

• L E G E N D •

MATERIALS

CONCRETE
RIP-RAP

LINES

SUBDIVISION BOUNDARY
PROPERTY LINE (PLAN)
PROPERTY LINE (SECTION)
CENTERLINE
EASEMENT LINE
MATCH LINE
SECTION CUT LINE

EARTHWORK

EXISTING NEW
CONTOUR LINE
SPOT ELEVATION
PROJECT / PHASE BOUNDARY
SWALE
DIRECTION OF FLOW

MISCELLANEOUS UTILITIES

GAS LINE
UNDERGROUND TELEPHONE
UNDERGROUND ELECTRICAL
STORM DRAIN
STORM DRAIN MANHOLE
STORM DRAIN INLET

SANITARY SEWER

SANITARY SEWER LINE
SANITARY SEWER MANHOLE
SAS SERVICE CONNECTIONS
SAS CAP OR PLUG
ENCASEMENT

WATER

WATER LINE
WATER SERVICE CONNECTIONS
GATE VALVE
FIRE HYDRANT
BUTTERFLY VALVE
REDUCER
WATER PRESSURE ZONE BOUNDARY

WATER FITTINGS

CAPS AND PLUGS
ELBOW
CROSS
TEE

MISCELLANEOUS

CHAINLINK FENCE
FIELD FENCE
COMMON YARD WALL
RETAINING WALL
POWER OR TELEPHONE POLE

CONSTRUCTION PLANS

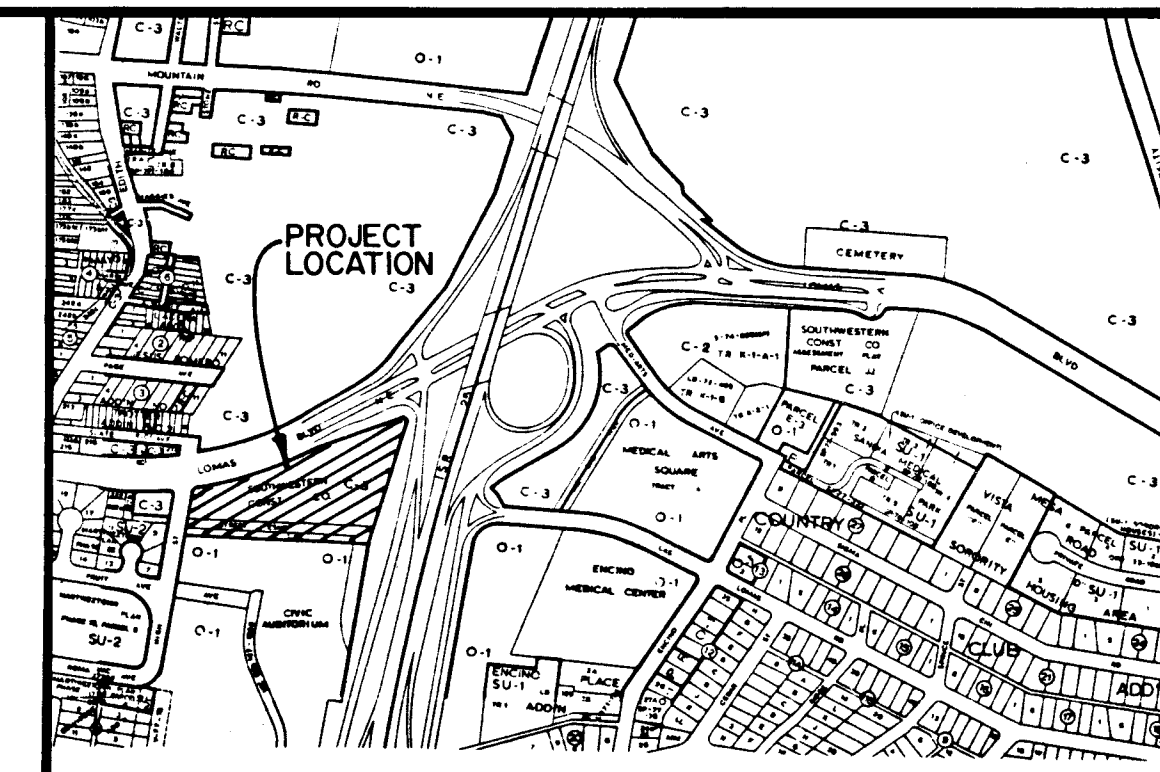
FOR

WOODWARD CENTER

ALBUQUERQUE, NEW MEXICO

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE, LEGEND, GENERAL NOTES, INDEX OF DRAWINGS & VICINITY MAP
2	FINAL PLAT
3	GRADING & EROSION CONTROL PLAN
4	MASTER DRAINAGE PLAN
5	PAVING & UTILITIES SITE PLAN
6	WOODWARD PLACE N.E. & WOODWARD COURT N.E. PAVING IMPROVEMENTS-PLAN & PROFILE
7	LOMAS BLVD. N.E. MEDIAN CUT & TURNBAY
8	WOODWARD PLACE N.E. & WOODWARD COURT N.E. UTILITY IMPROVEMENTS PLAN & PROFILE
9	DETAILS & SECTIONS

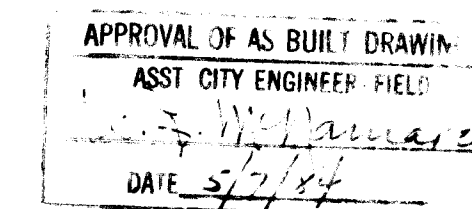


VICINITY MAP
SCALE 1"=800'

J-15

GENERAL NOTES:

