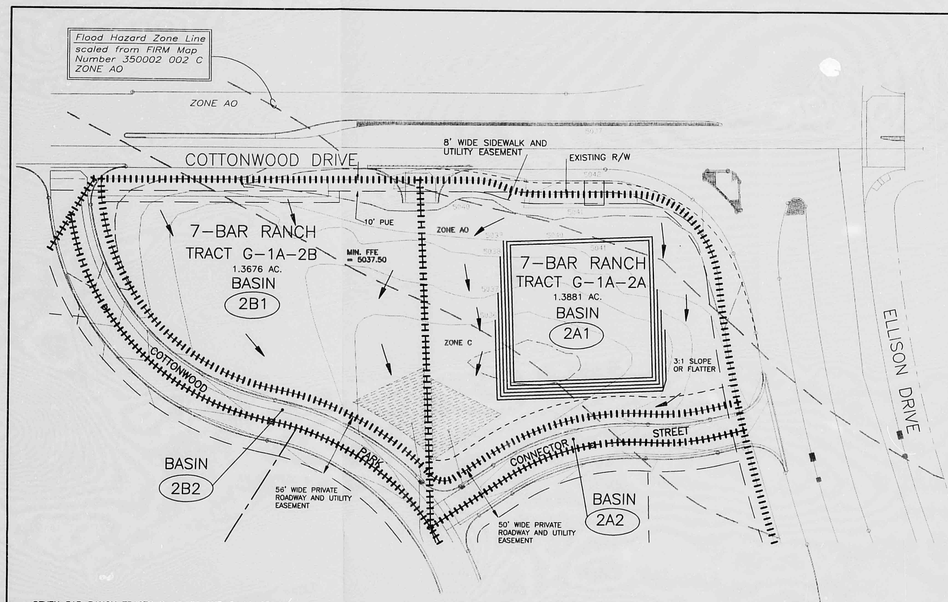
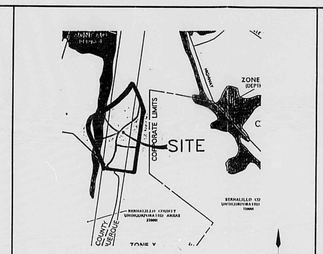
PUBLIC WORKS/HYDROLOGY

1 OF 4

A14/D10B





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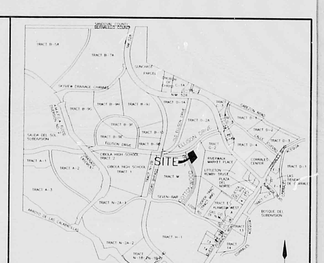

VICINITY MAP
ZONE ATLAS PAGE A-14

SEVEN BAR RANCH TRACTS G-1A-2A AND G-1A-2B
COMPACTED FILL STOCKPILE PLAN

GENERAL
TRACTS G-1A-2A AND 2B, SEVEN BAR RANCH FORM A 2.76 ACRE SITE LOCATED AT THE SOUTHEAST CORNER OF ELLISON DRIVE AND COTTONWOOD DRIVE NW. THE SITE IS ZONED SU-1 FOR C2 USES (REFER TO EPC Z-96-92). TRACTS G-1A-2A AND 2B WERE CREATED BY SUBDIVISION OF PARCEL G-1A-2 INTO FIVE TRACTS, G-1A-2A THRU G-1A-2E. THE 1/31/97 GRADING & DRAINAGE PLAN FOR TRACTS G-1A-2A THROUGH G-1A-2E IS STILL APPLICABLE TO TRACTS G-1A-2A AND 2B. THIS COMPACTED FILL STOCKPILE PLAN DOES NOT REVISE DRAINAGE GUIDELINES FOR TRACTS G-1A-2A AND 2B.

METHOD
THE HYDROLOGY FOR THIS GRADING AND DRAINAGE PLAN IS BASED ON THE METHODS PRESENTED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME 2, DESIGN CRITERIA, SECTION 22.2 HYDROLOGY, JANUARY 1993, PROCEDURE FOR 40 ACRE AND SMALLER BASINS. THE HYDROLOGY FOR EXISTING (UNDEVELOPED) AND FOR PROPOSED (DEVELOPED) CONDITIONS IS INCLUDED IN THE HYDROLOGY SUMMARY TABLE.

EXISTING CONDITIONS
THE SITE IS CURRENTLY UNDEVELOPED. THE EXISTING SITE TERRAIN IS RELATIVELY WILD AND SLOPES GENERALLY FROM SOUTH TO NORTH AT ABOUT 1%. MOST OF THE SITE DRAINS TO THE TEMPORARY DETENTION POND AT THE EAST END OF THE SITE. THERE ARE NO OFFSITE FLOWS ENTERING THE SITE. THE FEMA FLOOD INSURANCE RATE MAP FOR THE CITY OF ALBUQUERQUE, NEW MEXICO AND INCORPORATED AREAS, PANEL 2 OF 50, (COMMUNITY PANEL NO. 350002 0002 C) INDICATES THAT A SMALL PORTION OF THE SITE IS WITHIN THE ZONE AO (DEPTH 1) FLOOD HAZARD AREA. THE FLOOD HAZARD AREA ENCROACHING ON THE SITE IS EXPECTED TO BE ELIMINATED BY A LETTER OF MAP REVISION BEING PROCESSED IN CONNECTION WITH SAD 223. INITIAL DEVELOPMENT OF TRACTS G-1A-2A THROUGH G-1A-2E INCLUDED CONSTRUCTION OF REQUIRED OFFSITE IMPROVEMENTS, ONSITE ROADWAYS AND DRAINAGE IMPROVEMENTS AND INTERIM RETENTION PONDS ON EACH TRACT. EXCEPT FOR THESE IMPROVEMENTS, TRACTS G-1A-2A AND 2B REMAIN UNDEVELOPED.

PROPOSED CONDITIONS
IT IS PROPOSED THAT A COMPACTED FILL STOCKPILE BE PLACED ON TRACT G-1A-2A TO BE AVAILABLE FOR USE IN FUTURE DEVELOPMENT OF THE SITE. NO DEVELOPMENT IS PROPOSED AT THIS TIME. IN ACCORDANCE WITH THE PREVIOUS GRADING & DRAINAGE PLAN FOR TRACT G-1A-2, THE TOTAL ALLOWABLE RELEASE RATE FROM THE TRACTS G-1A-2A AND 2B AREAS IS 2.89 CFS. ALL AREAS DISTURBED DURING STOCKPILING ON TRACTS 2A AND 2B WILL BE RE-SEEDED SO THAT THE DEVELOPED SITE HYDROLOGY WILL NOT CHANGE FROM THE EXISTING UNDEVELOPED CONDITION. FUTURE BUILDING FINISHED FLOOR ELEVATIONS SHALL BE AT LEAST ONE FOOT ABOVE THE FLOOD HAZARD ELEVATION.

EROSION CONTROL
ALL DISTURBED AREAS SHALL BE RE-SEEDED UPON COMPLETION. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.

GRADING & DRAINAGE PLAN
ALLOWABLE RELEASE RATES

BASIN	AREA (AC)	Q100 / 6HR PEAK FLOW RATE (CFS)	ALLOWABLE RELEASE RATE (CFS)	APPROXIMATE RETENTION POND VOLUME REQUIRED FOR INTERIM CONDITION (CU FT)	APPROXIMATE DETENTION POND VOLUME REQUIRED FOR DEVELOPED CONDITION (CU FT)
2A1	1.1740	1.51	0.44	3,154	7243
2A2	0.2141	0.89	0.89	0	0
2B1	1.0933	1.41	0.41	2,937	6,745
2B2	0.2743	1.15	1.15	0	0
TOTALS	2.7557	4.96	2.89		

HYDROLOGY SUMMARY

BASIN	CONDITION	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR	10 DAY
2A1	DEVELOPED	PROPOSED TRACT G-1A-2A SITE	1.1740	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.28	0.0078	0.0078	1.51	0.0430	0.0430	0.0430
2A2	DEVELOPED	PROPOSED TRACT G-1A-2A STREET	0.2141	0.0%	0.0%	14.0%	86.0%	0.33	0.0113	0.0144	0.58	0.0201	0.0246	0.89	0.0327	0.0398	0.0553
2B1	DEVELOPED	PROPOSED TRACT G-1A-2B SITE	1.0933	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.26	0.0073	0.0073	1.41	0.0401	0.0401	0.0401
2B2	DEVELOPED	PROPOSED TRACT G-1A-2B STREET	0.2743	0.0%	0.0%	12.0%	88.0%	0.42	0.0146	0.0188	0.75	0.0261	0.0323	1.15	0.0423	0.0518	0.0719
TOTAL SITE	UNDEV./DEV.	TOTAL BASINS 2A1-2B2 UNDEV./DEV.	2.7557	82.3%	0.0%	2.5%	15.2%	0.74	0.0258	0.0328	1.86	0.0609	0.0716	4.95	0.1576	0.1737	0.2089

LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	5094
SPOT ELEVATIONS	✱ 5088	✱ 5088
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	ASPHALT
LANDSCAPING	L.S.	L.S.
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	36"SD
SANITARY SEWER M.H. & LINE	8"SAS	8"SAS
FIRE HYDRANT & WATER LINE	6"W	6"W
REDUCERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	CONCRETE	CONCRETE
GAS LINE	G	G
UNDERGROUND TELEPHONE	UT	UT
CABLE TELEVISION	CT	CT
POWER/TELEPHONE POLE	O P	O P
UNDERGROUND ELECTRICAL	UE	UE
CURB ELEVATION	TC 5088.88 FL 5087.78	TC 5088.88 FL 5087.78
HYDROLOGICAL ANALYSIS PT.	A	A

LEGAL DISCRIPTION
TRACTS G-1A-2A AND G-1A-2B
SEVEN - BAR RANCH
CITY OF ALBUQUERQUE
BERNALILLO COUNTY,
NEW MEXICO
NOVEMBER, 1996

BENCHMARK
NMSHC MONUMENT "NM-448-N12"
ELEV. = 5023.41'
LOCATED 60' WEST OF COORS RD.
CENTERLINE AND 550' SOUTH OF
ALAMEDA BLVD. (NMSR 528)
CENTERLINE.

