

AIXECAMENT TOPOGRÀFIC
ÀMBIT DE LA FINCA SITUADA AL CARRER ALBERT LLANAS 21-41,
AL BARRI DE CAN BARÓ

DISTRICTE: HORTA-GUINARDÓ

CODI: 600.2023.017L01CD44

Agost 2025

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Enginyer Tècnic en Topografia
Col·legiat N° 4304



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MEMÒRIA DE TOPOGRAFIA

L'objectiu del treball al qual fa referència aquesta memòria consisteix en l'aixecament topogràfic en l'àmbit de la finca situada al carrer Albert Llanas 21-41, al barri de Can Baró, al districte d'Horta-Guinardó, a Barcelona.

El desenvolupament del treball es descriu tot seguit:

- 1- Procediment tècnic
- 2- Aparells emprats
- 3- Documentació adjunta

1- Procediment tècnic

Les coordenades del treball de l'aixecament topogràfic s'han determinat a partir de la Xarxa de Bases de l'Ajuntament de Barcelona, del sistema UTM-ETRS89 i el posicionament es va realitzar amb GPS, connectat al CAT NET, de l'Institut Cartogràfic de Catalunya.

Les observacions angulars per llegir les bases estan obtingudes mitjançant la regla Bessel i les distàncies es van mesurar reiteradament als dos sentits de cada eix.

La senyalització de les bases de replanteig s'ha dut a terme amb claus tipus *spit*.

L'aixecament s'ha fet a escala 1:200 utilitzant un total de 5 bases des de les quals s'han pres 1113 punts de referència.

La precisió en les coordenades dels punts que s'obté amb els aparells emprats i amb la metodologia de treball és de +- 1 cm tant en relatiu com en absolut.

2- Aparells emprats

- 2.1 Treball de camp
 - _ Estació total TOPCON DS-101AC
 - _ GPS SOKKIA GCX3
- 2.2 Càlcul i dibuix
 - _ Programa de topografia TOPACK
 - _ ZWCAD
 - _ MDT v8.5
 - _ Microsoft Office

3- Documentació adjunta

- _ Memòria
- _ Coordenades de les bases
- _ Coordenades dels punts
- _ Reportatge fotogràfic
- _ Plànol
- _ Certificat de Calibratge
- _ Dades en suport digital amb fitxers DWG

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Bases	X	Y	Z	Anamorfosi
B1	429612,275	4585295,873	141,531	0.99966097
B2	429606,714	4585328,287	143,286	0.99966098
B3	429518,694	4585294,989	154,252	0.99966113
B4	429498,611	4585251,326	154,030	0.99966117
A5	429541,743	4585342,428	153,929	0.99966109

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
1	429619,174	4585289,891	141,000	59	429602,402	4585337,887	143,845	109	429560,447	4585334,460	145,639	167	429612,157	4585307,035	141,976
2	429619,202	4585289,910	141,120	60	429602,463	4585338,280	143,837	110	429560,233	4585332,073	145,564	168	429614,645	4585297,194	141,477
3	429620,830	4585291,674	141,238	61	429600,668	4585340,286	143,991	111	429559,097	4585329,996	145,591	170	429632,101	4585332,683	152,071
4	429620,970	4585292,110	141,240	62	429599,729	4585340,588	143,889	112	429558,355	4585330,617	145,707	172	429628,266	4585330,954	151,589
5	429618,431	4585293,387	141,336	63	429599,752	4585340,589	144,012	119	429543,221	4585297,465	146,478	173	429622,980	4585337,405	151,395
6	429616,357	4585298,319	141,514	64	429600,724	4585341,613	144,053	120	429543,147	4585297,515	146,680	174	429624,190	4585342,307	151,748
7	429616,415	4585298,300	141,680	65	429598,738	4585341,858	144,112	121	429542,168	4585296,358	146,705	175	429615,715	4585346,226	151,459
8	429618,708	4585298,960	141,739	66	429597,354	4585342,409	144,066	122	429540,531	4585297,913	146,784	176	429616,912	4585350,400	151,719
9	429618,921	4585299,063	141,862	67	429597,366	4585342,429	144,161	123	429541,035	4585294,143	146,805	177	429608,150	4585355,011	151,736
10	429617,079	4585301,907	141,897	68	429596,774	4585343,200	144,223	124	429539,896	4585291,895	146,863	178	429610,015	4585357,764	152,019
11	429617,502	4585303,297	141,878	69	429595,605	4585343,449	144,135	125	429539,866	4585290,881	146,722	179	429600,308	4585361,540	152,190
12	429617,392	4585302,889	141,931	70	429595,649	4585343,464	144,262	126	429539,807	4585290,921	146,872	180	429601,232	4585365,493	152,674
13	429615,139	4585302,036	141,710	71	429595,815	4585344,977	144,321	127	429538,094	4585290,003	146,948	181	429595,587	4585370,349	152,820
14	429615,166	4585302,059	141,910	72	429594,696	4585344,422	144,324	128	429536,619	4585290,361	146,978	182	429592,340	4585366,808	152,436
23	429614,053	4585306,772	142,123	73	429592,522	4585345,345	144,441	129	429537,676	4585287,508	147,003	183	429590,593	4585372,780	152,695
24	429613,963	4585307,453	142,180	74	429592,872	4585344,860	144,291	130	429536,539	4585285,289	147,061	184	429582,534	4585367,316	152,394
25	429614,805	4585307,578	142,201	75	429592,858	4585344,918	144,426	131	429536,456	4585284,085	146,936	185	429581,497	4585374,204	152,541
26	429615,094	4585307,645	142,207	76	429587,949	4585346,755	144,671	132	429536,388	4585284,141	147,078	186	429575,581	4585365,893	152,433
27	429613,232	4585309,079	142,253	77	429587,753	4585347,837	144,732	133	429534,076	4585285,258	147,161	187	429568,472	4585364,991	152,568
28	429612,387	4585310,432	142,190	78	429587,785	4585347,937	144,682	134	429535,454	4585283,010	147,149	188	429568,422	4585370,231	152,840
29	429612,431	4585310,416	142,330	79	429585,522	4585347,065	144,778	135	429534,281	4585280,825	147,223	189	429562,154	4585365,444	153,533
30	429612,490	4585311,372	142,372	80	429584,414	4585346,741	144,663	136	429533,511	4585278,226	147,150	190	429563,070	4585361,515	153,140
31	429613,033	4585313,003	142,461	81	429584,406	4585346,752	144,791	137	429533,465	4585278,256	147,266	191	429563,200	4585358,444	152,883
32	429611,762	4585313,630	142,496	82	429583,105	4585347,097	144,841	138	429532,000	4585276,165	147,358	193	429567,091	4585357,350	152,332
33	429610,979	4585315,934	142,648	83	429580,718	4585346,971	144,965	139	429532,829	4585276,904	147,162	194	429566,251	4585357,672	152,459
34	429610,300	4585316,703	142,526	84	429580,721	4585347,985	144,944	140	429532,764	4585276,923	147,328	195	429576,628	4585359,887	152,186
35	429610,331	4585316,711	142,663	85	429580,418	4585346,542	144,838	141	429529,229	4585274,780	147,496	196	429583,120	4585360,605	152,190
36	429611,364	4585317,963	142,733	86	429580,413	4585346,562	144,982	142	429530,929	4585273,934	147,431	197	429582,659	4585360,183	152,032
37	429610,204	4585318,214	142,753	87	429578,323	4585346,580	145,002	143	429529,827	4585271,698	147,501	198	429591,725	4585360,205	152,149
38	429609,451	4585320,509	142,868	88	429578,062	4585347,530	145,029	144	429529,760	4585270,722	147,359	199	429594,760	4585359,049	151,934
39	429608,555	4585321,955	142,832	89	429576,039	4585345,920	145,076	145	429529,755	4585270,752	147,505	200	429595,288	4585359,269	152,064
40	429608,607	4585321,955	142,944	90	429575,659	4585345,416	144,960	146	429528,692	4585269,456	147,583	201	429602,775	4585355,384	151,709
41	429608,709	4585322,793	142,982	91	429575,613	4585345,435	145,067	147	429527,545	4585271,138	147,620	202	429601,726	4585355,668	151,519
42	429609,160	4585324,657	143,104	92	429573,751	4585345,138	145,153	148	429527,586	4585267,198	147,654	203	429610,521	4585346,573	151,192
43	429608,005	4585324,884	143,095	93	429573,400	4585346,110	145,150	149	429526,490	4585264,947	147,741	204	429609,761	4585346,842	150,961
44	429607,260	4585327,152	143,216	94	429571,558	4585344,149	145,203	150	429526,163	4585263,441	147,645	205	429617,343	4585338,155	151,231
45	429607,712	4585329,062	143,337	95	429569,483	4585342,952	145,260	151	429526,130	4585263,482	147,775	206	429625,923	4585325,222	151,558
46	429606,387	4585328,551	143,156	96	429568,756	4585341,986	145,159	152	429524,642	4585265,356	147,862	207	429625,830	4585324,577	151,291
47	429606,452	4585328,564	143,299	97	429568,736	4585342,004	145,305	153	429527,996	4585263,200	147,639	208	429628,185	4585326,210	151,701
48	429606,519	4585329,433	143,352	98	429568,108	4585343,314	145,326	154	429531,176	4585269,460	147,416	209	429633,278	4585327,122	151,940
49	429605,789	4585331,715	143,500	99	429567,596	4585341,620	145,304	155	429535,960	4585278,421	147,087	210	429635,734	4585323,271	152,017
50	429606,169	4585333,557	143,595	100	429565,716	4585340,009	145,367	156	429539,895	4585286,097	146,852	211	429638,010	4585316,773	152,026
51	429605,463	4585331,359	143,375	101	429564,685	4585338,423	145,264	157	429546,106	4585297,995	146,425	212	429640,284	4585309,922	152,203
52	429605,505	4585331,371	143,479	102	429564,651	4585338,448	145,400	160	429564,203	4585334,189	145,271	213	429642,208	4585304,323	152,365
53	429604,858	4585333,944	143,610	103	429564,007	4585338,242	145,445	161	429572,045	4585341,563	145,005	214	429640,411	4585303,164	152,378
54	429604,268	4585334,445	143,493	104	429563,076	4585338,602	145,483	162	429585,701	4585344,446	144,482	215	429633,826	4585301,454	151,852
55	429604,328	4585334,470	143,615	105	429562,601	4585336,267	145,461	163	429594,516	4585341,637	144,072	216	429634,356	4585299,217	151,794
56	429603,821	4585336,184	143,746	106	429561,389	4585334,227	145,519	164	429600,396	4585336,084	143,639	217	429635,185	4585298,214	151,894
57	429604,561	4585336,871	143,779	107	429560,858	4585332,413	145,392	165	429604,975	4585326,703	143,109	218	429634,538	4585300,616	152,320
58	429602,361	4585337,828	143,704	108	429560,805	4585332,457	145,556	166	429608,074	4585317,144	142,572	219	429634,345	4585300,564	151,969

