



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

RIGHT OF WAY PLANS UNIT: JOE CONWAY, PLS

Sheet Revisions	

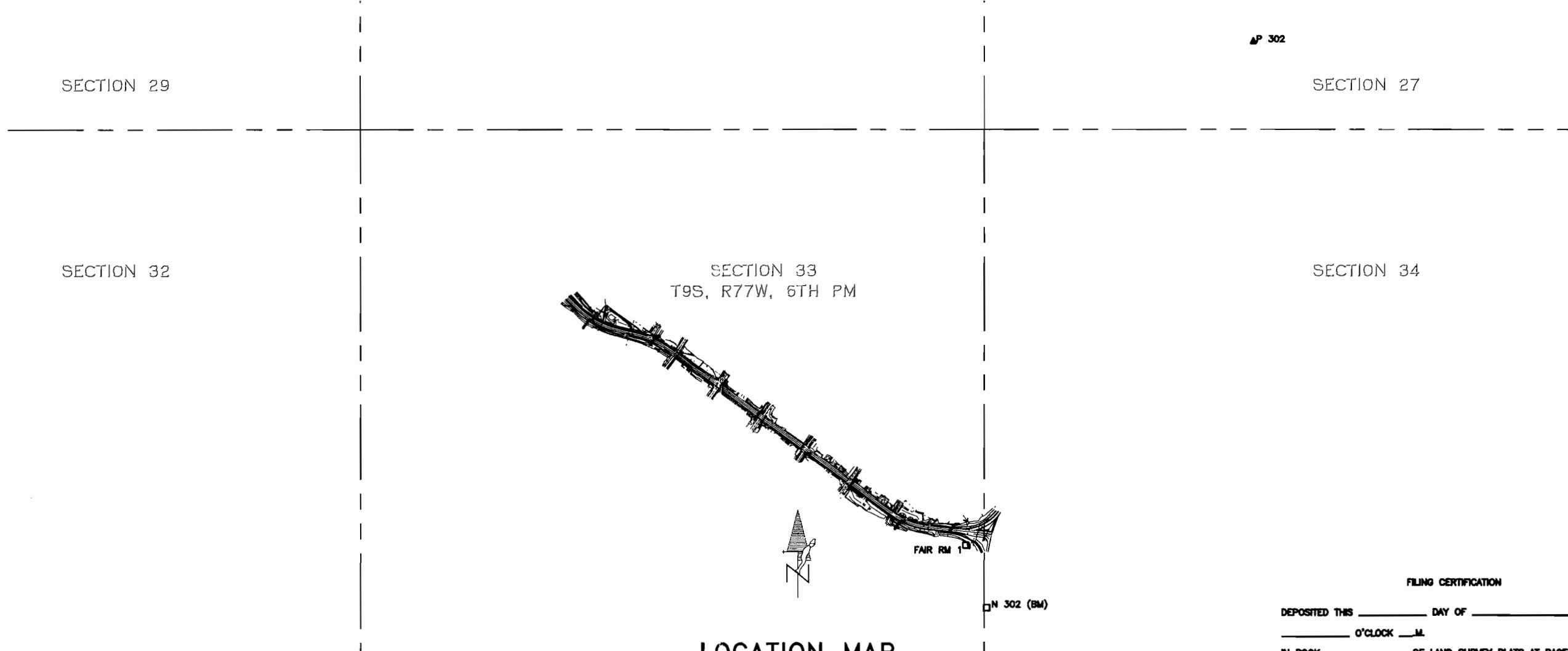
Sheet Revisions	

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RIGHT OF WAY PLANS CONTROL DIAGRAM				
PROJECT NUMBER: STA 0091-019				
PROJECT LOCATION: SH 9, FAIRPLAY				
Project Code	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
13744	09-26-01	1 of 5	3	5

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO
SURVEY CONTROL DIAGRAM
CDOT PROJECT NO. STA 0091-019
STATE HIGHWAY NO. 9
PARK COUNTY

PREPARED BY: WESTERN STATES SURVEYING, INC.