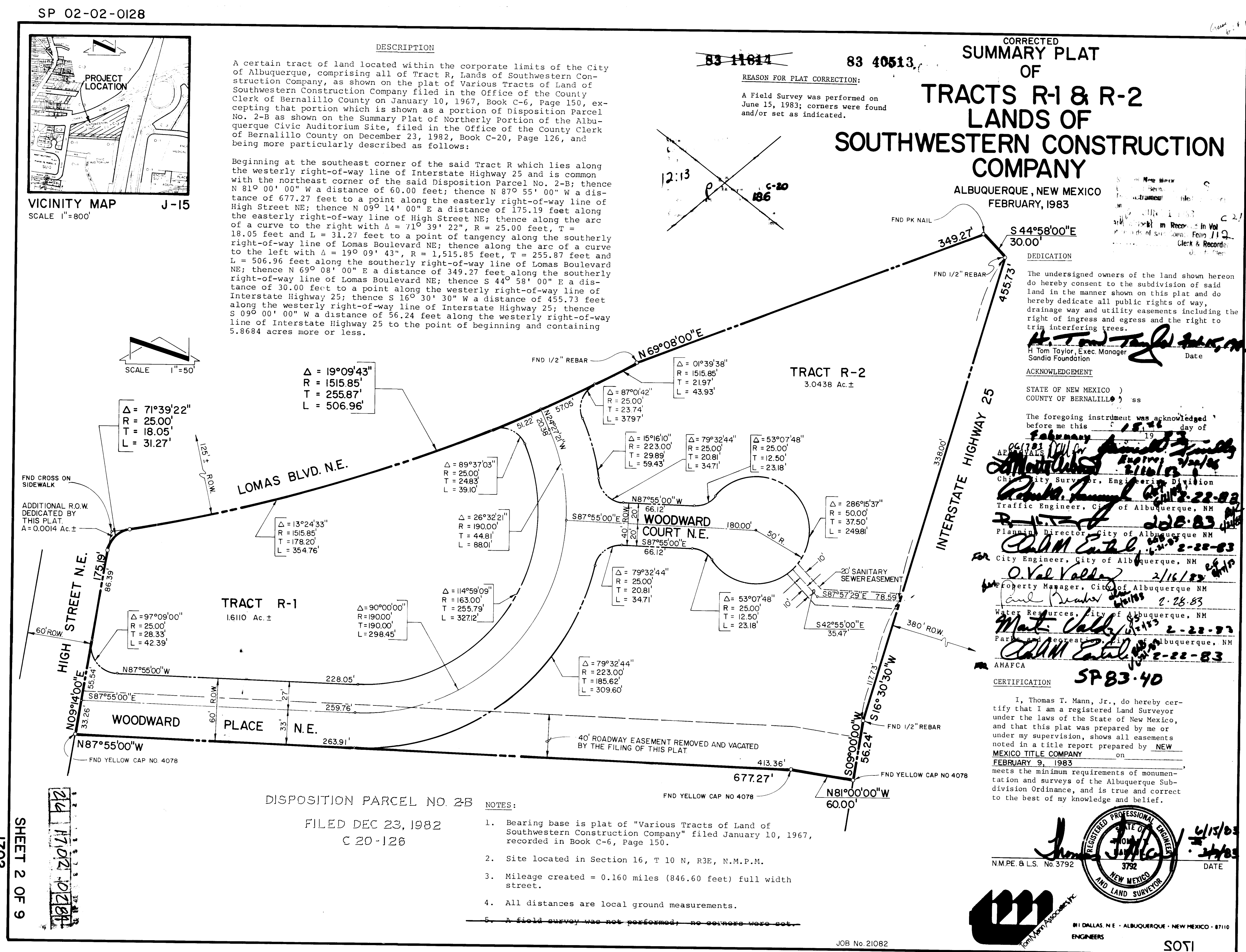
1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1979 EDITION (REFERRED TO HEREIN AS THE STANDARD SPECIFICATIONS) AND THE CONTRACT DOCUMENTS FOR CITY-WIDE UTILITIES AND CASH PAVING NO. 31.
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. 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.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
5. 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.
6. THE CONTRACTOR MUST SUBMIT A CONSTRUCTION SIGNING AND BARRICADING PLAN TO TRAFFIC ENGINEERING TO RECEIVE A BARRICADING PERMIT PRIOR TO CONSTRUCTION.

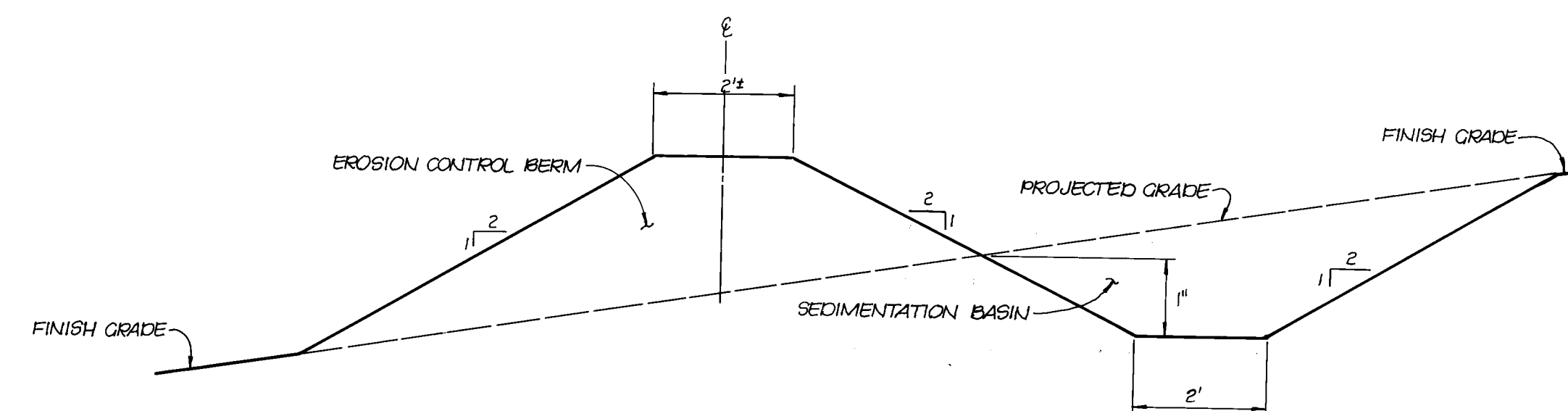


26 104 0184

REV	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
APPROVAL OF REVISIONS							

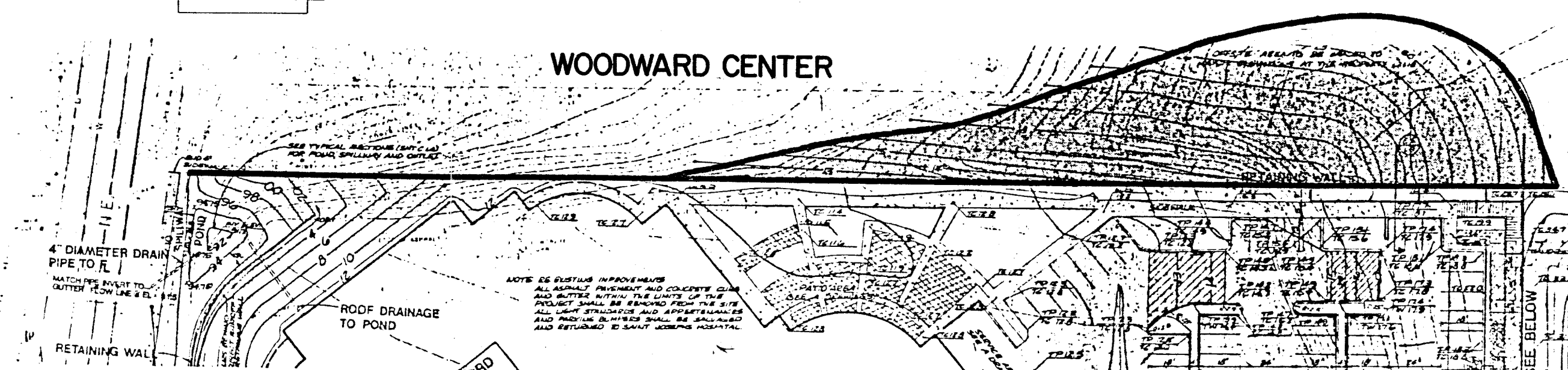
		APPROVED FOR CONSTRUCTION DATE 5/1/83 C.E.
21082		SHEET 1 OF 9





TYPICAL EROSION CONTROL BERM SECTION
SCALE: 1" = 2'

- NOTES:**
1. THE EROSION CONTROL BERM SHOWN ABOVE IS A TEMPORARY MEASURE INTENDED TO CONTROL EROSION UNTIL SUCH TIME AS THE SITE IS FULLY DEVELOPED. DEVELOPMENT IS INTENDED TO BEGIN IN THE FALL OF 1983.
 2. BERM MATERIAL SHALL BE CLEAN, FREE FROM DEBRIS AND COMPACTED IN LIFTS NOT TO EXCEED 8-INCHES. COMPACTION REQUIREMENTS SHALL BE 908 ASTM D-1557.



