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AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
VIII	COLORADO	Project NH 0403-035	1

DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO
CONTROL SURVEY DIAGRAM

Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0
Grand & Clear Creek Counties

Revisions

Date	Revision	By
2/16/99	Revised CDOT CM to CDOH CM	DAS
2/16/99	Revised Elevations in the "COORDINATE SUMMARY TABLE"	DAS
2/16/99	Revised CM-MP 249.8 "EAST (m)"	DAS
2/16/99	Revised "COORDINATE DATUM"	DAS
2/16/99	Added CM-MP 247.71 to project table	DAS
2/16/99	Revised CM-MP 248.2 "ELEV(m)"	DAS
5/06/02	Added US Feet table (Sheet 2) & edit CM-MP's coordinates to US Feet	DAS
8/29/02	Added destroyed notes	DAS

2 Miles West of Berthoud Pass – West

COORDINATE SUMMARY TABLE (ADJUSTED FIELD DATA)

POINT NAME	GEODETIC COORDINATES NAD-83(92) (CHARN) LATITUDE(N)	LONGITUDE(W)	ELEVATION (NAVD '88)m	MAPPING ANGLE	SCALE	NAD 83(92) ZONE 0502 NORTHING (m)	EASTING (m)	DESCRIPTION
US 40 CM-MP 242.6	39°48'13.58025"	105°46'31.00349"	3411.082	-0°10'25.015"	1.000011081	523578.103	890827.341	CDOH Type 2 Control Monument
US 40 CM-MP 242.7	39°48'07.67012"	105°46'38.07080"	3425.252	-0°10'29.472"	1.000010729	523396.334	890658.664	CDOH Type 2 Control Monument
US 40 CM-MP 242.8	39°48'01.31533"	105°46'39.24686"	3436.362	-0°10'30.214"	1.000010352	523200.424	890630.088	CDOH Type 2 Control Monument
US 40 CM-MP 243.1	39°47'47.37815"	105°46'44.34869"	3435.678	-0°10'33.432"	1.000009529	522770.945	890507.398	CDOH Type 2 Control Monument
US 40 CM-MP 243.2	39°47'44.69195"	105°46'51.46974"	3425.685	-0°10'37.923"	1.000009371	522688.620	890337.725	CDOH Type 2 Control Monument
US 40 CM-MP 243.4	39°47'46.84538"	105°46'59.99695"	3417.083	-0°10'43.301"	1.000009498	522755.666	890135.060	CDOH Type 2 Control Monument
US 40 CM-MP 243.5	39°47'45.96861"	105°47'07.66547"	3406.179	-0°10'48.137"	1.000009446	522729.196	889952.534	CDOH Type 2 Control Monument
US 40 CM-MP 243.6	39°47'41.18361"	105°47'07.57023"	3396.933	-0°10'48.077"	1.000009165	522581.609	889954.336	CDOH Type 2 Control Monument
US 40 CM-MP 243.7	39°47'36.95245"	105°47'03.75630"	3392.212	-0°10'45.672"	1.000008916	522450.828	890044.667	CDOH Type 2 Control Monument
US 40 CM-MP 243.9	39°47'28.30713"	105°47'03.58448"	3383.832	-0°10'45.564"	1.000008410	522184.176	890047.920	CDOH Type 2 Control Monument
US 40 CM-MP 244.0	39°47'23.76303"	105°47'06.46436"	3378.364	-0°10'47.380"	1.000008145	522044.242	889978.960	CDOH Type 2 Control Monument
US 40 CM-MP 244.3*	39°47'13.71946"	105°47'19.90752"	3358.770	-0°10'55.858"	1.000007560	521735.490	889658.120	CDOH Type 2 Control Monument
US 40 CM-MP 244.4*	39°47'12.51413"	105°47'27.44876"	3350.502	-0°11'00.614"	1.000007490	521698.887	889478.565	CDOH Type 2 Control Monument
US 40 CM-MP 244.5*	39°47'13.67039"	105°47'32.02632"	3345.146	-0°11'03.502"	1.000007557	521734.898	889369.760	CDOH Type 2 Control Monument
US 40 CM-MP 244.8*	39°47'10.31917"	105°47'28.88803"	3320.212	-0°11'01.522"	1.000007362	521631.301	889444.101	CDOH Type 2 Control Monument
US 40 CM-MP 245.0*	39°47'09.59808"	105°47'18.25237"	3308.134	-0°10'54.814"	1.000007320	521608.253	889697.100	CDOH Type 2 Control Monument
US 40 CM-MP 245.1*	39°47'12.70890"	105°47'10.57934"	3297.413	-0°10'49.975"	1.000007501	521703.619	889879.977	CDOH Type 2 Control Monument
US 40 CM-MP 245.2*	39°47'15.34074"	105°47'02.49169"	3287.000	-0°10'44.874"	1.000007654	521784.186	890072.670	CDOH Type 2 Control Monument
US 40 CM-MP 245.5*	39°47'25.27849"	105°46'54.08916"	3269.513	-0°10'39.575"	1.000008233	522090.063	890273.549	CDOH Type 2 Control Monument
US 40 CM-MP 245.7*	39°47'22.90442"	105°46'49.71439"	3258.612	-0°10'36.816"	1.000008094	522016.520	890377.412	CDOH Type 2 Control Monument
US 40 CM-MP 245.8*	39°47'15.99819"	105°46'52.54016"	3247.063	-0°10'38.598"	1.000007692	521803.727	890309.519	CDOH Type 2 Control Monument
US 40 CM-MP 246.0*	39°47'08.71281"	105°47'01.62998"	3239.826	-0°10'44.331"	1.000007269	521579.704	890092.535	CDOH Type 2 Control Monument
US 40 CM-MP 246.1*	39°47'05.37831"	105°47'10.54531"	3229.279	-0°10'49.954"	1.000007076	521477.527	889880.075	CDOH Type 2 Control Monument
