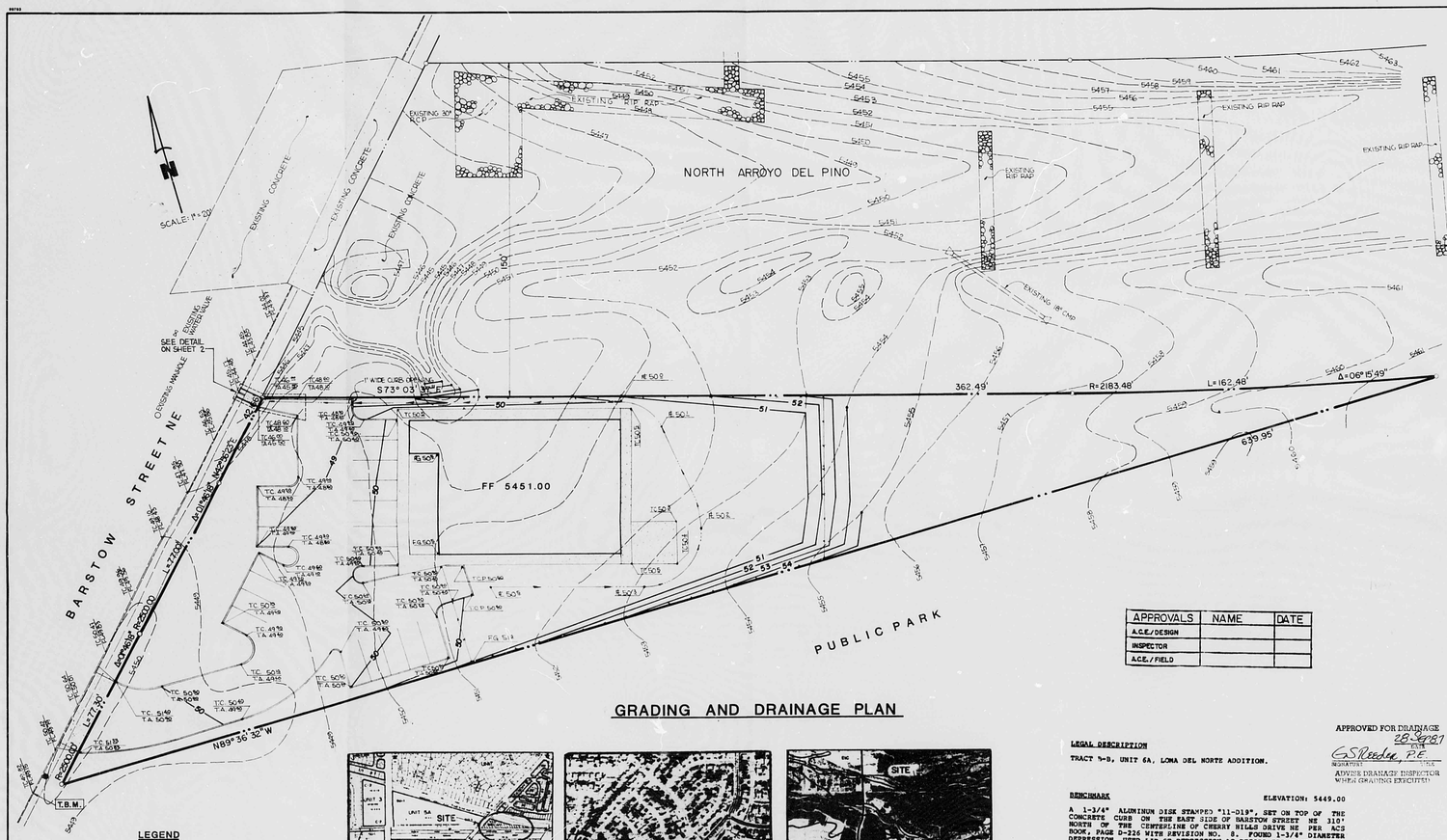
PUBLIC WORKS/HYDROLOGY

D19/D21



GRADING AND DRAINAGE PLAN

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

APPROVED FOR DRAINAGE
28 Sept 87
DATE
G S Reeder, P.E.
SIGNATURE
ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

LEGAL DESCRIPTION

TRACT B-B, UNIT 6A, LOMA DEL NORTE ADDITION.