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
220	429633,428	4585300,754	151,733	270	429527,466	4585355,421	162,667	324	429508,035	4585282,450	155,351	375	429516,816	4585272,946	155,026
221	429632,645	4585307,160	151,644	271	429525,270	4585352,980	162,663	325	429508,511	4585282,640	155,491	376	429515,745	4585273,356	154,733
222	429633,000	4585306,376	152,146	272	429523,142	4585350,807	162,441	326	429506,360	4585286,990	156,149	377	429516,061	4585275,590	154,738
223	429632,801	4585306,347	151,839	273	429524,691	4585347,178	162,276	327	429506,262	4585282,883	155,148	378	429517,158	4585275,793	155,053
224	429632,409	4585306,554	151,654	274	429519,826	4585347,419	162,663	328	429505,298	4585282,263	154,963	379	429517,730	4585277,564	155,040
225	429632,633	4585312,734	152,088	275	429521,827	4585345,687	162,450	329	429509,393	4585280,225	154,885	380	429518,596	4585277,405	155,057
226	429632,833	4585312,743	151,764	276	429521,016	4585342,028	162,146	330	429509,357	4585280,950	154,916	381	429518,549	4585275,483	155,109
227	429631,909	4585312,666	151,606	277	429519,022	4585340,527	162,398	331	429510,149	4585281,093	154,988	382	429518,656	4585278,655	154,726
228	429632,293	4585315,151	151,745	278	429517,587	4585338,698	162,381	332	429510,260	4585280,849	154,901	383	429519,902	4585278,442	154,487
229	429632,865	4585315,852	152,025	279	429517,411	4585336,114	161,876	333	429511,025	4585280,625	154,897	384	429513,070	4585285,380	154,601
230	429632,638	4585315,889	152,061	284	429519,519	4585347,756	164,782	334	429513,557	4585279,787	154,858	385	429515,601	4585284,353	154,533
231	429632,439	4585315,868	151,824	285	429518,618	4585348,624	164,619	335	429516,784	4585278,743	154,829	386	429515,913	4585284,684	154,426
232	429632,091	4585317,602	151,870	286	429514,318	4585342,213	164,461	336	429515,759	4585279,646	154,764	387	429517,638	4585287,674	154,400
233	429632,265	4585318,310	152,023	287	429514,039	4585341,856	164,434	337	429514,022	4585279,875	154,839	388	429518,880	4585290,993	154,319
234	429632,071	4585318,257	151,825	288	429513,302	4585343,107	164,306	338	429515,965	4585277,587	154,775	389	429519,143	4585291,261	154,226
235	429631,280	4585318,585	151,754	289	429515,033	4585341,532	164,488	339	429515,613	4585276,335	154,756	390	429515,791	4585291,445	154,433
236	429628,574	4585321,189	151,462	290	429515,199	4585341,495	164,370	340	429515,854	4585275,163	154,716	391	429519,430	4585298,636	154,168
237	429628,158	4585322,131	151,693	291	429516,682	4585342,717	164,222	341	429515,275	4585272,756	154,675	392	429521,840	4585297,748	154,092
238	429628,097	4585321,940	151,268	292	429517,696	4585344,210	163,915	342	429514,077	4585273,185	154,696	393	429523,770	4585301,809	153,859
239	429630,190	4585318,677	151,467	293	429517,623	4585344,955	163,958	343	429515,004	4585276,351	154,777	394	429523,541	4585302,018	153,897
240	429631,519	4585314,202	151,593	294	429514,759	4585340,468	164,245	344	429512,557	4585277,172	154,799	395	429521,781	4585302,850	153,910
241	429607,407	4585373,363	160,907	295	429514,702	4585340,769	164,291	345	429511,180	4585272,737	154,683	396	429529,218	4585299,219	152,402
242	429604,623	4585374,962	160,998	296	429512,926	4585338,920	164,229	346	429508,295	4585273,344	154,709	397	429528,451	4585298,565	152,556
243	429601,502	4585376,642	160,496	297	429512,938	4585339,398	164,402	347	429509,783	4585278,088	154,831	398	429531,548	4585288,981	150,809
244	429601,442	4585379,724	160,604	298	429510,934	4585337,368	164,302	348	429507,394	4585278,896	154,872	399	429534,267	4585288,828	150,181
245	429597,751	4585377,734	159,289	299	429508,898	4585338,501	164,073	349	429506,348	4585279,238	154,890	400	429530,058	4585285,193	150,733
246	429593,806	4585379,921	159,142	300	429513,437	4585337,077	163,959	350	429505,732	4585273,575	154,698	401	429532,623	4585285,370	150,026
247	429591,921	4585381,629	159,280	301	429511,880	4585337,265	164,011	351	429504,695	4585273,890	154,715	402	429523,980	4585300,781	153,916
248	429593,716	4585383,158	159,295	302	429510,792	4585331,310	163,114	352	429502,295	4585274,550	154,730	403	429526,696	4585297,565	153,905
249	429586,857	4585383,600	159,842	303	429512,099	4585330,642	162,997	353	429501,238	4585274,967	154,745	404	429528,189	4585294,496	153,910
250	429582,875	4585385,112	160,387	304	429511,567	4585323,321	161,940	354	429503,995	4585280,053	154,903	405	429527,706	4585291,914	153,825
251	429585,155	4585387,484	160,411	305	429509,881	4585323,813	162,056	355	429502,918	4585280,426	154,912	406	429526,419	4585288,646	153,817
252	429578,731	4585386,586	161,210	306	429508,721	4585312,997	160,472	356	429500,572	4585281,243	154,923	407	429525,722	4585286,155	153,821
253	429572,052	4585387,748	161,689	307	429510,428	4585312,592	160,444	357	429499,228	4585276,787	154,806	408	429524,403	4585279,937	153,528
254	429572,096	4585391,223	161,657	308	429509,318	4585305,335	159,218	358	429498,173	4585277,163	154,816	409	429523,422	4585280,417	153,758
255	429569,784	4585389,745	161,842	309	429507,550	4585305,487	159,140	359	429499,929	4585282,999	154,948	410	429518,679	4585283,797	154,398
256	429563,551	4585389,275	162,510	310	429508,696	4585299,279	158,411	360	429500,218	4585282,049	154,936	411	429522,208	4585289,165	154,181
257	429559,903	4585378,996	161,829	311	429506,623	4585299,287	158,371	361	429494,740	4585278,181	154,799	412	429523,985	4585295,160	154,088
258	429556,333	4585383,359	162,269	312	429504,925	4585297,048	158,275	362	429496,816	4585280,497	154,917	413	429520,797	4585301,734	154,075
259	429552,338	4585373,806	162,499	313	429506,690	4585292,611	157,237	363	429499,292	4585282,558	154,918	414	429519,275	4585301,027	154,336
260	429546,985	4585369,716	162,615	314	429508,573	4585292,388	157,229	364	429500,887	4585283,730	154,943	415	429517,269	4585300,086	154,678
261	429545,254	4585373,059	162,700	315	429508,436	4585289,837	156,788	365	429502,881	4585281,107	154,916	416	429516,333	4585299,297	154,834
262	429543,854	4585369,433	162,934	316	429509,113	4585289,993	156,437	366	429506,234	4585279,902	154,895	417	429514,474	4585295,065	154,846
263	429540,286	4585362,240	162,531	317	429508,503	4585287,086	156,241	368	429509,431	4585278,846	154,828	418	429512,046	4585289,423	154,897
264	429536,859	4585364,863	162,831	318	429509,217	4585287,096	156,009	369	429513,472	4585277,081	154,811	419	429510,739	4585285,578	155,088
265	429535,281	4585356,520	161,821	319	429508,960	4585284,426	155,731	370	429515,176	4585277,111	154,793	420	429503,164	4585283,909	155,179
266	429530,930	4585358,975	162,111	320	429509,466	4585284,402	155,564	371	429515,297	4585270,361	154,649	421	429499,185	4585283,788	155,235
267	429534,435	4585354,929	161,632	321	429509,852	4585281,086	155,047	372	429516,435	4585269,977	155,096	422	429495,850	4585281,076	155,247
268	429529,974	4585352,340	161,925	322	429509,181	4585281,645	155,351	373	429517,311	4585269,151	155,149	423	429492,671	4585278,556	155,231
269	429527,306	4585350,515	162,406	323	429508,900	4585281,066	155,030	374	429517,780	4585272,753	155,087	424	429511,981	4585303,514	156,860

