HYDROLOGY

E19/D25a
4 PLANS

E 19/D25a

4 Plans

Benchmark: ACS Sta. "12-E18 1978"
ACS Brass tablet set on concrete post flush w/ground. Located 41 feet south of the Centerline of San Antonio Drive and 34 feet west of the Centerline of Louisiana Boulevard.
Elevation: 5337.039

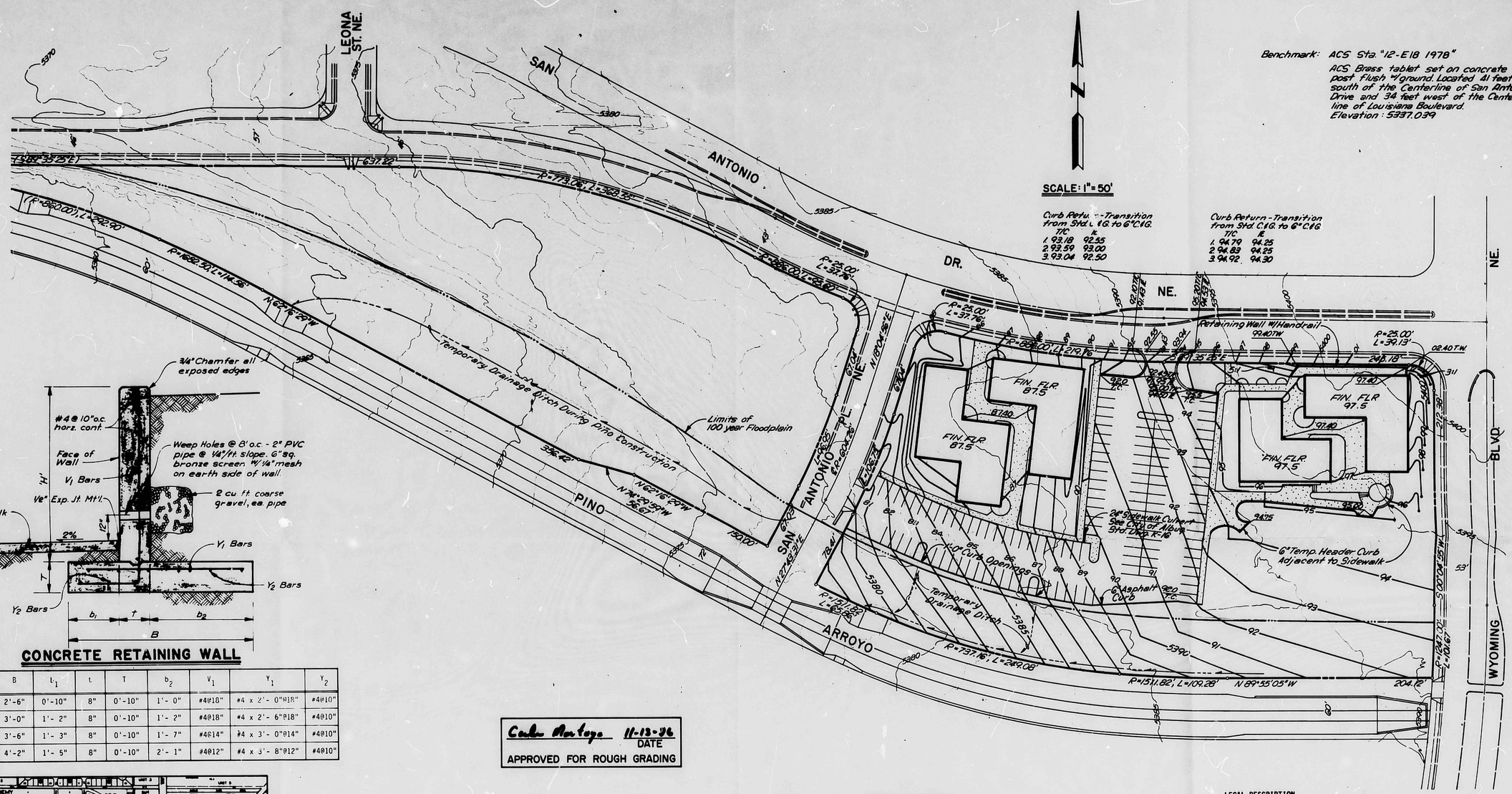
SCALE: 1" = 50'

Curb Return - Transition from Std. C&G. to 6" C&G.