**COMP-CARE
DETAIL**

SCALE: 1" = 50'

1
-

APPROVED FOR
CONSTRUCTION
C. L. Thompson 9/1/83
CITY ENGINEER AND DATE

CITY OF ALBUQUERQUE					
MUNICIPAL DEVELOPMENT DEPARTMENT					
ENGINEERING DIVISION					
TITLE:					
WOODWARD CENTER					
GRADING & EROSION CONTROL PLAN					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>C. J. [Signature]</i>	7/2/87	Liquid Waste	N/A	6-17-83
A C E - Design	<i>[Signature]</i>	10/6/87	Traffic	N. A. [Signature]	
A C E - Hydrology	<i>[Signature]</i>	7/6/87	Water	N/A	6-17-83
QA	<i>[Signature]</i>	7-13-83			
DRAWING NO.	1702		MAP NO	SHEET 3 OF 9	
		J-15			

811 DALLAS N.E. • ALBUQUERQUE • NEW MEXICO • 87110
ENGINEERS



501

DRAINAGE PLAN

The following items concerning the Woodward Professional Park Drainage Plan are contained herein:

1. Vicinity Map
2. Flood Hazard Map
3. Conceptual Grading Plan
4. Calculations

The proposed improvements, as shown by the Vicinity Map, are located at the southeast corner of the intersection of Lomas Boulevard N. E. and High Street N. E. The site is more particularly described as Parcel No. 1 and Parcel No. 2, Lands of Southwestern Construction Co. (formerly known as Tract R, Book 06-150). At present, the site is undeveloped. Interstate 25 lies to the east of the site. The site to the south is also undeveloped, with development in the very near future. In fact, the development of the site to the south will occur just before or simultaneously with the development of the Woodward Professional Park site.

As shown by Plate J-15 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. Furthermore, the review of Plate J-15 reveals that downstream flooding conditions do exist. Because of this, runoff released from the proposed development will be controlled via positive discharge ponds. Negligible offsite flows are generated to the east of the site by the fill slope along the west right-of-way of the Interstate. The fill slope soil is very granular and supports native vegetation. Lastly, the existing drainage pattern of the site is one in which runoff flows from east to west onto High Street. High Street then drains north to Lomas Boulevard. Lomas also drains from east to west.

The Grading Plan shows: 1) existing and proposed grades indicated by spot elevations and contours at 1' 0" intervals, 2) continuity between existing and proposed elevations, 3) coordination along the interface with the proposed development to the south and 4) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of professional office buildings, adjacent asphalt parking and landscaped areas. The grading required by these improvements will not alter the existing drainage pattern. Runoff will continue to flow from east to west and ultimately reach Lomas Boulevard at the intersection with High Street. This discharge of runoff will be via positive discharge ponds, as shown on the plan. Each of these ponds drain through 4" diameter PVC drain pipes. This feature will enable the ponds to drain within a 24-hour period.

The calculations which appear below analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II.

Lastly, it should be noted that the retaining wall which lies between the proposed buildings and proposed pond in Basin 3 will require waterproofing to ensure that the water which is ponded will not adversely affect the wall foundation. Due to the height of this wall, it is possible that the footing will be located deep enough so that infiltration will not have any significant impact. This problem does not exist for the low wall in Basin 2 because of the low wall height and the noncritical function of the wall.

Calculations

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:

BKJ Bluepoint-Kokan Association & Cu Cut & Fill Land

Hydrologic Soil Group: A

Rational Method

1. Discharge: $Q = CIA$

where C varies

$$i = P_6 (6.84) T_c^{-0.51} = 4.65 \text{ in/hr}$$

$$P_6 = 2.2 \text{ in (DPM Plate 22.2D-1)}$$

$$T_c = 10 \text{ min (minimum)}$$

$$A = \text{area in Acres (Ac)}$$

2. Volume: $V = CP_6 A(1/12)$

where C varies

$$P_6 = 2.2 \text{ in (DPM Plate 22.2D-1)}$$

$$A = \text{Area in square feet (sf)}$$

EXISTING CONDITION

$$A = 5.85 \text{ Ac}$$

$$Z_{imp} = 0\%$$

$$C = 0.16$$

$$Q_{100} = CIA = 0.16(4.65)(5.85) = 4.4 \text{ cfs}$$

$$V_{100} = C(P/12)A = 0.16(2.2/12)(5.85)(43,560) = 7,475 \text{ cf}$$

Discharge to Lomas Boulevard via High Street

DEVELOPED CONDITION

Basin 1:

$$A = 14,200 \text{ sf} = 0.33 \text{ Ac}$$

$$A_{imp} = 5,600 \text{ sf} = 0.13 \text{ Ac}$$

$$C = 0.36$$

$$Q_{100} = CIA = 0.36(4.65)(0.33) = 0.55 \text{ cfs}$$

$$V_{100} = C(P/12)A = 0.36(2.2/12)(14,200) = 937 \text{ cf}$$

$$\text{Pond Volume} = 1,480 \text{ cf} > V_{100}$$

Elev.	Area, sf	Vol., cf	Σ Vol., cf
5036	2,000	1,480	1,480
5035	960		

Basin 2:

$$A = 67,200 \text{ sf} = 1.54 \text{ Ac}$$

$$A_{imp} = 44,800 \text{ sf} = 1.03 \text{ Ac}$$

$$Z_{imp} = 44,800/67,200 = 67\%$$

$$C = 0.54$$

$$Q_{100} = CIA = 3.9 \text{ cfs}$$

$$V_{100} = C(P/12)A = 6,650 \text{ cf}$$

$$\text{Pond Volume} = 4,837 \text{ cf} < V_{100}$$

Elev.	Area, sf	Vol., cf	Σ Vol., cf
5021	2,400	2,200	2,200
5020	2,000	1,000	3,200
5019	0		3,200
5032	2,250		3,200
5031	500	1,375	4,575
5030.7	0	75	4,650
5028	1,000		4,650
5027.75	250	156	4,806
5021	0	31	4,837

Generally, the required volume of ponding when discharging via 4-inch diameter pipes is approximately 2/3 V_{100} . This yields a required volume of ponding = 4,433 cf. The volume of ponding provided = 4,837 cf which is greater than the 4,433 cf calculated above.

Basin 3:

$$A = 66,400 \text{ sf} = 1.52 \text{ Ac}$$

$$A_{imp} = 42,000 \text{ sf}$$

$$Z_{imp} = 42,000/66,400 = 63\%$$

$$C = 0.51$$

$$Q_{100} = CIA = 3.6 \text{ cfs}$$

$$V_{100} = C(P/12)A = 6,208 \text{ cf}$$

$$\text{Pond Volume} = 7,100 \text{ cf} > V_{100}$$

Elev.	Area, sf	Vol., cf	Σ Vol., cf
5016	5,800	5,700	5,700
5015	5,600	1,400	7,100
5014.5	0		

Basin 4:

$$A = 24,800 \text{ sf} = 0.57 \text{ Ac}$$

$$A_{imp} = 22,200 \text{ sf}$$

$$Z_{imp} = 22,200/24,800 = 90\%$$

$$C = 0.76$$

$$Q_{100} = CIA = 2.0 \text{ cfs}$$

$$V_{100} = C(P/12)A = 3,456 \text{ cf}$$

$$\text{Pond Volume} = 7,425 \text{ cf} > V_{100}$$

Elev.	Area, sf	Vol., cf	Σ Vol., cf
5017.5	9,900	4,950	4,950
5017	9,900	2,475	7,425
5016.5	0		

