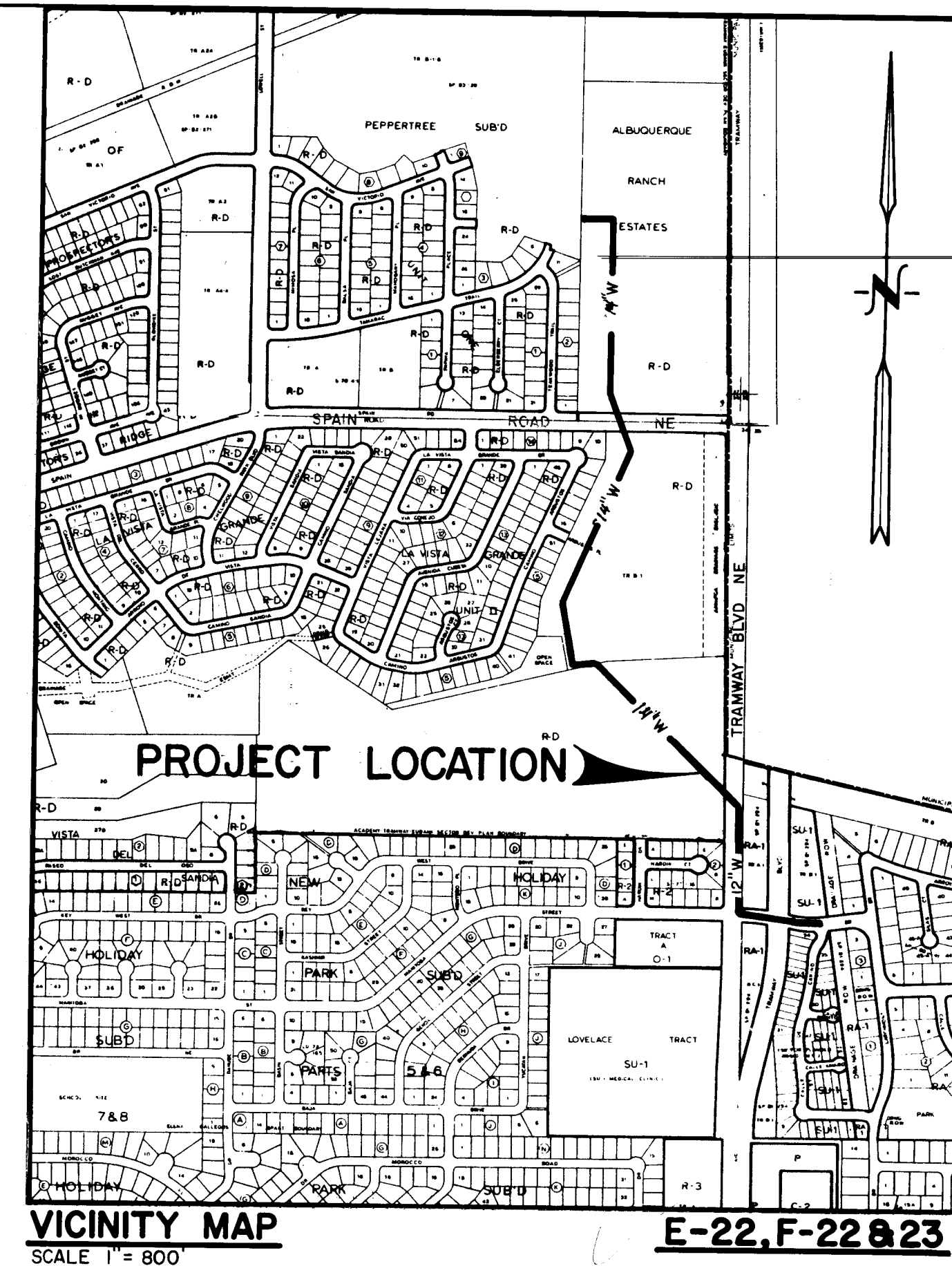


CONSTRUCTION PLANS FOR

LOWER ZONE 9E 14"

MASTERPLAN WATERLINE

MANITOBA DR. NE AND CALLE DE CARINO NE TO PEPPERTREE SUBDIVISION



VICINITY MAP
SCALE 1" = 800'