	TIC	IE
1.	93.18	92.55
2.	93.59	93.00
3.	93.04	92.50

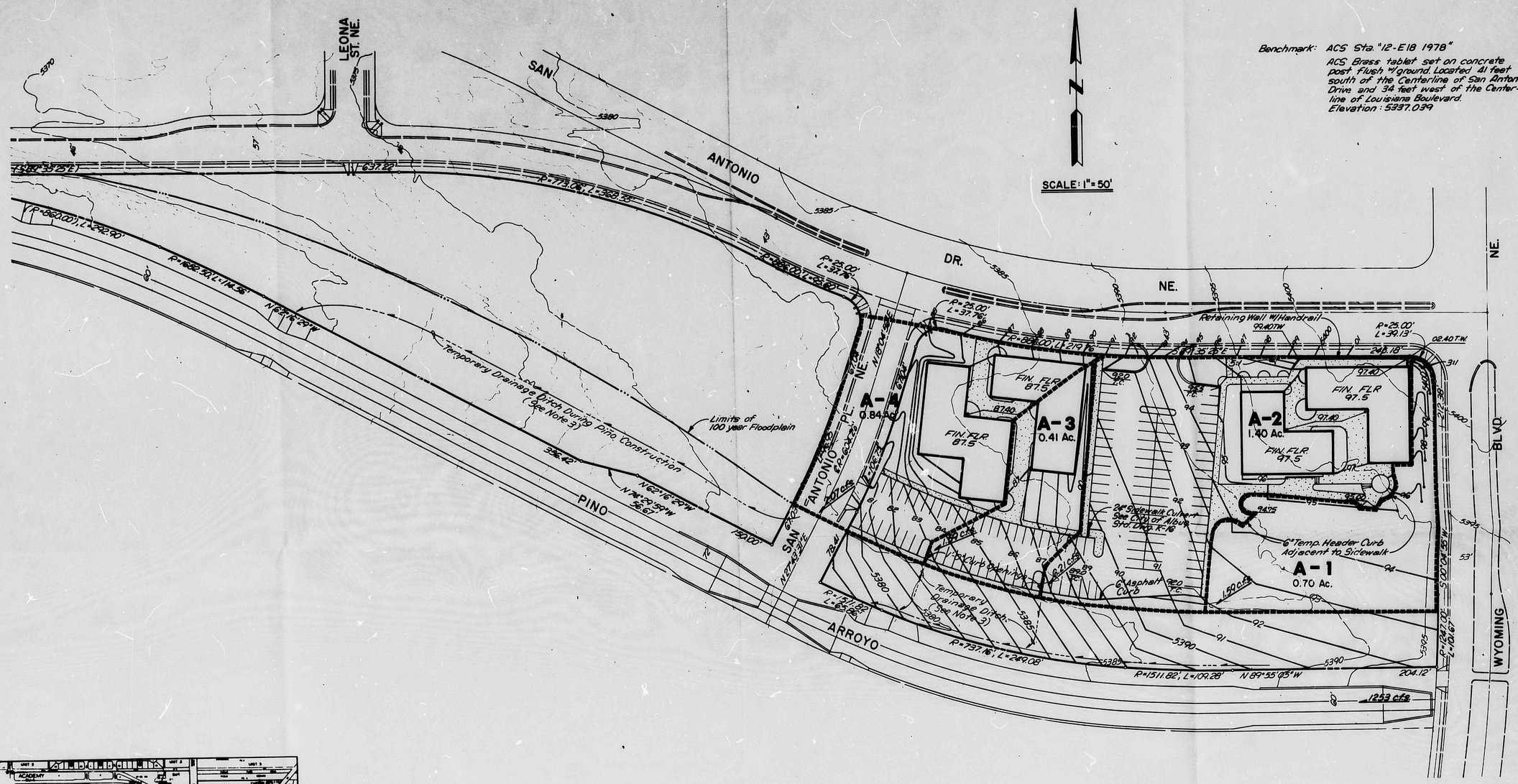
Curb Return - Transition from Std. C&G. to 6" C&G.