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES
1. CLEAR AND GRUB STOCKPILE AREA.
2. COMPACT FILL TO 90% ASTM D 1557 WITH MOISTURE AT OPTIMUM ±2%.
3. RE-SEED ALL DISTURBED AREAS.

INPUT DATA:

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

JUN 02 1998
HYDROLOGY SECTION

NO.	REVISIONS	BY	DATE

TRACTS G-1A-2A AND 2B
SEVEN BAR RANCH
COMPACTED FILL STOCKPILE PLAN

R.D. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER STATE

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suit 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET
VAP	VAP	RPB	1
JOB NO	DATE		OF
4860	5/98		1

R# 23 DATE 3-13-02 OP

CITY OF ALBUQUERQUE

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NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/12/02

FILM SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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PLANS/PLATS ON FILE

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PLANS/PLATS 8

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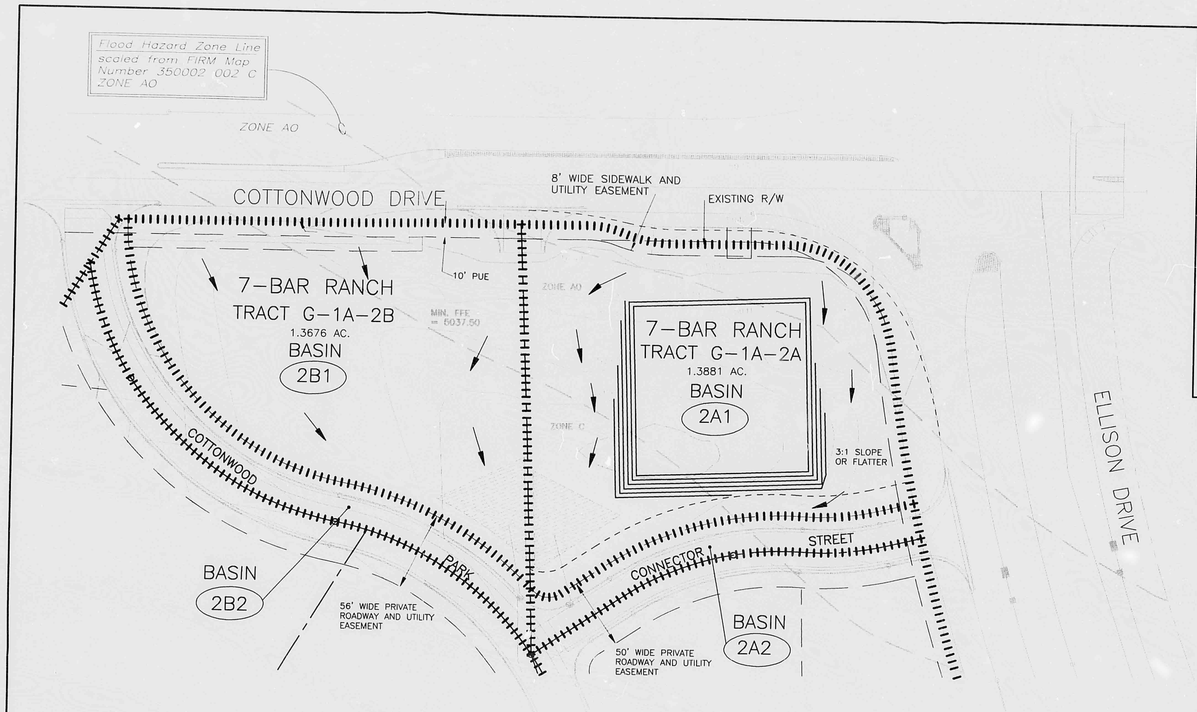

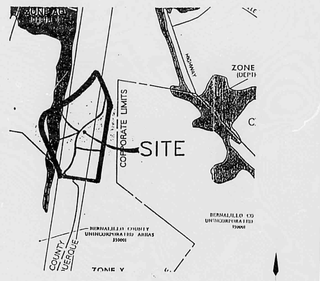

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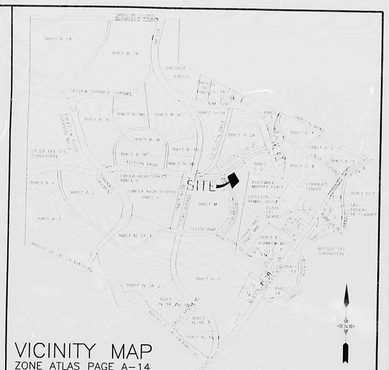

VICINITY MAP
ZONE ATLAS PAGE A-14

SEVEN BAR RANCH TRACTS G-1A-2A AND G-1A-2B
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ALL DISTURBED AREAS SHALL BE RE-SEEDED UPON COMPLETION. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.

LEGAL DISCRIPTION
TRACTS G-1A-2A AND G-1A-2B
SEVEN - BAR RANCH
CITY OF ALBUQUERQUE
BERNALILLO COUNTY,
NEW MEXICO
NOVEMBER, 1996

BENCHMARK
NMSHC MONUMENT "NM-448-N12"
ELEV. = 5023.41'
LOCATED 60' WEST OF COORS RD. CENTERLINE AND 550' SOUTH OF ALAMEDA BLVD. (NMSR 528) CENTERLINE.

LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	
SPOT ELEVATIONS	5088	
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	
LANDSCAPING	L.S.	
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	6"SD	
SANITARY SEWER M.H. & LINE	8"SAS	
FIRE HYDRANT & WATER LINE	6"W	
REDUCERS		
WATER VALVES	GATE BUTTERFLY	
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	Concrete	
GAS LINE	(G)	
UNDERGROUND TELEPHONE	(UT)	
CABLE TELEVISION	(CT)	
POWER/TELEPHONE POLE	O.P.P.	
UNDERGROUND ELECTRICAL	(UE)	
CURB ELEVATION	TC 5088.28 FL 5087.78	
HYDROLOGICAL ANALYSIS PT.		

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES
1. CLEAR AND GRUB STOCKPILE AREA.
2. COMPACT FILL TO 90% ASTM D 1557 WITH MOISTURE AT OPTIMUM ±2%.
3. RE-SEED ALL DISTURBED AREAS.

GRADING & DRAINAGE PLAN
ALLOWABLE RELEASE RATES

BASIN	AREA (AC)	Q100 / 6HR PEAK FLOW RATE (CFS)	ALLOWABLE RELEASE RATE (CFS)	APPROXIMATE RETENTION POND VOLUME REQUIRED FOR INTERIM CONDITION (CU FT)	APPROXIMATE DETENTION POND VOLUME REQUIRED FOR DEVELOPED CONDITION (CU FT)
2A1	1.1740	1.51	0.44	3,154	7243
2A2	0.2141	0.89	0.89	0	0
2B1	1.0933	1.41	0.41	2,937	6,745
2B2	0.2743	1.15	1.15	0	0
TOTALS	2.7557	4.96	2.89		

HYDROLOGY SUMMARY

BASIN	CONDITION	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR	10 DAY
2A1	DEVELOPED	PROPOSED TRACT G-1A-2A SITE	1.1740	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.28	0.0078	0.0078	1.51	0.0430	0.0430	0.0430
2A2	DEVELOPED	PROPOSED TRACT G-1A-2A STREET	0.2141	0.0%	0.0%	14.0%	86.0%	0.33	0.0113	0.0144	0.58	0.0201	0.0248	0.89	0.0327	0.0398	0.0553
2B1	DEVELOPED	PROPOSED TRACT G-1A-2B SITE	1.0933	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.26	0.0073	0.0073	1.41	0.0401	0.0401	0.0401
2B2	DEVELOPED	PROPOSED TRACT G-1A-2B STREET	0.2743	0.0%	0.0%	12.0%	88.0%	0.42	0.0148	0.0188	0.75	0.0261	0.0323	1.15	0.0423	0.0516	0.0719
TOTAL SITE	UNDEV./DEV.	TOTAL BASINS 2A1-2B2 UNDEV./DEV.	2.7557	82.3%	0.0%	2.5%	15.2%	0.74	0.0258	0.0328	1.86	0.0609	0.0716	4.95	0.1576	0.1737	0.2089

INPUT DATA:

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

NO.	REVISIONS	BY	DATE

TRACTS G-1A-2A AND 2B

SEVEN BAR RANCH

COMPACTED FILL STOCKPILE PLAN

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER
5/14/98

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suit 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501

DESIGNED BY	DRAWN BY	CHECKED BY
VAP	VAP	RPB

JOB NO. 4860 DATE 5/98

SHEET 1 OF 1

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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JUN 9 - 1998

R# 23 DATE 3-13-02 OP

CITY OF ALBUQUERQUE

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NOTARY PUBLIC

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

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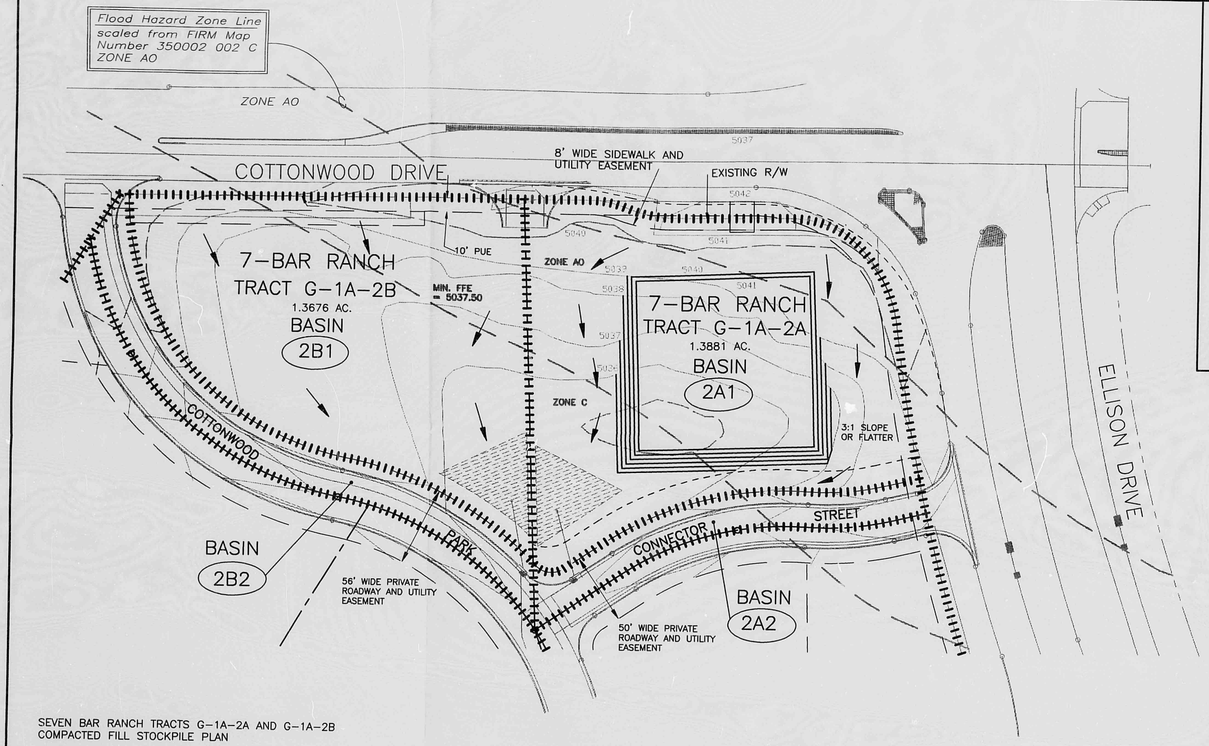