E-22, F-22 & 23

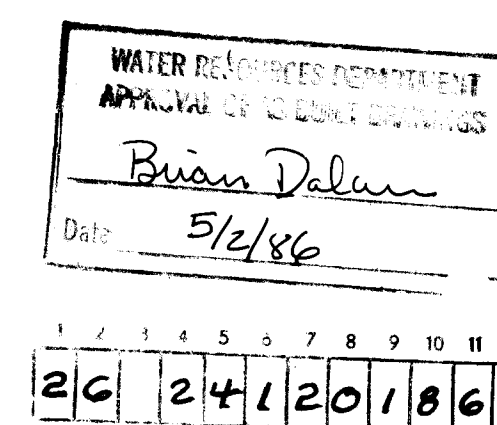
INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	COVER SHEET, GENERAL NOTES
2	OVERALL WATER LINE PLAN
<u>PLAN AND PROFILE</u>	
3	W STA 0+00.00 TO W STA 22+62.30
4	W STA 22+62.30 TO W STA 37+38.30
5	ROYAL OAK AVENUE NE $\pm$ STA 0+00.00 TO $\pm$ STA 7+50.00
6	ROYAL OAK AVENUE NE $\pm$ STA 7+50.00 TO $\pm$ STA 13+53.32
7	TRAFFIC CONTROL PLAN

GENERAL NOTES

- All work detailed on these plans to be performed under this contract shall be constructed in accordance with the City of Albuquerque Interim Standard Specifications for Public Works Construction - 1985 Edition (referred herein as the Standard Specification) and the Supplemental Specifications of this project unless otherwise noted in the contract documents.
- Two (2) working days prior to any excavation, Contractor must contact line locating service, 765-1234, for location of existing utilities.
- Prior to construction, the Contractor shall excavate and verify the horizontal and vertical locations of all potential obstructions. Should a conflict exist, the Contractor shall notify the Engineer so that the conflict can be resolved with a minimum amount of delay.
- All work on this project shall be performed in accordance with applicable Federal, State and Local laws, rules, and regulations concerning construction safety and health.
- Contractor shall maintain access to adjacent properties during construction.
- All gas, electric, telephone lines, cables, and appurtenances encountered during construction that require relocation, shall be done by the responsible utility. Contractor shall be responsible for coordination of all necessary utility adjustments.
- It will be the Contractor's responsibility to protect and maintain in service all existing utilities.
- The Contractor will be required to confine his work within the construction limits and/or public right-of-way to preserve existing vegetation and private property. Overnight parking of construction equipment shall not obstruct driveways or designated traffic lanes.
- A disposal site for all excess excavation material, asphaltic paving, concrete curbs and sidewalks, etc., shall be obtained by the Contractor in compliance with applicable environmental regulations and approved by the Field Engineer. All costs incurred in obtaining a disposal site and haul thereto shall be considered incidental to the project and no separate measurement or payment shall be made.
- Where removal of existing curbs and gutters, sidewalk or pavement is required, Contractor shall sawcut and/or remove to the nearest joint. Curb and gutter shown on these plans as existing and not to be removed under this contract, which is damaged or displaced by the Contractor shall be removed and replaced at the Contractor's expense.
- When abutting new pavement to existing, sawcut existing pavement to a straight edge and at a right angle, or as approved by the Project Engineer, to remove any broken or cracked pavement.
- All stationing shown on these plans is based on street centerline or centerline of pipe unless noted otherwise.
- The Contractor must submit a construction signing and barricading plan to Traffic Engineering prior to construction to receive a barricading permit.
- Backfill compaction shall be according to specified street use.
- All trench backfill shall be compacted to a minimum 90% maximum density as per ASTM -D1557.
- Any existing utility service lines that do not require relocation and are damaged by the Contractor shall be removed and replaced at the Contractor's expense. This expense shall be considered incidental to the project and no separate payment shall be made.