BENCHMARK ELEVATION: 5449.00

A 1-3/4" ALUMINUM DISK STAMPED "11-019", SET ON TOP OF THE CONCRETE CURB ON THE EAST SIDE OF BARSTOW STREET NE 310' NORTH OF THE CENTERLINE OF CHERRY HILLS DRIVE NE PER ACS BOOK, PAGE D-226 WITH REVISION NO. 8. FOUND 1-3/4" DIAMETER DEPRESSION, USED LIP OF DEPRESSION AS RECORD ELEVATION.

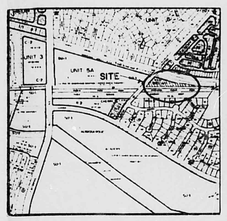
TEMPORARY BENCHMARK (TBM) ELEVATION: 5449.82

FOUND CHISELED CROSS IN TOP OF CURB ON EAST SIDE OF BARSTOW STREET NE AT EXTENSION OF SOUTH PROPERTY LINE OF TRACT B-B.

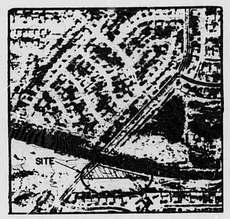
EXISTING TOPOGRAPHY FROM "TOPOGRAPHIC SURVEY" BY ~~DANTEL~~ MANN, JOHNSON & MENDENHALL - MAY, 1987.

LEGEND

FF	FINISH FLOOR
TC	TOP OF CURB/CONCRETE
TA	TOP OF ASPHALT
TCP	TOP OF CONCRETE PAVEMENT
FG	FINISH GRADE
5450	EXISTING CONTOUR
5450	FINISH CONTOUR
	SWALE



VICINITY MAP E & D 19



FHBM PANEL 350002 0010

SCS SOILS MAP 21

CLIENT: LA PETITE ACADEMY

DMJM
David Mann, Johnson & Mendenhall
5700 Harper Drive NE, Suite 280
Albuquerque, New Mexico 87109
(505) 822-7935

S.F.F.	9/87	DATE
DESIGNED		
D.M.J.M.	9/87	DATE
DRAWN		
J.J.B.	9/87	DATE
REVIEWED		

NO.	DATE	REVISIONS	BY

JOB NUMBER 6391.00
FILE NUMBER 8709
DATE SEPT., 1987

LA PETITE ACADEMY
BARSTOW ST. NE.
ALBUQUERQUE, NEW MEXICO

TITLE

SHEET 1 OF 2

R# 24 DATE 3-15-02 OP ESP

CITY OF ALBUQUERQUE

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The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MSMA-1977)

