

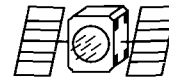


Region 1  
Address: 18500 East Colfax Avenue  
Aurora, CO 80011  
Phone: (303) 757-9744 FAX: (303) 757-9746

Survey Unit: Joseph P. Conway

Sheet Revisions

NO.	DESCRIPTION



SH 83 MP 59.45 to MP 59.65  
Section 22  
Township 6 South  
Range 66 West  
of the 6th P.M.  
DOUGLAS COUNTY, COLORADO

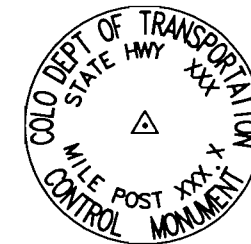


Survey Control Diagram

Title Sheet				
Project Number: NH 0831-084				
Project Location: SH 83 (a.k.a. Parker Road)				
Project Location: Sulphur Gulch				
Project Code	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
	02/02/01	1 of 2		

GEODETTIC COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA)

POINT NAME	GEODETTIC COORDINATES NAD-83(92) (CHARN)		ELLIP. HEIGHT	ELEV. (Project)	MAPPING ANGLE	SCALE	NAD 83(92) ZONE 0502	
	LATITUDE(N)	LONGITUDE(W)					NORTHING (m)	EASTING (m)
CDOT CM-MP 59.60	39° 30' 56.43892" N	104° 45' 53.22736" W	1769.241	1785.690	0° 27' 49.29186"	0.999962043	491812.087	977622.853
CDOT CM-MP 59.55	39° 30' 56.03386" N	104° 45' 51.67776" W	1769.967	1786.418	0° 27' 50.26918"	0.999962029	491799.896	977659.967
CDOT CM-MP 59.50	39° 30' 53.24378" N	104° 45' 51.14896" W	1770.195	1786.638	0° 27' 50.60268"	0.999961931	491713.957	977673.295
DOUGLAS COUNTY 1.085035	39° 30' 53.02817" N	104° 45' 52.76776" W	1770.945	1787.396	0° 27' 49.58172"	0.999961924	491706.995	977634.682
CRAIN	39° 33' 55.77764" N	104° 47' 06.15225" W	1730.551		0° 27' 03.29889"	0.999968708	497328.718	975837.474
TT14A 1934	39° 29' 35.05273" N	104° 47' 36.20242" W	1812.396		0° 26' 44.34656"	0.999959269	489282.768	975182.755
C54 1934	39° 28' 26.17399" N	104° 42' 27.30559" W	1925.301		0° 29' 59.16457"	0.999957042	487219.597	982581.817



Typical Control Monument Cap  
Not to Scale



CM-MP - Control Point Monuments set by CDOT. They are CDOT type 2 monuments, a 3-1/4" dia. aluminum control monument cap (as shown) on a 3' X 3/4" dia. finned aluminum security rod on a 3' X 3/4" dia. smooth aluminum rod.

PROJECT COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA METERS)

POINT NAME	PROJECT COORDINATES		ELEV. (Project (m))	DESCRIPTION
	NORTH (m)	EAST (m)		
CDOT CM-MP 59.60	187166.222	63528.625	1785.690	Set CDOT Type II control Monument CDOT CM-MP 59.60
CDOT CM-MP 59.55	187154.027	63565.751	1786.418	Set CDOT Type II Control Monument CDOT CM-MP 59.55
CDOT CM-MP 59.50	187068.061	63579.083	1786.638	Set CDOT Type II Control Monument CDOT CM-MP 59.50
DOUGLAS COUNTY 1.085035	187061.097	63540.458	1787.396	Found Al. cap DOUGLAS COUNTY 1.085035
CRAIN	192684.589	61742.684		Found brass cap in conc. DOUGLAS COUNTY HARN CRAIN
TT14A 1934	184636.107	61087.759		Found brass cap in conc. NGS HARN TT14A 1934
C54 1934	182572.287	68489.149		Found brass cap in conc. NGS HARN C54 1934

BASIS OF BEARINGS: Bearings used in the calculation of coordinates are based on a grid bearing of N 15°13'31" E from Douglas County CM 1.085035 to CDOT CM 59.55, as obtained from a Global Positioning System (GPS) survey based on the Colorado High Accuracy Reference Network (CHARN).