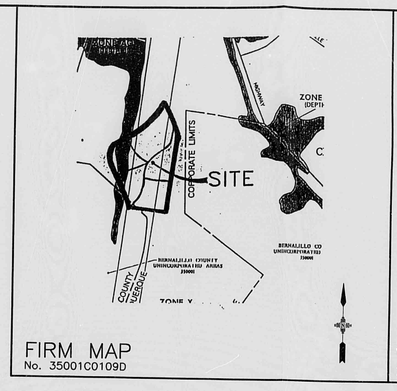

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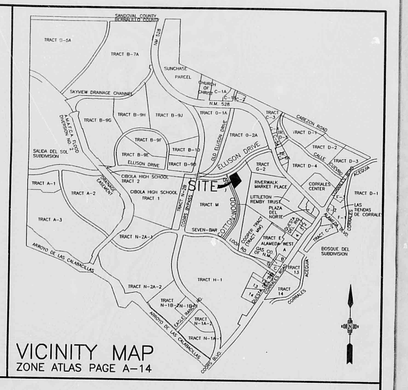

VICINITY MAP
ZONE ATLAS PAGE A-14

LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	5094
SPOT ELEVATIONS	⊕ 5088	⊕ 5098
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	ASPHALT
LANDSCAPING	L.S.	L.S.
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	36"SD
SANITARY SEWER M.H. & LINE	8"SAS	8"SAS
FIRE HYDRANT & WATER LINE	6"W	6"W
REDUCERS		
WATER VALVES	GATE BUTTERFLY	GATE BUTTERFLY
WATER CONNECTIONS	CROSS TEE BEND REDUCER	CROSS TEE BEND REDUCER
WATER JOINTS		
CONCRETE		
GAS LINE	G	G
UNDERGROUND TELEPHONE	UT	UT
CABLE TELEVISION	CT	CT
POWER/TELEPHONE POLE	P.P.	P.P.
UNDERGROUND ELECTRICAL	UE	UE
CURB ELEVATION	TC 5088.28 FL 5087.78	TC 5098.28 FL 5097.78
HYDROLOGICAL ANALYSIS PT.		

LEGAL DISCRIPTION

TRACTS G-1A-2A AND G-1A-2B
SEVEN - BAR RANCH
CITY OF ALBUQUERQUE
BERNALILLO COUNTY,
NEW MEXICO
NOVEMBER, 1996

BENCHMARK

NMSHC MONUMENT "NM-448-N12"
ELEV. = 5023.41'
LOCATED 60' WEST OF COORS RD.
CENTERLINE AND 550' SOUTH OF
ALAMEDA BLVD. (NMSR 528)
CENTERLINE.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

APPROVED FOR ROUGH GRADING:
DATE: 7-6-98

SEVEN BAR RANCH TRACTS G-1A-2A AND G-1A-2B
COMPACTED FILL STOCKPILE PLAN

GENERAL

TRACTS G-1A-2A AND 2B, SEVEN BAR RANCH FORM A 2.76 ACRE SITE LOCATED AT THE SOUTHEAST CORNER OF ELLISON DRIVE AND COTTONWOOD DRIVE NW. THE SITE IS ZONED SU-1 FOR C2 USES (REFER TO EPC Z-96-92). TRACTS G-1A-2A AND 2B WERE CREATED BY SUBDIVISION OF PARCEL G-1A-2 INTO FIVE TRACTS, G-1A-2A THRU G-1A-2E. THE 1/31/97 GRADING & DRAINAGE PLAN FOR TRACTS G-1A-2A THROUGH G-1A-2E IS STILL APPLICABLE TO TRACTS G-1A-2A AND 2B. THIS COMPACTED FILL STOCKPILE PLAN DOES NOT REVISE DRAINAGE GUIDELINES FOR TRACTS G-1A-2A AND 2B.

METHOD

THE HYDROLOGY FOR THIS GRADING AND DRAINAGE PLAN IS BASED ON THE METHODS PRESENTED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME 2, DESIGN CRITERIA, SECTION 22.2 HYDROLOGY, JANUARY 1993, PROCEDURE FOR 40 ACRE AND SMALLER BASINS. THE HYDROLOGY FOR EXISTING (UNDEVELOPED) AND FOR PROPOSED (DEVELOPED) CONDITIONS IS INCLUDED IN THE HYDROLOGY SUMMARY TABLE.

EXISTING CONDITIONS

THE SITE IS CURRENTLY UNDEVELOPED. THE EXISTING SITE TERRAIN IS RELATIVELY MILD AND SLOPES GENERALLY FROM SOUTH TO NORTH AT ABOUT 1%. MOST OF THE SITE DRAINS TO THE TEMPORARY DETENTION POND AT THE EAST END OF THE SITE. THERE ARE NO OFFSITE FLOWS ENTERING THE SITE. THE FEMA FLOOD INSURANCE RATE MAP FOR THE CITY OF ALBUQUERQUE, NEW MEXICO AND INCORPORATED AREAS, PANEL 2 OF 50, (COMMUNITY PANEL NO. 350002 0002 C) INDICATES THAT A SMALL PORTION OF THE SITE IS WITHIN THE ZONE AO (DEPTH 1) FLOOD HAZARD AREA. THE FLOOD HAZARD AREA ENCROACHING ON THE SITE IS EXPECTED TO BE ELIMINATED BY A LETTER OF MAP REVISION BEING PROCESSED IN CONNECTION WITH SAD 223. INITIAL DEVELOPMENT OF TRACTS G-1A-2A THROUGH G-1A-2E INCLUDED CONSTRUCTION OF REQUIRED OFFSITE IMPROVEMENTS, ONSITE ROADWAYS AND DRAINAGE IMPROVEMENTS AND INTERIM RETENTION PONDS ON EACH TRACT. EXCEPT FOR THESE IMPROVEMENTS, TRACTS G-1A-2A AND 2B REMAIN UNDEVELOPED.

PROPOSED CONDITIONS

IT IS PROPOSED THAT A COMPACTED FILL STOCKPILE BE PLACED ON TRACT G-1A-2A TO BE AVAILABLE FOR USE IN FUTURE DEVELOPMENT OF THE SITE. NO DEVELOPMENT IS PROPOSED AT THIS TIME. IN ACCORDANCE WITH THE PREVIOUS GRADING & DRAINAGE PLAN FOR TRACT G-1A-2, THE TOTAL ALLOWABLE RELEASE RATE FROM THE TRACTS G-1A-2A AND 2B AREAS IS 2.89 CFS. ALL AREAS DISTURBED DURING STOCKPILING ON TRACTS 2A AND 2B WILL BE RE-SEEDED SO THAT THE DEVELOPED SITE HYDROLOGY WILL NOT CHANGE FROM THE EXISTING UNDEVELOPED CONDITION. FUTURE BUILDING FINISHED FLOOR ELEVATIONS SHALL BE AT LEAST ONE FOOT ABOVE THE FLOOD HAZARD ELEVATION.

EROSION CONTROL

ALL DISTURBED AREAS SHALL BE RE-SEEDED UPON COMPLETION. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.

CONSTRUCTION NOTES

1. CLEAR AND GRUB STOCKPILE AREA.
2. COMPACT FILL TO 90% ASTM D 1557 WITH MOISTURE AT OPTIMUM ±2%.
3. RE-SEED ALL DISTURBED AREAS.