Basin 6 (Woodward CT, & Woodward Pl.)

$$A = 32,600 \text{ sf} = 0.75 \text{ Ac}$$

$$Z_{imp} = 90\%; C = 0.76$$

$$Q_{100} = CIA = 2.7 \text{ cfs} < Q_{100} \text{ exist.}$$

$$V_{100} = C(P/12)A = 4,542 \text{ cf}$$

Basin 7

$$A = 0.1 \text{ Ac}$$

$$Z_{imp} = 0\%; C = 0.16$$

$$Q_{100} = CIA = 0.1 \text{ cfs} = 0$$

$$V_{100} = C(P/12)A = 128 \text{ cf}$$

Basin 5:

$$A = 45,800 \text{ sf} = 1.07 \text{ Ac}$$

$$A_{imp} = 34,400 \text{ sf}$$

$$Z_{imp} = 34,400/45,800 = 74\%$$

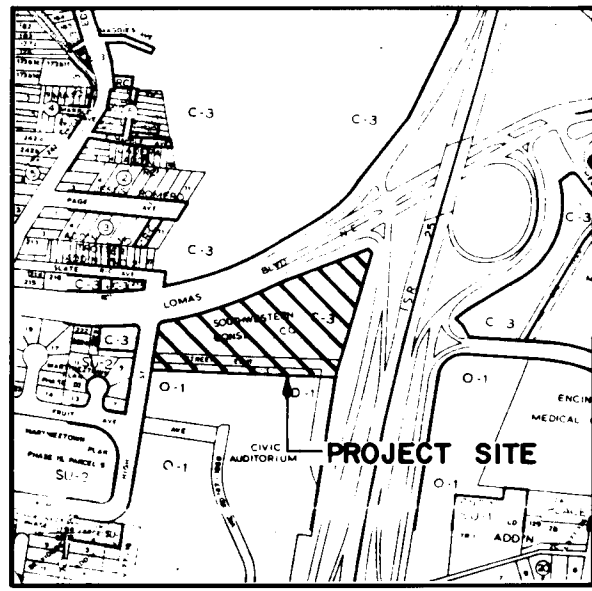
$$C = 0.58$$

$$Q_{100} = CIA = 2.9 \text{ cfs}$$

$$V_{100} = C(P/12)A = 4,976 \text{ cf}$$

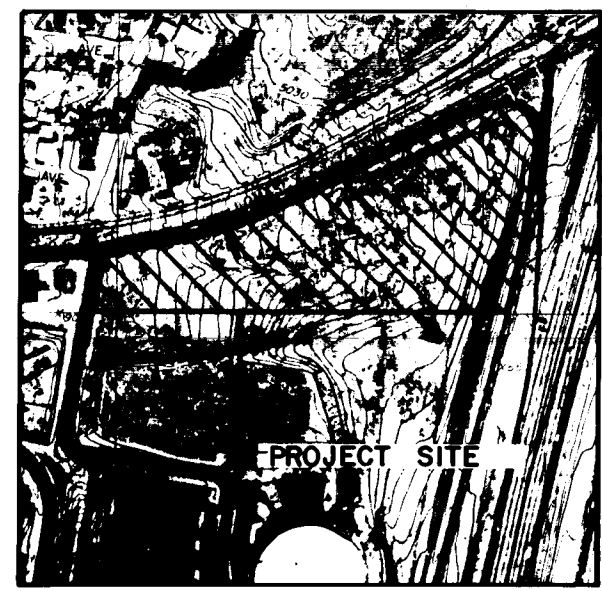
$$\text{Pond Volume} = 5,200 \text{ cf} > V_{100}$$

Elev.	Area, sf	Vol., cf	Σ Vol., cf
5098	4,320	3,680	3,680
5097	3,040	1,520	5,200
5096	0		



VICINITY MAP

J-15



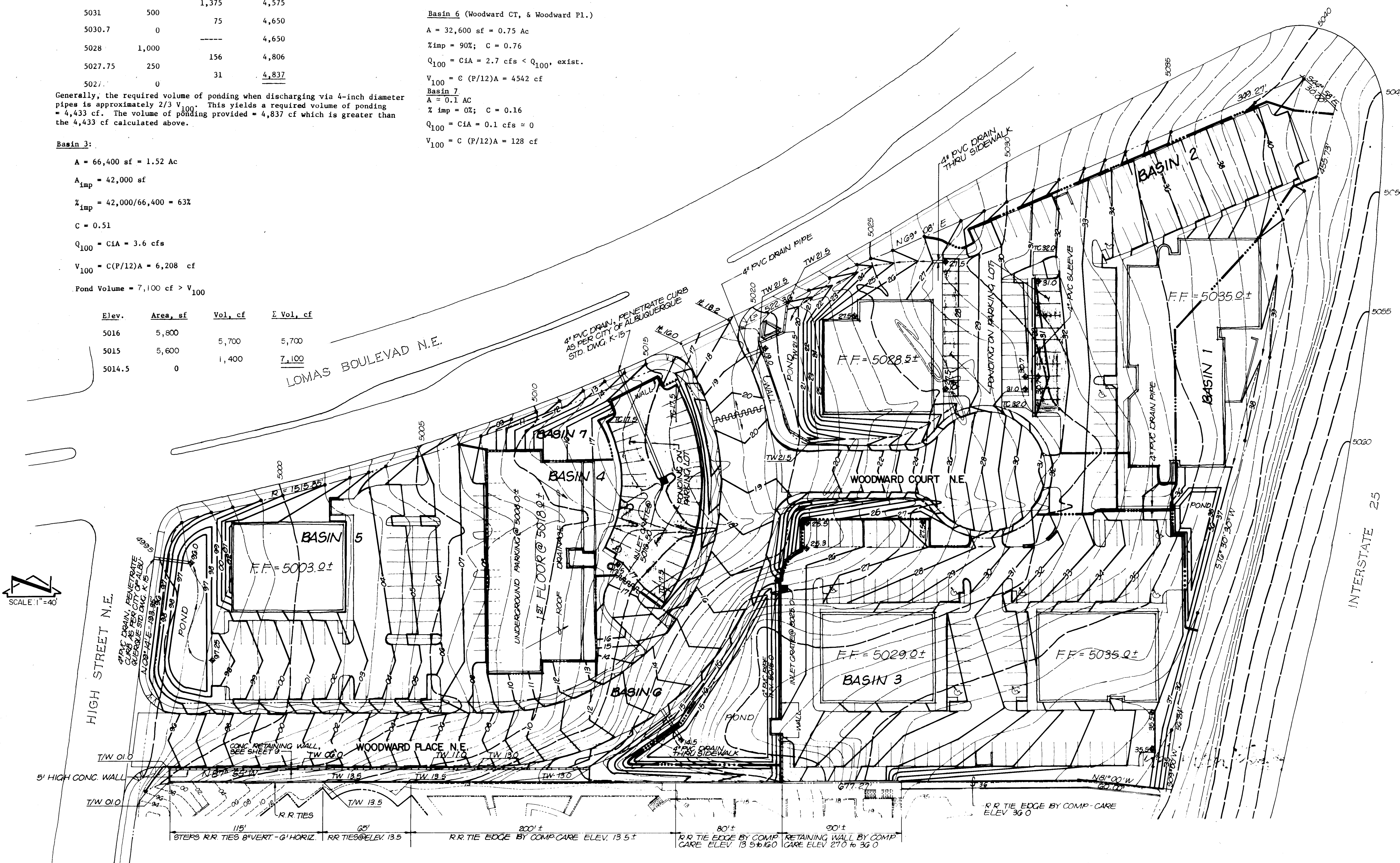
AMDS

J-15

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEV.
- DRAINAGE BASIN Bdy
- WATER BLOCK

LEGAL DESCRIPTION:
PARCEL NO. 1 & NO. 2 LANDS OF
SOUTHWESTERN CONSTRUCTION
CO. (FORMERLY TRACT R, AS
CG-150).