LOCATION MAP
WITH
LOCAL PRIMARY CONTROL
NO SCALE

AP 302

FILING CERTIFICATION

DEPOSITED THIS _____ DAY OF _____ A.D. 199__ AT
_____ O'CLOCK ____M.
IN BOOK _____ OF LAND SURVEY PLATS AT PAGE _____
RECEPTION NO. _____
OF THE RECORDS OF _____ COUNTY, COLORADO.
by: _____
CLERK & RECORDER
DEPUTY CLERK

COLORADO DEPARTMENT OF TRANSPORTATION



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RIGHT OF WAY PLANS

CONTROL DIAGRAM

PROJECT NUMBER: STA 0091-019

PROJECT LOCATION: SH 9, FAIRPLAY

Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
13744	09-26-01	2 of 5	3A	5

Name	WGS 84		Ellipsoid Height	Grid Scale Factor	Elevation Scale Factor	Combined Scale Factor	Mapping Angle	Name	NAVD 88		Name	NAVD 88 Project		Orthometric Elevation (usft)	Description	
	Latitude	Longitude							NAD83 Northing (m)	SPC ZONE 502 Easting (m)		GEOID 99 Elevation (m)	Northing (usft)			Easting (usft)
6470	39.13' 17.17175	105.59' 41.16024	3003.823	0.999938111	0.999529892	0.999468032	-0.18' 43"	6470	459006.941	871678.735	3016.892	6470	1506730.302	2861361.444	99897.94	CDOT Type II Control Monument
6480	39.13' 17.41351	105.59' 46.98484	3008.057	0.999938113	0.999529229	0.999467372	-0.18' 47"	6480	459015.158	871539.068	3021.123	6480	1506757.275	2860902.975	99911.80	CDOT Type II Control Monument
6490	39.13' 20.73739	105.59' 52.01558	3010.685	0.999938147	0.999528819	0.999466995	-0.18' 50"	6490	459118.315	871418.963	3023.745	6490	1507095.897	2860508.720	99920.40	CDOT Type II Control Monument
6500	39.13' 22.98681	105.59' 57.20126	3013.737	0.999938170	0.999528341	0.999466540	-0.18' 53"	6500	459188.361	871294.963	3026.792	6500	1507325.829	2860101.679	99930.40	CDOT Type II Control Monument
6510	39.13' 26.43731	106.00' 02.20334	3017.684	0.999938206	0.999527724	0.999465959	-0.18' 57"	6510	459295.423	871175.573	3030.734	6510	1507677.269	2859709.771	99943.34	CDOT Type II Control Monument
6520	39.13' 28.72885	106.00' 06.31403	3019.789	0.999938230	0.999527394	0.999465653	-0.18' 59"	6520	459366.630	871077.368	3032.836	6520	1507911.012	2859387.404	99950.22	CDOT Type II Control Monument
6530	39.13' 32.71093	106.00' 13.57848	3027.937	0.999938271	0.999526120	0.999464420	-0.19' 04"	6530	459490.387	870903.813	3040.977	6530	1508317.255	2858817.695	99976.93	CDOT Type II Control Monument
6540	39.13' 34.08398	106.00' 20.81231	3039.133	0.999938286	0.999524369	0.999462684	-0.19' 08"	6540	459533.691	870730.550	3052.168	6540	1508459.405	2858248.944	10013.66	CDOT Type II Control Monument
CDMD	39.19' 35.46554	105.52' 20.17474	2958.990	0.999943632	0.999536908	0.999480566	-0.14' 05"	CDMD	470621.909	882303.993	2972.012	CDMD	1544857.447	2896239.780		3 1/2" NGS Horizontal Control Brass Disc
F302	39.17' 41.34880	106.03' 55.87369	3153.180	0.999941612	0.999506531	0.999448172	-0.21' 24"	F302	467188.902	865619.938	3165.928	F302	1533588.302	2841472.915	10387.14	3 1/2" USC&GS Brass Disc Bench Mark
FAIR RM 1	39.13' 15.44101	105.59' 39.78852	3002.995	0.999938093	0.999530021	0.999468144	-0.18' 42"	FAIR RM 1	458953.392	871711.347	3016.066	FAIR RM 1	1506554.523	2861468.496	99895.26	3 1/2" USC&GS Brass Disc Reference Monument
M302 O/S	39.13' 55.81083	106.00' 54.54658	3072.923	0.999938521	0.999519083	0.999457633	-0.19' 30"	M302 O/S	460208.216	869925.258	3085.926	M302 O/S	1510673.592	2855605.503		MAG Nail
N302	39.13' 10.10969	105.59' 37.63584	2990.797	0.999938040	0.999531929	0.999469997	-0.18' 41"	N302	458788.712	871762.087	3003.878	N302	1506013.946	2861635.054	9855.22	3 1/2" USC&GS Brass Disc Bench Mark
P302	39.13' 57.62520	105.59' 09.52753	3008.150	0.999938541	0.999529216	0.999467786	-0.18' 23"	P302	460250.288	872444.147	3021.202	P302	1510811.697	2863873.976	9912.06	3 1/2" USC&GS Brass Disc Bench Mark
MIN			0.999938040	0.999506531	0.999448172			458788.712	865619.938	2972.012						
MAX			0.999943632	0.999536908	0.999480566			470621.909	882303.993	3165.928						
DIFF			0.00005592	0.000030377	0.000032394			11833.197	16684.055	193.916						
AVERAGE			0.999938855	0.999526827	0.999465711			460716.166	871684.700	3036.449						
STD DEV			0.00001651	0.000007041	0.000007036			3560.038	3459.900	44.944						