US 40 CM-MP 246.2*	39°47'02.49367"	105°47'15.97371"	3221.179	-0°10'53.377"	1.000006909	521388.968	889750.625	CDOH Type 2 Control Monument
US 40 CM-MP 246.5*	39°47'00.95867"	105°47'15.58859"	3199.168	-0°10'53.134"	1.000006820	521341.597	889759.639	CDOH Type 2 Control Monument
US 40 CM-MP 246.6*	39°47'01.17704"	105°47'06.90082"	3187.325	-0°10'47.655"	1.000006833	521347.680	889966.388	CDOH Type 2 Control Monument
US 40 CM-MP 246.7*	39°47'01.39036"	105°47'03.93709"	3180.502	-0°10'45.786"	1.000006845	521354.038	890036.931	CDOH Type 2 Control Monument
US 40 CM-MP 246.8*	39°46'59.40134"	105°47'07.18125"	3172.000	-0°10'47.832"	1.000006730	521292.935	889959.543	CDOH Type 2 Control Monument
US 40 CM-MP 246.9*	39°46'58.53248"	105°47'16.22305"	3159.344	-0°10'53.535"	1.000006680	521266.816	889744.305	CDOH Type 2 Control Monument
US 40 CM-MP 247.0*	39°46'53.99725"	105°47'17.81348"	3151.496	-0°10'54.538"	1.000006418	521127.062	889706.016	CDOH Type 2 Control Monument
US 40 CM-MP 247.3*	39°46'47.60411"	105°47'30.62520"	3131.429	-0°11'02.618"	1.000006050	520930.859	889400.516	CDOH Type 2 Control Monument
US 40 CM-MP 247.6	39°46'43.18489"	105°47'50.07400"	3105.619	-0°11'14.884"	1.000005796	520796.063	888937.256	CDOH Type 2 Control Monument
US 40 CM-MP 247.7	39°46'39.73783"	105°47'55.78987"	3096.788	-0°11'18.489"	1.000005598	520690.196	888800.886	CDOH Type 2 Control Monument
US 40 CM-MP 247.9	39°46'33.74006"	105°48'06.02674"	3081.833	-0°11'24.945"	1.000005255	520506.019	888556.662	CDOH Type 2 Control Monument
US 40 CM-MP 248.0	39°46'30.55353"	105°48'11.19888"	3073.495	-0°11'28.207"	1.000005073	520408.150	888433.249	CDOH Type 2 Control Monument
US 40 CM-MP 248.1	39°46'27.23099"	105°48'17.45563"	3064.038	-0°11'32.153"	1.000004884	520306.176	888284.006	CDOH Type 2 Control Monument
US 40 CM-MP 248.2	39°46'23.88668"	105°48'26.73512"	3051.463	-0°11'38.006"	1.000004693	520203.776	888062.820	CDOH Type 2 Control Monument
US 40 CM-MP 248.3	39°46'20.68105"	105°48'36.42332"	3038.431	-0°11'44.116"	1.000004511	520105.692	887831.915	CDOH Type 2 Control Monument
US 40 CM-MP 248.4	39°46'18.32212"	105°48'41.00569"	3031.663	-0°11'47.006"	1.000004377	520033.312	887722.610	CDOH Type 2 Control Monument
US 40 CM-MP 248.6	39°46'15.42335"	105°48'45.69572"	3024.445	-0°11'49.964"	1.000004212	519944.292	887610.863	CDOH Type 2 Control Monument
US 40 CM-MP 248.7	39°46'10.92996"	105°48'56.72291"	3017.243	-0°11'56.919"	1.000003957	519806.616	887347.759	CDOH Type 2 Control Monument
US 40 CM-MP 248.8	39°46'10.14584"	105°48'50.73997"	3009.751	-0°11'53.145"	1.000003913	519781.939	887490.069	CDOH Type 2 Control Monument
US 40 CM-MP 249.0	39°46'14.51780"	105°48'40.27879"	2995.989	-0°11'46.548"	1.000004161	519915.921	887739.508	CDOH Type 2 Control Monument
US 40 CM-MP 249.1	39°46'15.12561"	105°48'31.52601"	2988.186	-0°11'41.027"	1.000004195	519933.956	887947.884	CDOH Type 2 Control Monument
US 40 CM-MP 249.2*	39°46'14.96405"	105°48'26.11535"	2984.028	-0°11'37.615"	1.000004186	519928.537	888076.839	CDOH Type 2 Control Monument
US 40 CM-MP 249.3	39°46'17.80399"	105°48'16.77017"	2971.568	-0°11'31.721"	1.000004347	520015.376	888299.344	CDOH Type 2 Control Monument
US 40 CM-MP 249.5	39°46'23.21154"	105°48'04.99331"	2961.761	-0°11'24.293"	1.000004655	520181.220	888580.179	CDOH Type 2 Control Monument
US 40 CM-MP 249.7	39°46'27.36165"	105°47'53.17258"	2953.528	-0°11'16.838"	1.000004891	520308.288	888861.918	CDOH Type 2 Control Monument
US 40 CM-MP 249.8	39°46'29.66785"	105°47'47.36617"	2954.484	-0°11'13.176"	1.000005023	520378.963	889000.334	CDOH Type 2 Control Monument
D 7	39°47'56.02082"	105°46'40.20388"	3450.227	-0°10'30.818"	1.000010039	523037.201	890606.821	Found U.S.G.S. Cap in Boulder
LOBATO	39°48'09.11373"	105°48'54.00418"	3016.156	-0°11'55.204"	1.000003854	519750.376	887412.271	Found N.G.S. Cap in rock outcrop
YOST	39°47'18.12315"	105°46'52.55901"	3247.318	-0°10'38.610"	1.000007816	521869.266	890309.273	Found N.G.S. Cap in rock outcrop

PROJECT COORDINATE SUMMARY TABLE (ADJUSTED FIELD DATA IN METERS)

