HYDROLOGY

E16/D3A

TWO PLANS

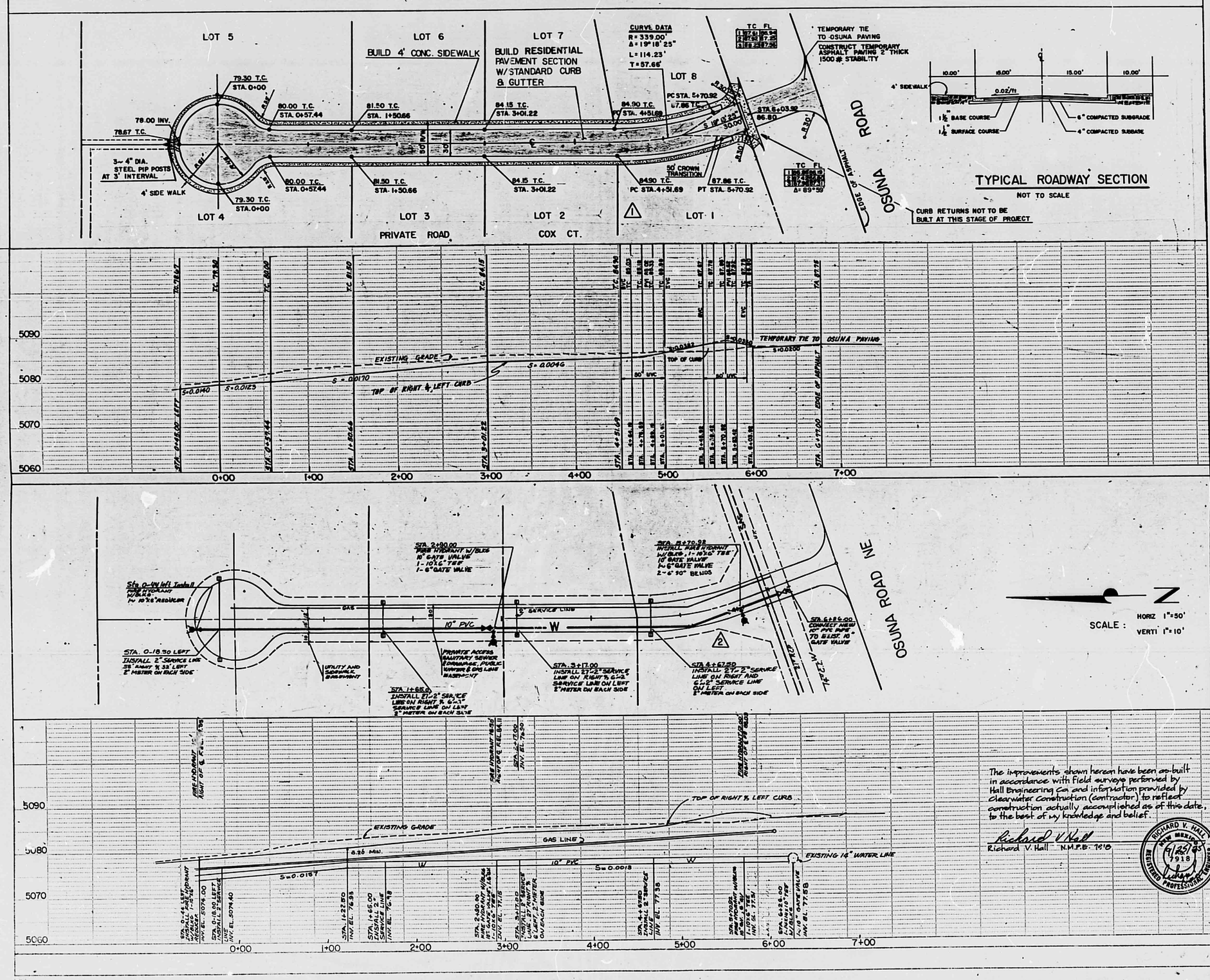
2 PLANS

OSUNA OFFICE

BLDG.

E16- D3A

E16/D3A



NOTE:
WATER LINE ONLY IS PART OF WORK ORDER

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NOTES:
(1) GATE VALVES SHALL HAVE RESILIENT SEATS
(2) 2" WATER METERS SHALL BE INSTALLED IN-ACCORDANCE WITH C.O.A. STANDARD DETAIL DWG. W-11

The improvements shown hereon have been as-built in accordance with field surveys performed by Hall Engineering Co. and information provided by Clearwater Construction (contractor) to reflect construction actually accomplished as of this date, to the best of my knowledge and belief.

Richard V. Hall
Richard V. Hall N.M.P.E. 7918

RICHARD V. HALL NEW MEXICO 7918 REGISTERED PROFESSIONAL ENGINEER

AS BUILT INFORMATION
CONTRACTOR CLEARWATER CONSTRUCT. DATE 7/85
WORK STAKED BY HALL ENG. DATE 8-2-85
INSPECTOR'S ACCEPTANCE BY HALL ENG. DATE 8-26-85
VERIFICATION BY HALL ENG. DATE 8-26-85
COMPUTED BY HALL ENG. DATE 8-26-85
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
STATION IS A.C.S. BRASS TABLET "NAA 84"
LOCATED, SE CORNER P.O.B.
ELEVATION 5089.34

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
RICHARD V. HALL NEW MEXICO 7918 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
4	7/20/85	STREET GRADE CHANGED, STA. 3+01.22 TO STA. 5+70.92	R.H.
3	7/20/85	FIRE HYDRANT MOVED TO STA. 5+70.92	R.H.