Average Combined Scale Factor 1.000534575

Project Northing = SPC Northing (m) * (3937/1200) * 1.000534575 (Average Combined Scale Factor)
Project Easting = SPC Easting (m) * (3937/1200) * 1.000534575 (Average Combined Scale Factor)

*****M302 was not occupied in the field. Coordinate values for M302 O/S are to MAG Nail offset with elevation relative to M302.

*Orthometric elevation at the Survey control points 6470 thru 6540 is based on a level circuit beginning and ending at USC&GS Benchmark N302

CDOT Type II Monument: 3/8" x 3/8" finned rod section atop 3/8" x 3/8" smooth rod section with 3.25" alloy cap stamped as shown and/or as described in tabulation.

CONTROL NETWORK NOTES:

GEOGRAPHIC COORDINATES ARE IN NORTH AMERICAN DATUM 1983(1992).
PLANAR COORDINATES ARE COLORADO CENTRAL STATE PLANE GRID VALUES. THE UNITS ARE IN US FEET.
MONUMENTS #6470-#6540 ARE COLORADO DEPARTMENT OF TRANSPORTATION MONUMENTS TYPE 2.
MONUMENTS F302, FAIR RM 1, M302 O/S, N302 AND P302 ARE USC&GS BRASS DISKS SET IN CONCRETE.
THE HORIZONTAL CONTROL SURVEY WAS CARRIED OUT USING GPS FAST STATIC OBSERVATIONS.
THE VERTICAL CONTROL WAS ESTABLISHED BY DIFFERENTIAL LEVELING USING N302 AND FAIRPLAY RM 1 NGS BENCHMARKS.

THIS SURVEY IS NOT A COMPLETE BOUNDARY SURVEY OR RIGHT-OF-WAY SURVEY AND IS PREPARED FOR CDOT PURPOSES ONLY.

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

NO WARRANTY IS IMPLIED OR EXPRESSED UNLESS THIS SHEET BEARS THE ORIGINAL SIGNATURE AND SEAL OF THE PREPARER.

FIELD SURVEY CONTROL PRECISION MEETS OR EXCEEDS CDOT TYPE "A" OR "B" SURVEY REQUIREMENTS.

BASIS OF BEARING:

BEARINGS USED IN THE CALCULATION OF COORDINATES ARE BASED ON A GRID BEARING OF S 44°31'25" E FROM HARN POINT "F 302" (3/4" USC&GS BRASS DISK BENCH MARK) AND HARN POINT "P 302" (3/4" USC&GS BRASS DISK BENCH MARK) AS OBTAINED FROM A GLOBAL POSITIONING SYSTEM (GPS) SURVEY BASED ON THE COLORADO HIGH ACCURACY REFERENCE NETWORK (CHARN).



