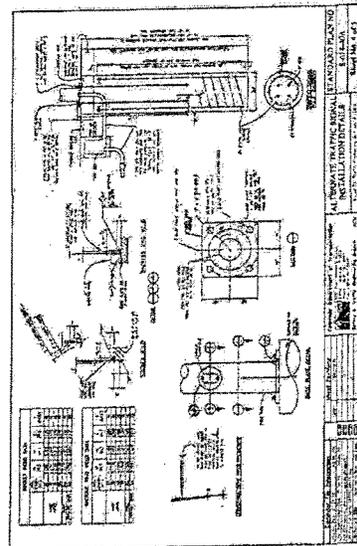
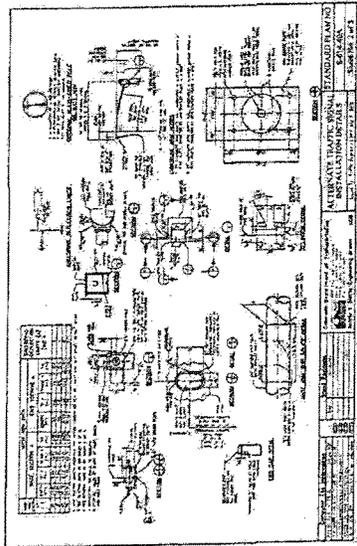
1-800-922-1987  
 CALL US FOR A FREE QUOTE  
 OR VISIT OUR WEBSITE  
 WWW.DRIVEL.COM

EXHIBIT E.p.25





PREPARED BY  <b>DREXEL, BARRELL &amp; CO.</b> Engineers, Surveyors 1700 N. W. 10th Street, Suite 100 Fort Lauderdale, Florida 33304 Phone: (305) 441-1111 Telex: 511111 DREXEL FAX: (305) 441-1112	OWNER/DEVELOPER  <b>CITY OF FOUNTAIN</b> 405 S. W. 10th Street Fort Lauderdale, Florida 33304 Phone: (305) 441-1111 Telex: 511111 DREXEL FAX: (305) 441-1112	<b>CONSTRUCTION DOCUMENTS FOR:          SH 85/DUCKWOOD</b> RE-ALIGNMENT OF INTERSECTION AT HWY 85 FOUNTAIN, COLORADO	ISSUE DATE 01/27/87	DESIGNED BY: S/S DRAWN BY: S/S CHECKED BY: S/S FILE NUMBER: 33797		PROJECT NO. C1228-11 DRAWING NO.	<b>C-25</b>	SHEET: 25 OF 26
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CALL UTILITY INDICATION  
 BEFORE YOU DIG, GRADE, OR EXCAVATE  
 FOR THE PROTECTION OF  
 MEMBER UTILITIES

1-800-922-1987

EXHIBIT E, p. 28

PREPARED BY: **DRAEEL BARRELLA CO.**  
 1000 W. 10TH AVENUE, SUITE 100  
 DENVER, COLORADO 80202  
 PHONE: (303) 733-1111  
 FAX: (303) 733-1112

OWNER/DEVELOPER:  
**CITY OF DENVER**  
 1400 BROADWAY  
 DENVER, CO 80202

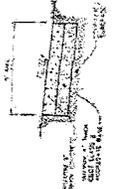
CITY OF DENVER  
 PROJECT: RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 AND SH 85/DUCKWOOD

CONSTRUCTION DOCUMENTS FOR:  
**SH 85/DUCKWOOD**  
 RE-ALIGNMENT OF INTERSECTION AT HWY 85  
 FOUNTAIN, COLORADO

ISSUE DATE: 1/19/01  
 DRAWN BY: SLS  
 CHECKED BY: GCS  
 SCALE: AS SHOWN

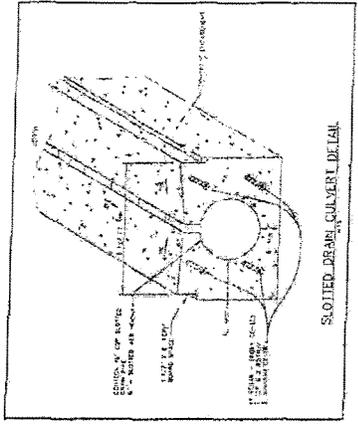
REGISTERED PROFESSIONAL ENGINEER  
 NO. 33797  
 STATE OF COLORADO

