

DRAINAGE CALCULATIONS:

I. REFERENCES:

- MANUAL, VOLUME 2, DESIGN CRITERIA FOR THE CITY OF ALBUQUERQUE, NEW MEXICO IN COOPERATION WITH BERNALILLO COUNTY, NEW MEXICO AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY.
B. FLOODWAY, FLOOD BOUNDARY AND FLOODWAY MAP, CITY OF ALBUQUERQUE, NEW MEXICO, PANEL 22 OF 50.
C. ZONE ATLAS PAGE G-14-Z.

II. GENERAL INFORMATION:

- A. SITE LIES IN ZONE TWO(2) (SEE REF. A, PAGE A-1)
B. 100 YEAR, 6 HOUR RAINFALL CRITERIA
C. TIME OF CONCENTRATION, T_c : $T_c = 0.2$ hr (12 MINUTES).

III. IMPERVIOUSNESS:

TREATMENT	TYPES OF SURFACES	EXISTING SQ. FT.	ACRES	PROPOSED SQ. FT.	ACRES
A	UNDEVELOPED	0	0.0000	0	0.0000
B	LANDSCAPING	0	0.0000	1,020	0.0234
C	COMPACTED/VACANT	20,956	0.4811	5,870	0.1348
D	IMPERVIOUS	0	0.0000	14,086	0.3229
	TOTAL AREA (TA)	20,956	0.4811	20,956	0.4811

IV. PEAK DISCHARGE 100 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(100)	PROPOSED CFS/Ac	Qp(100)
A	UNDEVELOPED	1.59	0.00	1.59	0.00
B	LANDSCAPING	2.28	0.00	2.28	0.05
C	COMPACTED/VACANT	3.14	1.51	3.14	0.42
D	IMPERVIOUS	4.70	0.00	4.70	1.52
	PEAK DISCHARGE FROM SITE		1.51 CFS		1.99 CFS

V. PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(10)	PROPOSED CFS/Ac	Qp(10)
A	UNDEVELOPED	0.38	0.00	0.38	0.00
B	LANDSCAPING	0.95	0.00	0.95	0.02
C	COMPACTED/VACANT	1.71	0.82	1.71	0.23
D	IMPERVIOUS	3.14	0.00	3.14	1.01
	PEAK DISCHARGE FROM SITE		0.82 CFS		1.27 CFS

VI. WEIGHTED "E" 100 YEAR, 6 HR. (REF. A, TABLE A-8):

TREATMENT	TYPES OF SURFACES	EXISTING E	ExA/TA	PROPOSED E	ExA/TA
A	UNDEVELOPED	0.53	0.00	0.53	0.00
B	LANDSCAPING	0.78	0.00	0.78	0.04
C	COMPACTED/VACANT	1.13	1.13	1.13	0.32
D	IMPERVIOUS	2.12	0.00	2.12	1.42
	WEIGHTED "E" FACTOR		1.13 IN		1.78 IN

VI. VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):

EXISTING	$1.13 \times 0.4811/12 = 0.05$ AC. FT.
	$= 1,973$ CU. FT.
PROPOSED	$1.78 \times 0.4811/12 = 0.07$ AC. FT.
	$= 3,104$ CU. FT.

EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

- ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF TO LEAVE THE SITE AND ENTER ADJACENT PROPERTY.
- ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER THE PUBLIC STREETS.
- THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY OR ALL SEDIMENT WITHIN THE PUBLIC STREETS THAT HAVE BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

S.O.19 SIGN-OFF:

- An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
- All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Interim Standard Specification for Public Works Construction 1985.
- Two working prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
- Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
- Backfill compaction shall be according to residential street use.
- Maintenance of these facilities shall be the responsibility of the Owner of property served.

APPROVAL	NAME	DATE	Title:
Hydrology	<i>B. Matos</i>	7/9/96	Office & Storage Facilities
Inspector			Permit No.
A.C.E./Field			Map Number G-14

POND VOLUME PROVIDED

POND ONE CONTOUR	AREA	AVG AREA	VOLUME
67.1	6250		
67.00	4982	5616	562
66.50	874	2928	1464
66.40	250	562	56
TOTAL			2082 CU. FT.