REVISIONS

		DATE
DESIGNED BY	PARVIZ EFTEKHARI	5/21/85
DRAWN BY	PARVIZ EFTEKHARI	5/21/85
CHECKED BY	RICHARD HALL	5/21/85

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

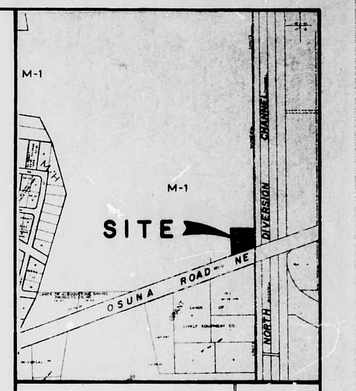
TITLE: SEGO-COX SUBDIVISION
STREET PAVING AND WATER LINE DISTRIBUTION

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	[illegible]	6/6/85	Liquid Waste	William J. Pickett	6/5/85
A.C.E.-Design	[illegible]	6/6/85	Traffic -	N.A. Dwh	6/6/85
-Hydrologic	[illegible]	6/5/85	Water	William J. Pickett	6/5/85

DRAWING NO. 2442 | MAP NO. E-16 | SHEET 3 OF 5

E16/D3A

GRADING & DRAINAGE PLAN
FOR
OSUNA OFFICE BUILDING
TRACT A LOT 7
SEGO-COX SUBDIVISION
BERNALILLO COUNTY, NEW MEXICO
AUGUST 1985



VICINITY MAP | E-16-Z

References:

A. City of Albuquerque, Development Process Manual (DPM), Volume 2, Design Criteria
B. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, U.S. Soil Conservation Service, Sheet 21
C. Flood Insurance Rate Map, City of Albuquerque, New Mexico Panel 16

I. General Information

A. Site Location and Elevation Data
1. Legal Description: Tract A ~~Lot 6~~ 7 Sego-Cox Subdivision
2. Total Site Area: 1.7997 ac.
3. City Address: Osuna RD. NE
4. City Bench Mark: NAA - 84
5. County Zone Atlas: E - 16

B. Soil Type (Reference) EaB
Hydrologic Soils Group B

C. 6-hour, 100-year rain, P_6 = 2.2 inches Reference , Plate 22.2 D-1

D. Runoff Coefficient ("C" Factor) Reference , Plate 22.2 G-1
Undeveloped "C" Factor, Curve No. 0.42
Developed "C" Factor, assume the following values:
Buildings and concrete surfaces 1.00
Asphalt concrete paving 0.90
Landscaping, same as natural soil 0.34

Weighted "C" Factor:

Type of Surface	"C"	Area (SF)	C x A
Buildings	1.00	11,618	11,618
Asphalt	0.90	61,941	55,915
Landscaping	0.34	9,594	3,215

Weighted "C" Factor = $\frac{\sum (\text{"C"} \times A)}{\sum A}$ = 68,748 / 78,353 = 0.88

.85 in Master Plan

E. Time of Concentration - Developed Area
Watershed length L = 355 FT
Watershed change in elevation H = 4 FT
Watershed slope S = H/L = 0.0113 FT/FT
by Kirpich equation $T = 0.0078 (L^{0.77}/S^{0.385})$ < 10 minutes
T_c = 10 minutes minimum T_c = 4.04 min.

F. Intensity Reference , Plate 22.2 D-1
$I = P_6 \times 6.94 \times T_c^{-0.51}$
= 4.65 in/hr

G. Peak Discharge - Rational Method: Q = CIA
Q = 0.88 x 4.65 x 1.7997
= 7.27 cfs ✓

Master Plan
E16/D3

II. Existing Conditions (Undeveloped)

A. "C" Factor = 0.42 Plate 22.2 G-1

B. Time of Concentration
Watershed length L = 240 FT
Watershed change in elevation H = 3 FT
Watershed slope S = H/L = 0.0125 FT/FT
by Kirpich equation $T = 0.0078 (L^{0.77}/S^{0.385})$ < 10 minutes
T_c = 10 minutes minimum T_c = 4.04 min.

C. Intensity Reference , Plate 22.2 D-1
$I = (P_6 \times 6.94)/T_c^{0.51}$
= 4.65 in/hr

D. Peak Discharge - Rational Method: Q = CIA
Q = 0.42 x 4.65 x 1.7997
= 3.51 cfs ✓

Q_{10} = 0.657 X 7.27 = 4.78 cfs ✓
VOLUME = (0.89)(76,653)(2.2/12) = 12,507 CF ✓

BENCHMARK INFORMATION

A.C.S. BRASS TABLET "NAA-84" LOCATED AT SE CORNER OF PROPERTY.
ELEV. 5089.34

EROSION CONTROL STATEMENT

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or into private property. This can be achieved by constructing temporarily berms at the property line and wetting the soil to keep it from blowing.
2. It will be the contractors responsibility to obtain a top soil disturbance permit from Environmental Health Department.

LEGEND

89	EXISTING CONTOUR LINE
86	PROPOSED CONTOUR LINE
84.90TC 84.23FL	EXISTING SPOT ELEVATIONS
87.00TSW	PROPOSED SPOT ELEVATIONS
	DRAINAGE AREA DIVISION LINE
	FLOW DIRECTION
	DIRECTION OF ROOF DRAIN

APPROVED FOR DRAINAGE
11/4/85
Roger A. Shaw, P.E. Hydrology
(PRIOR TO MAJOR INSPECTION WHEN GRADING EXECUTED)

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RICHARD J. HALL NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 5792

AUGUST 25, 1985
REVISED OCT. 11, 1985
REVISED OCT 24, 1985
REVISED NOV 1, 1985

HALL ENGINEERING COMPANY INC.
337 EUBANK N.E., SUITE 103
ALBUQUERQUE, NEW MEXICO 87123
Phones: (505) 292-1135 & 292-1116

E16/D3A