DIRECTOR

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 6/10/02

PLANS/PLATS ON FILE

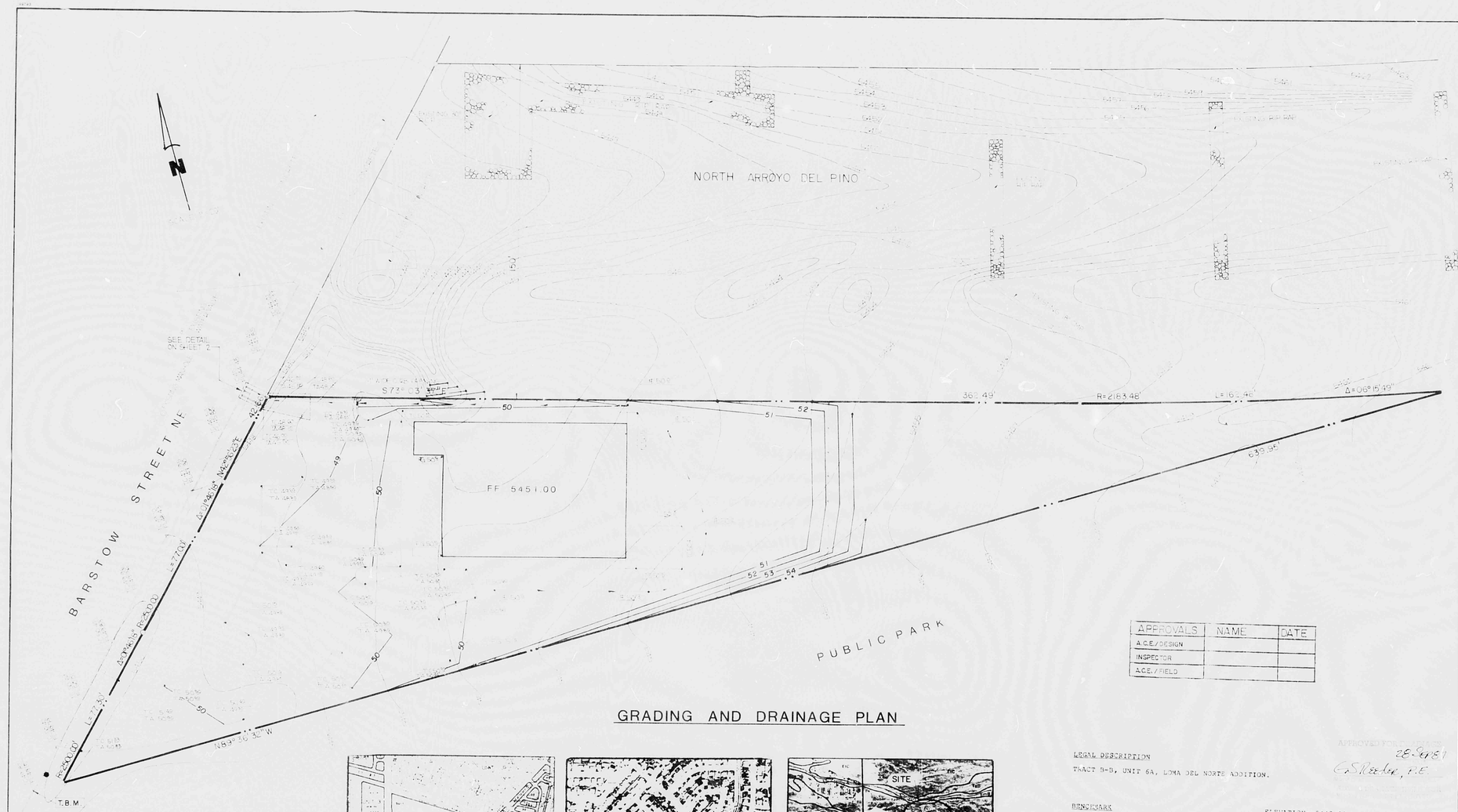
FILE DESC: DA/DAI

PLANS/PLATS 2

E 30 D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

C D F



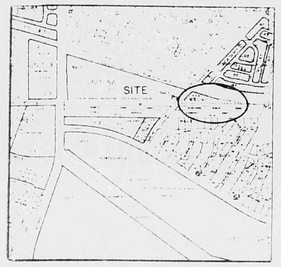
GRADING AND DRAINAGE PLAN

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

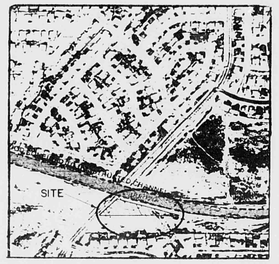
APPROVED FOR CONSTRUCTION 28 Sep 1987 C. Meeker, P.E.

LEGEND

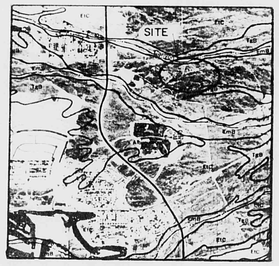
FF	FINISH FLOOR
TC	TOP OF CURB/CONCRETE
TA	TOP OF ASPHALT
TCP	TOP OF CONCRETE PAVEMENT
FG	FINISH GRADE
5450	EXISTING CONTOUR
5450	FINISH CONTOUR
	SWALE



VICINITY MAP E & D 19



FHBM PANEL 350002 0010



SCS SOILS MAP 2

LEGAL DESCRIPTION

TRACT B-B, UNIT 6A, LOMA DEL NORTE ADDITION.

BENCHMARK ELEVATION: 5449.00

A 1-3/4" ALUMINUM DISK STAMPED "11-D19", SET ON TOP OF THE CONCRETE CURB ON THE EAST SIDE OF BARSTON STREET NE 310' NORTH OF THE CENTERLINE OF CHERRY HILLS DRIVE NE. PER ACS BOOK, PAGE D-226 WITH REVISION NO. 3. FOUND 1-3/4" DIAMETER DEPRESSION, USED LIP OF DEPRESSION AS RECORD ELEVATION.

TEMPORARY BENCHMARK (TBM) ELEVATION: 5449.82

FOUND CHISELED CROSS IN TOP OF CURB ON EAST SIDE OF BARSTON STREET NE AT EXTENSION OF SOUTH PROPERTY LINE OF TRACT B-B.

EXISTING TOPOGRAPHY FROM "TOPOGRAPHIC SURVEY" BY DANIEL, MANN, JOHNSON & MENDENHALL - MAY, 1987.