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
425	429513,947	4585300,829	156,052	475	429509,222	4585327,017	163,969	525	429549,981	4585354,809	155,517	575	429622,603	4585312,155	147,039
426	429515,081	4585304,134	155,962	476	429511,282	4585336,935	164,210	526	429548,713	4585357,178	155,718	576	429622,220	4585311,329	147,180
427	429515,600	4585307,023	156,012	477	429510,489	4585331,388	163,228	527	429551,702	4585359,123	155,066	577	429621,860	4585311,521	147,018
428	429517,155	4585311,515	156,121	478	429509,854	4585326,532	162,441	528	429554,023	4585358,557	154,656	578	429622,634	4585312,979	147,019
429	429518,182	4585310,808	155,831	479	429506,768	4585322,841	162,445	529	429554,968	4585357,464	154,631	579	429621,156	4585313,736	147,028
430	429519,905	4585313,738	156,139	480	429507,605	4585320,072	162,065	530	429558,220	4585359,884	154,278	580	429620,400	4585312,291	147,011
431	429518,865	4585314,811	156,341	481	429502,792	4585315,559	162,256	531	429558,057	4585360,937	154,285	581	429620,756	4585313,052	146,866
432	429520,745	4585318,433	156,951	482	429504,620	4585316,249	162,166	532	429556,442	4585362,850	154,693	582	429618,058	4585315,373	145,497
433	429521,966	4585317,607	156,349	483	429505,859	4585314,003	161,210	533	429560,334	4585364,644	153,986	583	429617,319	4585313,887	145,503
434	429522,618	4585317,031	155,729	484	429502,120	4585311,642	161,703	534	429561,445	4585360,760	153,525	584	429617,615	4585314,565	145,376
435	429520,889	4585313,046	155,434	485	429503,330	4585309,842	161,059	535	429562,150	4585360,206	153,214	585	429617,765	4585315,525	145,374
436	429485,462	4585282,796	160,338	486	429498,274	4585305,818	161,467	536	429562,553	4585357,982	152,884	586	429617,029	4585314,039	145,357
437	429487,825	4585286,640	160,769	487	429496,922	4585301,518	161,315	537	429563,173	4585357,193	152,396	587	429616,713	4585314,216	145,365
438	429480,824	4585282,135	161,842	488	429498,311	4585300,993	160,799	538	429563,326	4585366,981	153,256	588	429616,611	4585316,137	145,367
439	429480,164	4585282,622	162,032	489	429494,209	4585296,092	160,627	539	429569,079	4585371,000	152,852	589	429616,564	4585317,161	145,384
440	429480,093	4585282,663	162,261	490	429494,239	4585293,033	160,006	540	429574,599	4585373,223	152,919	590	429614,904	4585317,080	145,389
441	429479,827	4585282,680	162,275	491	429491,386	4585292,573	161,025	541	429562,383	4585358,144	152,993	591	429615,075	4585313,861	145,361
442	429477,845	4585284,262	162,068	492	429494,172	4585289,501	159,358	542	429561,635	4585358,627	152,962	592	429616,714	4585313,939	145,342
443	429482,171	4585289,250	162,268	493	429495,410	4585287,297	158,379	543	429560,175	4585355,769	151,846	593	429615,922	4585313,881	145,197
444	429484,237	4585292,231	162,376	494	429500,108	4585290,515	158,045	544	429559,726	4585356,099	152,077	594	429615,228	4585310,338	143,911
445	429486,486	4585295,891	162,485	495	429500,932	4585296,113	158,854	545	429558,518	4585354,024	152,268	595	429616,895	4585310,415	143,928
446	429487,747	4585298,250	162,608	496	429503,826	4585305,109	159,942	546	429557,114	4585351,614	152,165	596	429616,139	4585310,344	143,781
447	429489,722	4585297,265	162,666	497	429513,203	4585322,401	161,608	547	429556,440	4585351,832	152,250	597	429615,234	4585309,996	143,773
448	429484,520	4585287,950	162,483	498	429514,554	4585324,712	161,530	548	429593,966	4585374,336	155,828	598	429616,913	4585310,098	143,798
449	429484,663	4585288,094	162,353	499	429513,211	4585324,916	161,762	549	429596,914	4585372,349	156,154	599	429616,982	4585308,449	143,800
450	429485,447	4585287,821	162,196	500	429517,394	4585329,227	161,401	550	429600,938	4585369,588	156,243	600	429615,325	4585308,347	143,802
451	429487,032	4585291,548	162,656	501	429516,604	4585329,597	161,481	551	429604,118	4585366,517	155,449	601	429616,238	4585308,380	143,642
452	429487,076	4585291,927	162,652	502	429515,356	4585331,075	161,652	552	429607,203	4585363,517	154,857	602	429615,513	4585304,938	142,260
453	429492,642	4585294,508	162,942	503	429519,173	4585332,665	161,438	553	429610,469	4585359,839	153,925	603	429617,173	4585305,014	142,281
454	429493,038	4585294,321	162,943	504	429518,493	4585333,158	161,523	554	429614,393	4585354,514	153,009	604	429616,481	4585304,949	142,108
455	429493,414	4585293,666	162,717	505	429517,376	4585335,326	161,874	555	429626,301	4585319,832	151,692	605	429615,519	4585304,553	142,077
456	429493,184	4585297,223	162,822	506	429520,470	4585336,263	161,478	556	429627,974	4585319,831	151,669	606	429615,619	4585302,953	142,146
457	429492,883	4585297,078	162,940	507	429521,225	4585335,461	161,379	557	429627,187	4585319,825	151,544	607	429617,265	4585303,052	142,142
458	429495,055	4585298,404	163,941	508	429523,497	4585338,880	161,244	558	429626,271	4585316,686	150,352	608	429617,186	4585304,619	142,135
459	429498,658	4585305,092	164,243	509	429524,182	4585338,343	161,177	559	429627,925	4585316,652	150,337	609	429618,160	4585305,064	142,099
460	429496,420	4585304,124	163,007	510	429527,503	4585340,989	160,554	560	429627,123	4585316,645	150,200	610	429619,506	4585305,600	143,232
461	429493,106	4585304,454	162,904	511	429527,447	4585341,845	160,524	561	429626,242	4585314,710	150,212	611	429620,618	4585302,000	142,656
462	429495,918	4585310,584	163,126	512	429531,468	4585343,943	159,446	562	429627,905	4585314,690	150,200	612	429618,953	4585301,258	141,985
463	429499,996	4585319,316	163,435	513	429531,266	4585344,710	159,439	563	429627,092	4585314,671	150,094	613	429619,842	4585298,599	142,014
464	429504,471	4585328,899	163,847	514	429535,516	4585346,236	158,164	564	429626,207	4585311,603	148,869	614	429620,383	4585299,071	142,744
465	429507,476	4585335,381	164,008	515	429535,400	4585347,386	158,170	565	429627,867	4585311,598	148,867	615	429620,285	4585296,667	141,939
466	429510,938	4585337,394	164,359	516	429539,575	4585348,716	157,242	566	429627,114	4585311,571	148,705	616	429620,523	4585295,877	141,942
467	429510,676	4585337,481	164,357	517	429539,321	4585349,655	157,315	567	429627,837	4585310,272	148,700	617	429620,972	4585295,809	142,045
468	429509,085	4585327,266	164,112	518	429537,400	4585348,852	157,660	568	429628,603	4585309,879	148,709	618	429621,455	4585294,829	141,963
469	429508,823	4585327,396	164,107	519	429538,333	4585352,688	157,980	569	429628,493	4585309,038	148,715	619	429621,713	4585293,467	141,992
470	429503,930	4585320,746	163,789	520	429540,841	4585354,322	157,855	570	429628,086	4585308,270	148,729	620	429615,690	4585317,828	144,359
471	429503,703	4585320,917	163,766	521	429543,066	4585355,407	157,470	571	429625,264	4585309,721	148,698	621	429617,244	4585317,169	144,925
472	429500,916	4585314,287	163,521	522	429544,689	4585352,278	156,359	572	429626,020	4585311,204	148,683	622	429617,050	4585316,928	143,837
473	429502,681	4585317,451	163,582	523	429545,709	4585351,166	156,245	573	429625,672	4585310,535	148,562	623	429617,265	4585315,895	143,968
474	429504,417	4585320,766	163,669	524	429550,111	4585353,496	155,702	574	429622,950	4585312,805	147,216	624	429617,537	4585315,858	144,945