GRADING & DRAINAGE PLAN
ALLOWABLE RELEASE RATES

BASIN	AREA (AC)	Q100 / 6HR PEAK FLOW RATE (CFS)	ALLOWABLE RELEASE RATE (CFS)	APPROXIMATE RETENTION POND VOLUME REQUIRED FOR INTERIM CONDITION (CU FT)	APPROXIMATE DETENTION POND VOLUME REQUIRED FOR DEVELOPED CONDITION (CU FT)
2A1	1.1740	1.51	0.44	3,154	7243
2A2	0.2141	0.89	0.89	0	0
2B1	1.0933	1.41	0.41	2,937	6,745
2B2	0.2743	1.15	1.15	0	0
TOTALS	2.7557	4.96	2.89		

HYDROLOGY SUMMARY

BASIN	CONDITION	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	2 YEAR Q (cfs)	VOLUME (ac.ft.) 6 HR	24 HR	10 YEAR Q (cfs)	VOLUME (ac.ft.) 6 HR	24 HR	100 YEAR Q (cfs)	VOLUME (ac.ft.) 6 HR	24 HR	10 DAY
2A1	DEVELOPED	PROPOSED TRACT G-1A-2A SITE	1.1740	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.28	0.0078	0.0078	1.51	0.0430	0.0430	0.0430
2A2	DEVELOPED	PROPOSED TRACT G-1A-2A STREET	0.2141	0.0%	0.0%	14.0%	86.0%	0.33	0.0113	0.0144	0.58	0.0201	0.0248	0.89	0.0327	0.0398	0.0553
2B1	DEVELOPED	PROPOSED TRACT G-1A-2B SITE	1.0933	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.26	0.0073	0.0073	1.41	0.0401	0.0401	0.0401
2B2	DEVELOPED	PROPOSED TRACT G-1A-2B STREET	0.2743	0.0%	0.0%	12.0%	88.0%	0.42	0.0148	0.0188	0.75	0.0261	0.0323	1.15	0.0423	0.0516	0.0719
TOTAL SITE	UNDEV./DEV.	TOTAL BASINS 2A1-2B2 UNDEV./DEV.	2.7557	82.3%	0.0%	2.5%	15.2%	0.74	0.0258	0.0328	1.86	0.0609	0.0716	4.95	0.1576	0.1737	0.2089

INPUT DATA:

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

NO.	REVISIONS	BY	DATE

TRACTS G-1A-2A AND 2B

SEVEN BAR RANCH

COMPACTED FILL STOCKPILE PLAN

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER 6/24/98

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suit 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET
VAF	VAF	RPB	1
JOB NO. 4860	DATE: 5/98		OF 1

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DAY

CITY OF ALBUQUERQUE
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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 01/02/02

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DATE: 05-14-98 12:00

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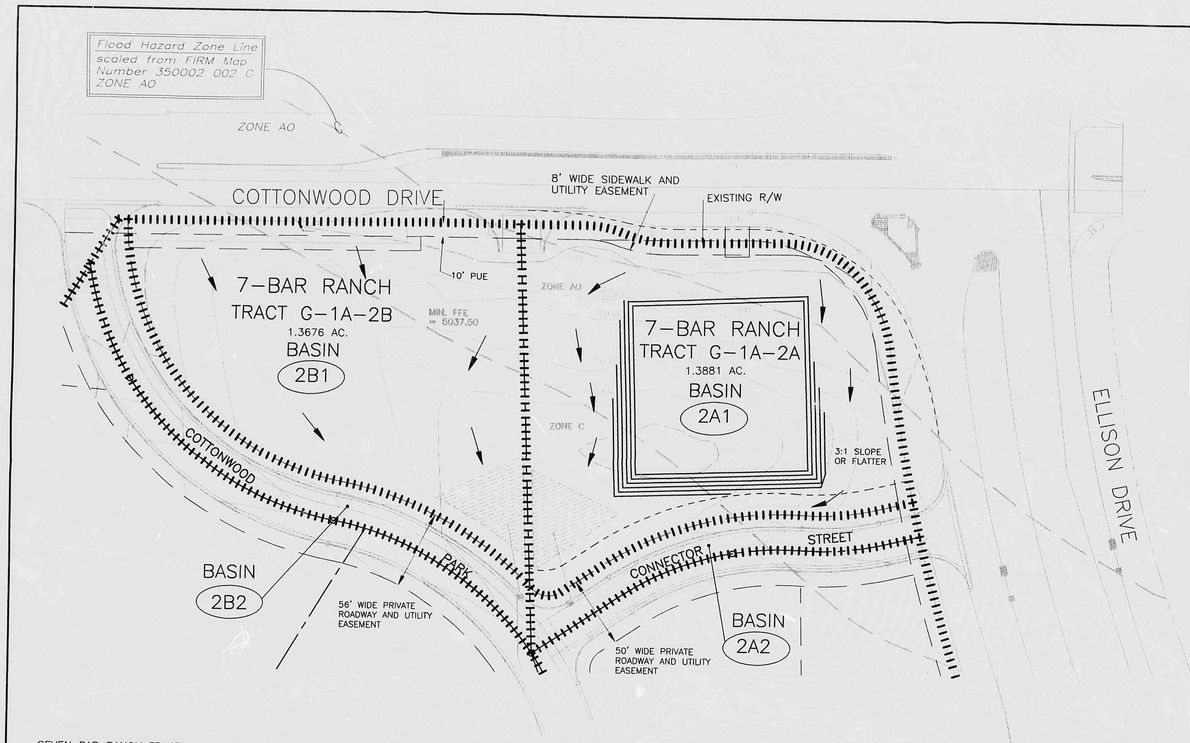
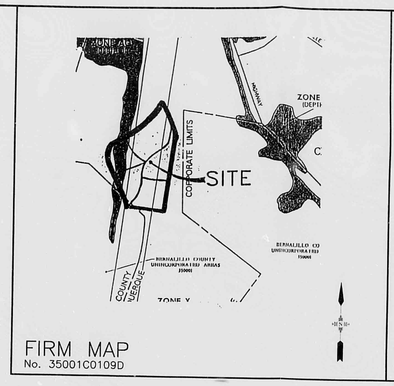
CITY OF ALBUQUERQUE C D





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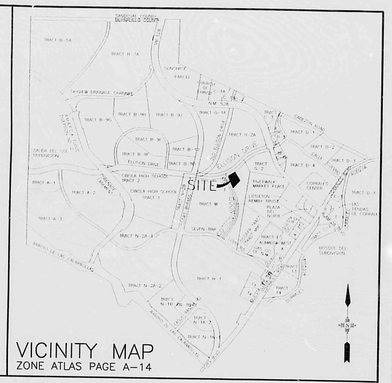

VICINITY MAP
ZONE ATLAS PAGE A-14

SEVEN BAR RANCH TRACTS G-1A-2A AND G-1A-2B
COMPACTED FILL STOCKPILE PLAN

GENERAL

TRACTS G-1A-2A AND 2B, SEVEN BAR RANCH FORM A 2.76 ACRE SITE LOCATED AT THE SOUTHEAST CORNER OF ELLISON DRIVE AND COTTONWOOD DRIVE NW. THE SITE IS ZONED SU-1 FOR C2 USES (REFER TO EPC Z-96-92). TRACTS G-1A-2A AND 2B WERE CREATED BY SUBDIVISION OF PARCEL G-1A-2 INTO FIVE TRACTS, G-1A-2A THRU G-1A-2E. THE 1/31/97 GRADING & DRAINAGE PLAN FOR TRACTS G-1A-2A THROUGH G-1A-2E IS STILL APPLICABLE TO TRACTS G-1A-2A AND 2B. THIS COMPACTED FILL STOCKPILE PLAN DOES NOT REVISE DRAINAGE GUIDELINES FOR TRACTS G-1A-2A AND 2B.

METHOD

THE HYDROLOGY FOR THIS GRADING AND DRAINAGE PLAN IS BASED ON THE METHODS PRESENTED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME 2, DESIGN CRITERIA, SECTION 22.2 HYDROLOGY, JANUARY 1993, PROCEDURE FOR 40 ACRE AND SMALLER BASINS. THE HYDROLOGY FOR EXISTING (UNDEVELOPED) AND FOR PROPOSED (DEVELOPED) CONDITIONS IS INCLUDED IN THE HYDROLOGY SUMMARY TABLE.

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EROSION CONTROL

ALL DISTURBED AREAS SHALL BE RE-SEEDED UPON COMPLETION. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.

LEGAL DISCRIPTION

TRACTS G-1A-2A AND G-1A-2B
SEVEN - BAR RANCH
CITY OF ALBUQUERQUE
BERNALILLO COUNTY,
NEW MEXICO
NOVEMBER, 1996

BENCHMARK

NMSHC MONUMENT "NM-448-N12"
ELEV. = 5023.41'
LOCATED 60' WEST OF COORS RD. CENTERLINE AND 550' SOUTH OF ALAMEDA BLVD. (NMSR 528) CENTERLINE.

LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	5094
SPOT ELEVATIONS	5088	5088
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	ASPHALT
LANDSCAPING	L.S.	L.S.
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	36"SD
SANITARY SEWER M.H. & LINE	8"SAS	8"SAS
FIRE HYDRANT & WATER LINE	6"W	6"W
REDUCERS		
WATER VALVES	GATE / BUTTERFLY	GATE / BUTTERFLY
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	Concrete	
GAS LINE	G	G
UNDERGROUND TELEPHONE	UT	UT
CABLE TELEVISION	CT	CT
POWER/TELEPHONE POLE	P.P.	P.P.
UNDERGROUND ELECTRICAL	UE	UE
CURB ELEVATION	TC 5089.28 TL 5087.78	
HYDROLOGICAL ANALYSIS PT.		

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES

1. CLEAR AND GRUB STOCKPILE AREA.
2. COMPACT FILL TO 90% ASTM D 1557 WITH MOISTURE AT OPTIMUM ±2%.
3. RE-SEED ALL DISTURBED AREAS.

APPROVED FOR ROUGH GRADING:
DATE: 7-6-98

GRADING & DRAINAGE PLAN
ALLOWABLE RELEASE RATES

BASIN	AREA (AC)	Q100 / 6HR PEAK FLOW RATE (CFS)	ALLOWABLE RELEASE RATE (CFS)	APPROXIMATE RETENTION POND VOLUME REQUIRED FOR INTERIM CONDITION (CU FT)	APPROXIMATE DETENTION POND VOLUME REQUIRED FOR DEVELOPED CONDITION (CU FT)
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2B2	0.2743	1.15	1.15	0	0
TOTALS	2.7557	4.96	2.89		

HYDROLOGY SUMMARY

BASIN	CONDITION	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR	10 DAY
2A1	DEVELOPED	PROPOSED TRACT G-1A-2A SITE	1.1740	100%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0.28	0.0078	0.0078	1.51	0.0430	0.0430	0.0430
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TOTAL SITE	UNDEV./DEV.	TOTAL BASINS 2A1-2B2 UNDEV./DEV.	2.7557	82.3%	0.0%	2.5%	15.2%	0.74	0.0258	0.0328	1.86	0.0609	0.0716	4.95	0.1576	0.1737	0.2089

INPUT DATA:

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

NO.	REVISIONS	BY	DATE

TRACTS G-1A-2A AND 2B

SEVEN BAR RANCH

COMPACTED FILL STOCKPILE PLAN

N. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER
5/14/98

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suit 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET 1
VAF	VAP	RPB	OF 1
JOB NO. 4860	DATE: 5/98		