CLIENT: LA PETITE ACADEMY

DMJM
Daniel, Mann, Johnson & Mendenhall
5700 Harper Drive NE, Suite 280
Albuquerque, New Mexico 87109
(505) 822-7955

DESIGNED		DATE	
DRAWN		DATE	
REVIEWED		DATE	

REVISIONS

NO.	DATE

FILE NUMBER 6391.00
FILE NUMBER 8709
DATE SEPT. 1987

LA PETITE ACADEMY
BARSTOW ST NE
ALBUQUERQUE, NEW MEXICO

SHEET 1 OF 2

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 24 DATE 3-5-13 OP 47

CITY OF ALBUQUERQUE

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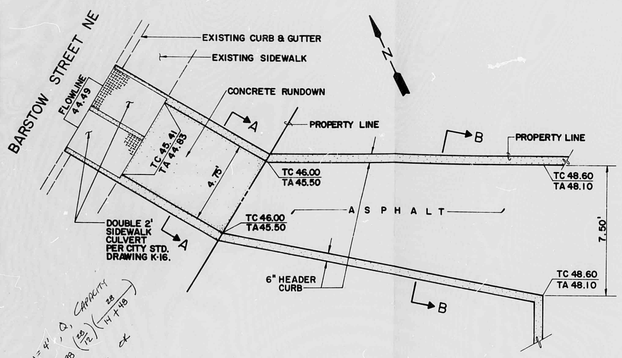
DIRECTOR

NOTARY PUBLIC

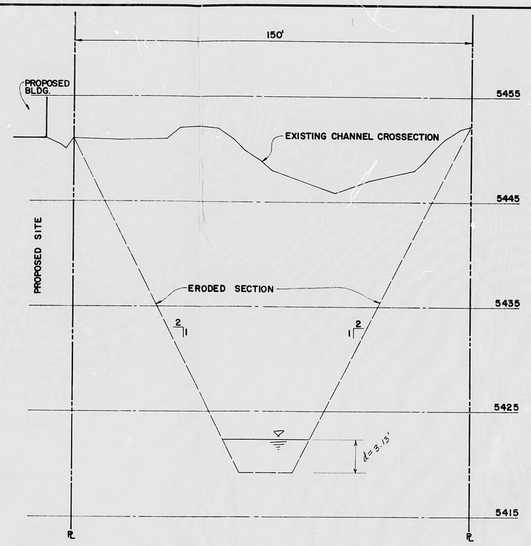
OFFICIAL SEAL
Notary Public
01/02/16, 2014

D 24 C 20 B 16 A 12

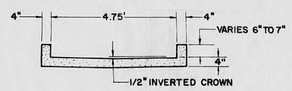
CITY OF ALBUQERQUE C D



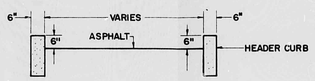
CONCRETE RUNDOWN SIDEWALK CULVERT
SCALE: 1" = 3'-0"



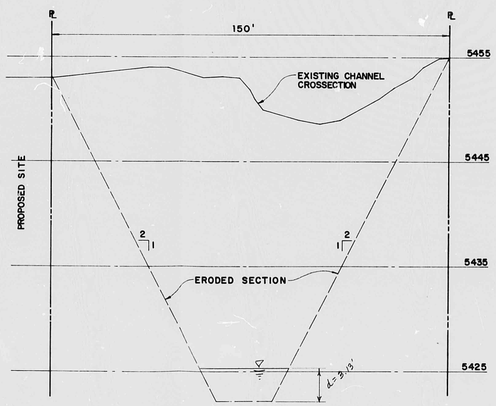
ARROYO CROSS SECTION AT EAST SIDE OF PROPOSED BUILDING
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



SECTION A-A
SCALE: 1/2" = 1'-0"



SECTION B-B
NO SCALE



ARROYO CROSS SECTION AT EAST FENCE LINE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

DRAINAGE PLAN

1. The site does not lie within a designated 100-year floodplain as shown on FHBM Panel 10 dated October 14, 1981.

2. Approved Drainage Reports, D19/D5 and E19/D17 for Development adjacent to the North Arroyo Del Pino and the arroyo itself have established free discharge capacity of the arroyo in this area.

3. All developed onsite flows shall be diverted to Barstow Street NE via a paved rundown and sidewalk culvert and thence to the North Arroyo Del Pino.