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
625	429618,057	4585313,249	144,738	680	429655,161	4585305,488	158,765	733	429525,804	4585322,941	155,405	787	429642,576	4585297,028	162,465
626	429616,851	4585313,628	144,070	681	429655,249	4585305,027	158,540	734	429527,696	4585321,098	155,536	788	429650,640	4585299,680	162,801
627	429617,250	4585310,862	143,246	682	429655,225	4585304,924	158,255	735	429525,458	4585318,163	155,535	789	429650,998	4585299,793	162,874
628	429617,810	4585310,833	144,368	683	429655,091	4585305,682	158,160	736	429532,250	4585319,557		790	429651,281	4585299,893	163,006
629	429618,057	4585307,967	142,706	684	429654,557	4585307,793	158,343	737	429531,839	4585323,255	153,850	791	429649,063	4585301,583	155,443
630	429622,291	4585311,036	146,593	685	429654,517	4585307,877	157,983	738	429531,281	4585323,433	155,318	792	429646,123	4585300,523	154,393
631	429621,064	4585310,698	146,110	686	429653,041	4585307,986	158,629	739	429549,216	4585338,402	153,511	793	429651,111	4585302,251	156,066
632	429621,534	4585310,278	146,975	687	429651,827	4585307,563	158,134	740	429552,476	4585338,732	152,511	794	429656,414	4585303,894	160,750
633	429623,079	4585313,399	147,206	688	429653,296	4585304,971	156,954	741	429550,943	4585339,601	153,322	795	429657,544	4585304,352	160,762
634	429625,845	4585311,638	148,178	689	429652,367	4585304,188	156,093	742	429548,810	4585340,561	154,081	796	429655,158	4585303,567	160,730
635	429625,308	4585309,279	148,243	690	429650,500	4585303,664	155,554	744	429544,446	4585342,679	154,684	797	429648,885	4585301,453	158,038
636	429627,882	4585307,982	148,685	692	429509,628	4585278,722	154,829	745	429541,375	4585343,964		798	429643,507	4585299,593	156,134
637	429628,202	4585310,287	148,517	695	429511,189	4585272,914	154,777	746	429538,362	4585338,447	154,902	799	429638,010	4585297,684	154,249
638	429628,212	4585314,630	149,648	696	429532,040	4585325,377	154,600	747	429538,696	4585338,767	155,136	800	429651,186	4585313,144	159,906
639	429625,858	4585314,834	149,232	697	429532,011	4585324,950	155,270	748	429538,012	4585339,456	155,063	801	429647,159	4585320,785	158,941
640	429625,876	4585319,838	150,454	698	429529,600	4585320,357	155,067	749	429536,763	4585340,803	155,084	802	429643,817	4585334,223	159,772
641	429628,380	4585319,865	151,162	699	429525,093	4585311,083	154,649	750	429537,685	4585343,193	155,588	803	429642,982	4585344,757	162,474
642	429627,977	4585324,120	151,670	700	429525,380	4585311,294	155,077	751	429539,233	4585345,260	155,827	804	429638,292	4585297,862	152,187
643	429632,684	4585310,808	151,705	701	429524,651	4585311,323	154,766	752	429541,292	4585346,368	155,608	805	429635,383	4585296,855	151,746
644	429631,802	4585306,386	151,360	702	429523,654	4585311,883	155,155	753	429540,468	4585342,742	155,157	806	429645,786	4585303,751	152,642
645	429632,737	4585301,732	151,564	703	429521,550	4585303,080	154,054	754	429540,761	4585343,188	155,120	807	429650,757	4585305,316	153,183
646	429633,507	4585299,142	151,373	704	429521,280	4585303,211	154,470	755	429545,401	4585347,645	155,916	808	429650,256	4585303,659	153,225
647	429635,153	4585297,318	151,708	705	429520,904	4585303,532	154,702	756	429546,570	4585345,519	155,901	809	429645,114	4585301,935	152,913
648	429634,679	4585300,563	152,326	706	429520,503	4585303,751	155,000	757	429541,821	4585344,856	155,493	810	429646,104	4585302,191	153,602
649	429636,047	4585301,026	152,302	707	429520,030	4585302,828	154,962	758	429544,531	4585344,990	155,692	811	429649,980	4585306,505	152,838
650	429635,201	4585299,010	152,314	708	429518,335	4585302,635	155,078	759	429545,938	4585345,059	155,752	812	429650,671	4585306,503	153,165
651	429636,544	4585299,499	152,332	709	429516,617	4585301,744	155,271	760	429542,798	4585341,288		813	429550,705	4585380,440	164,006
652	429636,599	4585300,384	152,265	710	429525,035	4585304,633		761	429549,035	4585339,086	153,510	814	429552,028	4585379,997	164,154
653	429636,831	4585299,614	152,486	711	429525,624	4585304,233	167,269	762	429554,415	4585328,231	156,181	815	429551,850	4585379,375	164,184
654	429636,330	4585301,154	152,453	712	429531,367	4585301,569		764	429549,133	4585338,224		816	429550,730	4585380,107	164,164
655	429639,690	4585302,376	154,256	713	429542,423	4585303,637		765	429550,437	4585330,131		817	429546,556	4585376,598	164,211
656	429639,898	4585301,611	154,093	714	429539,311	4585305,164		766	429554,786	4585337,406	151,389	818	429546,631	4585376,366	164,357
657	429640,215	4585300,800	154,281	715	429539,018	4585305,000	167,223	767	429552,562	4585340,654	153,131	819	429547,442	4585375,254	164,428
658	429641,941	4585301,379	154,376	716	429526,459	4585324,915	155,328	768	429554,014	4585344,188	153,011	820	429542,822	4585373,005	164,463
659	429641,680	4585302,117	154,309	717	429529,442	4585322,828	155,395	769	429555,984	4585347,533	152,529	821	429542,883	4585372,779	164,617
660	429641,392	4585302,896	154,352	718	429530,123	4585322,615	154,734	770	429552,183	4585343,020	153,222	822	429541,102	4585369,772	164,836
661	429644,843	4585304,102	156,110	719	429525,042	4585321,751	155,466	771	429554,058	4585345,291	153,014	823	429539,679	4585369,906	164,716
662	429645,065	4585303,348	155,922	720	429524,182	4585321,619	156,239	773	429550,207	4585339,935	153,520	824	429539,829	4585369,726	164,857
663	429645,439	4585302,524	156,031	721	429523,175	4585322,175	156,468	774	429553,916	4585338,337	151,573	825	429539,582	4585367,830	164,973
664	429647,136	4585303,132	156,168	722	429527,529	4585327,370	155,325	775	429555,929	4585336,756	151,086	826	429536,457	4585367,110	165,006
665	429646,832	4585303,843	156,040	723	429526,335	4585327,423	156,042	776	429633,498	4585307,932	152,079	827	429535,827	4585366,525	165,049
666	429646,576	4585304,635	156,166	724	429528,413	4585329,556	155,213	777	429632,841	4585339,443	154,028	828	429535,904	4585366,100	165,002
667	429649,993	4585305,865	157,913	725	429529,890	4585333,316	155,562	778	429620,867	4585291,687		829	429536,328	4585365,315	165,186
668	429650,241	4585305,078	157,717	726	429534,723	4585333,886	155,376	779	429621,096	4585291,661	147,504	830	429533,931	4585362,885	165,305
669	429650,533	4585304,301	157,885	727	429534,914	4585333,842	155,207	780	429624,129	4585292,797	147,494	831	429533,039	4585363,223	165,163
670	429652,257	4585304,928	158,030	728	429532,913	4585330,093	155,248	782	429627,896	4585293,964	149,413	832	429532,313	4585362,974	165,222
671	429651,964	4585305,663	157,874	729	429533,059	4585329,994	154,866	783	429627,954	4585294,068		833	429532,734	4585362,392	165,326
672	429651,717	4585306,467	158,048	730	429533,978	4585329,407	154,281	784	429628,349	4585294,211	150,900	834	429535,001	4585363,322	165,294
676	429657,329	4585306,651	159,712	731	429531,986	4585326,952	155,015	785	429634,248	4585296,441	153,101	835	429527,937	4585358,095	165,176
677	429656,776	4585308,226	159,757	732	429533,980	4585335,942	155,045	786	429642,193	4585296,900		836	429527,964	4585357,797	165,327