DETAILS  
 DRAWING NO. C-26  
 SHEET NO. 26 OF 26



1. CURB SHALL BE CAST IN PLACE
2. CURB SHALL BE 12" HIGH
3. CURB SHALL BE 12" WIDE
4. CURB SHALL BE 12" THICK
5. CURB SHALL BE 12" LONG
6. CURB SHALL BE 12" DEEP
7. CURB SHALL BE 12" WIDE
8. CURB SHALL BE 12" THICK
9. CURB SHALL BE 12" LONG
10. CURB SHALL BE 12" DEEP

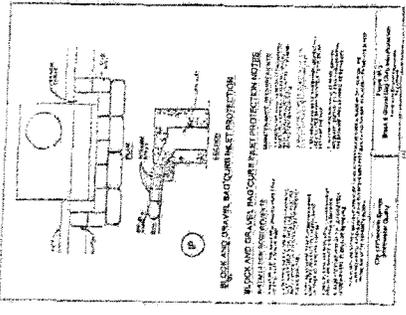
**CONCRETE WALK**



**SLOPED DRAIN CULVERT DETAIL**



CALL US FOR INFORMATION  
 1-800-922-1987  
 WE CAN HELP YOU WITH ANY  
 CALLS AND QUESTIONS OR EXCAVATE  
 FOR THE BEST AND MOST DURABLE  
 NUMBER UNITS

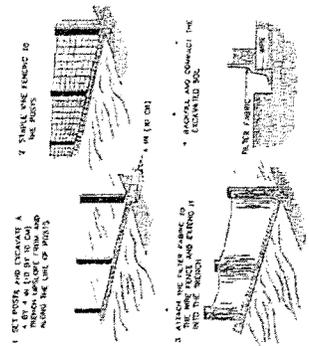


**REGULATED CURB AND GUTTER PROTECTION**

1. CURB SHALL BE 12" HIGH
2. CURB SHALL BE 12" WIDE
3. CURB SHALL BE 12" THICK
4. CURB SHALL BE 12" LONG
5. CURB SHALL BE 12" DEEP
6. CURB SHALL BE 12" WIDE
7. CURB SHALL BE 12" THICK
8. CURB SHALL BE 12" LONG
9. CURB SHALL BE 12" DEEP

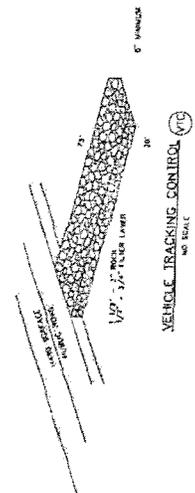


**FIBER ROLL CURB CHECK DAM**



1. SET POSTS AND EXCAVATE A TRENCH ALONG THE LINE OF POSTS
2. STAPLE ONE FABRIC TO THE POSTS
3. ALONG THE LINE OF POSTS
4. STAPLE AND EXCAVATE THE EXCAVATED END
5. STAPLE FABRIC TO THE POSTS

**SILT FENCE (SF)**



**VEHICLE TRACKING CONTROL (VTC)**

EXHIBIT F  
Software and hardware details – Fountain and CDOT

Item 1: City and CDOT agree to use 412F Prom Module including 128KB memory and a front panel laptop computer cable interface (C40) rather than manual jumper selection toggle switches.

Item 2: Flashing Yellow Arrow signal will be controlled by utilizing the BiTran 233 Firmware

- CDOT is requesting the Wapiti W4KIS HC11 to be replaced by MC 233. MC 233 is the McCain BiTran firmware (chip) in the local 170 controller. CDOT needs the City of Fountain to provide CDOT two spare MC 233 chips as well. The MC 233 has all the necessary logic to implement the Gate Down, Health Circuit and Flashing Yellow arrow as well as the normal railroad preemption and signal operations. This would allow the proper functionality and maintenance purposes.
- CDOT also needs licenses for 10 QuicLoad installs. QuicLoad is the McCain BiTran software that is only an upload /download program that communicates locally via a cable connected to the PC and the 170E controller directly.
- CDOT requires 2 cables (\$70 each) for connecting the laptops to 170E controller. The cables are to be left in the intersection cabinet for the purpose of on street connectivity.

Item 3: The parties shall use Model 242-DC Railroad Preemption Isolator Cards for interconnection between the CDOT Traffic Signal Controller and the UPRR Crossing Signal Controller, as specified on Plan Sheet C-10.