REV.	SHEETS	CITY	ENGR.	DATE	USER	DEPT.	DATE	USER	DEPT.	DATE
APPROVAL OF REVISIONS										



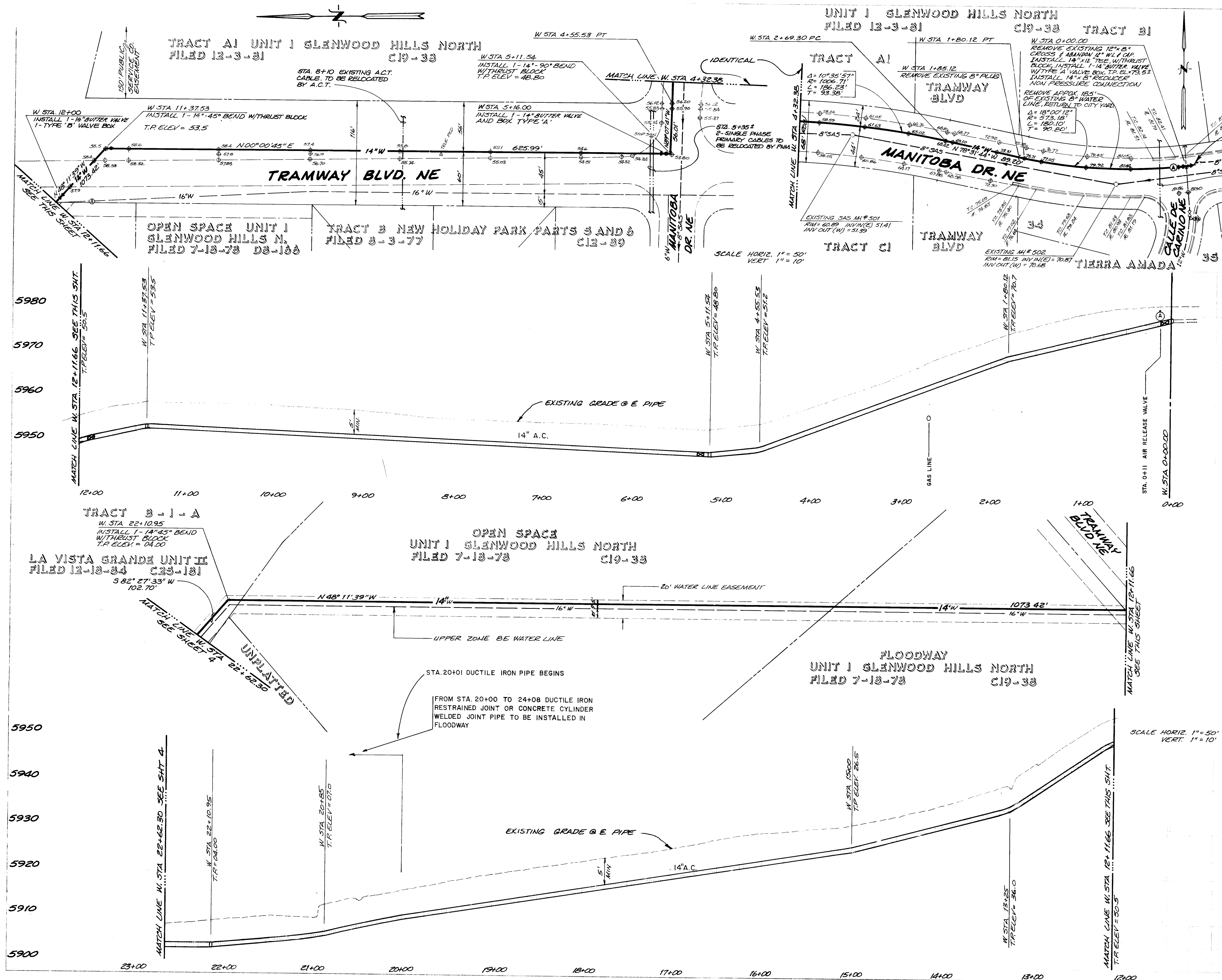
26 24120186

ENGINEERS SEAL 	ESPEY, HUSTON & ASSOC., INC. Engineering & Environmental Consultants 4801 INDIAN SCHOOL ROAD N.E. SUITE 204 ALBUQUERQUE, NEW MEXICO 87110 PHONE (505) 255-1625	APPROVED FOR CONSTRUCTION
PROJECT NUMBER 2412		SHEET 1 OF 7