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
837	429529,000	4585358,359	165,371	887	429612,163	4585377,706	161,300	938	429645,585	4585343,253	161,324	989	429660,008	4585303,413	158,566
838	429529,336	4585357,498	165,378	889	429622,565	4585376,655	161,179	939	429645,385	4585343,201	161,462	990	429655,284	4585318,131	160,764
839	429526,146	4585354,763	165,259	890	429623,832	4585378,139	161,273	940	429644,688	4585344,533	161,512	1003	429614,123	4585382,241	161,068
840	429520,393	4585350,382	164,774	891	429625,138	4585377,256	161,454	941	429643,544	4585344,070	161,533	1004	429613,134	4585382,268	161,082
841	429520,546	4585350,222	164,901	892	429626,347	4585376,750	161,341	942	429643,441	4585344,800	161,546	1006	429623,606	4585375,735	161,208
842	429521,217	4585349,028	164,916	893	429625,761	4585376,209	161,480	943	429642,663	4585345,152	161,575	1007	429623,742	4585375,306	161,072
843	429531,830	4585362,592	165,230	894	429624,035	4585375,871	161,415	944	429644,271	4585346,272	161,410	1013	429624,652	4585377,886	161,419
844	429635,036	4585352,914	161,598	895	429624,388	4585374,183	161,507	945	429643,023	4585347,385	161,525	1016	429622,454	4585377,326	161,162
845	429655,114	4585317,927	160,870	896	429627,050	4585373,521	161,498	946	429642,851	4585347,882	161,419	1021	429622,859	4585375,144	161,040
846	429577,564	4585392,105	163,254	897	429627,880	4585372,082	161,375	947	429640,860	4585349,373	161,449	1022	429622,558	4585375,508	161,104
847	429577,543	4585391,874	163,359	898	429625,630	4585370,260	161,561	948	429639,487	4585349,698	161,560	1023	429619,076	4585374,343	161,023
848	429576,920	4585391,071	163,383	899	429625,981	4585369,747	161,560	949	429638,174	4585350,706	161,579	1024	429615,770	4585373,281	160,980
849	429576,258	4585390,813	163,425	900	429628,527	4585368,865	161,537	950	429638,263	4585351,223	161,465	1025	429612,972	4585372,216	160,969
850	429572,082	4585392,734	163,539	901	429629,355	4585367,597	161,413	951	429636,928	4585351,753	161,581	1027	429615,491	4585372,773	160,975
851	429572,258	4585391,261	163,579	902	429627,395	4585364,833	161,616	952	429635,937	4585352,997	161,479	1028	429618,819	4585373,834	160,961
852	429567,919	4585392,396	163,647	903	429627,731	4585364,243	161,595	953	429639,352	4585346,095	161,597	1029	429622,288	4585375,007	161,021
853	429567,622	4585392,989	163,680	904	429630,437	4585363,194	161,587	954	429637,684	4585346,695	161,600	1030	429620,136	4585376,676	161,033
854	429567,785	4585390,853	163,713	905	429630,601	4585361,854	161,599	955	429636,445	4585346,939	161,605	1031	429618,270	4585377,096	161,063
855	429564,110	4585389,809	163,827	906	429631,522	4585361,415	161,478	956	429633,226	4585347,820	161,616	1032	429618,433	4585377,230	161,069
856	429563,407	4585389,752	163,826	907	429629,126	4585359,461	161,652	957	429633,124	4585348,006	161,613	1033	429618,260	4585379,198	161,206
857	429563,524	4585391,214	163,763	908	429629,478	4585358,881	161,643	958	429632,832	4585348,275	161,620	1034	429615,638	4585377,579	161,041
858	429560,019	4585388,655	163,742	909	429630,717	4585354,512	161,651	959	429632,507	4585348,936	161,630	1035	429615,121	4585377,907	161,095
859	429560,079	4585388,416	163,876	910	429631,238	4585353,333	161,642	960	429631,267	4585352,856	161,652	1040	429615,233	4585377,503	161,060
860	429560,524	4585387,267	163,907	911	429633,005	4585357,761	161,530	961	429652,158	4585318,439	160,989	1041	429615,249	4585378,064	161,058
861	429558,544	4585387,740	163,782	912	429633,163	4585356,276	161,643	962	429652,231	4585317,688	160,972	1049	429611,333	4585373,559	160,996
862	429555,000	4585384,309	163,844	913	429634,648	4585354,501	161,513	963	429651,655	4585319,126	161,068	1050	429611,425	4585373,905	161,114
863	429554,975	4585384,014	163,992	914	429636,889	4585352,295	161,473	964	429653,648	4585317,482	160,871	1051	429610,693	4585375,113	161,190
864	429555,672	4585382,899	164,033	915	429636,859	4585351,759	161,581	965	429653,800	4585317,735	160,726	1052	429607,749	4585373,113	160,852
865	429582,286	4585390,643	162,955	916	429639,326	4585349,698	161,566	966	429653,885	4585317,166	160,832	1053	429610,267	4585371,938	160,799
866	429582,299	4585390,447	163,065	917	429639,949	4585350,022	161,451	967	429654,399	4585316,720	160,786	1054	429611,501	4585370,998	160,713
867	429581,818	4585389,301	163,112	918	429613,117	4585377,737	161,269	968	429654,080	4585316,145	160,738	1055	429613,358	4585370,168	160,705
868	429585,858	4585389,067	162,723	919	429655,236	4585318,214	160,781	969	429655,676	4585316,868	160,637	1056	429615,952	4585366,702	159,994
869	429585,770	4585388,846	162,828	920	429653,818	4585317,743	160,739	970	429656,986	4585313,522	160,194	1057	429614,641	4585367,842	160,132
870	429586,033	4585387,267	162,792	921	429652,747	4585321,108	160,955	971	429656,673	4585313,822	160,240	1058	429616,597	4585370,490	160,630
871	429590,574	4585385,263	162,440	922	429650,905	4585321,297	161,126	972	429655,472	4585313,425	160,405	1059	429621,580	4585374,808	160,977
872	429590,969	4585386,488	162,289	923	429650,685	4585322,418	161,126	973	429654,343	4585311,946	160,268	1060	429623,378	4585369,726	160,089
873	429590,991	4585386,214	162,413	924	429650,945	4585323,266	161,121	974	429654,319	4585311,407	160,202	1061	429625,552	4585369,610	159,988
874	429592,292	4585384,119	162,282	925	429651,103	4585326,184	161,066	975	429656,355	4585309,642	159,809	1062	429620,429	4585368,342	160,093
875	429596,412	4585383,861	161,808	926	429650,880	4585326,121	161,153	976	429655,032	4585309,127	159,797	1063	429619,708	4585363,844	159,579
876	429600,058	4585382,251	161,562	927	429648,973	4585327,336	161,203	977	429655,394	4585307,923	159,797	1064	429619,580	4585363,306	159,482
877	429599,914	4585382,054	161,663	928	429648,906	4585327,926	161,220	978	429655,492	4585307,738	159,802	1065	429617,902	4585363,112	159,130
878	429598,391	4585381,231	161,763	929	429649,086	4585330,800	161,242	979	429655,198	4585307,542	159,809	1066	429618,224	4585362,317	158,993
879	429603,207	4585379,526	161,517	930	429649,565	4585330,945	161,099	980	429657,384	4585306,599	159,768	1067	429621,370	4585356,373	157,779
880	429604,537	4585380,572	161,338	931	429647,145	4585332,913	161,297	982	429656,088	4585305,940	159,551	1068	429621,713	4585356,196	157,860
881	429608,242	4585379,839	161,235	932	429647,107	4585333,417	161,301	983	429656,672	4585305,116	159,395	1070	429618,247	4585363,351	159,525
882	429606,155	4585378,449	161,424	933	429645,885	4585336,792	161,341	984	429657,855	4585306,338	159,569	1071	429615,514	4585367,691	160,345
883	429611,616	4585379,765	161,180	934	429646,803	4585338,198	161,348	985	429657,150	4585308,390	159,578	1072	429613,291	4585370,697	160,798
884	429613,060	4585379,519	161,155	935	429647,123	4585338,537	161,213	986	429658,577	4585304,740	158,998	1073	429629,044	4585358,754	158,245
885	429615,545	4585377,650	161,060	936	429645,366	4585338,846	161,373	987	429658,385	4585307,820	159,418	1074	429627,892	4585358,592	158,134
886	429615,232	4585377,484	161,105	937	429645,558	4585339,878	161,389	988	429659,810	4585303,352	158,723	1075	429625,109	4585357,231	157,984

PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z	PUNT	X	Y	Z
1076	429623,785	4585361,016	158,819	1129	429634,318	4585330,884	152,245	1179	429571,852	4585346,185	145,540				
1077	429622,435	4585356,578	157,965	1130	429636,889	4585332,114	152,585	1180	429626,501	4585324,135	151,650				
1079	429621,766	4585355,804	157,677	1131	429639,964	4585333,737	152,945	1181	429562,134	4585369,069	155,760				
1080	429621,909	4585356,243	157,976	1132	429639,822	4585333,604	152,956	1182	429567,616	4585373,027	156,350				
1081	429623,480	4585352,691	157,170	1133	429637,871	4585337,308	153,513	1183	429574,367	4585375,712	155,220				
1082	429622,710	4585353,334	157,210	1134	429639,276	4585337,916	153,805	1184	429544,957	4585348,514	156,014				
1083	429623,342	4585350,781	156,756	1135	429636,020	4585341,072	154,269	1185	429547,417	4585348,753	155,994				
1084	429622,445	4585350,030	156,267	1136	429638,063	4585340,967	154,425	1187	429548,586	4585346,627	156,000				
1085	429622,395	4585351,268	156,589	1137	429641,984	4585329,199	152,576	1188	429532,806	4585336,910	155,544				
1086	429625,016	4585348,847	156,468	1138	429641,660	4585328,615	152,385	1189	429620,356	4585296,654	144,950				
1087	429624,475	4585348,705	156,398	1139	429643,649	4585322,976	152,253	1190	429620,562	4585295,945	144,950				
1088	429623,604	4585348,330	156,087	1140	429643,750	4585324,252	152,483	1191	429622,011	4585297,188	145,700				
1089	429626,604	4585345,247	155,567	1141	429645,708	4585318,845	152,479	1192	429622,200	4585296,348	145,700				
1090	429625,509	4585346,758	155,972	1142	429644,976	4585318,687	152,323								
1091	429625,805	4585345,441	155,637	1143	429647,209	4585313,168	152,500								
1092	429629,545	4585346,629	155,767	1144	429647,739	4585312,337	152,658								
1093	429632,552	4585347,703	155,810	1145	429647,409	4585311,818	152,667								
1095	429627,809	4585341,749	154,732	1146	429647,132	4585310,570	152,606								
1096	429627,292	4585345,031	155,503	1147	429647,322	4585309,820	152,648								
1097	429625,454	4585349,123	156,448	1148	429647,929	4585309,326	152,728								
1098	429623,804	4585353,065	157,216	1149	429648,378	4585308,802	152,779								
1099	429622,315	4585356,810	158,024	1150	429648,978	4585307,986	152,835								
1100	429626,607	4585345,785	155,693	1151	429649,645	4585306,646	152,913								
1101	429628,838	4585341,693	154,782	1152	429649,194	4585306,765	152,779								
1102	429628,526	4585341,582	154,756	1153	429647,921	4585308,552	152,655								
1104	429630,607	4585338,305	153,993	1154	429646,991	4585310,360	152,592								
1105	429630,390	4585338,185	153,859	1155	429651,426	4585306,151	153,200								
1106	429629,581	4585338,851	153,969	1156	429651,755	4585305,009	153,200								
1107	429632,324	4585334,746	153,091	1157	429651,680	4585304,325	153,050								
1108	429632,326	4585334,115	152,812	1158	429644,166	4585301,617	152,850								
1109	429632,502	4585333,201	152,402	1159	429655,506	4585303,681	158,540								
1110	429632,759	4585334,387	153,069	1160	429655,443	4585303,661	158,260								
1111	429635,390	4585335,800	153,243	1161	429654,258	4585308,843	158,240								
1112	429632,781	4585341,049	154,377	1162	429522,827	4585266,160	151,100								
1113	429633,065	4585346,807	155,527	1163	429525,263	4585272,974	149,920								
1114	429634,749	4585343,339	154,735	1164	429529,331	4585279,507	150,070								
1115	429636,531	4585346,276	155,680	1165	429539,044	4585298,378	149,830								
1116	429636,428	4585346,576	155,721	1166	429621,954	4585308,306	146,820								
1117	429638,909	4585345,864	156,531	1167	429555,304	4585347,840	152,554								
1118	429638,732	4585345,109	156,383	1168	429558,339	4585354,571	152,194								
1119	429639,946	4585345,125	157,301	1169	429561,943	4585357,885	152,854								
1120	429638,937	4585345,140	157,187	1170	429552,034	4585339,272	153,194								
1121	429640,961	4585345,318	157,713	1171	429550,295	4585340,091	153,494								
1122	429640,926	4585345,105	157,713	1172	429541,335	4585344,312	155,444								
1123	429641,499	4585344,896	158,109	1173	429550,245	4585345,076	155,014								
1124	429637,314	4585343,354	154,899	1174	429553,352	4585353,085	154,540								
1125	429633,521	4585333,064	152,663	1175	429552,516	4585348,559	155,664								
1126	429631,590	4585332,908	151,913	1176	429559,505	4585334,928	147,123								
1127	429633,611	4585330,773	152,116	1177	429563,263	4585341,002	146,911								
1128	429635,126	4585329,006	152,154	1178	429567,382	4585344,037	146,500								