POINT NAME	PROJECT COORDINATES NORTH (m)	EAST (m)	ELEV(m)	DESCRIPTION
US 40 CM-MP 242.6	23845.236	391281.845	3411.082	CDOH Type 2 Control Monument
US 40 CM-MP 242.7	23663.373	391113.082	3425.252	CDOH Type 2 Control Monument
US 40 CM-MP 242.8	23467.364	391084.492	3436.362	CDOH Type 2 Control Monument
US 40 CM-MP 243.1	23037.665	390961.739	3435.678	CDOH Type 2 Control Monument
US 40 CM-MP 243.2	22955.298	390791.980	3425.685	CDOH Type 2 Control Monument
US 40 CM-MP 243.4	23022.378	390589.211	3417.083	CDOH Type 2 Control Monument
US 40 CM-MP 243.5	22995.894	390406.592	3406.179	CDOH Type 2 Control Monument
US 40 CM-MP 243.6	22848.233	390408.395	3396.933	CDOH Type 2 Control Monument
US 40 CM-MP 243.7	22717.384	390498.772	3392.212	CDOH Type 2 Control Monument
US 40 CM-MP 243.9	22450.597	390502.027	3383.832	CDOH Type 2 Control Monument
US 40 CM-MP 244.0	22310.591	390433.032	3378.364	CDOH Type 2 Control Monument
US 40 CM-MP 244.3*	22001.682	390112.028	3358.770	CDOH Type 2 Control Monument
US 40 CM-MP 244.4*	21965.061	389932.381	3350.502	CDOH Type 2 Control Monument
US 40 CM-MP 244.5*	22001.090	389823.521	3345.146	CDOH Type 2 Control Monument
US 40 CM-MP 244.8*	21897.439	389897.900	3320.212	CDOH Type 2 Control Monument
US 40 CM-MP 245.0*	21874.380	390151.027	3308.134	CDOH Type 2 Control Monument
US 40 CM-MP 245.1*	21969.795	390333.998	3297.413	CDOH Type 2 Control Monument
US 40 CM-MP 245.2*	22050.403	390526.789	3287.000	CDOH Type 2 Control Monument
US 40 CM-MP 245.5*	22356.436	390727.771	3269.513	CDOH Type 2 Control Monument
US 40 CM-MP 245.7*	22282.856	390831.687	3258.612	CDOH Type 2 Control Monument
US 40 CM-MP 245.8*	22069.953	390763.759	3247.063	CDOH Type 2 Control Monument
US 40 CM-MP 246.0*	21845.817	390546.665	3239.826	CDOH Type 2 Control Monument
US 40 CM-MP 246.1*	21743.588	390334.096	3229.279	CDOH Type 2 Control Monument
US 40 CM-MP 246.2*	21654.983	390204.580	3221.179	CDOH Type 2 Control Monument
US 40 CM-MP 246.5*	21607.588	390213.599	3199.168	CDOH Type 2 Control Monument
US 40 CM-MP 246.6*	21613.674	390420.453	3187.325	CDOT Type 2 Control Monument
US 40 CM-MP 246.7*	21620.035	390491.032	3180.502	CDOH Type 2 Control Monument
US 40 CM-MP 246.8*	21558.901	390413.605	3172.000	CDOH Type 2 Control Monument
US 40 CM-MP 246.9*	21532.769	390198.257	3159.344	CDOH Type 2 Control Monument
US 40 CM-MP 247.0*	21392.943	390159.948	3151.496	CDOH Type 2 Control Monument
US 40 CM-MP 247.3*	21196.640	389854.292	3131.429	CDOH Type 2 Control Monument
US 40 CM-MP 247.6	21061.775	389390.796	3105.619	CDOH Type 2 Control Monument
US 40 CM-MP 247.7	20955.854	389254.357	3096.788	CDOH Type 2 Control Monument
US 40 CM-MP 247.71	20941.984	389232.229	3095.534	CDOH Type 2 Control Monument
US 40 CM-MP 247.9	20771.584	389010.008	3081.833	CDOH Type 2 Control Monument
US 40 CM-MP 248.0	20673.665	388886.532	3073.495	CDOH Type 2 Control Monument
US 40 CM-MP 248.1	20571.639	388737.213	3064.038	CDOH Type 2 Control Monument
US 40 CM-MP 248.2	20469.186	388515.914	3051.463	CDOH Type 2 Control Monument
US 40 CM-MP 248.3	20371.053	388284.891	3038.431	CDOH Type 2 Control Monument
US 40 CM-MP 248.4	20298.635	388175.530	3031.663	CDOH Type 2 Control Monument
US 40 CM-MP 248.6	20209.570	388063.546	3024.445	CDOH Type 2 Control Monument
US 40 CM-MP 248.7	20071.824	387800.488	3017.243	CDOH Type 2 Control Monument
US 40 CM-MP 248.8	20047.134	387942.871	3009.751	CDOH Type 2 Control Monument
US 40 CM-MP 249.0	20181.185	388192.436	2995.989	CDOH Type 2 Control Monument
US 40 CM-MP 249.1	20199.229	388400.919	2988.186	CDOH Type 2 Control Monument
US 40 CM-MP 249.2*	20193.807	388529.740	2984.028	CDOH Type 2 Control Monument
US 40 CM-MP 249.3	20280.691	388752.559	2971.568	CDOH Type 2 Control Monument
US 40 CM-MP 249.5	20446.618	389033.537	2961.761	CDOH Type 2 Control Monument
US 40 CM-MP 249.7	20573.751	389315.420	2953.528	CDOH Type 2 Control Monument
US 40 CM-MP 249.8	20644.463	389453.906	2954.484	CDOH Type 2 Control Monument
D 7	23304.057	391061.213	3450.227	Found U.S.G.S. Cap in Boulder
LOBATO	20015.555	387865.033	3016.156	Found N.G.S. Cap in rock outcrop
YOST	22135.526	390763.513	3247.318	Found N.G.S. Cap in rock outcrop

NOTE: * – Denotes Control Monument destroyed from previous construction.

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

1). 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.

2) 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.

3) 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.

4). 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.

5). Control survey procedures, statistical analysis, and accuracy obtained for horizontal and vertical control shall be documented in the field book.

6). Legible copies of the field books shall be submitted to the Project Engineer for review on a monthly basis.

7). It is ultimately the prime Contractors 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.

8). 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.

CM-MP – Control Monuments were set CDOH. They were CDOH type 2 monuments, a 3-1/4" dia. aluminum control monument cap (as shown) on a

BASIS OF BEARINGS: Bearings used in the calculation of coordinates are based on a grid bearing of S. 64° 07' 02" W. from S.H. 40 CM-MP 243.1 to S.H. 40 CM-MP 243.2 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 U.S. Geodetic Survey (USGS) benchmark COLO D 7 1924 a 3 inch brass cap set in a boulder with an NAVD '88 elevation of 3450.227 meters. COLO D 7 1924 is part of Colorado Line 72.