HYDROGRAPH CALCULATIONS:

Time of Peak - $T(p)$
 $T(c) = 0.02$ Hr
 $A(c) = 0.1348$ Ac
 $A(t) = 0.4811$ Ac
 $T(p) = 0.7 \cdot T(c) + (1.6 - A(c)/A(t)) / 12$
 $T(p) = 0.11$ Hr
Base Time - $T(b)$
 $A(t) = 0.4811$ Ac
 $Q(p) = 1.99$ CFS
 $A(c) = 0.1348$ Ac
 $E = 1.78$
 $T(b) = 2.107 \cdot E \cdot W \cdot A(t) / Q(p) - 0.25 \cdot W \cdot A(c) / A(t)$
 $T(b) = 0.59$ Hr
Continue Peak - $C(p)$
 $C(p) = 0.25 \cdot W \cdot A(c) / A(t)$
 $C(p) = 0.07$ Hr

CAPACITY OF 4" PVC DRAIN PIPE

$C = 0.75$
 $A = 0.087$ Sq Ft
 $H = 0.95$ Ft
 $Q = 0.51$ CFS

VERANDA ROAD N.W.

PROPOSED BUILDING

FIN FLR 4968.00 (MSL)

EXISTING CHAIN LINK FENCE

NO OFF-SITE FLOW

AT&SF RAILROAD PROPERTY

SECTION A-A

NOT TO SCALE

ABBREVIATION LEGEND

SYMBOL LEGEND

PROPOSED BUILDING FOR SIGNART OF NEW MEXICO ALBUQUERQUE, NEW MEXICO

GRADING & DRAINAGE PLAN

SCALE: 1"=20.0'

0 5' 10' 20' 40'

NORTH

JUL - 2 1996

1

LEGAL DESCRIPTION:

LOTS 22 & 23, BLOCK C,
MONKBRIDGE ADDITION
BERNALILLO COUNTY,
NEW MEXICO.

BENCH-MARK INFORMATION

TEMPORARY BENCH-MARK BEING THE TOP OF CURB SPRAY PAINTED ORANGE (BENT) BEARS ELEVATION 4968.00 (MSL), REFERENCE TO CITY BENCH-MARK 11-514 LOCATED AT THE INTERSECTION OF SECOND & CANDELARIA SEE VICINITY MAP FOR CITY BENCH-MARK LOCATION.