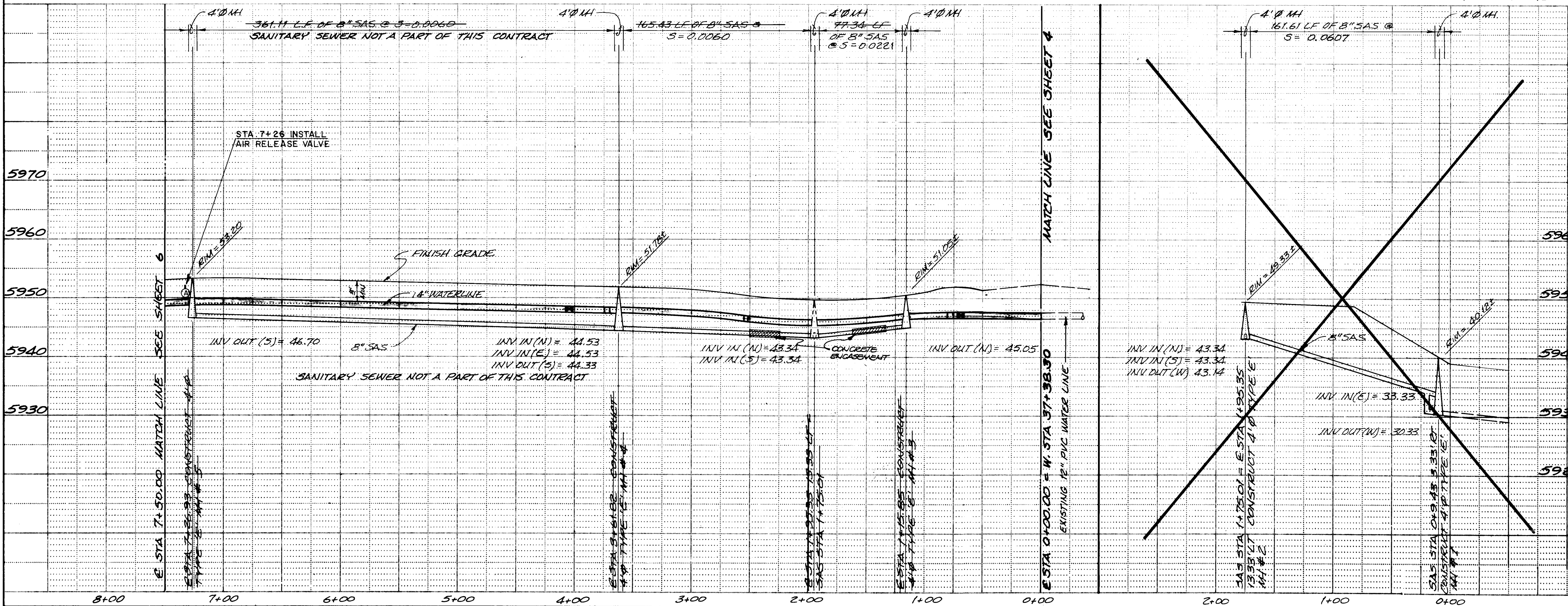


1	2	3	4	5	6	7	8	9	10	11	12
26		24	1	2	0	2	8	6			

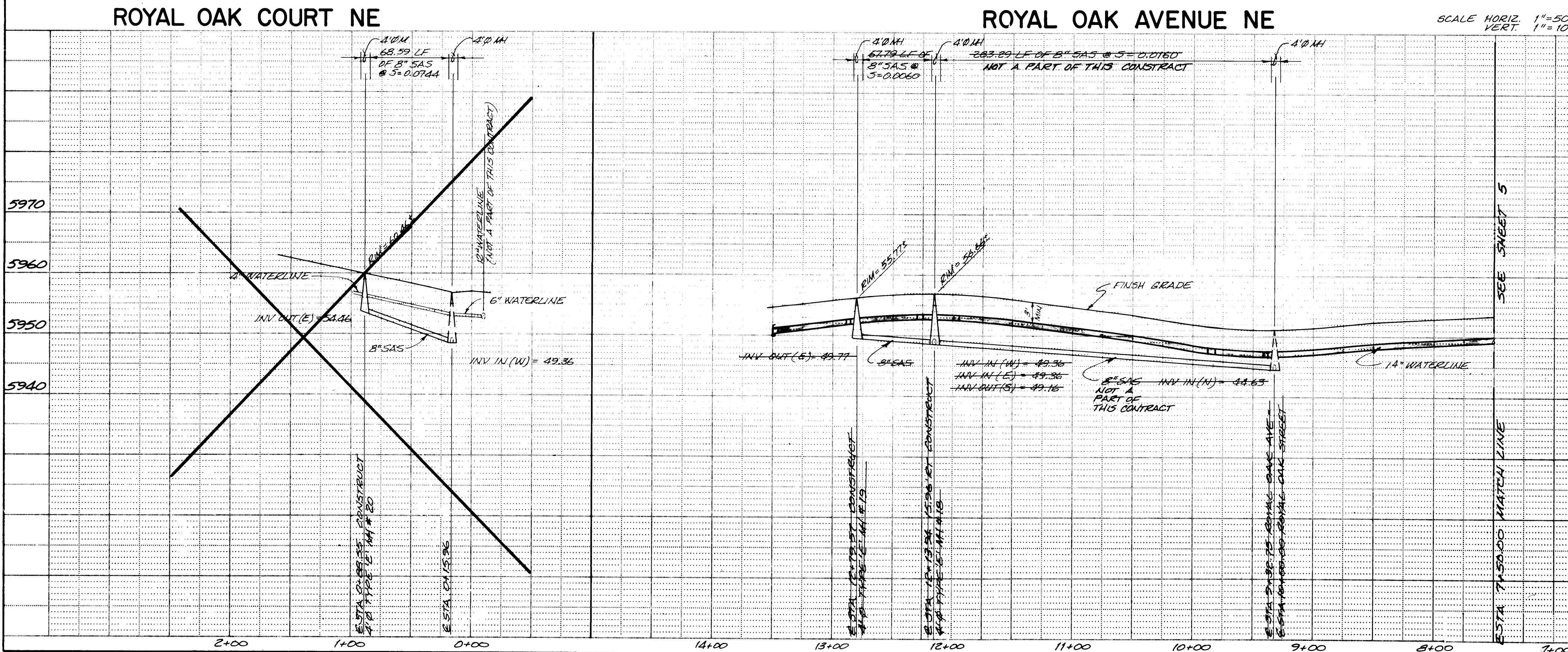
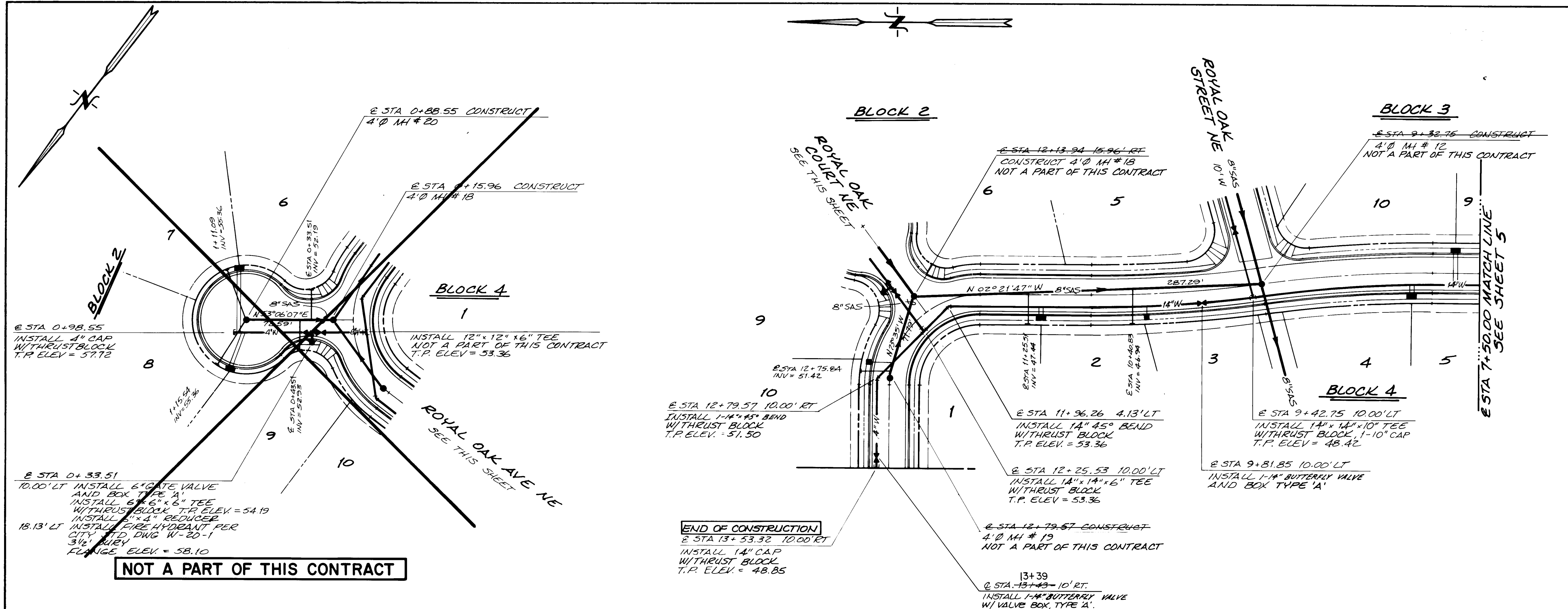
DRAWING NO	2412	MAP NO. E-22,F-22,23	SHEET 2 OF 7
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AS BUILT INFORMATION	
NEW CONCRETE 12\"/>	
BENCH MARKS ACS BENCH MARK 1-F22 LOCATED AT THE INTERSECTION OF TRAMWAY BLVD. NE AND MANITOBA ST. NE. THE STATION IS ON THE NORTHSIDE OF MANITOBA ST., 100 FEET WEST OF THE ROAD JUNCTION. THE STATION MARK IS A STANDARD ACS BRASS TABLET, STAMPED "1-F22", SET IN TOP OF A CONCRETE POST PROJECTING 0.3 FT. ABOVE GROUND. ELEVATION = 5957.02 FEET (MSLD).	
SURVEY INFORMATION	
NO.	DATE
FIELD NOTES	
BY	
ENGINEER'S SEAL	
5/1/85	
REMARKS	
NO.	DATE
REVISIONS	
DESIGN	DATE
TXW	JAN 1985
TXW	JAN 1985
DAL	2-11-85
ESPEY, HUSTON & ASSOC., INC. Engineering & Environmental Consulting 2624 24th Avenue, N.E. Albuquerque, N.M. 87110 26 241 20386	
CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION	
TITLE LOWER ZONE 9E-14" WATER LINE W STA 0+00.00 TO W STA 22+62.30	
APPROVAL	ENGINEER
DATE	DATE
APPROVAL	DATE
City Engineer	9/1/85
ACE Design	NA DPH 11/1/85
ACE Hydrology	NA DPH 9/1/85
DRAWING NO. 2412	
MAP NO. F-22,23	
SHEET 3 OF 7	