COORDINATE DATUM: Project coordinates are modified colorado state plane central zone NAD '83 coordinates. State Plane coordinates were modified to a mean project elevation of 3294.608 m. The combined elevation/scale correction factor used to modify the state plane to project coordinates was 1.000510205. Project Coordinates were truncated by 500,000 in the Northing and 500,000 in the Easting. The CHARN is based on the WGS '84 (92) datum.

NOTE: Refer to NEW 629-1 SURVEY MONUMENTS of the STANDARD PLANS, COLORADO DEPARTMENT OF TRANSPORTATION, M & S STANDARDS MARCH 15, 1996 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.

NOTE: This control survey is for the use of Colorado Department of Transportation personnel. The survey is not a complete boundary survey and does not subdivide land. 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 restrictions, as described in the instruments of record, was not included in this control survey.

NOTE: 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.

NOTE: The plan views of this control survey diagram are shown in US feet while the AutoCAD drawing and scale are shown in Metric units.

SURVEYORS STATEMENT: I, Joseph P. Conway, a Professional Land Surveyor in the State of Colorado, hereby state that this Control Survey Diagram was prepared under my supervision this ______day of_______________, from a field survey performed under my supervision from September 20, 1989 to January 22, 1995, and checking 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 Type B Survey.

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
VIII	COLORADO	Project NH 0403-035	2

Revisions

5/06/02	Added table for coordinates in US feet.	DAS

2 Miles West of Berthoud Pass – West

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO

CONTROL SURVEY DIAGRAM

Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0
Grand & Clear Creek Counties

PROJECT COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA IN U.S. FEET)

POINT NAME	PROJECT COORDINATES		ELEV(ft)	DESCRIPTION
	NORTH (ft)	EAST (ft)		
LOBATO	65867.70	1272520.52	9895.50	CDOT Type 2 Control Monument
YOST	72622.97	1282029.95	10653.90	CDOT Type 2 Control Monument
D 7	76456.72	1283006.66	11319.61	CDOT Type 2 Control Monument
US 40 CM-MP 242.6	78232.24	1283730.52	11191.19	CDOT Type 2 Control Monument
US 40 CM-MP 242.7	77635.58	1283176.84	11237.68	CDOT Type 2 Control Monument
US 40 CM-MP 242.8	76992.51	1283083.04	11274.13	CDOT Type 2 Control Monument
US 40 CM-MP 243.1	75582.74	1282680.31	11271.89	CDOT Type 2 Control Monument
US 40 CM-MP 243.2	75312.51	1282123.35	11239.10	CDOT Type 2 Control Monument
US 40 CM-MP 243.4	75532.59	1281458.10	11210.88	CDOT Type 2 Control Monument
US 40 CM-MP 243.5	75445.70	1280858.96	11175.11	CDOT Type 2 Control Monument
US 40 CM-MP 243.6	74961.24	1280864.88	11144.77	CDOT Type 2 Control Monument
US 40 CM-MP 243.7	74531.95	1281161.39	11129.28	CDOT Type 2 Control Monument
US 40 CM-MP 243.9	73656.67	1281172.07	11101.79	CDOT Type 2 Control Monument
US 40 CM-MP 244.0	73197.33	1280945.71	11083.84	CDOT Type 2 Control Monument
US 40 CM-MP 244.3*	72183.85	1279892.54	11019.56	CDOT Type 2 Control Monument
US 40 CM-MP 244.4*	72063.70	1279303.15	10992.43	CDOT Type 2 Control Monument
US 40 CM-MP 244.5*	72181.91	1278946.00	10974.87	CDOT Type 2 Control Monument
US 40 CM-MP 244.8*	71841.85	1279190.03	10893.06	CDOT Type 2 Control Monument
US 40 CM-MP 245.0*	71766.20	1280020.49	10853.44	CDOT Type 2 Control Monument
US 40 CM-MP 245.1*	72079.24	1280620.79	10818.26	CDOT Type 2 Control Monument
US 40 CM-MP 245.2*	72343.70	1281253.31	10784.10	CDOT Type 2 Control Monument
US 40 CM-MP 245.5*	73347.74	1281912.69	10726.73	CDOT Type 2 Control Monument
US 40 CM-MP 245.7*	73106.34	1282253.63	10690.96	CDOT Type 2 Control Monument
US 40 CM-MP 245.8*	72407.84	1282030.77	10653.07	CDOT Type 2 Control Monument
US 40 CM-MP 246.0*	71672.48	1281318.52	10629.33	CDOT Type 2 Control Monument
US 40 CM-MP 246.1*	71337.09	1280621.11	10594.73	CDOT Type 2 Control Monument
US 40 CM-MP 246.2*	71046.39	1280196.19	10568.15	CDOT Type 2 Control Monument
US 40 CM-MP 246.5*	70890.89	1280225.78	10495.94	CDOT Type 2 Control Monument
US 40 CM-MP 246.6*	70910.86	1280904.44	10457.08	CDOT Type 2 Control Monument
US 40 CM-MP 246.7*	70931.73	1281135.99	10434.70	CDOT Type 2 Control Monument
US 40 CM-MP 246.8*	70731.16	1280881.97	10406.80	CDOT Type 2 Control Monument
US 40 CM-MP 246.9*	70645.43	1280175.45	10365.28	CDOT Type 2 Control Monument
US 40 CM-MP 247.0*	70186.68	1280049.76	10339.53	CDOT Type 2 Control Monument
US 40 CM-MP 247.3*	69542.64	1279046.96	10273.70	CDOT Type 2 Control Monument
US 40 CM-MP 247.6	69100.17	1277526.30	10189.02	CDOT Type 2 Control Monument
US 40 CM-MP 247.7	68752.66	1277078.67	10160.04	CDOT Type 2 Control Monument
US 40 CM-MP 247.71	68707.16	1277006.07	10155.93	CDOT Type 2 Control Monument
US 40 CM-MP 247.9	68148.11	1276277.00	10110.98	CDOT Type 2 Control Monument
US 40 CM-MP 248.0	67826.85	1275871.90	10083.62	CDOT Type 2 Control Monument
US 40 CM-MP 248.1	67492.12	1275382.01	10052.60	CDOT Type 2 Control Monument
US 40 CM-MP 248.2	67155.99	1274655.96	10011.34	CDOT Type 2 Control Monument
US 40 CM-MP 248.3	66834.03	1273898.01	9968.59	CDOT Type 2 Control Monument
US 40 CM-MP 248.4	66596.44	1273539.22	9946.38	CDOT Type 2 Control Monument
US 40 CM-MP 248.6	66304.23	1273171.82	9922.70	CDOT Type 2 Control Monument
US 40 CM-MP 248.7	65852.31	1272308.77	9899.07	CDOT Type 2 Control Monument
US 40 CM-MP 248.8	65771.31	1272775.90	9874.49	CDOT Type 2 Control Monument
US 40 CM-MP 249.0	66211.10	1273594.68	9829.34	CDOT Type 2 Control Monument
US 40 CM-MP 249.1	66270.30	1274278.68	9803.74	CDOT Type 2 Control Monument
US 40 CM-MP 249.2*	66252.51	1274701.32	9790.10	CDOT Type 2 Control Monument
US 40 CM-MP 249.3	66537.57	1275432.35	9749.22	CDOT Type 2 Control Monument
US 40 CM-MP 249.5	67081.95	1276354.20	9717.04	CDOT Type 2 Control Monument
US 40 CM-MP 249.7	67499.05	1277279.00	9690.03	CDOT Type 2 Control Monument
US 40 CM-MP 249.8	67731.04	1277733.36	9693.17	CDOT Type 2 Control Monument