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 23 DATE 3-13-02 OP EP

CITY OF ALBUQUERQUE

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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My commission expires: 07/02/02

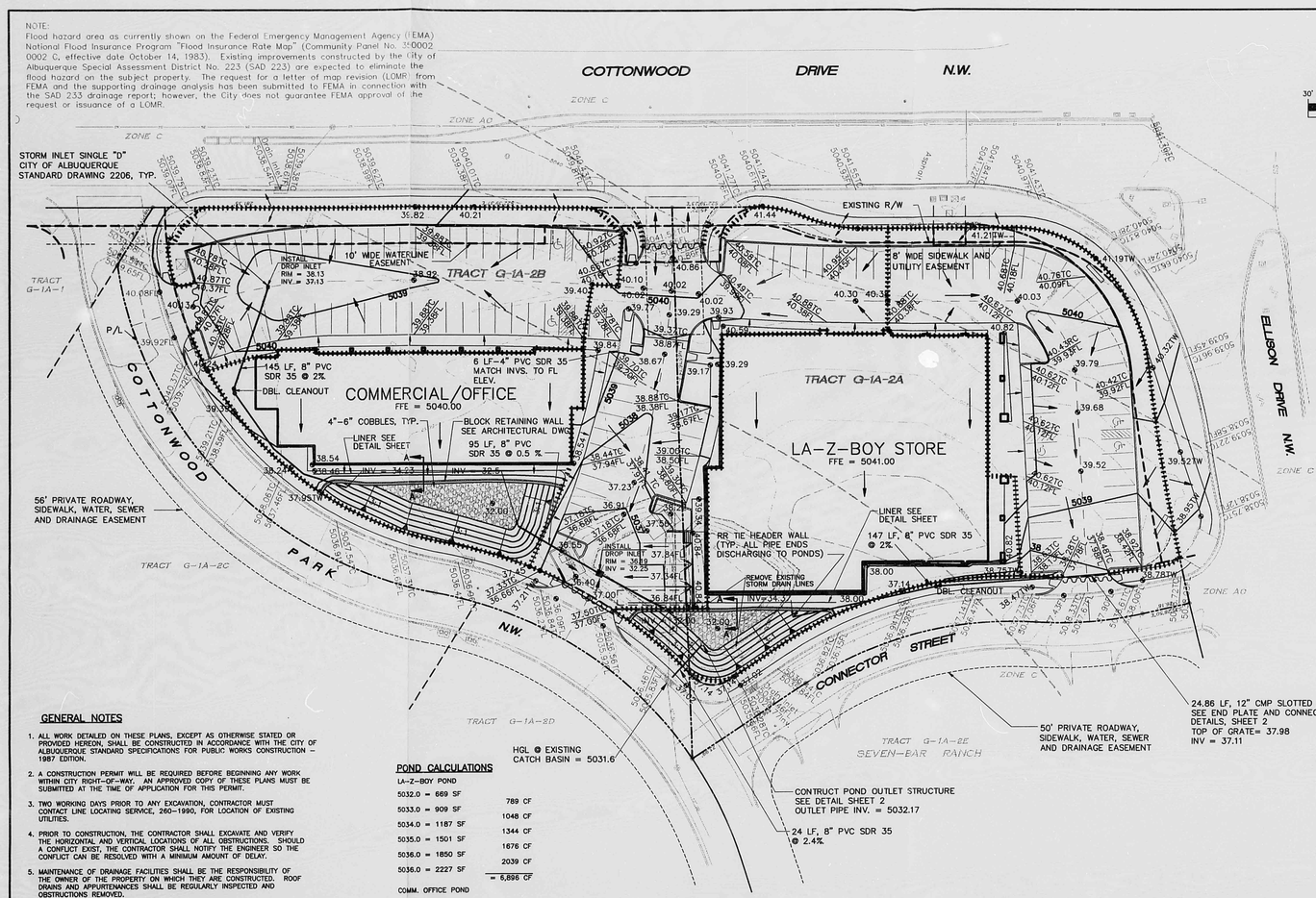
D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D

PUBLIC WORKS/HYDROLOGY

2 OF 4

A14/D10B

NOTE:
Flood hazard area as currently shown on the Federal Emergency Management Agency (FEMA) National Flood Insurance Program "Flood Insurance Rate Map" (Community Panel No. 35000 2 0002 G, effective date October 14, 1983). Existing improvements constructed by the City of Albuquerque Special Assessment District No. 223 (SAD 223) are expected to eliminate the flood hazard on the subject property. The request for a letter of map revision (LOMR) from FEMA and the supporting drainage analysis has been submitted to FEMA in connection with the SAD 233 drainage report; however, the City does not guarantee FEMA approval of the request or issuance of a LOMR.



30' 0 15' 30' 60'

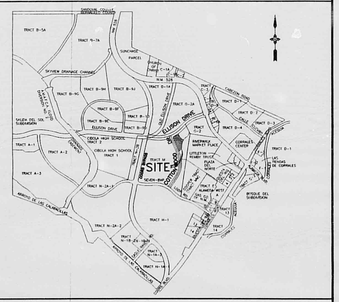
1" = 30'

LEGAL DESCRIPTION

TRACTS G-1A-2A & G-1A-2B
SEVEN BAR RANCH
ALBUQUERQUE
BERNALILLO COUNTY
NEW MEXICO

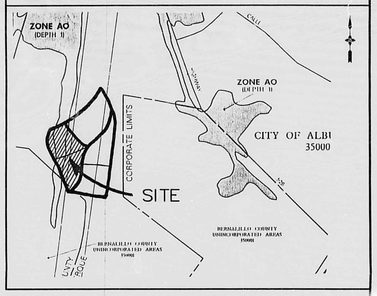
VICINITY MAP

ZONE ATLAS MAP NO.



FLOOD HAZARD MAP & OFFSITE FLOWS

FEMA MAP NO.



LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	5094
SPOT ELEVATIONS	@ 5088	@ 5088
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	ASPHALT
LANDSCAPING	L.S.	L.S.
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	36"SD
SANITARY SEWER M.H. & LINE	8"SAS	8"SAS
FIRE HYDRANT & WATER LINE	6"W	6"W
REDUCERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	CONCRETE	CONCRETE
GAS LINE	G	G
UNDERGROUND TELEPHONE	UT	UT
CABLE TELEVISION	CT	CT
POWER/TELEPHONE POLE	P.P.	P.P.
UNDERGROUND ELECTRICAL	UE	UE
CURB ELEVATION		
HYDROLOGICAL ANALYSIS PT.		

GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 1987 EDITION.
2. A CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260–1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH THEY ARE CONSTRUCTED. ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
6. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
7. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S SOLE RESPONSIBILITY.
9. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING. ALL WORK SHALL BE COMPLETED IN A SINGLE PHASE. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.
10. 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.
11. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DISTURB OR DAMAGE EXISTING FEATURES TO REMAIN DURING ALL PHASES OF CONSTRUCTION.
12. ALL SIDEWALKS SHALL HAVE A 2% CROSS-SLOPE UNLESS OTHERWISE INDICATED

POND CALCULATIONS

LA-Z-BOY POND

5032.0 = 669 SF	789 CF
5033.0 = 909 SF	1048 CF
5034.0 = 1187 SF	1344 CF
5035.0 = 1501 SF	1676 CF
5036.0 = 1850 SF	2039 CF
5036.0 = 2227 SF	= 6,896 CF

COMM. OFFICE POND

5032.0 = 1244 SF	1416 CF
5033.0 = 1588 SF	1781 CF
5034.0 = 1973 SF	2184 CF
5035.0 = 2394 SF	2618 CF
5036.0 = 2842 SF	3077 CF
5036.0 = 3312 SF	= 11,076 CF

TOTAL PONDING PROVIDED = 17,972 CF
REQUIRED PONDING = 17,925 CF

ORIFICE CALCULATIONS

$Q = 0.85\ cfs\ @\ h = 5.0';\ C = 0.61$

$q = 0.85 = CA\sqrt{2gh}$

$0.85 = (0.61)\ (A)\ (64.4 \times 5)^{1/2}$

$A = \frac{0.85}{(0.61)\ (17.94)} = 0.0777\ ft.2$

$A = \frac{\pi r D2}{4} \Rightarrow \left(\frac{0.0777 \times 4}{\pi}\right)^{1/2} = D = 0.3145\ ft. = 3.8"$

HYDROLOGY SUMMARY

PROJECT NAME: LA-Z-BOY
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR
TOTAL	UNDEV	TRACT G-1A-2A & 2B	2.2673	100.0%	0.0%	0.0%	0.0%	0.00	0.0000	0.0000	0.54	0.0151	0.0151	2.92	0.0831	0.0831
1	DEV	TRACT G-1A-2A & 2B	0.4168	0.0%	0.0%	15.6%	84.4%	0.62	0.0214	0.0271	1.10	0.0382	0.0470	1.71	0.0625	0.0757
2	DEV	TRACT G-1A-2A & 2B	0.4244	0.0%	0.0%	16.8%	83.2%	0.63	0.0219	0.0278	1.13	0.0391	0.0481	1.75	0.0638	0.0774
3	DEV	TRACT G-1A-2A & 2B	0.4825	0.0%	0.0%	7.4%	92.6%	0.77	0.0272	0.0346	1.34	0.0475	0.0589	2.05	0.0763	0.0934
4	DEV	TRACT G-1A-2A & 2B	0.9436	0.0%	0.0%	23.8%	76.2%	1.32	0.0454	0.0573	2.41	0.0825	0.1009	3.79	0.1366	0.1641
TOTAL	DEV	TRACT G-1A-2A & 2B	2.2673	0.0%	0.0%	17.5%	82.5%	3.35	0.1162	0.1473	6.00	0.2078	0.2557	9.31	0.3398	0.4115

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

LA-Z-BOY STORE AND COMMERCIAL / OFFICE BUILDING TRACT G-1A-2A AND G-1A-2B

EXISTING CONDITIONS

THE 2.2637 AC. SITE IS CURRENTLY UNDEVELOPED. THE CITY, THROUGH SAD 223, CONSTRUCTED EXTENSIVE DRAINAGE AND FLOOD CONTROL FACILITIES AROUND AND ADJACENT TO THE SITE. THE DEVELOPMENT OF G-1A-2 CONSTRUCTED STREETS AND STORM DRAINAGE FACILITIES ADJACENT TO THE SITE. THE CITY HAS SUBMITTED A LETTER OF MAP REVISION TO REMOVE ALL FLOOD PLAINS FROM WITHIN THE SAD223 AREA. *request for a*
THE SITE CURRENTLY DISCHARGES TO THE TWO EXISTING STORM SEWER DRAINS AT THE CORNER OF COTTONWOOD PARK AND CONNECTOR STREET. NO CHANGE TO THE CURRENT ALLOWABLE DISCHARGE RATES IS PROPOSED WITH THIS PLAN. THERE ARE NO OFFSITE FLOWS ENTERING THIS PROJECT.