1 2 3 4 5 6 7 8 9 10 11 12 26 24120586		13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000		101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136	
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- NOTES:
- 1) ALL WATER LINE AND SANITARY SEWER IS BASED ON CENTER LINE OF THE STREET UNLESS NOTED OTHERWISE.
 - 2) THE FOLLOWING CITY OF ALBUQUERQUE STANDARD DETAIL DRAWINGS FOR THE WATER LINE AND SANITARY SEWER LINE CONSTRUCTION ARE APPLICABLE.

W-1-3	5-2-4
W-2-3	5-3-2
W-4-1	5-4-2
W-7-1	5-5-2
W-8-1	5-6-1
W-10-3	5-8-4
W-14-1	5-9
W-15-2	5-10
W-16	
W-17	
W-20-1	
W-22	
 - 3) SANITARY SEWER AND SERVICES, WATER SERVICES, PAVEMENT AND CURB AND GUTTER ARE NOT A PART OF THIS CONTRACT AND ARE SHOWN FOR INFORMATION ONLY.
 - 4) 6" WATER LINE NOT IN THIS CONTRACT SEE CITY PROJ 2114.

AS BUILT INFORMATION			BENCH MARKS			SURVEY INFORMATION			ENGINEER'S SEAL		
CONTRACT NO.	NEW CONSTRUCTION	DATE	ACCS BENCH MARK 1-122 LOCATED 1.0 MILES NORTH OF THE INTERSECTION OF TRAMWAY BLVD AND MONTGOMERY BLVD NE AND 1351 MIDWAY BETWEEN THE WESTERLMOST OF TWO ELECTRIC POWER LINE PULVINS. A STANDARD BRASS TABLET, STAMPED "1-122", SET IN THE TOP OF A CONCRETE POST, 0.2' ABOVE GROUND. ELEVATION = 5986.408 FEET (MSLD).	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
REVISIONS			REVISIONS			REVISIONS			REVISIONS		
NO.	DATE	REMARKS	NO.	DATE	REMARKS	NO.	DATE	REMARKS	NO.	DATE	REMARKS
DESIGNED BY TKW			DESIGNED BY TKW			DESIGNED BY TKW			DESIGNED BY TKW		
DRAWN BY TKW			DRAWN BY TKW			DRAWN BY TKW			DRAWN BY TKW		
CHECKED BY DAL			CHECKED BY DAL			CHECKED BY DAL			CHECKED BY DAL		
DATE 2-11-85			DATE 2-11-85			DATE 2-11-85			DATE 2-11-85		

ESPEY, HUSTON & ASSOC., INC.
 Engineering & Environmental Consultants
 4801 INDIAN SCHOOL ROAD NE SUITE 204
 ALBUQUERQUE, NEW MEXICO 87110
 PHONE (505) 255-1625

CITY OF ALBUQUERQUE
 MUNICIPAL DEVELOPMENT DEPARTMENT
 ENGINEERING DIVISION

TITLE:
 ROYAL OAK UNIT 1
 LOWER ZONE 9E-14" WATER LINE
 ROYAL OAK AVE NE @ STA 7+50.00 TO @ STA 13+53.32

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>[Signature]</i>	8/7/85	Liquid Waste	<i>[Signature]</i>	8/7/85
A.C.E.-Design	<i>[Signature]</i>	9/10/85	Traffic	<i>[Signature]</i>	4/17/86
A.E.E.-Hydrology	<i>[Signature]</i>	4/17/85	Water	<i>[Signature]</i>	8/7/85