NOTE: * – Denotes Control Monument destroyed from previous construction.

AS CONSTRUCTED					
NO REVISIONS		REVISED		VOID	

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
VIII	COLORADO	Project NH 0403-035	7

Revisions

2/16/99	Revised CDOT CM to CDOH CM	DAS
2/16/99	Removed BMs from plan sheets	DAS

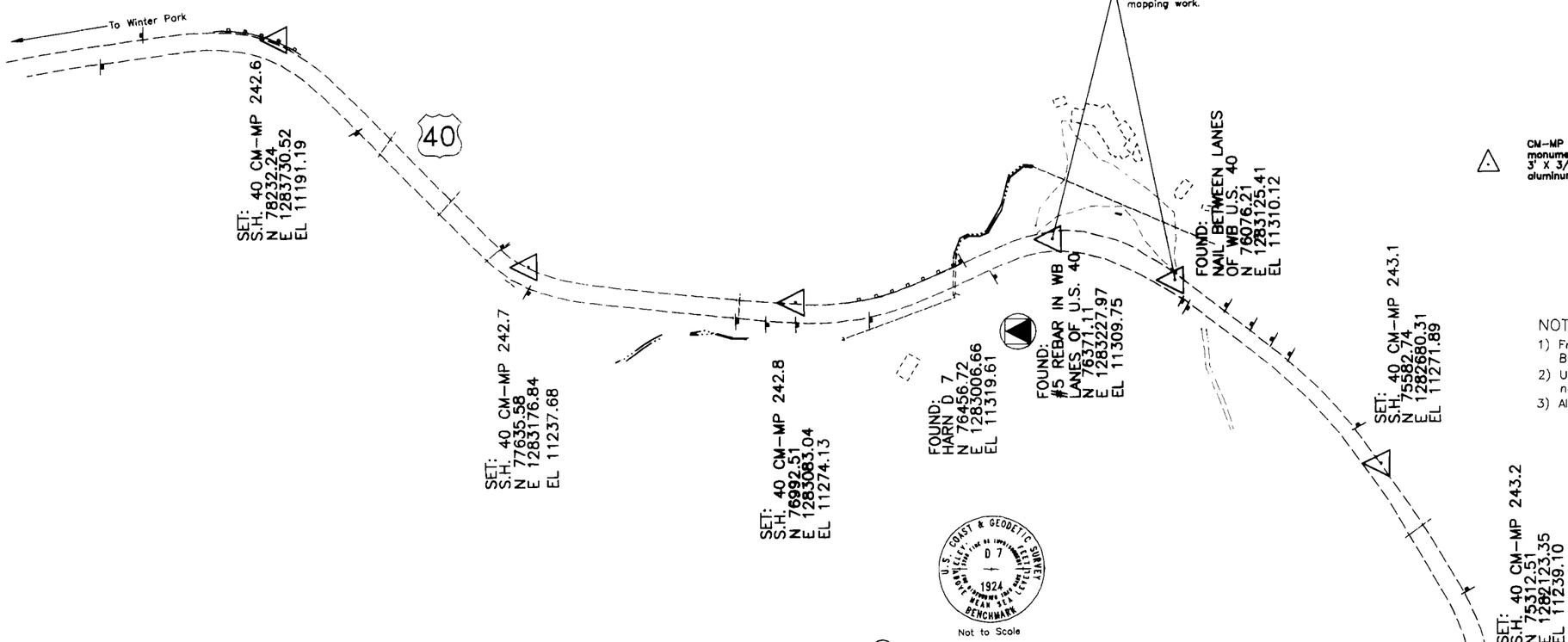
2 Miles West of Berthoud Pass - West

DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION - STATE OF COLORADO
CONTROL SURVEY DIAGRAM

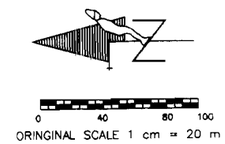
Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0

GRAND & CLEAR CREEK COUNTIES, COLORADO



Not to Scale

Faund D 7 1924 is a 9cm brass cap (as shown) set flush in the top of a 4 x 6 foot granite boulder. This is a Colorado HARN GPS station.



ORIGINAL SCALE 1 cm = 20 m

Not to Scale

CM-MP - Control Monuments were set CDOH. They were CDOH 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.

A Colorado HARN GPS Station

NOTES:

1) Fronts of buildings were located by survey methods. Buildings are not shown in full.
2) Underground utilities and overhead power lines are not shown in full.
3) All coordinates on this sheet are in U.S. Feet.