SECTION A-A

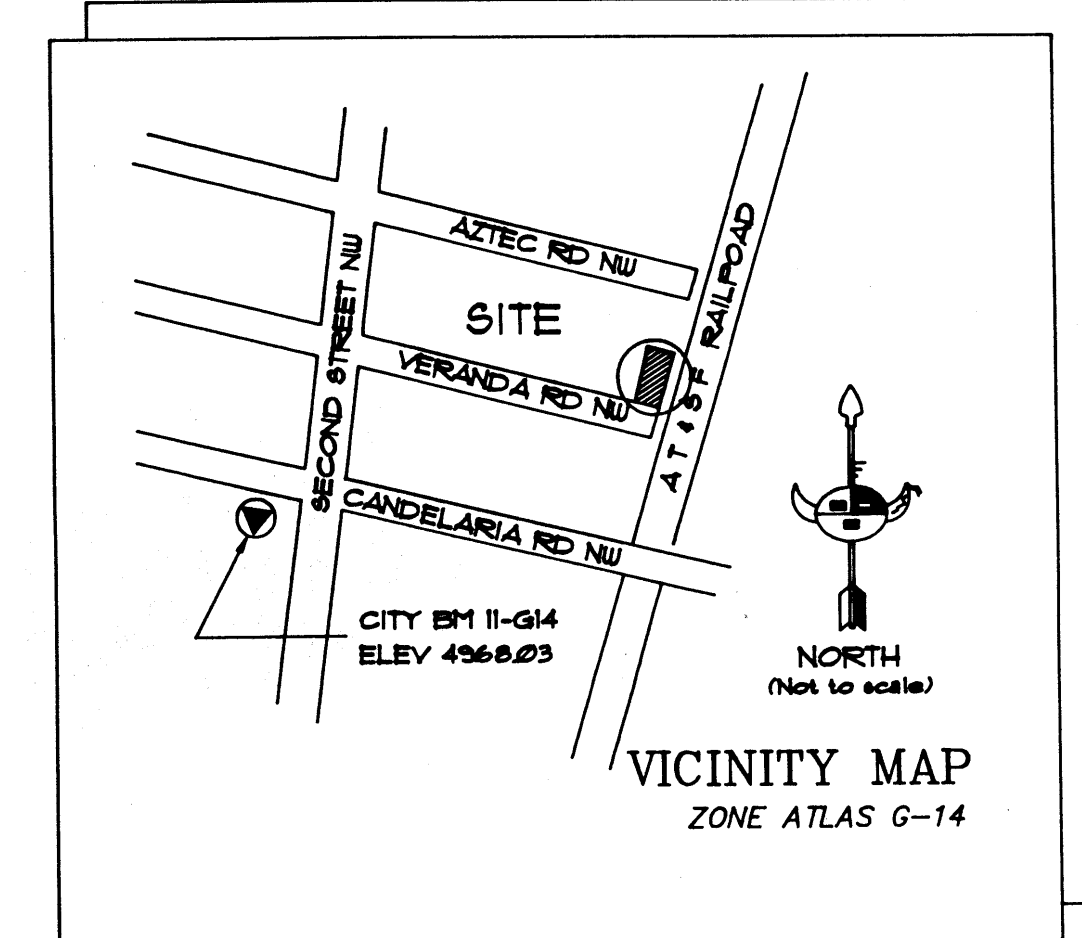
NOT TO SCALE

ABBREVIATION LEGEND

TOP OF INLET GRATE - TG
TOP OF CURB - TC
TOP OF ASPHALT - TA
FLOWLINE - FL
TOP OF CONC. PAD - TCP

SYMBOL LEGEND

EXISTING CONTOUR
EXISTING CONTOUR
DESIGNED SPOT ELEVATION
PROPERTY LINE
EASEMENT LINE
FLOW DIRECTION
EXISTING SPOT ELEVATION

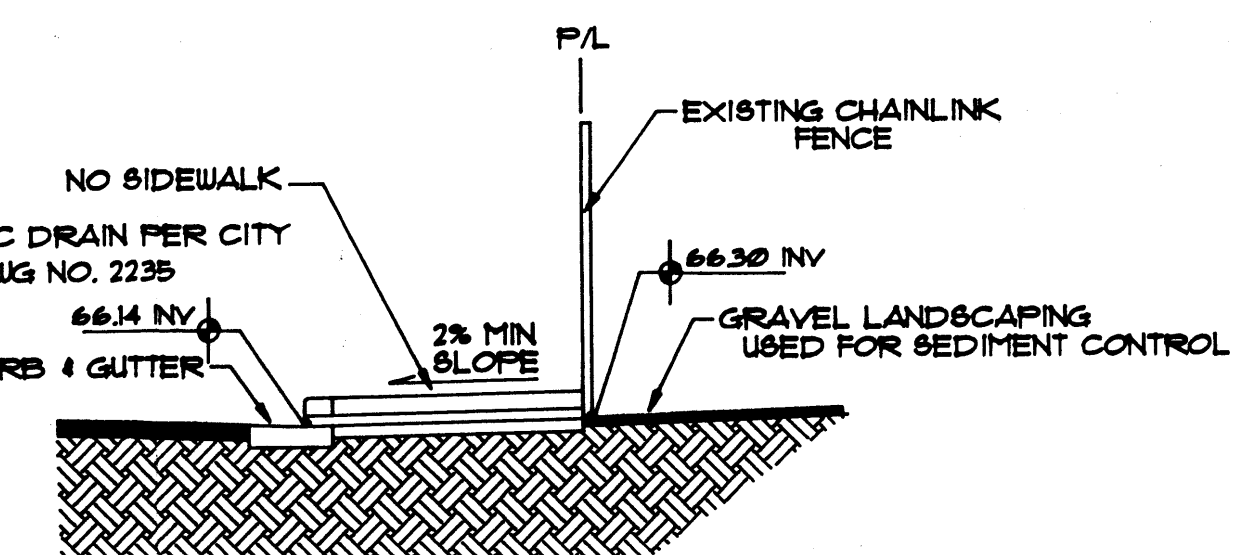


LEGAL DESCRIPTION:

LOTS 22 & 23, BLOCK C,
MONKBRIDGE ADDITION
BERNALILLO COUNTY,
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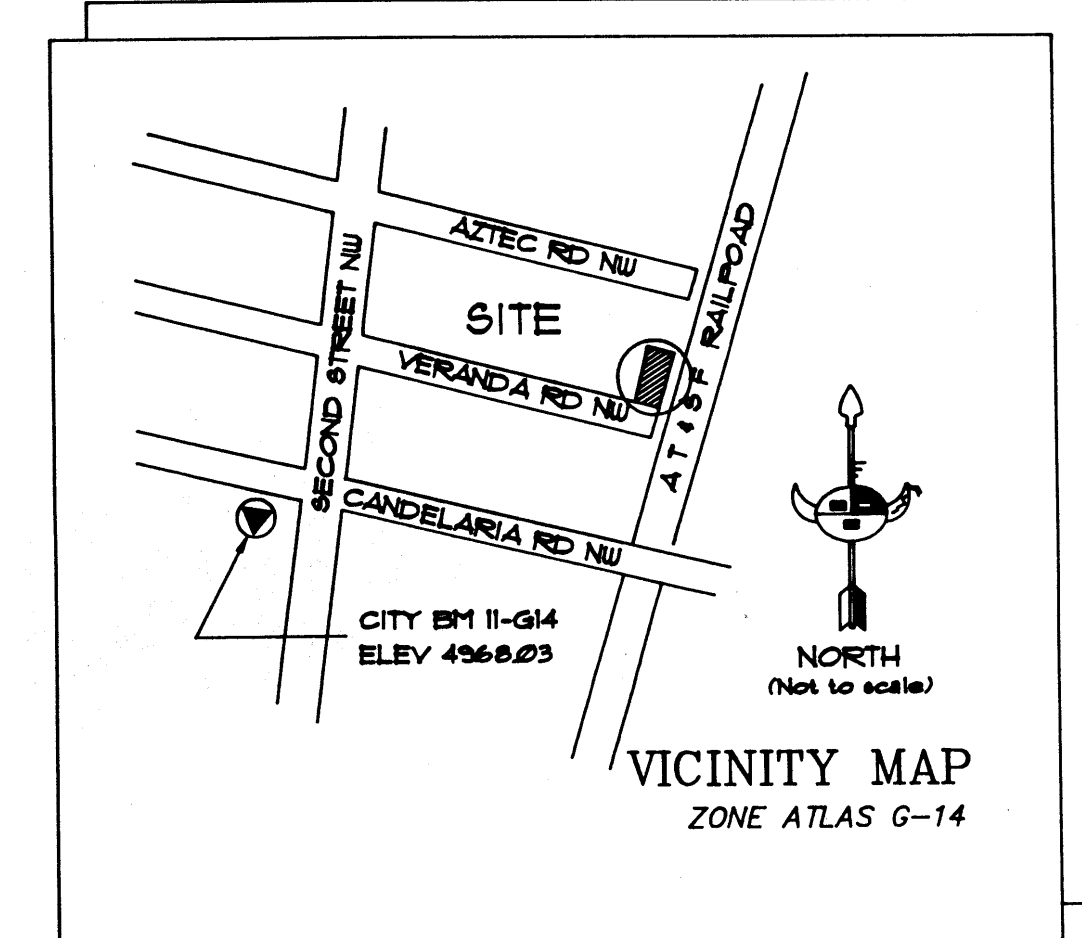


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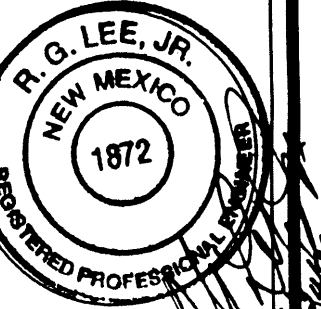
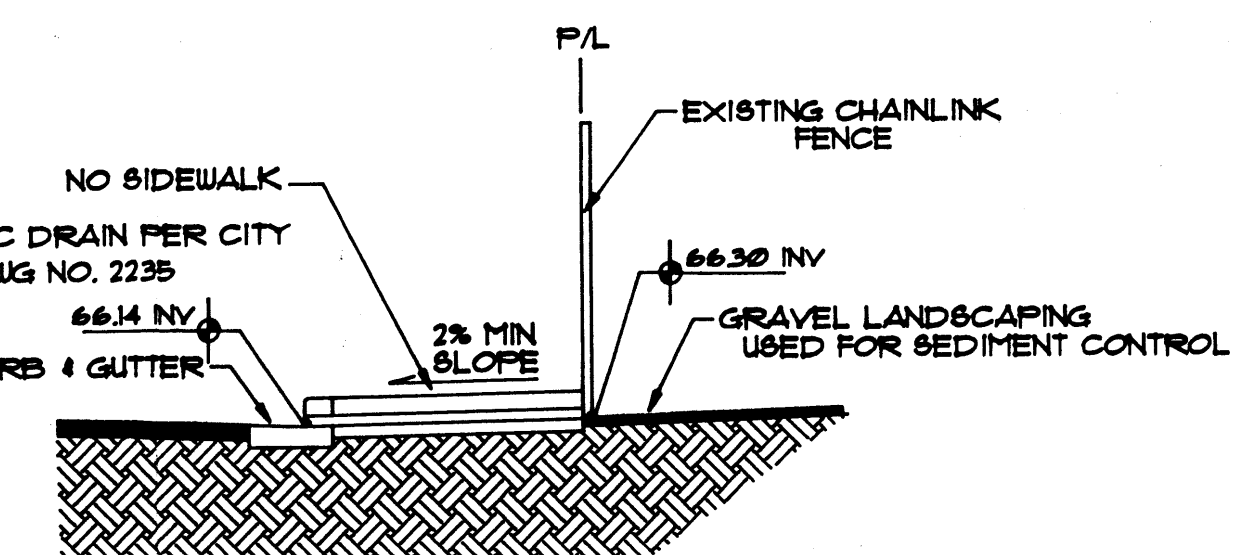


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BERNALILLO COUNTY,
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BENCH-MARK INFORMATION

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JOB NO. 1848
DATE: MAY 1996
REVISION:
DRAWN BY: HMOOD
CHECKED BY: RAL LEE, JR.