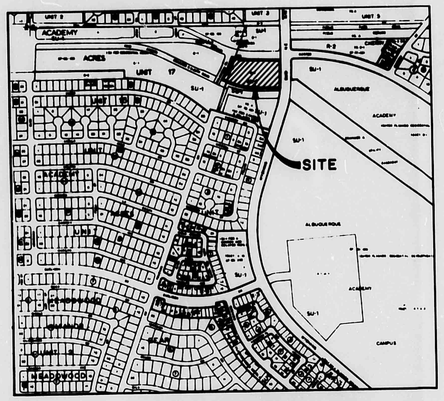
	TIC	IE
1.	94.70	94.25
2.	94.89	94.25
3.	94.92	94.30



Benchmark: ACS Sta. "12-E18 1978"
ACS Brass tablet set on concrete post flush w/ground. Located 41 feet south of the Centerline of San Antonio Drive and 34 feet west of the Centerline of Louisiana Boulevard.
Elevation: 5397.039

SCALE: 1" = 50'





LOCATION MAP
ZONE ATLAS MAP E-19

DRAINAGE CALCULATIONS

A-1

AREA = 0.70 AC.
PAVED (c = 0.95) = 0.04 AC.
UNDEVELOPED (c = 0.40) = 0.66 AC.
c = 0.43
I_{100} = 5.28 IN./HR.
Q_{100} = 1.59 CFS
Q_{10} = 1.04 CFS

A-2

AREA = 1.40 AC.
PAVED (c = 0.95) = 0.92 AC.
ROOF (c = 0.90) = 0.28 AC.
LANDSCAPED (c = 0.25) = 0.20 AC.
c = 0.84
I_{100} = 5.28 IN./HR.
Q_{100} = 6.21 CFS
Q_{10} = 4.08 CFS

A-3

AREA = 0.41 AC.
PAVED (c = 0.95) = 0.20 AC.
ROOF (c = 0.90) = 0.09 AC.
LANDSCAPED (c = 0.25) = 0.12 AC.
c = 0.73
I_{100} = 5.28 IN./HR.
Q_{100} = 1.59 CFS
Q_{10} = 1.04 CFS

A-4

AREA = 0.84 AC.
PAVED (c = 0.95) = 0.32 AC.
UNDEVELOPED (c = 0.40) = 0.08 AC.
LANDSCAPED (c = 0.25) = 0.21 AC.
ROOF (c = 0.90) = 0.23 AC.
c = 0.71
I_{100} = 5.28 IN./HR.
Q_{100} = 3.14 CFS
Q_{10} = 2.07 CFS

NOTES:

1. THIS DRAINAGE PLAN IS IN ACCORDANCE WITH THE APPROVED PLAN FOR ACADEMY ACRES UNIT 17.
2. THE PINO ARROYO AS CONSTRUCTED WILL HAVE FACILITIES AND CAPACITY TO ACCEPT ALL FLOW FROM THE SITE.
3. TEMPORARY DIVERSION FACILITIES BEING CONSTRUCTED AS PART OF THE PINO ARROYO PROJECT ARE BEING CHANGED OFTEN. WITHIN A FEW DAYS FLOW FROM AREA A-4 WILL BE DIVERTED INTO THE PERMANENT DRAINAGE FACILITIES BEING CONSTRUCTED ON THE SAN ANTONIO PLACE BOX CULVERT.

LEGAL DESCRIPTION

TRACT C-2 OF ACADEMY ACRES UNIT 17, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY ON MARCH 26, 1985 IN BOOK C26, FOLIO 162.