OF COLORADO
DEPARTMENT OF TRANSPORTATION
OF HIGHWAYS
FORM 126
N Feb 1999

11944

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
VIII	COLORADO	Project NH 0403-035	4

Revisions		
2/16/99	Revised CDOT CM to CDOH CM	DAS
2/16/99	Removed BMs from plan sheets	DAS
2/16/99	Edited found BM notes	DAS

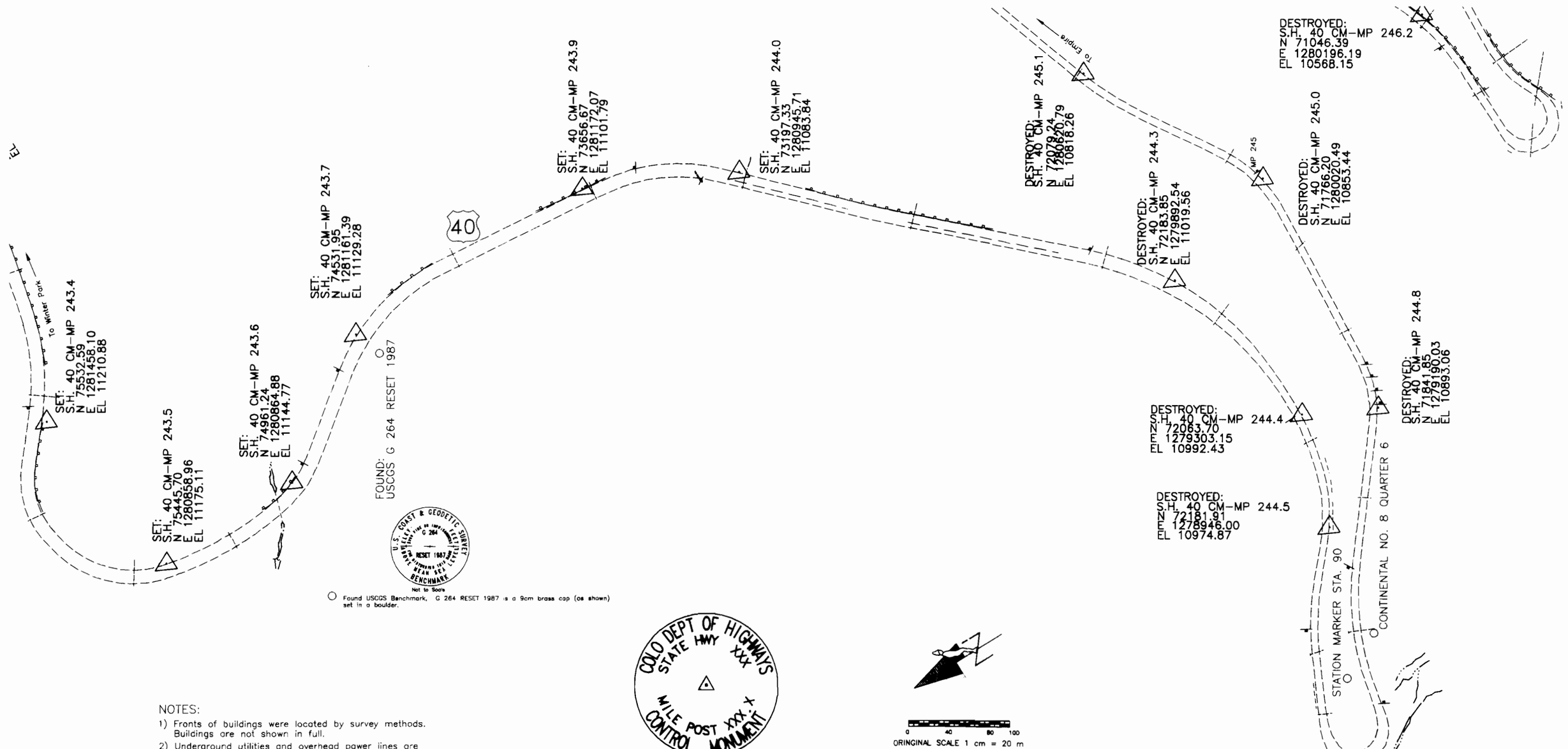
2 Miles West of Berthoud Pass – West

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO

CONTROL SURVEY DIAGRAM

Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0

GRAND & CLEAR CREEK COUNTIES, COLORADO



NOTES:

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2) Underground utilities and overhead power lines are not shown in full.
3) All coordinates on this sheet are in U.S. Feet.

CM-MP – Control Monuments were set CDOH. They were CDOH 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 an a 3' X 3/4" dia. smooth

DOT
DEPARTMENT OF TRANSPORTATION

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SH NUM
VIII	COLORADO	Project NH 0403-035	

Revisions

2/16/99	Revised CDOT CM to CDOH CM
2/16/99	Removed BMs from plan sheets
2/16/99	Edited found BM notes