BASIS OF ELEVATIONS: Project is based on a found CDOT brass cap in the top of curb at the Northwesterly corner of the bridge structure No. F-17-HI, having a project elevation of 5862.00 feet or 1786.741 meters, as obtained from leveling from the bridge deck of structure F-17-HI and holding the elevations of the bridge deck as shown in the CDOT plan and profile of proposed combined federal aid project No's. BRP 083-1(17) and BRP 083-1(19).

COORDINATE DATUM: Project coordinates are modified Colorado State Plane Central Zone NAD '83(92) coordinates. Project Latitude is 39° 30' 47.96". State plane coordinates were modified to a mean project elevation of 1761.727 meters. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates was 1.000314642. Project coordinates are truncated by 1,000,000 feet in the Northing and by 3,000,000 feet in the Easting after converting from state plane coordinates to project coordinates in feet. Then convert from project coordinates in feet to meters to obtain project coordinates in meters. The CHARN is based on the NAD '83(92) datum.

NOTE: This control survey is for the use of the Colorado Department of Transportation personnel. The survey is not a complete boundary survey and does not subdivide land. This is not a Land Survey Plat and/or a Rights of Way Plat. Title policy, title commitment, and title research were not part of this control survey, therefore, easements, rights, and restrictions of record are not shown. The verification of the physical evidence with relation to easements, rights of way, property boundaries, and restriction, as described in the Instruments of record, were not included in this control survey.

NOTE: Refer to M-629-1 Survey Monuments of the Standard Plans, Colorado Department of Transportation, M & S Standards November 1992 for survey monument descriptions. Refer to M-100-1 Standard Symbols of the Standard Plans, Colorado Department of Transportation, M & S Standards November 1992 for standard symbol definitions.

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 statement shown hereon.

PROJECT COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA FEET)

POINT NAME	PROJECT COORDINATES		ELEV. (Project ft.)	DESCRIPTION
	NORTH (ft.)	EAST (ft.)		
CDOT CM-MP 59.60	614061.18	208426.83	5858.55	Set CDOT Type II control Monument CDOT CM-MP 59.60
CDOT CM-MP 59.55	614021.17	208548.64	5860.94	Set CDOT Type II Control Monument CDOT CM-MP 59.55
CDOT CM-MP 59.50	613739.13	208592.37	5861.66	Set CDOT Type II Control Monument CDOT CM-MP 59.50
DOUGLAS COUNTY 1.085035	613716.28	208465.65	5864.15	Found Al. cap DOUGLAS COUNTY 1.085035
CRAIN	632166.02	202567.46		Found brass cap in conc. DOUGLAS COUNTY HARN CRAIN
TT14A 1934	605760.29	200418.76		Found brass cap in conc. NGS HARN TT14A 1934
C54 1934	598989.24	224701.48		Found brass cap in conc. NGS HARN C54 1934

SURVEYORS STATEMENT: I, Daniel A. Smith, a Professional Land Surveyor in the State of Colorado, hereby state that this Control Survey Diagram was prepared under my direct supervision this 17 day of January, 2001, from a field survey performed under my supervision and checking from October 30, 2000, to November 16, 2000, for and on behalf of the Department of Transportation, State of Colorado, and is not a Land Survey Plat or Right-of-Way Survey Plat and to the best of my knowledge and belief this control survey, as shown, meets the minimum horizontal control tolerances of a CDOT Type B Survey, as listed in Chapter Three of the Colorado Department of Transportation 1992 Survey Manual.