FOTO 1



FOTO 2

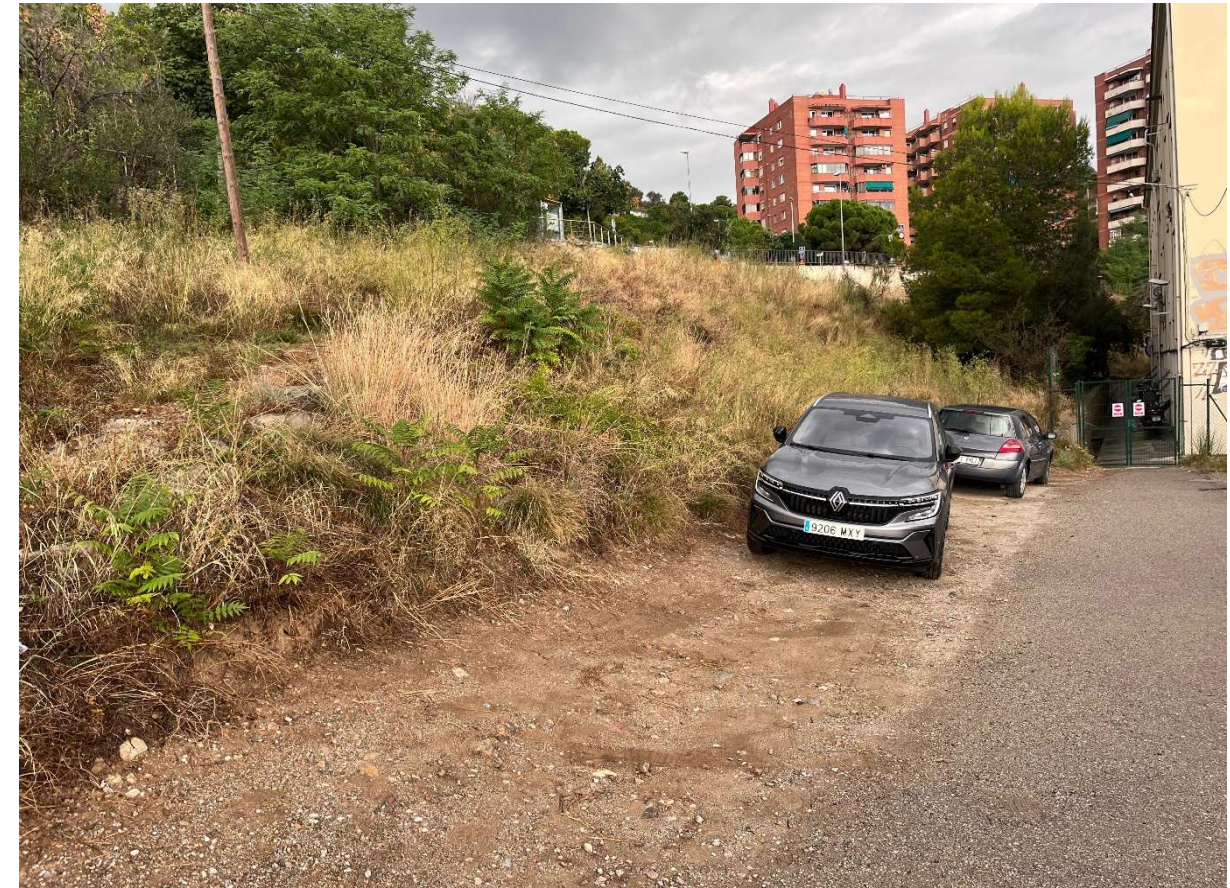


FOTO 3



FOTO 4



FOTO 5



FOTO 6



FOTO 7



FOTO 8



FOTO 9

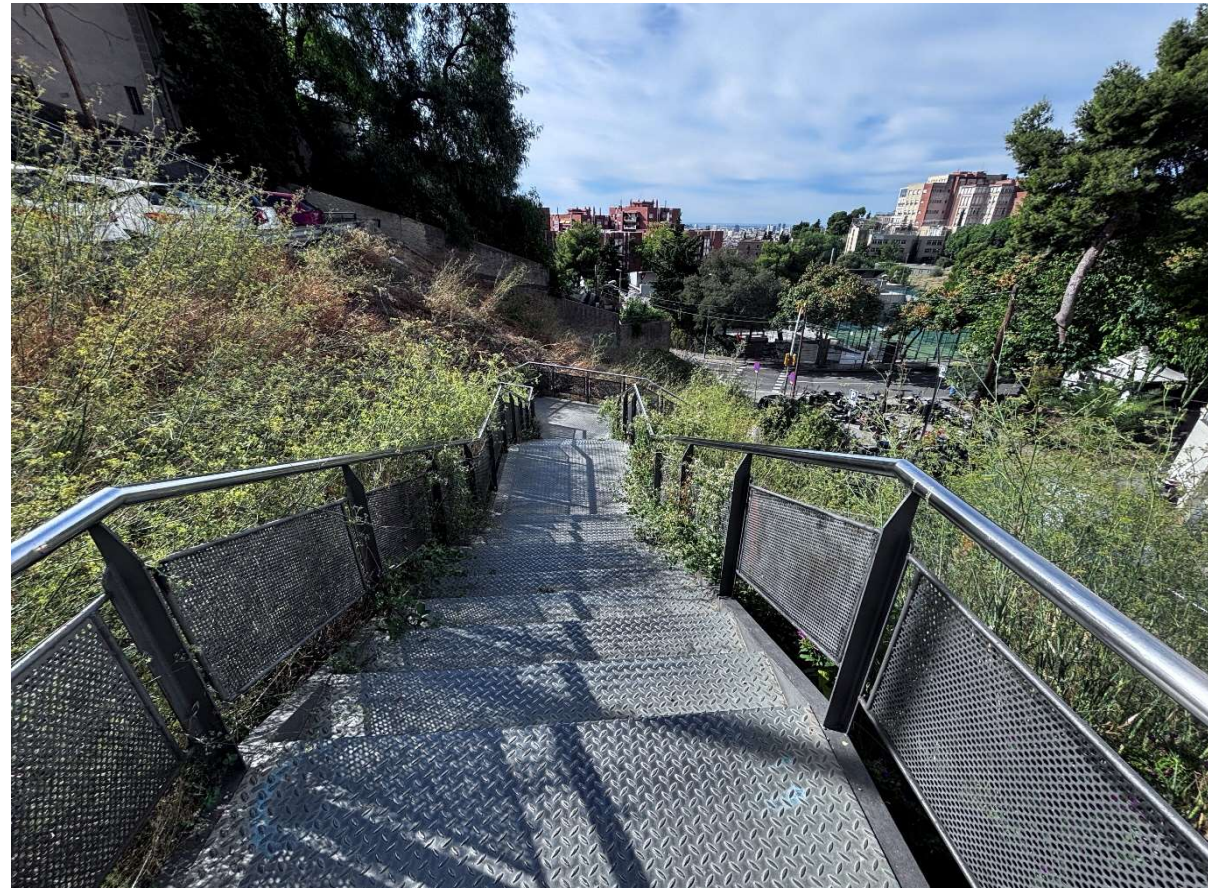


FOTO 10



FOTO 11



FOTO 12



FOTO 13



FOTO 14



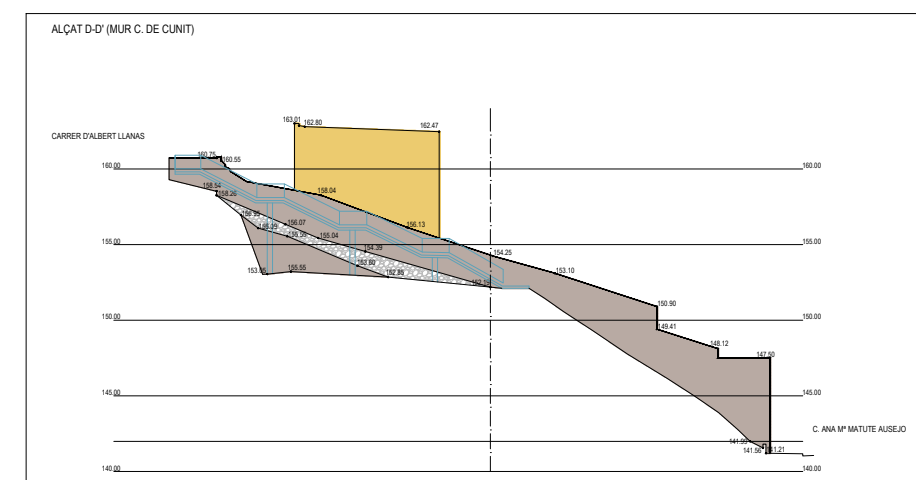
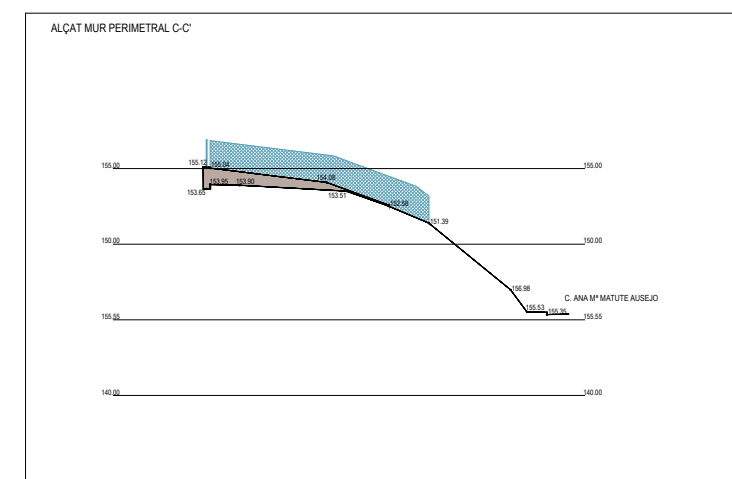
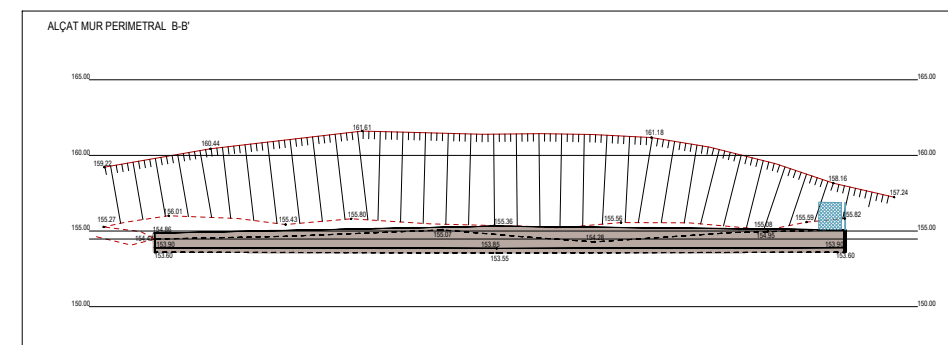
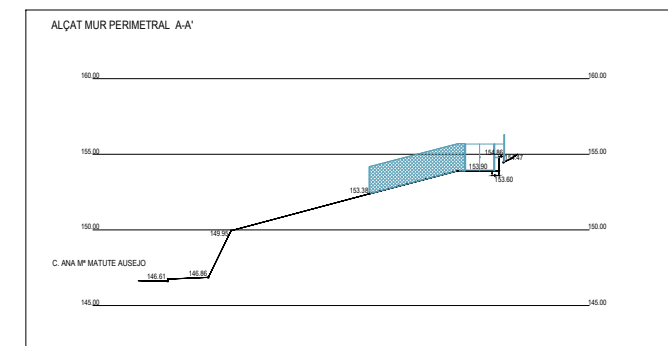
FOTO 15



FOTO 16







CERTIFICADO DE CALIBRACIÓN

v4.0

Número de Certificado : 2025/T-1/00495
Página : 1 de 3

Nombre del cliente : ACIMUT TOPOGRAFÍA, S.L.U.