2 Miles West of Berthoud Pass – Wes

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO

CONTROL SURVEY DIAGRAM

Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0

GRAND & CLEAR CREEK COUNTIES, COLORADO

0 40 80 100
ORINGINAL SCALE 1 cm = 20 m

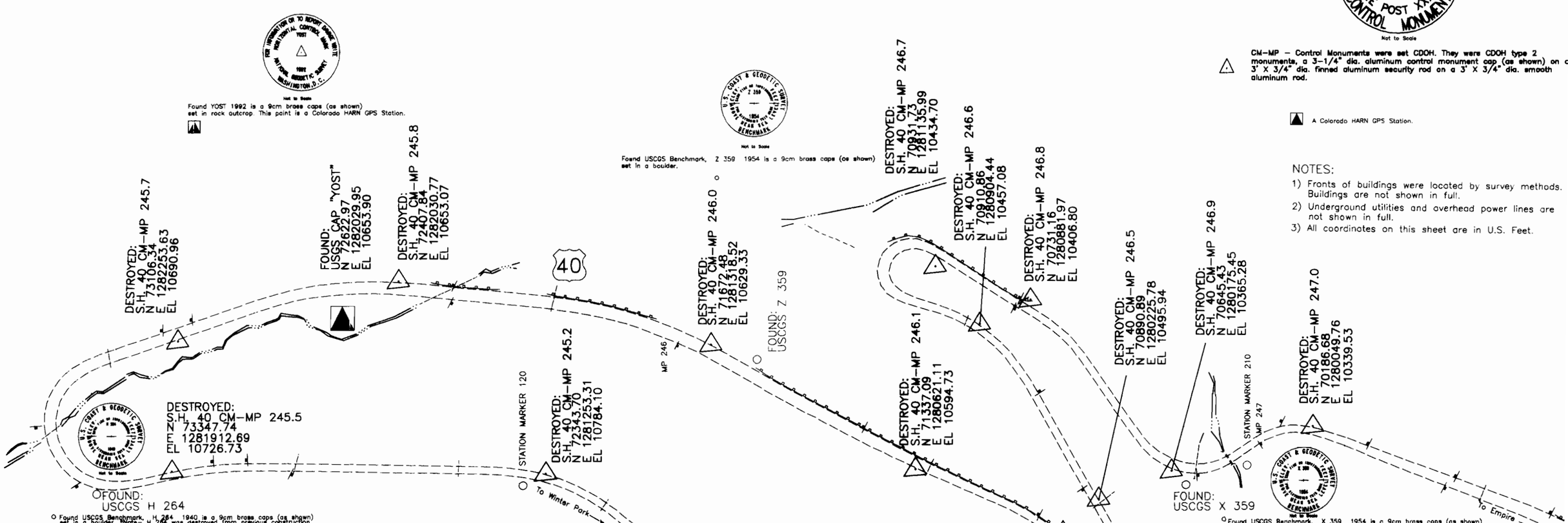
COLO DEPT OF HIGHWAYS
STATE HWY XXX
MILE POST XXX
CONTROL MONUMENT
Not to Scale

CM-MP – Control Monuments were set CDOH. They were CDOH 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.

A Colorado HARN GPS Station.

NOTES:

1) Fronts of buildings were located by survey methods. Buildings are not shown in full.
2) Underground utilities and overhead power lines are not shown in full.
3) All coordinates on this sheet are in U.S. Feet.



COLORADO
ARTMENT OF TRANSPORTATION
HIGHWAYS
RM 126:
eb 1999

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
NO REVISIONS	REVISED	VOID	VIII	COLORADO	Project NH 0403-035	6

DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO

CONTROL SURVEY DIAGRAM

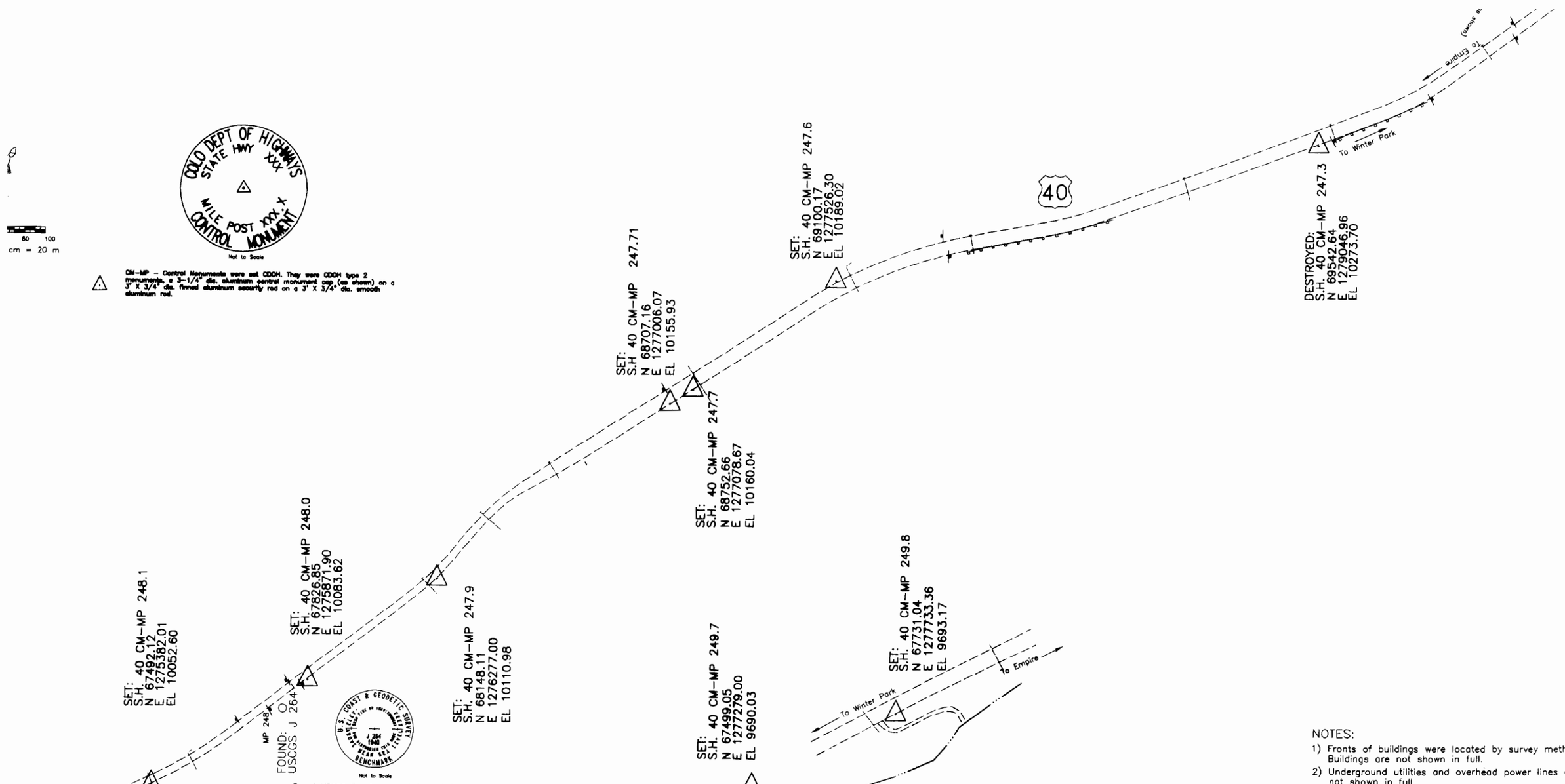
Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0

GRAND & CLEAR CREEK COUNTIES, COLORADO

Revisions

2/16/99	Revised CDOT CM to CDOH CM	DAS
2/16/99	Removed BMs & APs from plan sheets	DAS
2/18/99	Revised Easting coordinate of CM-MP 247.7	DAS
2/18/99	Edit found BM notes	DAS

2 Miles West of Berthoud Pass – West



NOTES:

1) Fronts of buildings were located by survey methods. Buildings are not shown in full.
2) Underground utilities and overhead power lines are not shown in full.
3) All coordinates on this sheet are in U.S. Feet.