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

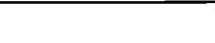
- This Control Survey Diagram represents the horizontal and vertical control for the project established by the Division. It is possible that some of the survey control monuments listed have been disturbed or obliterated. It is the Contractor's responsibility to verify the existence and stability of the control monuments before submitting a bid price.
- All Type 1 and Type 2 monuments shall be set flush with the ground. Witness posts shall be installed 1 foot from and facing all Type 1 and Type 2 monuments, or as directed by the Project Engineer.
- Installation of Type 3 and Type 3-A monuments shall be completed in the same day that installation is commenced. Under no circumstances shall holes in the roadway be left open overnight.
- When installing Type 3-A monuments, the aluminum monument box shall be positively secured in the roadway surface. The monument box shall be caulked with asphalt caulking between the monument box and the edges of the roadway surface to provide a positive moisture barrier around the monument box.
- Control survey procedures, statistical analysis, and accuracy obtained for horizontal and vertical control shall be documented in the field book.
- Legible copies of the field books shall be submitted to the Project Engineer for review on a monthly basis.
- It is ultimately the prime Contractor's responsibility to insure that these requirements, as well as any contained in the CDOT specifications, project special provisions, and CDOT Survey Manual are fulfilled under this contract.
- The minimum staking intervals for each item are described on the plans or in the CDOT Survey Manual. If the contractor wishes to reduce the minimum intervals, a Contract Modification Order must be negotiated and the cost of the item reduced accordingly.

Daniel A. Smith  
Colorado PLS No. 29769

Date

FILING CERTIFICATION  
 DEPOSITED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 19\_\_\_\_, AT \_\_\_\_\_, FOR INFORMATION  
 ONLY IN BOOK \_\_\_\_\_ OF THE COUNTY LAND SURVEYS/RIGHT OF WAY  
 SURVEYS AT PAGE \_\_\_\_\_ RECEPTION NUMBER \_\_\_\_\_  
 SIGNED \_\_\_\_\_ DEPT. \_\_\_\_\_

1329-head.dwg 02 FEB 2001 14:57:09.6 PLOT/EDIT by DAS



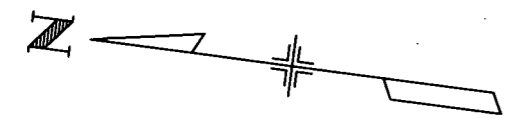
SH 83 MP 59.45 to MP 59.65  
Section 22  
Township 6 South  
Range 66 West  
of the 6th P.M.  
DOUGLAS COUNTY, COLORADO



Survey Control Diagram			
Title Sheet			
Project Number: NH 0831-084			
Project Location: SH 83 (a.k.a. Parker Road)			
Project Location: Sulphur Gulch			
Project Code:	Last Mod. Date:	Subset Sheets:	Sheet No. Total No. of Sheets:
	02/02/01	2 of 2	

**Region 1**  
 Address: 18500 East Colfax Avenue  
 Aurora, CO 80011  
 Phone: (303) 757-9744 FAX: (303) 757-9746

**Survey Unit: Joseph P. Conway**



SCALE: 1" = 40'

SET:  
 CDOT CM-MP 59.55  
 GPS PROJECT STATION  
 N: 614021.17 ft.  
 E: 208548.63 ft.  
 EL:5860.94 ft.

SET:  
 CDOT CM-MP 59.50  
 GPS PROJECT STATION  
 N: 613739.13 ft.  
 E: 208592.37 ft.  
 EL:5861.66 ft.

East Main Street

Bridge Structure  
No. F-17-HI

SH 83

(Parker Road)

East Hilltop Road

Gulch

Sulphur

SET:  
 CDOT CM-MP 59.60  
 GPS PROJECT STATION  
 N: 614061.18 ft.  
 E: 208426.83 ft.  
 EL:5858.55 ft.

FOUND:  
 BRASS CAP  
 CDOH B.M.  
 5862.00 ft.  
 (Project elev.)

FOUND:  
 DOUGLAS COUNTY 1.085035  
 GPS PROJECT STATION  
 N: 613716.28 ft.  
 E: 208465.65 ft.  
 EL:5864.15 ft.

FILED: 1/11/01 10:15 AM AT 18... M., FOR INFORMATION  
 DEPOSITED THIS DAY OF ... OF THE COUNTY LAND SURVEYS/RIGHT OF WAY  
 ONLY IN BOOK ... RECEPTION NUMBER ...  
 SIGNED \_\_\_\_\_ DEPT. \_\_\_\_\_