SURVEYOR CERTIFICATE (FIELD)

CONTROL SURVEY AND MONUMENTATION WAS DONE UNDER MY SUPERVISION AND CHECKING.
FOR AND ON BEHALF OF WESTERN STATES SURVEYING:

NAME ROBERT DALEY P.L.S. NO. 35597

DATE _____

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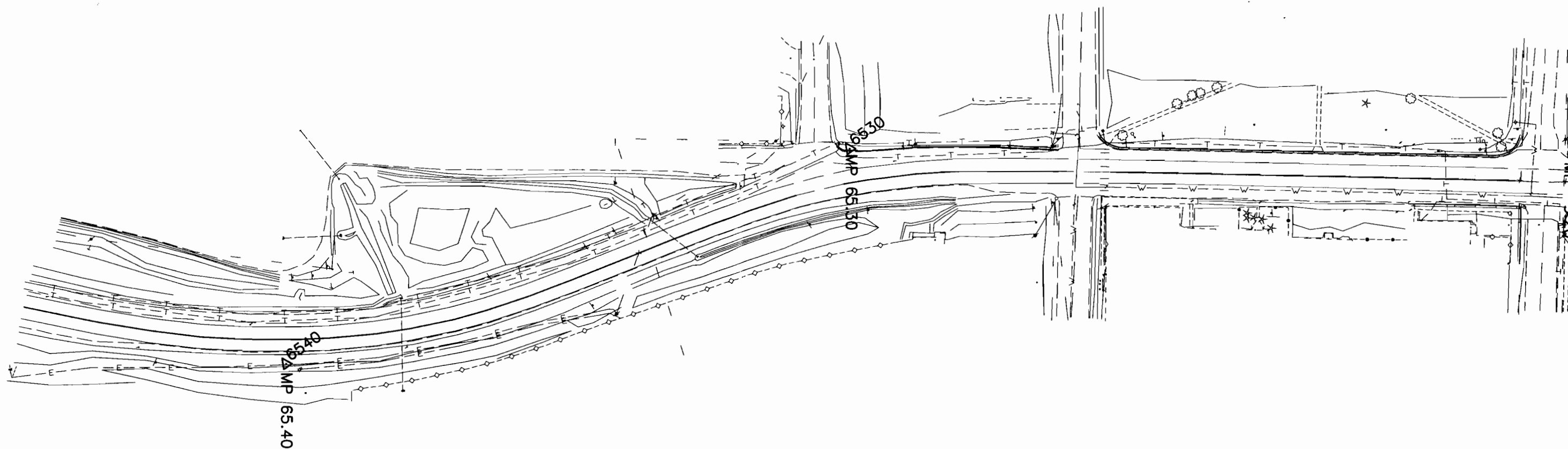
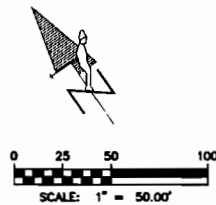
OWNERSHIP MAP

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SECTION 33
T. 9 S., R. 77 W., 6th P.M.



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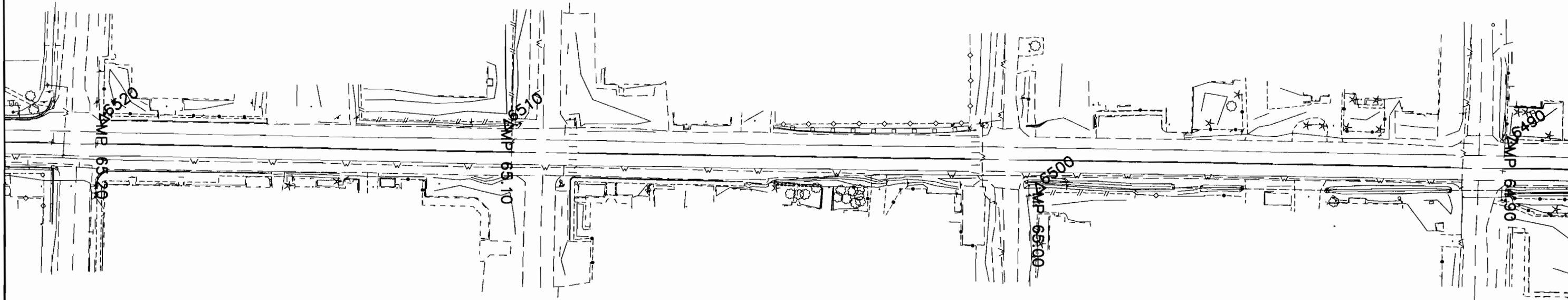
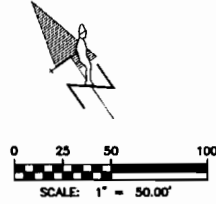
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