DEVELOPED CONDITIONS

A 10,000 SF COMMERCIAL/OFFICE BUILDING AND A 19,734 SF LA-Z-BOY STORE ARE PLANNED FOR THIS SITE. IN ACCORDANCE WITH THE PREVIOUS GRADING AND DRAINAGE PLAN FOR INITIAL SITE DEVELOPMENT OF TRACTS G-1A-2A THRU G-1A-2E. THE TOTAL ALLOWABLE RELEASE RATE IS 0.44 CFS FROM TRACT G-1A-2A AND 0.41 CFS FROM TRACT G-1A-2B. ON SITE PONDING WILL BE ACCOMPLISHED WITH TWO CONNECTED SURFACE PONDS. THE MAXIMUM STORAGE REQUIRED IS 17,925 CF. SITE PONDING WILL PROVIDE 17,972 CF. THE SITE WILL DISCHARGE THROUGH A SINGLE 3.8" DIA. ORIFICE AT A RATE NOT TO EXCEED 0.85 CFS (0.44 + 0.41).

.38 cfs/ac

NO.	REVISIONS	BY	DATE

LA-Z-BOY

GRADING AND DRAINAGE PLAN
TRACTS G1–1A–2A & G1–1A–2B
SEVEN BAR RANCH

NEW MEXICO 6411 REGISTERED PROFESSIONAL ENGINEER 7-24-98

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898–8021 FAX (505) 898–8501
E–Mail: eai_engr@swcp.com

DESIGNED BY: VAF	DRAWN BY: DEC	CHECKED BY: RPB	SHEET 1
JOB NO: 4890	DATE: 7–98		OF 2

PLAN SHOT TWICE ONCE ON LIGHT ONCE ON DARK

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

R# 23 DATE 3-13-02 OCR

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

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

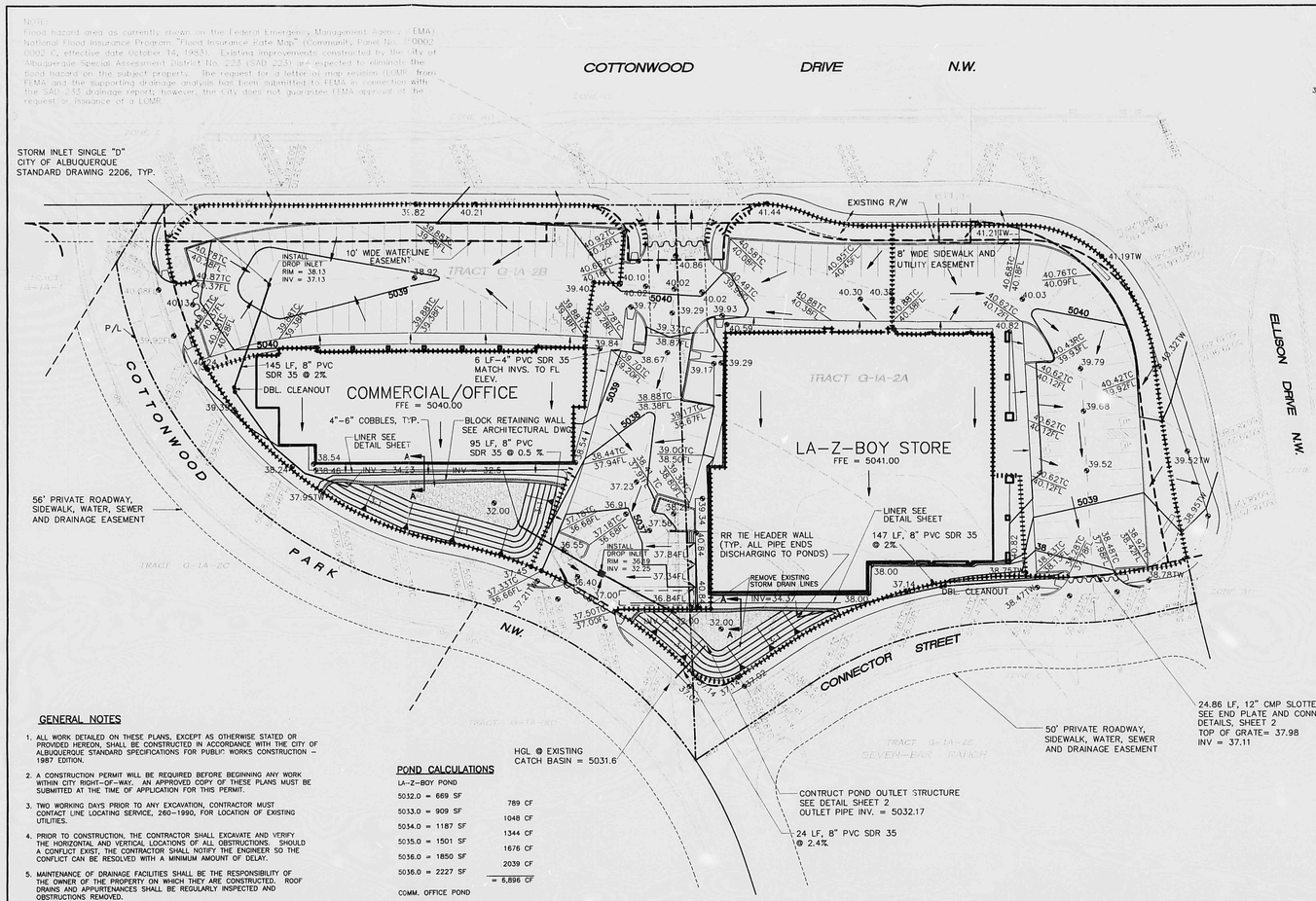
DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/02/2004

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

NOTE:
Flood hazard area as currently shown on the Federal Emergency Management Agency - FEMA National Flood Insurance Program "Flood Insurance Rate Map" (Community Panel No. 350002 0002 C, effective date October 14, 1983). Existing improvements constructed by the city of Albuquerque Special Assessment District No. 223 (SAD 223) are expected to eliminate the flood hazard on the subject property. The request for a letter of map revision (LOMR from FEMA and the supporting drainage analysis has been submitted to FEMA in connection with the SAD 223 drainage report; however, the City does not guarantee FEMA approval of the request or issuance of a LOMR.



30' 0 15' 30' 60'

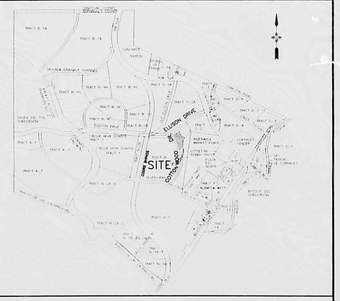
1" = 30'

LEGAL DESCRIPTION

TRACTS G-1A-2A & G-1A-2B
SEVEN BAR RANCH
ALBUQUERQUE
BERNALILLO COUNTY
NEW MEXICO

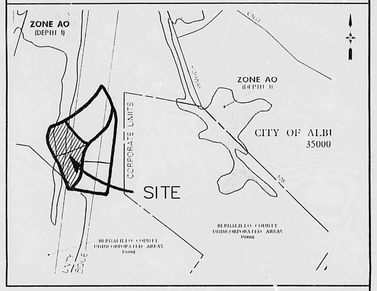
VICINITY MAP

ZONE ATLAS MAP NO.



FLOOD HAZARD MAP & OFFSITE FLOWS

FEMA MAP NO.



LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	
SPOT ELEVATIONS	5088	
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	
LANDSCAPING	L.S.	
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	
SANITARY SEWER M.H. & LINE	8"SAS	
FIRE HYDRANT & WATER LINE	6"W	
REDUCERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	CONCRETE	
GAS LINE	G	
UNDERGROUND TELEPHONE	UT	
CABLE TELEVISION	CT	
POWER/TELEPHONE POLE	O P	
UNDERGROUND ELECTRICAL	UE	
CURB ELEVATION	FC 5089.78	
HYDROLOGICAL ANALYSIS PT.		

GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 1987 EDITION.
2. A CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH THEY ARE CONSTRUCTED. ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
6. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
7. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S SOLE RESPONSIBILITY.
9. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING. ALL WORK SHALL BE COMPLETED IN A SINGLE PHASE. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.
10. 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.
11. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DISTURB OR DAMAGE EXISTING FEATURES TO REMAIN DURING ALL PHASES OF CONSTRUCTION.
12. ALL SIDEWALKS SHALL HAVE A 2% CROSS-SLOPE UNLESS OTHERWISE INDICATED

POND CALCULATIONS

LA-Z-BOY POND

5032.0 = 669 SF	789 CF
5033.0 = 909 SF	1048 CF
5034.0 = 1187 SF	1344 CF
5035.0 = 1501 SF	1676 CF
5036.0 = 1850 SF	2039 CF
5036.0 = 2227 SF	= 6,896 CF

COMM. OFFICE POND

5032.0 = 1244 SF	1416 CF
5033.0 = 1588 SF	1781 CF
5034.0 = 1973 SF	2184 CF
5035.0 = 2394 SF	2618 CF
5036.0 = 2842 SF	3077 CF
5036.0 = 3312 SF	= 11,076 CF

TOTAL PONDING PROVIDED = 17,972 CF
REQUIRED PONDING = 17,925 CF

ORIFICE CALCULATIONS

$Q = 0.85\ cfs\ @\ h = 5.0';\ C = 0.61$

$q = 0.85 = CA\sqrt{2gh}$

$0.85 = (0.61)\ (A)\ (64.4 \times 5)^{1/2}$

$A = \dfrac{0.85}{(0.61)\ (17.94)} = 0.0777\ ft.2$

$A = \dfrac{\pi \cdot D2}{4} \Rightarrow \left(\dfrac{0.0777 \times 4}{\pi}\right)^{1/2} = D = 0.3145\ ft. = 3.8"$

HYDROLOGY SUMMARY

PROJECT NAME: LA-Z-BOY
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR
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.35 cfs/ac

NO.	REVISIONS	BY	DATE

LA-Z-BOY

GRADING AND DRAINAGE PLAN

TRACTS G1-1A-2A & G1-1A-2B SEVEN BAR RANCH

NEW MEXICO
6111
REGISTERED PROFESSIONAL ENGINEER
7-24-98

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501
E-Mail: eai_engr@swcp.com

DESIGNED BY:	DRAWN BY:	CHECKED BY:	
VAF	DEC	RPB	SHEET 1
JOB NO. 4890	DATE: 7-98		OF 2

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 23 DATE 3-13-02 OP Eqf.