AS CONSTRUCTED					
NO REVISIONS		REVISED		VOID	

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NUMBER
VIII	COLORADO	Project NH 0403-035	7

DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION – STATE OF COLORADO

CONTROL SURVEY DIAGRAM

Project NH 0403-035
S.H. 40 MP 242.6 to MP 250.0

GRAND & CLEAR CREEK COUNTIES, COLORADO

Revisions

2/16/99	Revised CDOT CM to CDOH CM	D
2/16/99	Removed BMs from plan sheets	D
2/17/99	Erased Aerial PTs from plan sheets	D

2 Miles West of Berthoud Pass – West

0 40 80 100
ORINGINAL SCALE 1 cm = 20 m

COLO DEPT OF HIGHWAYS STATE HWY XXX MILE POST XXX.X CONTROL MONUMENT
Not to Scale

CM-MP – Control Monuments were set CDOH. They were CDOH 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.

A Colorado HARN GPS Station

NOTES:

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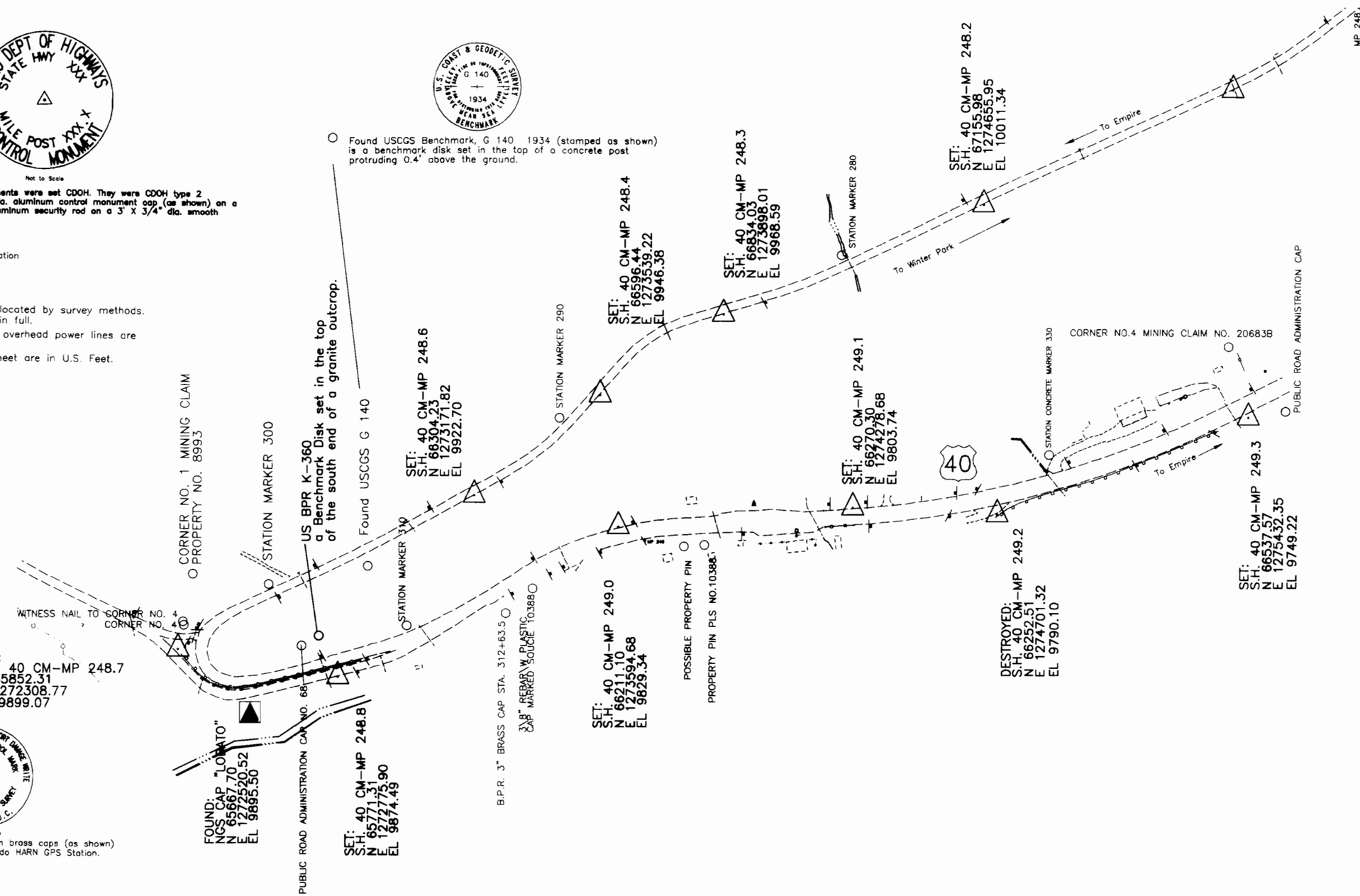
3) All coordinates on this sheet are in U.S. Feet.

U.S. COAST & GEODETIC SURVEY G 140 1934 MEAN SEA LEVEL BENCHMARK

Found USCGS Benchmark, G 140 1934 (stamped as shown) is a benchmark disk set in the top of a concrete post protruding 0.4' above the ground.



FOR INFORMATION OR TO REPORT DAMAGE WRITE HORIZONTAL CONTROL MARK LOBATO 1992 NATIONAL GEODETIC SURVEY WASHINGTON, D.C.
Not to Scale

Found LOBATO 1992 is a 9cm brass caps (as shown) set in rock outcrop. A Colorado HARN GPS Station.