GRADING & DRAINAGE PLAN

MILLER AND ASSOCIATES
PLANNERS
2833 RICHMOND NE
ALBUQUERQUE, NEW MEXICO 87110
PHONE 266-1100

Proposed Building for
SIGNART OF NEW MEXICO
ALBUQUERQUE, NEW MEXICO

JOB TITLE

1

DRAINAGE CALCULATIONS:

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C. ZONE ATLAS PAGE G-14-Z.

II. GENERAL INFORMATION:

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B. 100 YEAR, 6 HOUR RAINFALL CRITERIA
C. TIME OF CONCENTRATION, T_c ; $T_c = 0.2$ hr(12 MINUTES).

III. IMPERVIOUSNESS:

TREATMENT TYPE	SURFACES	EXISTING SQ.FT	ACRES	PROPOSED SQ.FT	ACRES
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B	LANDSCAPING	0	0.0000	1,020	0.0234
C	COMPACTED/VACANT	20,956	0.4811	5,870	0.1348
D	IMPERVIOUS	0	0.0000	14,066	0.3229
TOTAL AREA (TA)		20,956	0.4811	20,956	0.4811

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C	COMPACTED/VACANT	3.14	1.51	3.14	0.42
D	IMPERVIOUS	4.70	0.00	4.70	1.52
PEAK DISCHARGE FROM SITE		1.51	CFS	1.99	CFS

V. PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):

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A	UNDEVELOPED	0.38	0.00	0.38	0.00
B	LANDSCAPING	0.95	0.00	0.95	0.02
C	COMPACTED/VACANT	1.71	0.82	1.71	0.23
D	IMPERVIOUS	3.14	0.00	3.14	1.01
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WEIGHTED "E" FACTOR		1.13	IN	1.78	IN

VI. VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):

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PROPOSED	1.78 x 0.4811/12	0.07 AC. FT.	3,104 CU.FT

EROSION CONTROL MEASURES:

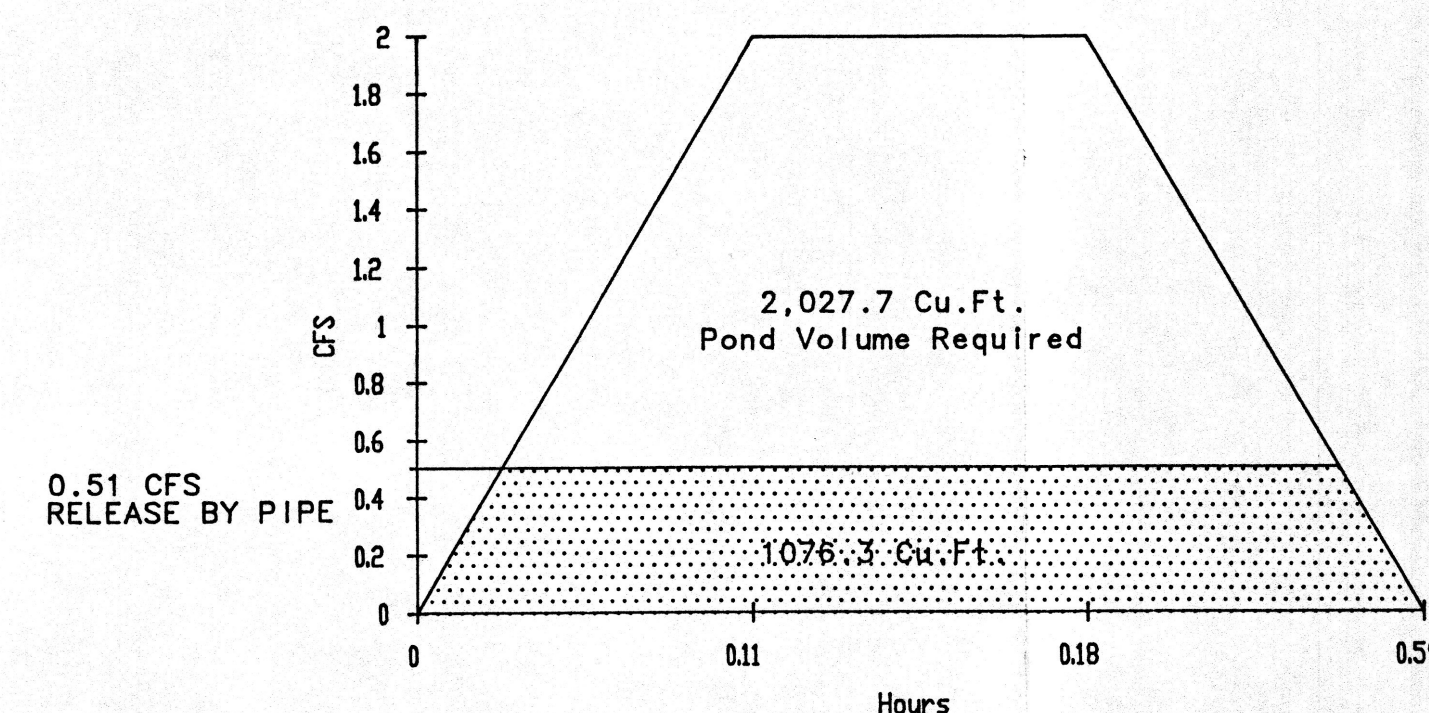
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6. Maintenance of these facilities shall be the responsibility of the Owner of property served.