DATOS DEL INSTRUMENTO CALIBRADO

Fabricante : TOPCON Precisión angular : Horizontal : 0,3 mgon
Modelo : DS-101AC Vertical : 0,3 mgon
N.º de serie : JM1632 Precisión de distancia P : 1,5 mm + 2 ppm
N.º Inventario : Precisión de distancia NP : 2 mm + 2 ppm

PATRÓN UTILIZADO

Conjunto de cuatro colimadores con nº de serie: MV2000, MV2001, MV2002 y MV2003 y Línea base con nº de serie: LB004 con certificado nº: 2024/IT-1/001, y trazabilidad al C.E.M. (nº de certificado: CEM24000278).

DATOS COMPARACIÓN METROLÓGICA

Procedimientos ISO 9001	IT1-PR-10	IT2-PR-10	IT3-PR-10	IT4-PR-10
Condiciones Ambientales	Temperatura (°C)	+ 19.60		
	Rango	23° ± 4°		
	Humedad Relativa (%)	+ 50.20		
	Rango	≤ 75% HR		
Incertidumbres del patrón	Ángulo Horizontal (mgon)	0,70		
	Ángulo Vertical (mgon)	1,00		
	Distancias (Metros)	0,0008		
Incertidumbres resultantes	Ángulo Horizontal (mgon)	0,70		
	Ángulo Vertical (mgon)	1,00		
	Distancias a prisma (Metros)	0,0008		
	Distancias sin prisma (Metros)	0,0008		
Fecha de Calibración:		19/02/2025		
Fecha Recomendada Próxima Calibración :		19/02/2026		

Nombre del técnico : Iván Castro Padilla



Firma

TOPCON POSITIONING SPAIN

Sede Central:

Avd. Industria 35, 28760 Tres Cantos Madrid
Phone: +34 91 484 19 00 www.topconpositioning.com
e-mail: atencioncliente@topconpositioning.es

Oficina de calibración y reparación:

Madrid - Avd. Industria 35, 28760 (Tres Cantos)

Oficinas de calibración:

Bilbao - Los Mimbres, 4, Bajo derecha 48003 (Bilbao)

Barcelona - Calle Sant Martí de L' Erm N.º 1 Planta baja 08960 (Sant Just Desvern)

Valencia - C/ Ronda Narciso Monturiol, 4 46980 (Paterna)

CERTIFICADO DE CALIBRACIÓN

v4.0

Número de Certificado : 2025/T-1/00495
Página : 2 de 3

ÁNGULO HORIZONTAL

REGISTRO MEDIDAS EN LA ENTRADA

1D	1I	2D	2I	3D	3I	4D	4I	5D	5I
0,0000	199,9981	0,0000	199,9981	0,0000	199,9981	0,0000	199,9981	0,0000	199,9981
MEDIA ARITMÉTICA DE LAS OBSERVACIONES				0,0010 gon					
ERROR MÁXIMO ENTRE POSICIONES D & I				0,0019 gon					
DESVIACIÓN TÍPICA				0,0010 gon					
INCERTIDUMBRE				0,0012 gon					

REGISTRO MEDIDAS EN LA SALIDA

1D	1I	2D	2I	3D	3I	4D	4I	5D	5I
0,0000	200,0001	0,0000	200,0001	0,0000	200,0001	0,0000	200,0001	0,0000	200,0001
MEDIA ARITMÉTICA DE LAS OBSERVACIONES				0,0001 gon					
ERROR MÁXIMO ENTRE POSICIONES D & I				0,0001 gon					
DESVIACIÓN TÍPICA				0,0001 gon					
INCERTIDUMBRE				0,0007 gon					

ÁNGULO VERTICAL

REGISTRO MEDIDAS EN LA ENTRADA

1D	1I	2D	2I	3D	3I	4D	4I	5D	5I
100,0031	299,9946	100,0031	299,9946	100,0031	299,9946	100,0031	299,9946	100,0031	299,9946
MEDIA ARITMÉTICA DE LAS OBSERVACIONES				100,0043 gon					
ERROR MÁXIMO ENTRE POSICIONES D & I				0,0023 gon					
DESVIACIÓN TÍPICA				0,0012 gon					
INCERTIDUMBRE				0,0016 gon					

REGISTRO MEDIDAS EN LA SALIDA

1D	1I	2D	2I	3D	3I	4D	4I	5D	5I
100,0031	299,9969	100,0031	299,9969	100,0031	299,9969	100,0031	299,9969	100,0031	299,9969
MEDIA ARITMÉTICA DE LAS OBSERVACIONES				100,0031 gon					
ERROR MÁXIMO ENTRE POSICIONES D & I				0,0000 gon					
DESVIACIÓN TÍPICA				0,0000 gon					
INCERTIDUMBRE				0,0010 gon					

Topcon Positioning Spain, S.L.U. certifica que el equipo reseñado ha superado los procesos de calibración y ajuste que se le han practicado, garantizando que en la fecha de emisión de este certificado, cumple con las especificaciones técnicas.

Este documento no atribuye al equipo otras características no mostradas en las especificaciones técnicas que no estén expresadas en el manual del fabricante.

Las incertidumbres asignadas tanto al instrumento objeto del presente certificado como al de los patrones, corresponden a un nivel de confianza del 95% (K=2).

Los resultados se refieren al momento y condiciones en que se efectuaron las mediciones y poseen trazabilidad a los patrones indicados, certificados por el C.E.M. (Centro Español de Metrología).

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TOPCON POSITIONING SPAIN

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Oficina de calibración y reparación:

Madrid - Avd. Industria 35, 28760 (Tres Cantos)

Oficinas de calibración:

Bilbao - Los Mimbres, 4, Bajo derecha (Bilbao)

Barcelona - Calle Sant Martí de L' Erm N.º 1 Planta baja (Sant Just Desvern)

Valencia - C/ Ronda Narciso Monturiol, 4 (Paterna)

CERTIFICADO DE CALIBRACIÓN

v4.0

Número de Certificado : 2025/T-1/00495
Página : 3 de 3

MEDICIÓN A PRISMA

REGISTRO MEDIDAS EN LA ENTRADA

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749

DISTANCIA REAL	10,075	Metros
MEDIA ARITMÉTICA DE LAS OBSERVACIONES	-0,0001	Metros
DESVIACIÓN TÍPICA	0,0000	Metros
INCERTIDUMBRE	0,0000	Metros
INCERTIDUMBRE EXPANDIDA	0,0008	Metros

REGISTRO MEDIDAS EN LA SALIDA

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749	10,0749

DISTANCIA REAL	10,075	Metros
MEDIA ARITMÉTICA DE LAS OBSERVACIONES	-0,0001	Metros
DESVIACIÓN TÍPICA	0,0000	Metros
INCERTIDUMBRE	0,0000	Metros
INCERTIDUMBRE EXPANDIDA	0,0008	Metros

MEDICIÓN SIN PRISMA

REGISTRO MEDIDAS EN LA ENTRADA

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715

DISTANCIA REAL	10,0716	Metros
MEDIA ARITMÉTICA DE LAS OBSERVACIONES	-0,0001	Metros
DESVIACIÓN TÍPICA	0,0000	Metros
INCERTIDUMBRE	0,0000	Metros
INCERTIDUMBRE EXPANDIDA	0,0008	Metros

REGISTRO MEDIDAS EN LA SALIDA

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715	10,0715

DISTANCIA REAL	10,0716	Metros
MEDIA ARITMÉTICA DE LAS OBSERVACIONES	-0,0001	Metros
DESVIACIÓN TÍPICA	0,0000	Metros
INCERTIDUMBRE	0,0000	Metros
INCERTIDUMBRE EXPANDIDA	0,0008	Metros

Topcon Positioning Spain, S.L.U. certifica que el equipo reseñado ha superado los procesos de calibración y ajuste que se le han practicado, garantizando que en la fecha de emisión de este certificado, cumple con las especificaciones técnicas.

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