COMP - CARE SITE

MASTER DRAINAGE PLAN

26.1.17.02 104.214



FOR INFORMATION ONLY; NOT PART OF THIS CONTRACT

1702

SHEET 4 OF 9

JOB No. 2-1082

1-6-83

105

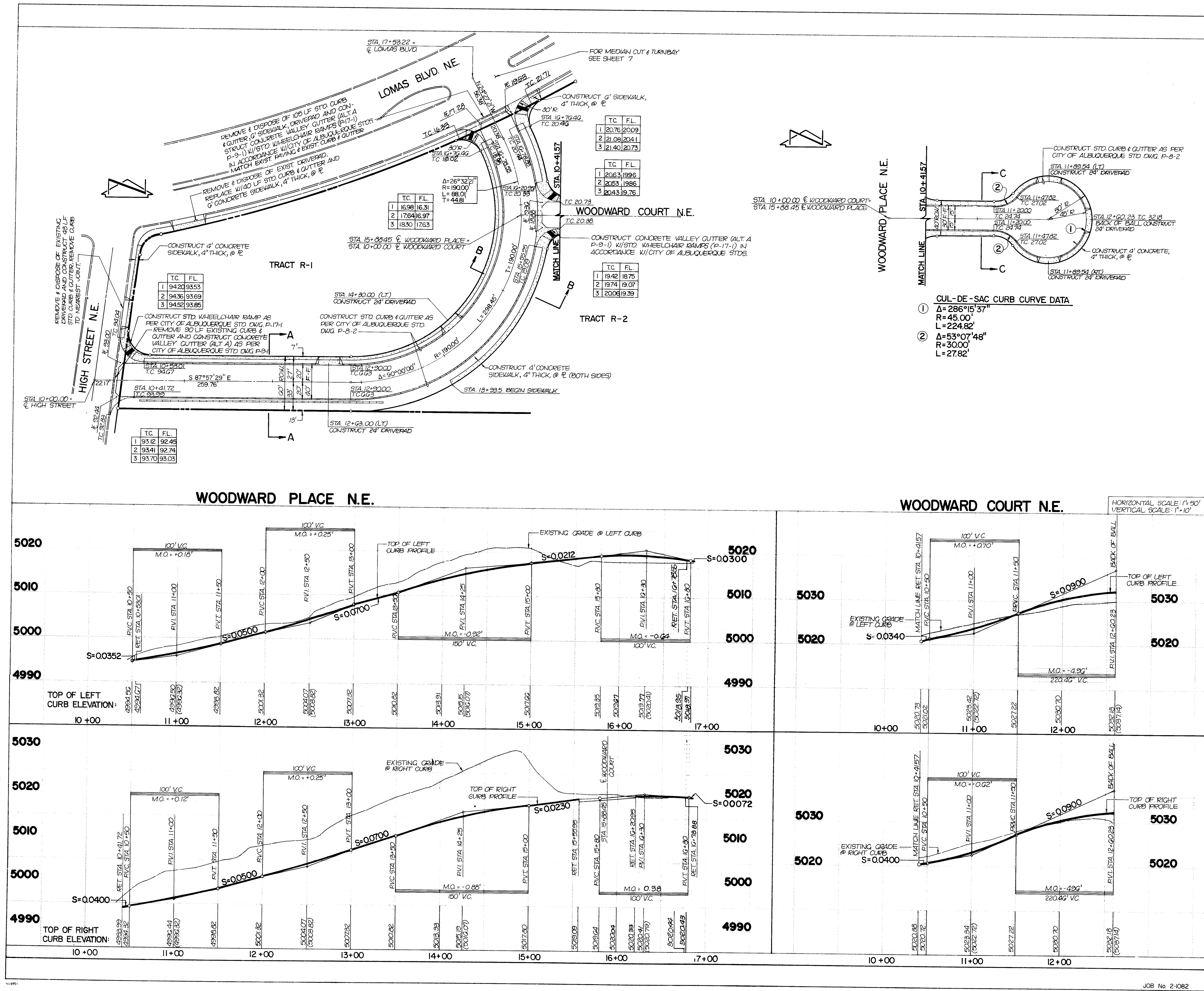


JOB No 2-1082

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>C. H. Haggerty</i>	<i>7/6/83</i>	Liquid Waste	<i>N/A</i>	<i>6-17-83</i>
A C E - Design	<i>C. H. Haggerty</i>	<i>5/17/83</i>	Traffic	<i>R. A. Tenny</i>	<i>6/10/83</i>
A C E - Hydrology	<i>N/A</i>	<i>7/6/83</i>	Water	<i>N/A</i>	<i>6-17-83</i>

1505

101



STREET PAVING IMPROVEMENTS

1. ALL SLOPES AS SHOWN ON THE PROFILES ARE BASED ON CENTERLINE STATIONING, EXCEPT CUL-DE-SACS WHICH, STARTING AT THE P.C. OF THE RETURN, SHOW STATIONS AND CORRESPONDING SLOPES BASED UPON TRUE DISTANCES ALONG THE FACE OF CURB.
2. WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAW-CUT AND/OR REMOVE TO THE NEAREST JOINT. THE CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE OF CURB.
4. ALL CURB RETURN RADII ARE 25.0' UNLESS NOTED OTHERWISE.
5. ALL DRIVEPAD LOCATIONS SHALL BE VERIFIED WITH THE OWNER, OR THE OWNER'S REPRESENTATIVE, PRIOR TO CONSTRUCTION TO ENSURE THAT THE SITE PLANNING HAS NOT BEEN MODIFIED.