APPROVAL	NAME	DATE	Title:
Hydrology			Office & Storage Facilities
Inspector			Permit No.
A.C.E./Field			Map Number G-14



HYDROGRAPH CALCULATIONS:

Time of Peak - $T(p)$
 $T(c) = 0.02$ Hr
 $A(d) = 0.1348$ Ac
 $A(t) = 0.4811$ Ac
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 $T(p) = 0.11$ Hr
 Base Time - $T(b)$
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 $Q(p) = 1.99$ CFS
 $A(d) = 0.1348$ Ac
 $E = 1.78$
 $T(b) = 2.107 * E * A(t) / Q(p) - 0.25 * A(d) / A(t)$
 $T(b) = 0.59$ Hr
 Continue Peak - $C(p)$
 $C(p) = 0.25 * A(d) / A(t)$
 $C(p) = 0.07$ Hr

VERANDA ROAD N.W.

POND VOLUME PROVIDED

POND ONE	AREA	AVG	VOLUME
CONTOUR			
67.1	6250		
67.00	4982	5616	562
66.50	874	2928	1464
66.40	250	562	56
TOTAL			2082

CU.FT.

CERTIFICATION

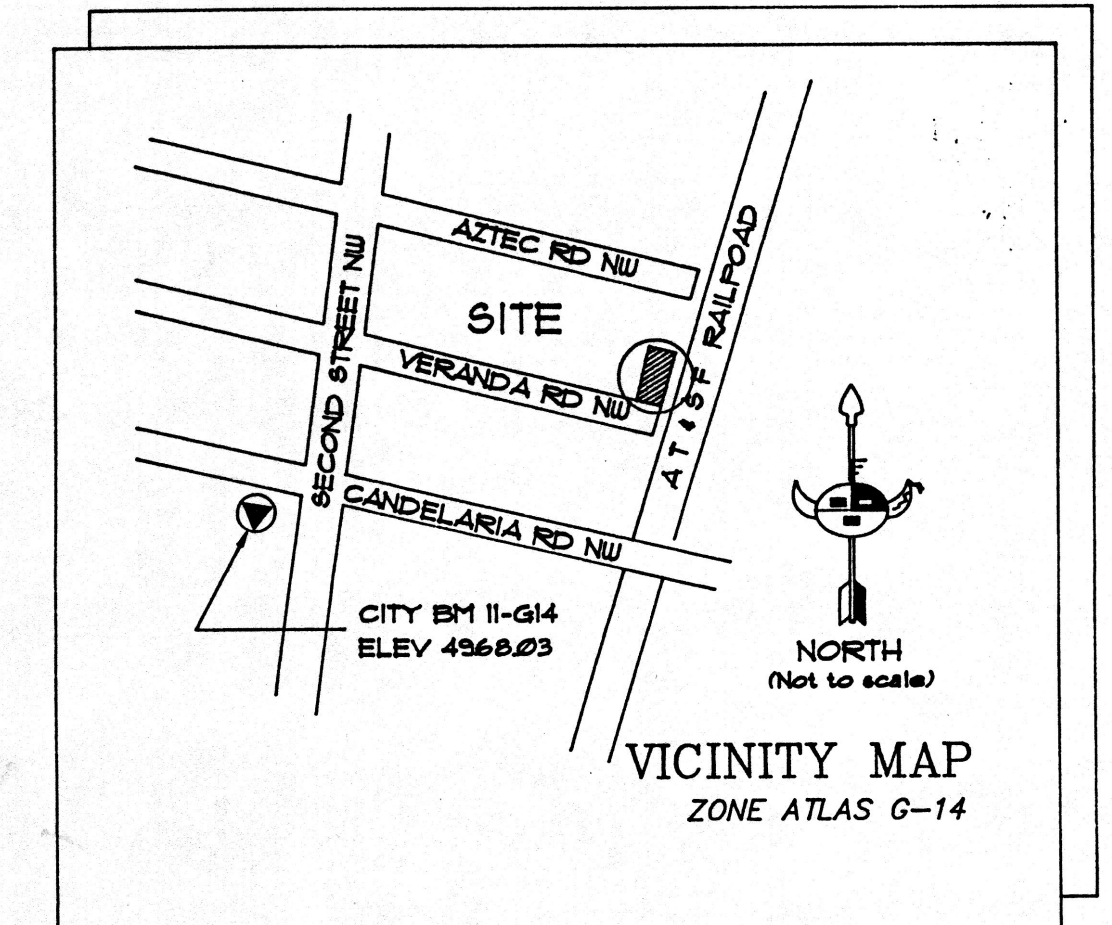
I R.G. Lee, Jr., Registered Professional Engineer hereby certify the improvements shown hereon are in substantial compliance with the approved drainage plan.