RECEIVED
JUN 05 1987
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
No. 6666
JOHN A. ANDREWS
1-21-87
6-5-87

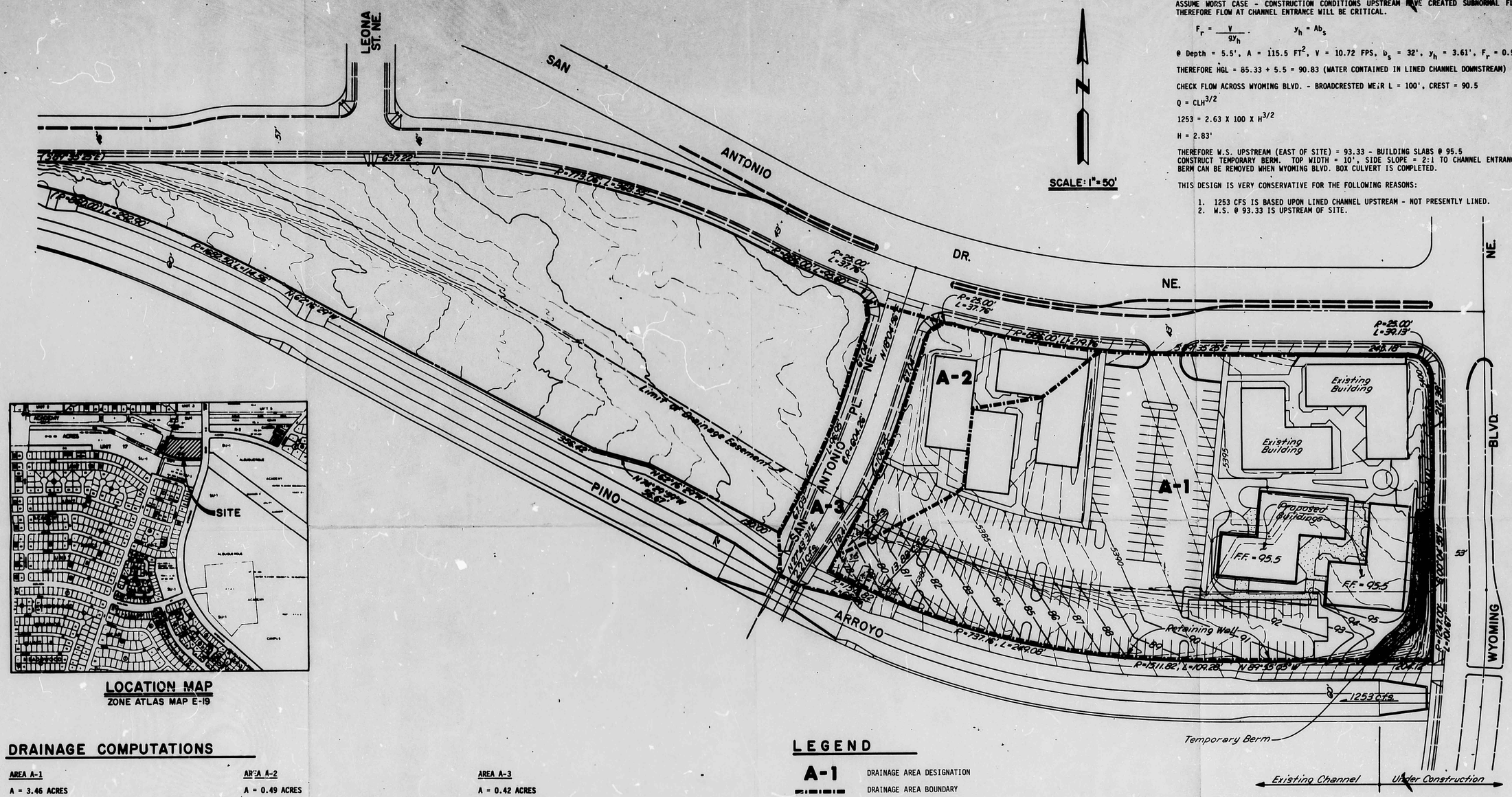
Revised: 6-5-87

WYOMING OFFICE PARK PHASE I

DRAINAGE PLAN

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No.	DRAWN	CHECKED	DATE	SHEET	OF
85-420	CB	JM	Jan. 1987	1	1



TEMPORARY SITE PROTECTION

ASSUME WORST CASE - CONSTRUCTION CONDITIONS UPSTREAM HAVE CREATED SUBNORMAL FLOW THEREFORE FLOW AT CHANNEL ENTRANCE WILL BE CRITICAL.