DRAWING NO. 2412 **MAP NO.** E-22 **SHEET** 6 **OF** 7

GENERAL NOTES FOR TRAFFIC CONTROL

- ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH CHAPTER VI OF THE 1978 EDITION OF THE "MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES".
- THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE PROJECT ENGINEER A DETAILED CONSTRUCTION SCHEDULE WHICH IS SUBJECT TO THE APPROVAL OF THE CITY TRAFFIC ENGINEER, 3 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.
- UNLESS OTHERWISE PROVIDED AS PART OF THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE PROJECT ENGINEER A DETAILED TRAFFIC CONTROL PLAN, WHICH IS SUBJECT TO THE APPROVAL OF THE CITY TRAFFIC ENGINEER, 3 WORKING DAYS IN ADVANCE OF ANY CLOSURES.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING SERVICES 24 HOURS IN ADVANCE OF ANY COMPLETE CLOSURES: POLICE DEPARTMENT, FIRE DEPARTMENT, AMBULANCE SERVICES, AND THE TRANSIT DEPARTMENT.
- PERMITS TO BARRICADE OR DETOUR TRAFFIC MUST BE OBTAINED FOR EACH PHASE OF CONSTRUCTION THROUGH THE TRAFFIC ENGINEERS OFFICE AT LEAST 24 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITIES.
- ALL ADVANCE WARNING SIGNS AND BARRICADES MUST BE INSTALLED BEFORE CONSTRUCTION BEGINS AS DIRECTED BY THE ENGINEER.
- ALL SIGN LOCATIONS WILL BE SELECTED IN THE FIELD AND APPROVED BY THE PROJECT ENGINEER.
- ALL ADVANCE WARNING SIGNS SHALL BE 48"x48" MINIMUM.
- ALL ADVANCE WARNING SIGNS NOT DIRECTLY APPLICABLE SHALL BE REMOVED, COMPLETELY COVERED OR TURNED AWAY FROM ONCOMING TRAFFIC.
- ALL CONSTRUCTION SIGNING SHALL BE BLACK ON A REFLECTORIZED ORANGE FIELD UNLESS OTHERWISE SPECIFIED. ALL CONSTRUCTION BARRICADES AND CHANNELIZATION DEVICES SHALL BE ORANGE ON WHITE, REFLECTORIZED, UNLESS OTHERWISE SPECIFIED.
- ALL SIGNS WILL BE GROUND MOUNTED ON SINGLE OR DOUBLE POSTS WITH THE BOTTOM OF THE SIGN 7 FEET ABOVE SIDEWALK LEVEL. EXISTING POSTS MAY BE USED AT SOME LOCATIONS, WITH THE APPROVAL OF THE PROJECT ENGINEER. PORTABLE SIGN SUPPORTS WILL BE ACCEPTABLE AS AN ALTERNATIVE FOR SIGNS WHICH ARE IN PLACE FOR LESS THAN 1 WEEK. SIGNS MAY NOT BE MOUNTED ON BARRELS OR BARRICADES.
- ALL EXISTING REGULATORY SIGNS THAT NEED TO BE REMOVED, RELOCATED OR REINSTALLED SHALL BE DONE BY THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DIVISION. THE CONTRACTOR SHALL NOTIFY THE TRAFFIC ENGINEERING DIVISION 3 WORKING DAYS IN ADVANCE OF ANY REQUIRED WORK.
- TRAFFIC CONTROL DEVICES REQUIRED AFTER DARK ARE TO BE EQUIPPED WITH WARNING LIGHTS. TYPE (A) FLASHING WARNING LIGHTS SHALL BE USED ON ALL ADVANCE WARNING SIGNS AND ON ALL DEVICES WHICH ARE INTENDED TO WARN MOTORIST OR PEDESTRIANS OF HAZARDS OR OBSTRUCTIONS IN OR NEAR THE TRAVEL PATH. TYPE (C) STEADY BURN LIGHTS SHALL BE USED ON ALL DEVICES WHICH ARE INTENDED TO DEFINE THE TRAVEL PATH.
- ALL SIGNS, BARRICADES AND/OR BARRELS WILL BE REFLECTORIZED. ALL BARRELS MAY HAVE SAND BALLAST LIMITED TO 100 LBS.
- ALL SIGNS, BARRICADES AND/OR BARRELS WILL BE MOVED FORWARD AS THE CONSTRUCTION PROGRESSES (WHERE APPLICABLE).
- CONTRACTOR SHALL INSPECT AND MAINTAIN ALL BARRICADES AT LEAST ONCE EACH DAY EXCEPT FOR BARRICADES ON OR ADJACENT TO ARTERIAL AND COLLECTOR STREETS, WHICH SHALL BE CHECKED TWICE DAILY, INCLUDING INSPECTION DURING HOURS OF DARKNESS.
- BARRELS AND BARRICADES ARE NOT TO BE INTERMIXED IN THE SAME SERIES OF CHANNELIZATION.
- EXCAVATIONS MUST BE PATCHED OR PATCHED, PRIOR TO OPENING TO TRAFFIC.
- A MINIMUM WIDTH OF 11 FEET SHALL BE PROVIDED FOR TRAFFIC IN ONE DIRECTION.
- EQUIPMENT AND MATERIALS ARE NOT TO BE STORED WITHIN THE STREET RIGHT-OF-WAY DURING NON-WORKING HOURS.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESS AND RESIDENCES ADJACENT TO THE CONSTRUCTION AREA.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND ALL WORK AREAS THROUGHOUT THE PERIOD OF CONSTRUCTION. ALL SUCH CHANNELIZATION SHALL BE ARRANGED TO PREVENT PEDESTRIANS FROM HAVING TO ENTER THE ROADWAY IN ORDER TO PASS AROUND WORK AREAS.
- THE CONTRACTOR SHALL BE REQUIRED TO KEEP THE PUBLIC INFORMED, THROUGH THE LOCAL NEWS MEDIA OF CONSTRUCTION OPERATIONS INVOLVING STREET OR LANE CLOSURES, AND SHALL PROVIDE THE CITY TRAFFIC ENGINEER DOCUMENTED PROOF THAT THIS HAS BEEN DONE.
- CONSTRUCTION LIMITS SHALL BE SET AT 200 FEET.
- CONSTRUCTION ACTIVITIES SHALL NOT AFFECT THRU LANES OF TRAFFIC ON TRAMWAY OR SPAIN FROM 4 P.M. TO 9 A.M.
- CONTRACTOR SHALL CROSS TRAMWAY WITH THE WATER LINE ONE LANE AT A TIME USING A FLAGMAN OPERATION - 9 A.M. TO 4 P.M. ONLY.
- WHEN CONSTRUCTION ACTIVITIES ARE TAKING PLACE ON THE SHOULDER AREA OF TRAMWAY, CONTRACTOR SHALL ERECT ADVANCE SIGNING CONSISTING OF W20-1 (ROAD CONSTRUCTION AHEAD) AND W21-5 (SHOULDER WORK) AT 400 AND 800 FROM THE CONSTRUCTION RESPECTIVELY AND HAVE BARRICADES RUN THE CIRCUMFERENCE OF THE EXCAVATION.