R.G. LEE, JR.
12/19/96
Date

GRADING & DRAINAGE PLAN

SCALE: 1"=20.0'

0' 5' 10' 20' 40'

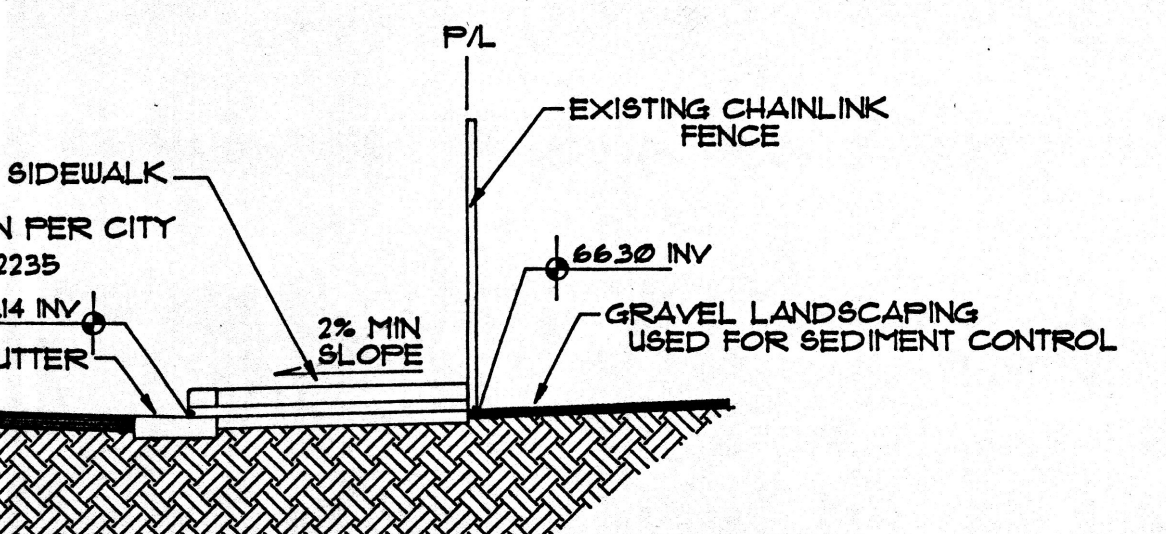
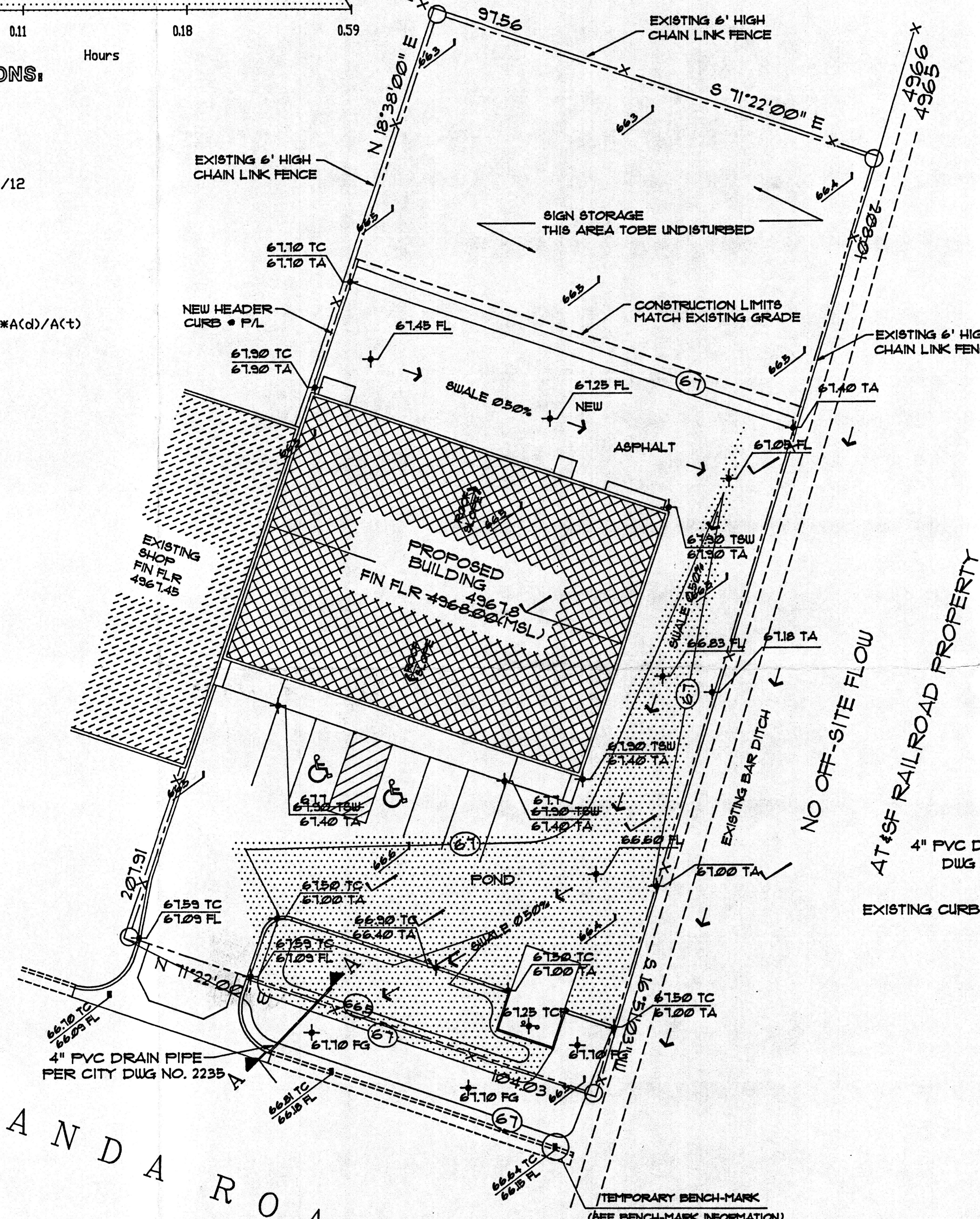