$F_r = \frac{V}{gy_h}$ $\qquad y_h = Ab_s$

@ Depth = 5.5', A = 115.5 FT^2, V = 10.72 FPS, b_s = 32', y_h = 3.61', F_r = 0.99,

THEREFORE HGL = 85.33 + 5.5 = 90.83 (WATER CONTAINED IN LINED CHANNEL DOWNSTREAM)

CHECK FLOW ACROSS WYOMING BLVD. - BROADCRESTED WEIR L = 100', CREST = 90.5

$Q = CLH^{3/2}$

$1253 = 2.63 \times 100 \times H^{3/2}$

H = 2.83'

THEREFORE W.S. UPSTREAM (EAST OF SITE) = 93.33 - BUILDING SLABS @ 95.5
CONSTRUCT TEMPORARY BERM. TOP WIDTH = 10', SIDE SLOPE = 2:1 TO CHANNEL ENTRANCE.
BERM CAN BE REMOVED WHEN WYOMING BLVD. BOX CULVERT IS COMPLETED.

THIS DESIGN IS VERY CONSERVATIVE FOR THE FOLLOWING REASONS:

1. 1253 CFS IS BASED UPON LINED CHANNEL UPSTREAM - NOT PRESENTLY LINED.
2. W.S. @ 93.33 IS UPSTREAM OF SITE.

LOCATION MAP
ZONE ATLAS MAP E-19

DRAINAGE COMPUTATIONS

AREA A-1

A = 3.46 ACRES

AREA ROOF	(C = 0.95)	= 0.78 ACRES
AREA PAVEMENT	(C = 0.90)	= 1.90 ACRES
AREA LANDSCAPED	(C = 0.25)	= 0.78 ACRES

C = 0.76

I_{100} = 5.28 IN/HR

Q_{100} = 13.88 CFS

Q_{10} = 9.12 CFS

AREA A-2

A = 0.49 ACRES

AREA ROOF	(C = 0.95)	= 0.16 ACRES
AREA PAVEMENT	(C = 0.90)	= 0.14 ACRES
AREA LANDSCAPED	(C = 0.25)	= 0.19 ACRES

C = 0.66

I_{100} = 5.28 IN/HR

Q_{100} = 1.71 CFS

Q_{10} = 1.12 CFS

AREA A-3

A = 0.42 ACRES

AREA ROOF	(C = 0.95)	= 0
AREA PAVEMENT	(C = 0.90)	= 0.32 ACRES
AREA LANDSCAPED	(C = 0.25)	= 0.10 ACRES

C = 0.75

I_{100} = 5.28 IN/Hr

Q_{100} = 1.66 CFS

Q_{10} = 1.09 CFS

TOTAL DISCHARGE @ SAN ANTONIO PLACE INLETS
(AREAS A-2 AND A-3)

A = 0.91 ACRES

C = 0.70

I_{100} = 5.28 IN/HR

Q_{100} = 3.36 CFS

Q_{10} = 2.21 CFS

LEGEND

A-1	DRAINAGE AREA DESIGNATION
-·-·-	DRAINAGE AREA BOUNDARY
5400	EXISTING CONTOUR
95	FINISH GRADE CONTOUR
←	DIRECTION OF SURFACE FLOW

NOTES

1. THIS DRAINAGE PLAN IS IN ACCORDANCE WITH THE APPROVED DRAINAGE REPORT FOR ACADEMY ACRES UNIT 17.

LEGAL DESCRIPTION

TRACT C-2 OF ACADEMY ACRES UNIT 17, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY ON MARCH 26, 1985 IN BOOK C26, FOLIO 162.