4. SITE EROSION PROTECTION FROM NORTH ARROYO DEL PINO - As can be seen by existing contours, the centerline of the arroyo is approximately 100' north of the north property of the site. Per Roy F. Weston, Inc. who are currently preparing the Far Northeast Heights Drainage Study for the City, Q(100) for the arroyo at this location is 1,012 cfs. By our computations, a probable earthen channel in this area would have the following characteristics:

   Bottom Width: 20 feet
   Side Slopes: 2:1
   Slope: 2.6%
   Q(100): 1,012 cfs
   V(100): 12.33 fps
   Water Depth: 3.13 feet

   The two (2) cross sections at the left show the extent of channel erosion that would have to occur to jeopardize the site. It is evident that this degree of erosion is not probable. Therefor, the undeveloped "buffer area" between the site and arroyo provides adequate site protection and no structures to protect the site are required.

OFFSITE DRAINAGE

All contributing offsite drainage is from undeveloped properties that have been dedicated to the City of Albuquerque for park lands. Undeveloped offsite drainage will be routed through the site until such a time that the park lands are developed. When the park lands are developed, it is expected that the park lands drainage will be diverted away from this site.

Estimated Offsite Contributing Area = 0.586 Acres
Q(100) = CiA
C = 0.40 tc = 10 Minutes
r = 2.4 inches i = 5.07 inches/hour
Q(100) = 0.40(5.07)(0.586) = 1.19 cfs
Q(10) = 1.19(0.657) = 0.78 cfs

UNDEVELOPED CONDITIONS

Q(100) = CiA
C = 0.40 tc = 10 minutes
r = 2.4 inches i = 5.07 inches/hour
A = 1.0250 Acres = 43,649 Sq. Ft.
Q(100) = 0.40(5.07)(1.0250) = 2.08 cfs
Q(10) = 2.08(0.657) = 1.37 cfs

DEVELOPED CONDITIONS

COMPOSITE 'C'

SURFACE TYPE	AREA(SQ.FT.)	C	CA
ROOF	5,054	0.90	4,549
PAVING	11,873	0.95	11,279
LANDSCAPED	17,484	0.25	4,371
UNDEVELOPED	10,238	0.40	4,095
	44,649		24,294

COMPOSITE 'C' = 24,294/44,649 = 0.54
Q(100) = 0.54(5.07)(1.0250) = 2.81 cfs
Q(10) = 2.81(0.657) = 1.85 cfs

RUNDOWN INLET WIDTH

Q(100) = ONSITE + OFFSITE = 2.81 + 1.19 = 4.0 cfs
$L = 4.0/2.6(0.5^{3/2}) = 7.35'$ USE 7.5' WIDTH

SIDEWALK CULVERT WIDTH

$a = 32.2(\cos 89.1) = 0.51\ ft/sec^2$
$V = 4.63\ ft/sec$

$$L = \frac{4.0}{2.6\,(0.5 + 4.63/2(32.2))^{3/2}} = 3.56'$$ USE DOUBLE 2' WIDE CULVERT

EROSION CONTROL MEASURES

1. The Contractor shall ensure that no soil erodes from the site onto private property or City ROW. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.

2. The Contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.

3. The Contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

CONSTRUCTION NOTES:

1. Two (2) working days prior to any excavation, Contractor shall contact line located service, 765-1234, for locations of existing utilities.

2. Prior to construction, the Contractor shall excavate and verify the horizontal and vertical location 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.

3. 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.

4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque standards and procedures.

CLIENT: LA PETITE ACADEMY

S.E.F. DESIGNED	9/87 DATE	
J.M.T. DRAWN	9/87 DATE	
J.J.P. REVIEWED	9/87 DATE	

DMJM
Daniel Mann, Johnson & Mendenhall
5700 Harper Drive NE, Suite 280
Albuquerque, New Mexico 87109
(505) 822-7955

NO.	DATE	REVISIONS	BY

JOB NUMBER 6391.00
FILE NUMBER 8709
DATE SEPT., 1987

TITLE: LA PETITE ACADEMY DETAILS & NOTES

APPROVED FOR DRAINAGE 28 Sept 1987 DATE
G.S. Beck P.E. 28 Sept 87
CITY ENGINEER
ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

SHEET 2 OF 2

CITY OF ALBUQUERQUE
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R# 24 DATE 3-15-02 OP ESP

CITY OF ALBUQUERQUE
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The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS125-1977)
DIRECTOR

NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
07/01/02

D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D