BENCH MARKS		AS BUILT INFORMATION	
PROJECT BENCHMARK	AN "X" CHISELED ON TOP OF CONCRETE CURB @ EISE CURB RETAIN @ THE INTERSECTION OF LOMAS BLVD NE & HIGH ST NE. ELEV. 4990.00 FEET (684)	DATE	DATE
CITY BENCHMARK	"X" CHISELED AT THE INTERSECTION OF LOMAS BLVD NE & HIGH ST NE IN THE NW QUADRANT OF THE INTERSECTION. A SQUARE IS CHISELED ON TOP OF CONCRETE CURB @ MAIN CURB RETURN ELEV. 4997.330 FEET (684)	DATE	DATE

SURVEY INFORMATION		FIELD NOTES	
NO.	BY	NO.	BY

REMARKS	
NO.	DATE

26 1702 0084

Approved For Construction

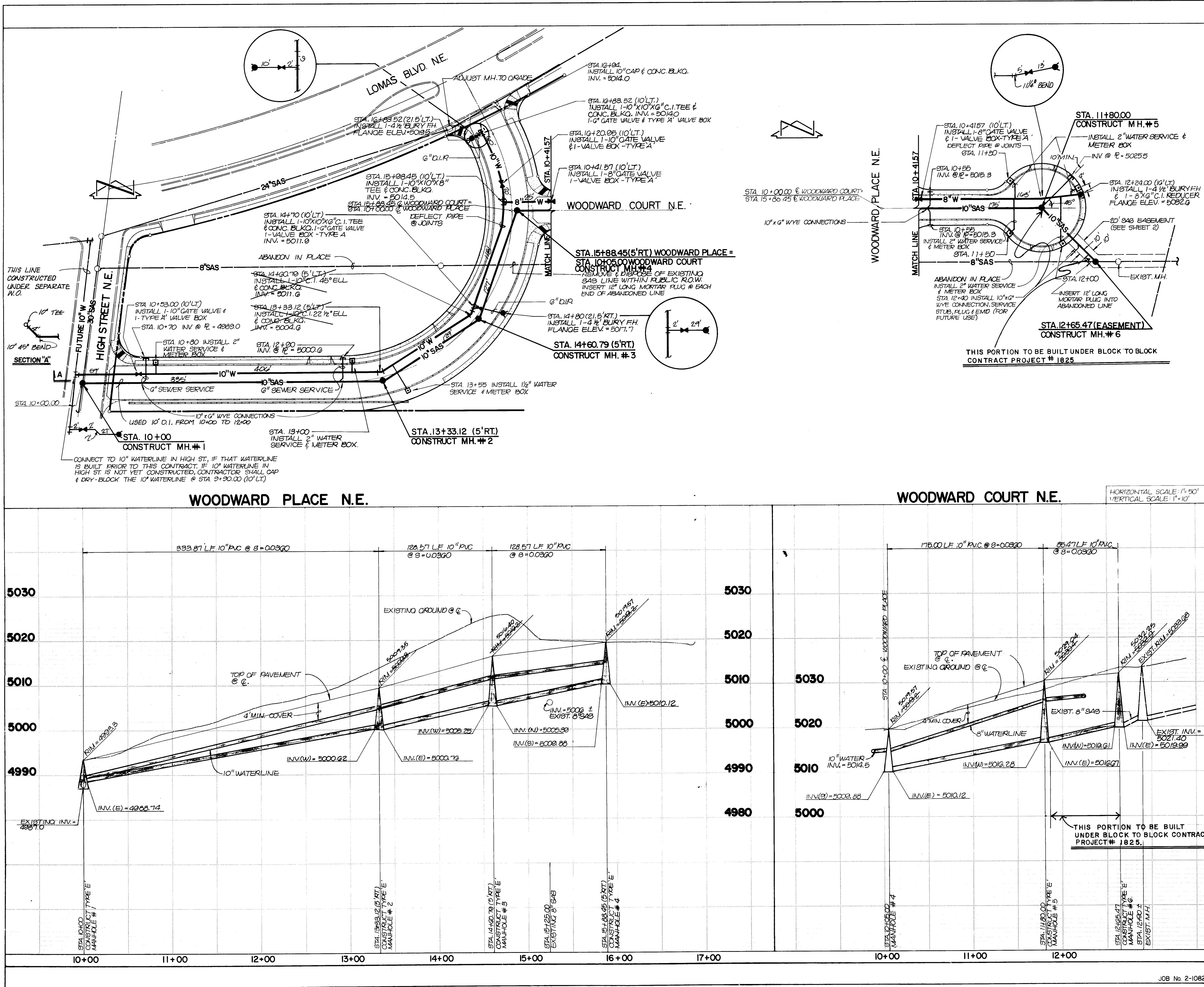
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: WOODWARD CENTER PAVING IMPROVEMENTS PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	John H. Hays	7/6/73	Liquid Waste	W	6-7-83
ACE-Design	John H. Hays	6/6/73	Traffic	W	6/10/73
ACE-Hydrology	John H. Hays	7/6/73	Water	W	6-7-83

DRAWING NO. 1702 MAP NO. J-15 SHEET 6 OF 9

101



SANITARY SEWER SYSTEM

1. ALL STATIONING IS BASED ON STREET CENTERLINE UNLESS INDICATED OTHERWISE.
2. ALL SEWER PIPE SHALL BE P.V.C. (SDR 35).
3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
4. ALL MANHOLES SHALL BE 4-FOOT DIAMETER TYPE 'B' AS PER CITY OF ALBUQUERQUE STANDARD DRAWING S-2-3 UNLESS OTHERWISE NOTED.
5. SEWER SERVICE LATERALS SHALL BE PROVIDED WITH ELECTRONIC MARKER DISKS AS PER CITY OF ALBUQUERQUE STANDARD DRAWING S-9. EMD SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 131 OF THE CITY OF ALBUQUERQUE 'CONTRACT DOCUMENTS FOR CITY-WIDE UTILITIES AND CASH PAVING NO. 31'.

WATER DISTRIBUTION SYSTEM

6. ALL STATIONING IS BASED ON STREET CENTERLINE.
7. WATER MAIN SHALL BE P.V.C. (C-900) OR AS APPROVED BY THE CITY OF ALBUQUERQUE WATER RESOURCES DIVISION.
8. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (TOP OF CURB TO TOP OF PIPE).
9. WATER LINE SHALL BE LOCATED 10'0" FROM AND PARALLEL TO STREET CENTERLINE UNLESS OTHERWISE NOTED.
10. ELECTRONIC MARKER DISKS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 131 OF THE CITY OF ALBUQUERQUE 'CONTRACT DOCUMENTS FOR CITY-WIDE UTILITIES AND CASH PAVING NO. 31'.