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO JOHN A. ANDREWS No. 6800

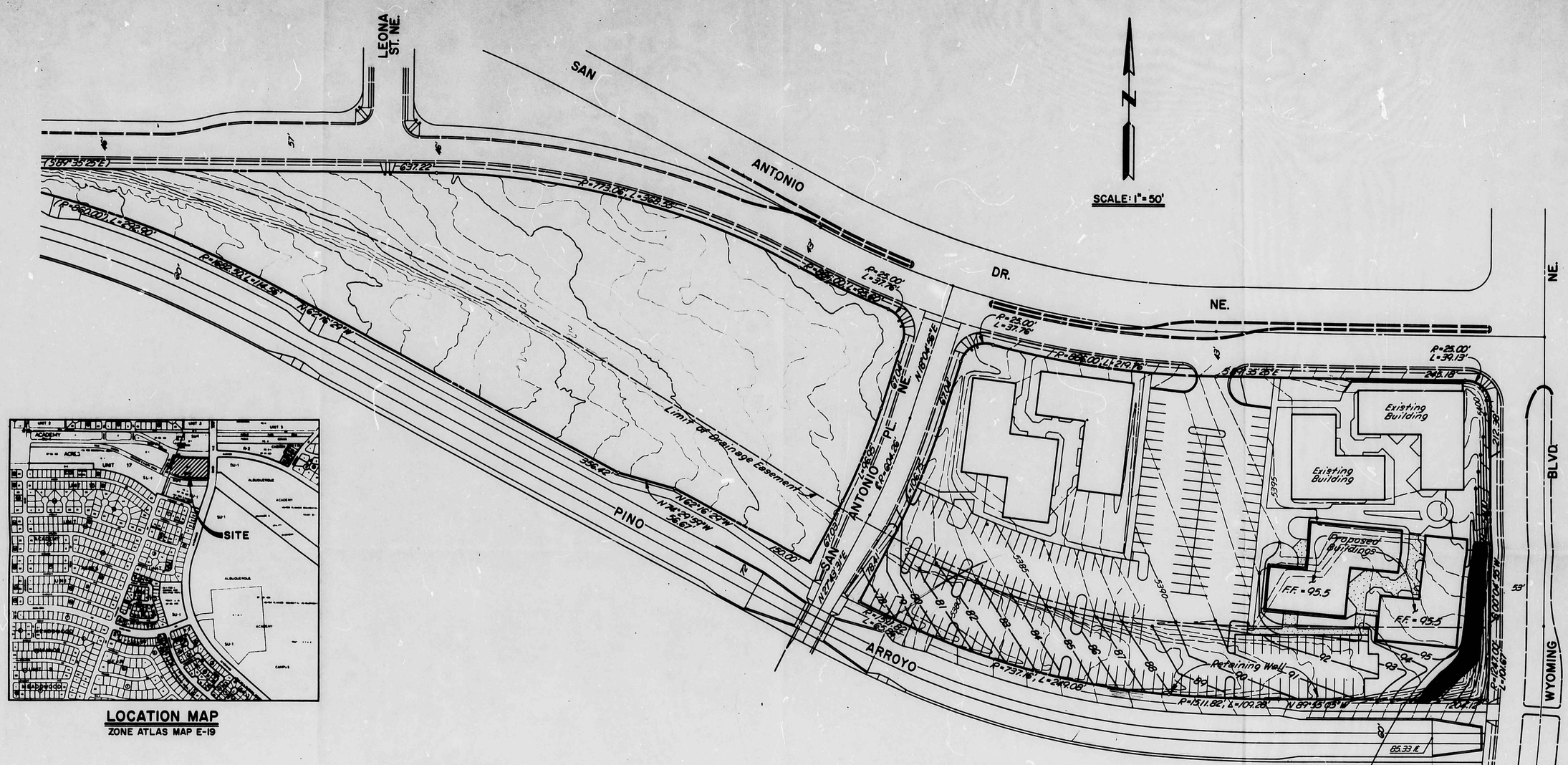
RECEIVED JUN 09 1987 HYDROLOGY SECTION

WYOMING OFFICE PARK PHASE II

DRAINAGE PLAN

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No.	DRAWN	CHECKED	DATE	SHEET	OF
85-420	PMO	JM	Jun., 1987	1	1



LOCATION MAP

ZONE ATLAS MAP E-19

BERM NOTES

1. THE PURPOSE OF THE TEMPORARY DIVERSION BERM IS TO PROTECT WYOMING OFFICE PARK FROM THE 100 YEAR STORM RUNOFF FROM THE PINO ARROYO.
2. TEMPORARY BERM WAS DESIGNED USING TOPOGRAPHY SHOWN ON WORK ORDER NO. 2151. ANY TEMPORARY DIVERSIONS WILL REQUIRE REVIEW OF THIS BERM'S ADEQUACY.