CITY OF ALBUQUERQUE

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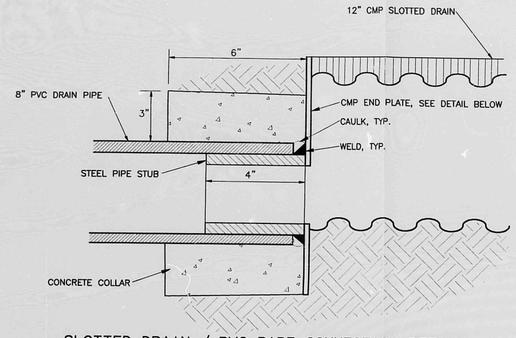
DIRECTOR 3/15/02

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/22/02

D24 C20 B16 A12 CITY OF ALBUQUERQUE C D



SLOTTED DRAIN / PVC PIPE CONNECTION DETAIL
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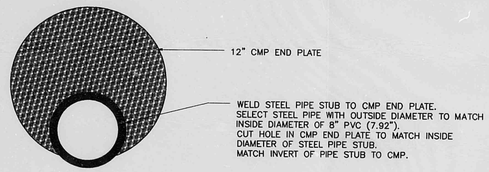

SLOTTED DRAIN END PLATE DETAIL
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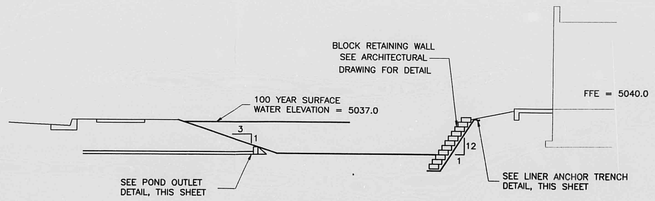

PONDS TYPICAL SECTION A-A
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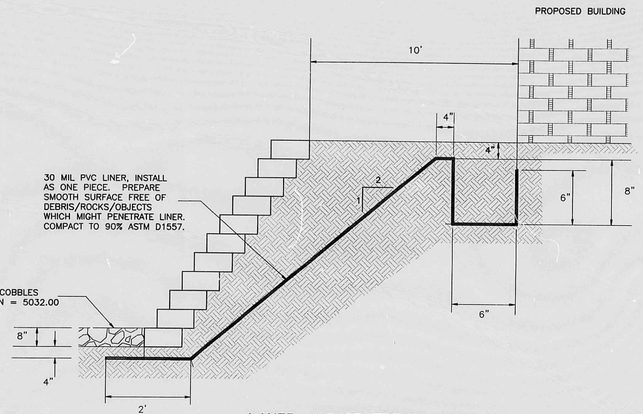
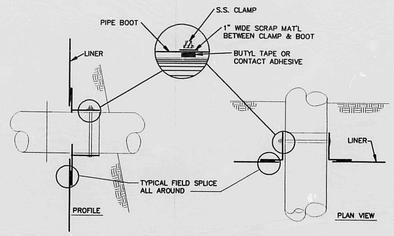
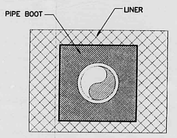
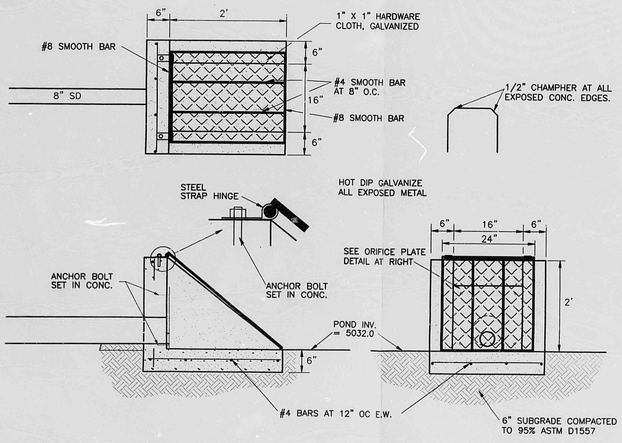


LINER ANCHOR TRENCH DETAIL
N.T.S.





LINER PENETRATION DETAIL



POND OUTLET
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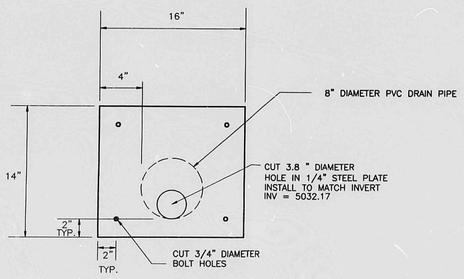
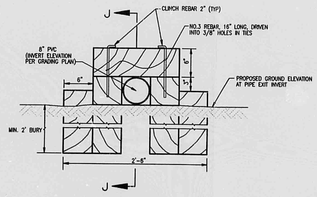
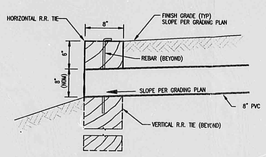


ORIFICE PLATE DETAIL
N.T.S.



R.R. TIE HEADWALL DETAIL
NOT TO SCALE



SECTION J-J
NOT TO SCALE

NO.	REVISIONS	BY	DATE

LA-Z-BOY

DETAILS

TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

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2600 The American Rd., SE, Suite 100
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DESIGNED BY	DRAWN BY:	CHECKED BY:	SHEET
VAF	DEC	RPB	2
JOB NO.	DATE:		OF
4890	7-98		2

7-24-98

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DIRECTOR

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

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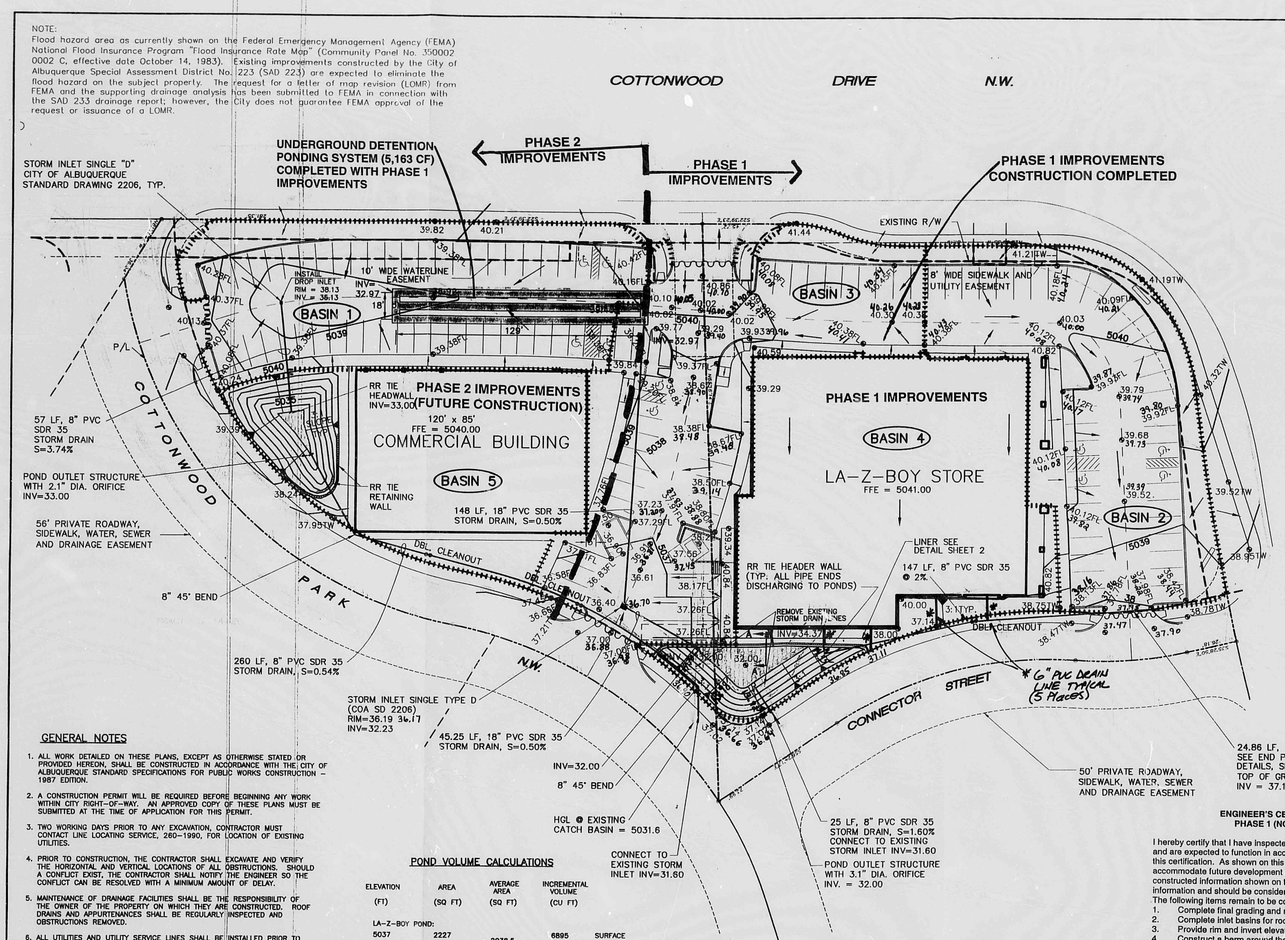

30' 0 15' 30' 60'
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LEGAL DESCRIPTION

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SEVEN BAR RANCH
ALBUQUERQUE
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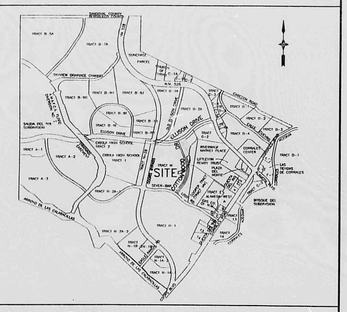
NEW MEXICO

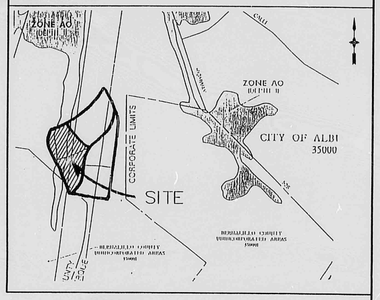
VICINITY MAP

ZONE ATLAS MAP NO.