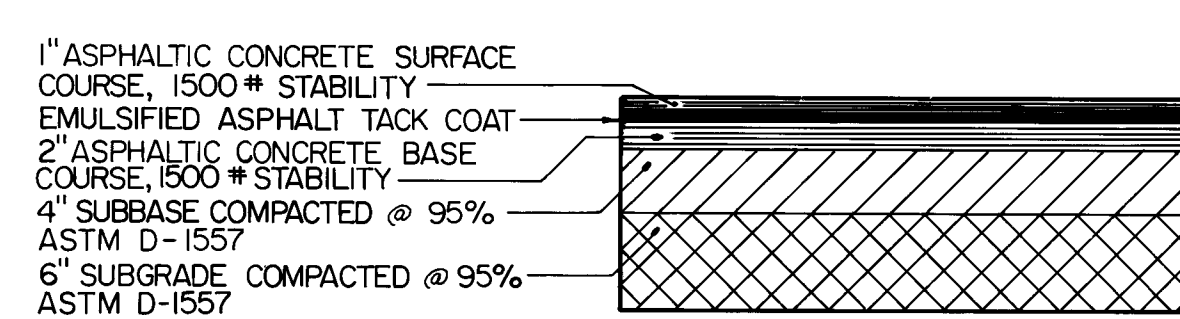
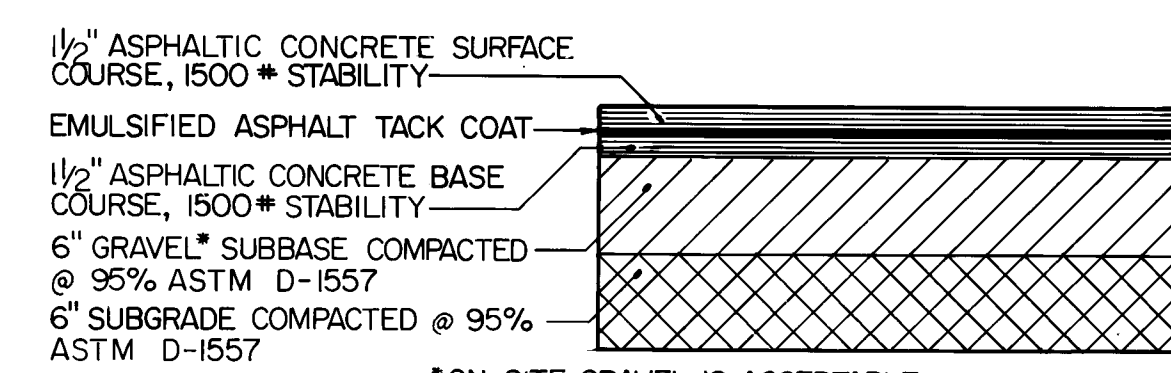
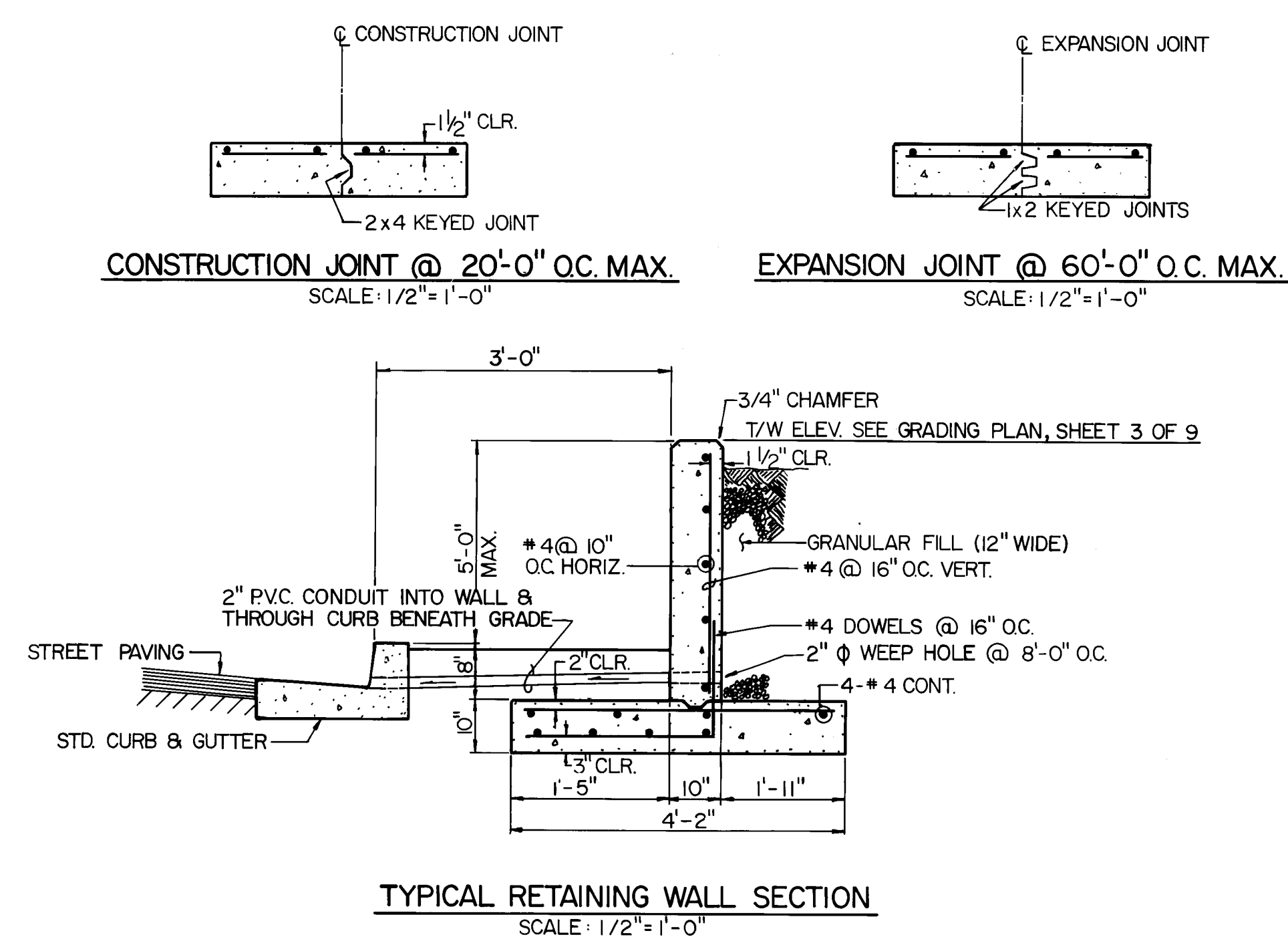
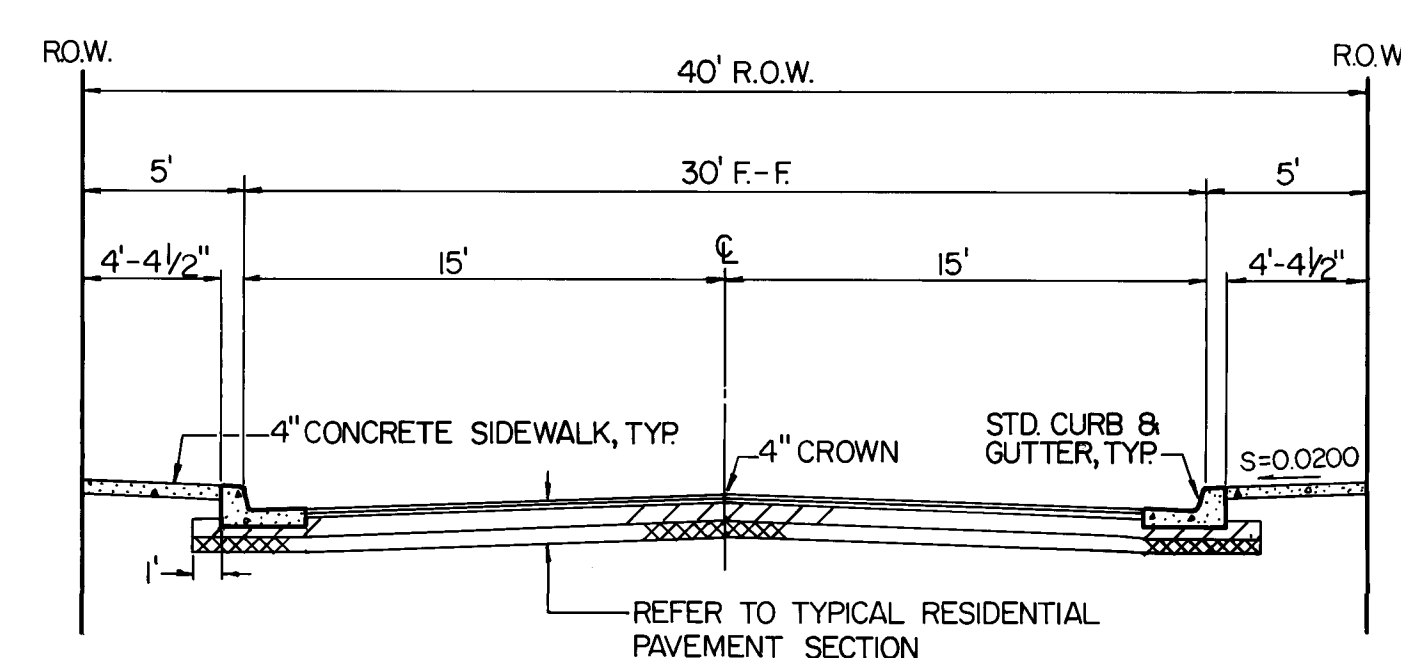
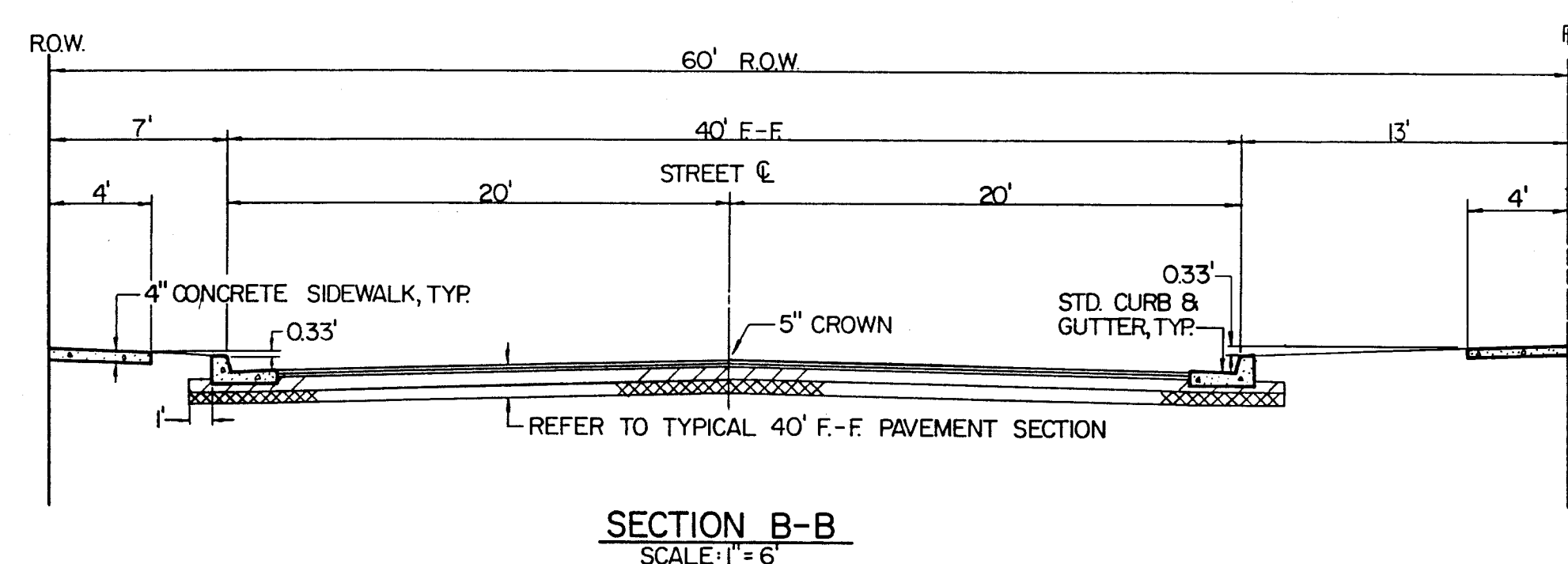
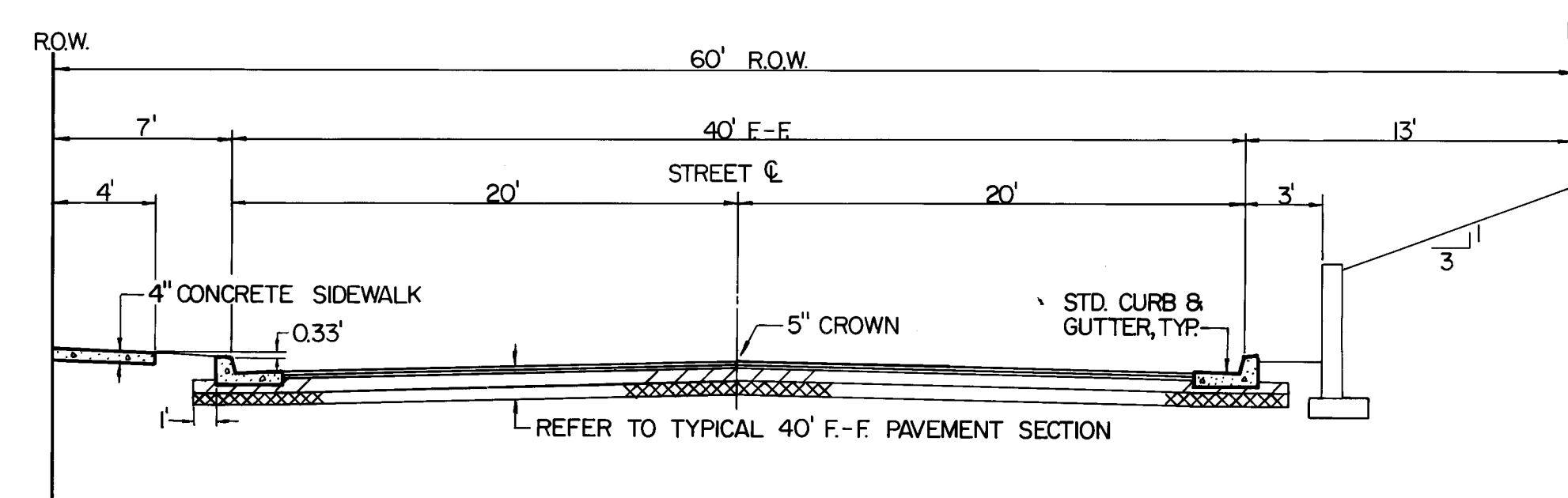
Note:
Construction of sanitary sewer under Project 1825 must be completed prior to paving cul-de-sac.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: **WOODWARD CENTER**
UTILITY IMPROVEMENTS PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>[Signature]</i>	7/10/83	Liquid Waste	<i>[Signature]</i>	7-17-83
A.C.E. - Design	<i>[Signature]</i>	7/10/83	Traffic	<i>[Signature]</i>	7-10-83
A.C.E. - Hydrology	<i>[Signature]</i>	7/10/83	Water	<i>[Signature]</i>	7-12-83

DRAWING NO. **1702** MAP NO. **J-15** SHEET **8** OF **9**

[illegible]

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION							
TITLE:		WOODWARD CENTER DETAILS & SECTIONS					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE		
City Engineer	<i>C. Wood</i>	7/25/04	liquid Waste	<i>MM</i>	6-17-03		
A.C.E. - Design	<i>C. Wood</i>	7/25/04	solid Waste	<i>MM</i>	6-17-03		
A.C.E. - Hydrology	<i>MM</i>	7/25/04	Water	<i>MM</i>	6-17-03		
<i>QA</i>	<i>MM</i>	7/25/04					
DRAWING NO.	1702		MAP NO.	J-15	SHEET	9	OF 9

APPROVED FOR
CONSTRUCTION
C. D. Lippard 9/1/85
CITY ENGINEER AEO DATE