GRADING NOTES

1. CONTRACTOR SHALL CLEAR, GRUB AND STRIP SITE OF ALL OBJECTIONABLE MATERIAL PRIOR TO COMMENCING GRADING OPERATIONS. ALL OBJECTIONABLE MATERIAL, TRASH AND DEBRIS SHALL BE REMOVED AND HAULED FROM SITE.
2. CONTRACTOR SHALL SCARIFY, PROCESS AND COMPACT AREAS TO RECEIVE FILLS TO A DEPTH OF 8" PRIOR TO PLACING SUCH FILLS. COMPACTION SHALL BE 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. MOISTURE SHALL BE OPTIMUM ± 2%.
3. ALL EMBANKMENT AND FILLS SHALL BE PLACED WITH MOISTURE AND DENSITY CONTROL. COMPACTION SHALL BE 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. MOISTURE SHALL BE OPTIMUM ± 2%.
4. UNLESS OTHERWISE SHOWN OR CALLED FOR HEREON ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS - PUBLIC WORKS CONSTRUCTION 1985 EDITION.
5. ALL ELEVATIONS SHOWN TOP OF PAVEMENT UNLESS OTHERWISE INDICATED. ADD 6" TO ELEVATIONS SHOWN FOR TOP OF CURB GRADES.
6. CURB AND GUTTER AT ENTRANCES TO 20 FEET BACK OF STREET RIGHT-OF-WAY SHALL BE CITY OF ALBUQUERQUE STANDARD CURB AND GUTTER, 8" HIGH CURB. TRANSITION FROM 8" HIGH CURB TO 6" HIGH CURB IN 10 FEET.

EROSION CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE DUST CONTROL BY WATERING DURING GRADING OPERATIONS.
2. CONTRACTOR SHALL PROVIDE BLADED CONTOUR WINDROWS AT ONE FOOT CENTER INTERVALS OR AT 50 FEET ON CENTER MAXIMUM. WINDROWS SHALL BE PERPENDICULAR TO THE FLOW. LOWEST WINDROW SHALL BE PLACED ALONG DOWNSTREAM PROPERTY LINE.

LEGEND

5400	EXISTING CONTOUR
95	FINISH GRADE CONTOUR
→	DIRECTION OF SURFACE FLOW

BENCHMARK

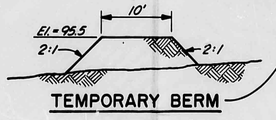
ACS STA. "12-E18 1978"

ACS BRASS TABLET SET ON CONCRETE POST FLUSH WITH GROUND. LOCATED 41 FEET SOUTH OF THE CENTERLINE OF SAN ANTONIO DRIVE AND 34 FEET WEST OF THE CENTERLINE OF LOUISIANA BOULEVARD.

ELEVATION: 5337.039

LEGAL DESCRIPTION

TRACT C-2 OF ACADEMY ACRES UNIT 17, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY ON MARCH 26, 1985 IN BOOK C26, FOLIO 162.



TEMPORARY BERM

RECEIVED
JUN 26 1987
HYDROLOGY SECTION

6-26-87
DATE
APPROVED FOR ROUGH GRADING AND FOUNDATION

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
JOHN A. ANDREWS
6-26-87

Revised: 6/26/87 - Added Berm Notes JFV

WYOMING OFFICE PARK PHASE II

GRADING PLAN

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No.	DRAWN	CHECKED	DATE	SHEET	OF
85-420	PMO	JM	Jun., 1987	1	1