LEGAL DESCRIPTION:

LOTS 22 & 23, BLOCK C,
MONKBRIDGE ADDITION
BERNALILLO COUNTY,
NEW MEXICO.

BENCH-MARK INFORMATION

TEMPORARY BENCH-MARK BEING THE TOP OF CURB SPRAY PAINTED ORANGE (M) BEARS ELEVATION 4966.64 MSL, REFERENCE TO CITY BENCH-MARK 11-G14, LOCATED AT THE INTERSECTION OF SECOND CANDELARIA, SEE VICINITY MAP FOR CITY BENCH-MARK LOCATION.

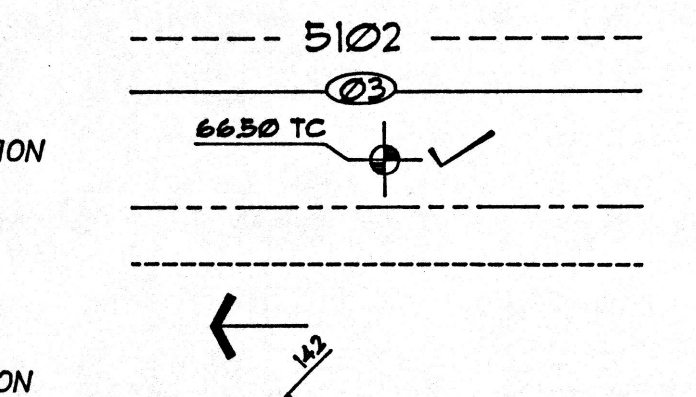


ABBREVIATION LEGEND

TOP OF INLET GRATE - TC
 TOP OF CURB - TC
 TOP OF ASPHALT - TA
 FLOWLINE - FL
 TOP OF CONC. PAD - TCP

SYMBOL LEGEND

EXISTING CONTOUR
 AS-BUILT
 DESIGN CONTOUR
 AS-BUILT
 DESIGNED SPOT ELEVATION
 PROPERTY LINE
 EASEMENT LINE
 FLOW DIRECTION
 EXISTING SPOT ELEVATION



JOB NO. 9808
 DATE MAY 1998
 REVISION:
 DRAIN BY: KHOOD
 CHECKED BY: R.G. LEE, JR.

SHEET TITLE
 GRADING & DRAINAGE PLAN

MILLER AND ASSOCIATES
 ARCHITECTS
 2001 RICHMOND AVE
 ALBUQUERQUE, NEW MEXICO 87107
 PHONE 505-264-1255

Proposed Building for
 SIGNART of New Mexico
 ALBUQUERQUE, NEW MEXICO

JOB TITLE