KEY:

- BARRICADE - TYPE I, TYPE II, OR A BARREL
- BARRICADE - TYPE III
- ▬ VERTICAL PANEL
- ▬ WARNING SIGN
- L DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET.

TAPER LENGTH - SEE CHART

TANGENT LENGTH - TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET

FLAG MAN POSITION

SPACING BETWEEN BARRICADES - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF THE SPEED LIMIT.

TAPER REQUIREMENTS

SPEED LIMIT (MPH)	TAPER LENGTH (FEET)			MAXIMUM DISTANCE BETWEEN DEVICES (FEET)	MINIMUM NUMBER OF DEVICES REQUIRED
	10' LANE	11' LANE	12' LANE		
25	104	115	125	25	6
30	150	165	185	30	7
35	204	225	245	35	8
40	267	293	320	40	9
45	450	495	540	45	13
50	500	550	600	50	13
55	550	605	660	55	13

W20-1
-A-

W20-SR
-B-

W20-SL
-D-

W20-S
-L-

W20-5
-F-

W20-4
-G-

W20-3
-N-

W20-3
-P-

R4-7a
-Q-

M4-9
-S-

M4-10
-T-

R11-2
-U-

R11-4
-V-

W21-5
-W-

-X-

By: Brian Delan
Date: 5/1/86

20 24120706

CITY OF ALBUQUERQUE WATER RESOURCES DEPARTMENT ENGINEERING DIVISION				
TITLE: LOWER ZONE 9E - 14" WATERLINE, TRAFFIC CONTROL PLAN				
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER
City Engineer	<i>[Signature]</i>	5/1/86	Liquid Waste	<i>[Signature]</i>
A.C.E. - Design	<i>[Signature]</i>	5/1/86	Traffic	<i>[Signature]</i>
A.C.E. - Hydrology	<i>[Signature]</i>	5/1/86	Water	<i>[Signature]</i>
DRAWING NO.	2412	MAP NO.	E-22,F-22,23	SHEET 7 OF 7