FLOOD HAZARD MAP & OFFSITE FLOWS

FEMA MAP NO.



LEGEND

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FIRE HYDRANT & WATER LINE	6"W	
REDUCERS		
WATER VALVES	MR MYBAY	
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	CONCRETE	
GAS LINE		
UNDERGROUND TELEPHONE	UT	
CABLE TELEVISION	UT	
POWER/TELEPHONE POLE	O P.P.	
UNDERGROUND ELECTRICAL	UE	
CURB ELEVATION	TC 5099.18 FC 5097.68 A	
HYDROLOGICAL ANALYSIS PT.		

GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 1987 EDITION.
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3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH THEY ARE CONSTRUCTED. ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
6. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
7. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S SOLE RESPONSIBILITY.
9. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING. ALL WORK SHALL BE COMPLETED IN A SINGLE PHASE. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.
10. 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.
11. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DISTURB OR DAMAGE EXISTING FEATURES TO REMAIN DURING ALL PHASES OF CONSTRUCTION.
12. ALL SIDEWALKS SHALL HAVE A 2% CROSS-SLOPE UNLESS OTHERWISE INDICATED
13. ALL SPOT ELEVATIONS ARE TOP OF PAVING (FL) UNLESS OTHERWISE NOTED. WHERE APPLICABLE, TOP OF CURB ELEVATIONS (TC) ARE 0.50' HIGHER.

POND VOLUME CALCULATIONS

ELEVATION (FT)	AREA (SQ FT)	AVERAGE AREA (SQ FT)	INCREMENTAL VOLUME (CU FT)	
LA-Z-BOY POND:				
5037	2227			
		2038.5	6895	SURFACE
5036	1850			
		1675.5	4856.5	
5035	1501			
		1344	3181	
5034	1187			
		1048	1837	
5033	909			
		789	789	
5032	669		0	BOTTOM
KRAUSE'S POND:				
5038.5	2373			
		2250.5	6154.75	SURFACE
5038	2128			
		1870.5	5029.5	
5037	1613			
		1392.5	3159	
5036	1172			
		983.5	1766.5	
5035	795			
		574	803	
5034	353			
		229	229	
5033	65		0	BOTTOM

UNDERGROUND PONDING:
411 LF OF 48" CMP @ 12.57 CF/LF = 5,163 CF

TOTAL PONDING REQUIRED = 17,925 CF
TOTAL PONDING PROVIDED = 18,212 CF

ORIFICE CALCULATIONS

DETERMINE REQUIRED POND OUTLET ORIFICE DIAMETERS BASED ON THE ORIFICE EQUATION:
$Q=CA*(2*g*h))$ OR $A=Q/(C*SQRT(2*g*h))$

TERM	DESCRIPTION	LA-Z-BOY POND	KRAUSE'S POND
GIVEN:			
Q=	FLOW RATE, (ALLOWABLE RELEASE RATE), CFS=	0.57	0.28
h=	HYDRAULIC HEAD, FT=	5.00	5.50
g=	ACCELERATION DUE TO GRAVITY, FT/SEC/SEC=	32.2	32.2
C=	ORIFICE COEFFICIENT, =	0.61	0.61
SOLVE:			
A=	REQUIRED ORIFICE AREA, SF=	0.0522	0.0242
	REQUIRED ORIFICE DIAMETER, FT=	0.2579	0.1757
	REQUIRED ORIFICE DIAMETER, IN=	3.09	2.11

HYDROLOGY SUMMARY

PROJECT NAME: TRACT G-1A-2A & 2B
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	2 YEAR Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	2 YEAR VOLUME (ac.ft.) 24 HR	10 YEAR Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	10 YEAR VOLUME (ac.ft.) 24 HR	100 YEAR Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	100 YEAR VOLUME (ac.ft.) 24 HR
TOTAL	UNDEV	TRACT G-1A-2A & 2B	2.2673	100.0%	0.0%	0.0%	0.0%	0.00	0.0000	0.0000	0.54	0.0151	0.0151	2.92	0.0831	0.0831
1	DEV	KRAUSE'S PARKING	0.4168	0.0%	0.0%	15.6%	84.4%	0.58	0.0200	0.0253	1.07	0.0365	0.0446	1.67	0.0603	0.0725
2	DEV	LA-Z-BOY PARKING	0.4244	0.0%	0.0%	16.8%	83.2%	0.63	0.0219	0.0278	1.13	0.0391	0.0481	1.75	0.0636	0.0774
3	DEV	COMMON PARKING/DRIVE	0.4811	0.0%	0.0%	7.4%	92.6%	0.77	0.0271	0.0345	1.34	0.0473	0.0587	2.05	0.0761	0.0932
4	DEV	LA-Z-BOY SITE	0.5752	0.0%	0.0%	23.8%	76.2%	0.81	0.0277	0.0350	1.47	0.0503	0.0615	2.31	0.0832	0.1001
5	DEV	KRAUSE'S SITE	0.3698	0.0%	0.0%	23.8%	76.2%	0.52	0.0178	0.0225	0.95	0.0323	0.0396	1.48	0.0535	0.0643
TOTAL	DEV	TRACT G-1A-2A & 2B	2.2673	0.0%	0.0%	17.5%	82.5%	3.35	0.1162	0.1473	6.00	0.2078	0.2557	9.31	0.3398	0.4115

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

ENGINEER'S CERTIFICATION FOR TEMPORARY CERTIFICATE OF OCCUPANCY PHASE 1 (NORTH) IMPROVEMENTS – LA-Z-BOY FURNITURE GALLERIES

I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.
The following items remain to be completed before a permanent certificate of occupancy can be approved:
1. Complete final grading and riprap in the detention pond.
2. Complete inlet basins for roof drain outfalls.
3. Provide rim and invert elevations for the manholes at each end of the underground ponding system.
4. Construct a berm around the Phase 2 (south) area to retain runoff on site.
5. Clean out all drain lines and inlets.
6. Install handrails on retaining walls.
7. Install permanent orifice plates and trash racks (2 places).
8. Install pipe and headwalls (2 places).

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

R P Bohannan Date 8/12/99

R. P. Bohannan, PE
New Mexico PE No. 9814

RECEIVED AUG 1 2 1999 HYDROLOGY SECTION

LA-Z-BOY STORE AND COMMERCIAL / OFFICE BUILDING
TRACT G-1A-2A AND G-1A-2B

EXISTING CONDITIONS

THE 2.2637 AC. SITE IS CURRENTLY UNDEVELOPED. THE CITY, THROUGH SAD 223, CONSTRUCTED EXTENSIVE DRAINAGE AND FLOOD CONTROL FACILITIES AROUND AND ADJACENT TO THE SITE. THE DEVELOPMENT OF G-1A-2 CONSTRUCTED STREETS AND STORM DRAINAGE FACILITIES ADJACENT TO THE SITE. THE CITY HAS SUBMITTED A LETTER OF MAP REVISION TO REMOVE ALL FLOOD PLAINS FROM WITHIN THE SAD223 AREA.
THE SITE CURRENTLY DISCHARGES TO THE TWO EXISTING STORM SEWER DRAINS AT THE CORNER OF COTTONWOOD PARK AND CONNECTOR STREET. NO CHANGE TO THE CURRENT ALLOWABLE DISCHARGE RATES IS PROPOSED WITH THIS PLAN. THERE ARE NO OFFSITE FLOWS ENTERING THIS PROJECT.

DEVELOPED CONDITIONS

A 10,000 SF COMMERCIAL/OFFICE BUILDING AND A 19,734 SF LA-Z-BOY STORE ARE PLANNED FOR THIS SITE. IN ACCORDANCE WITH THE PREVIOUS GRADING AND DRAINAGE PLAN FOR INITIAL SITE DEVELOPMENT OF TRACTS G-1A-2A THRU G-1A-2E, THE TOTAL ALLOWABLE RELEASE RATE IS 0.44 CFS FROM TRACT G-1A-2A AND 0.41 CFS FROM TRACT G-1A-2B. ON SITE PONDING WILL BE ACCOMPLISHED WITH TWO CONNECTED SURFACE PONDS. THE MAXIMUM STORAGE REQUIRED IS 17,925 CF, SITE PONDING WILL PROVIDE 17,972 CF. THE SITE WILL DISCHARGE THROUGH A SINGLE 3.8" DIA. ORIFICE AT A RATE NOT TO EXCEED 0.85 CFS (0.44 + 0.41).

NO.	REVISIONS	BY	DATE

LA-Z-BOY
GRADING AND DRAINAGE PLAN
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501
E-Mail: eci_engr@swcp.com

DESIGNED BY	DRAWN BY:	CHECKED BY:	SHEET 1
VAF	DEC	RPB	OF 2
JOB NO. 4890	DATE: 5-99		

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

R# 23 DATE 2-13-00 OP 5987

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (NMA/ANSI/AIIM MS14-1977)

DIRECTOR 1/15/02

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 07/23/02

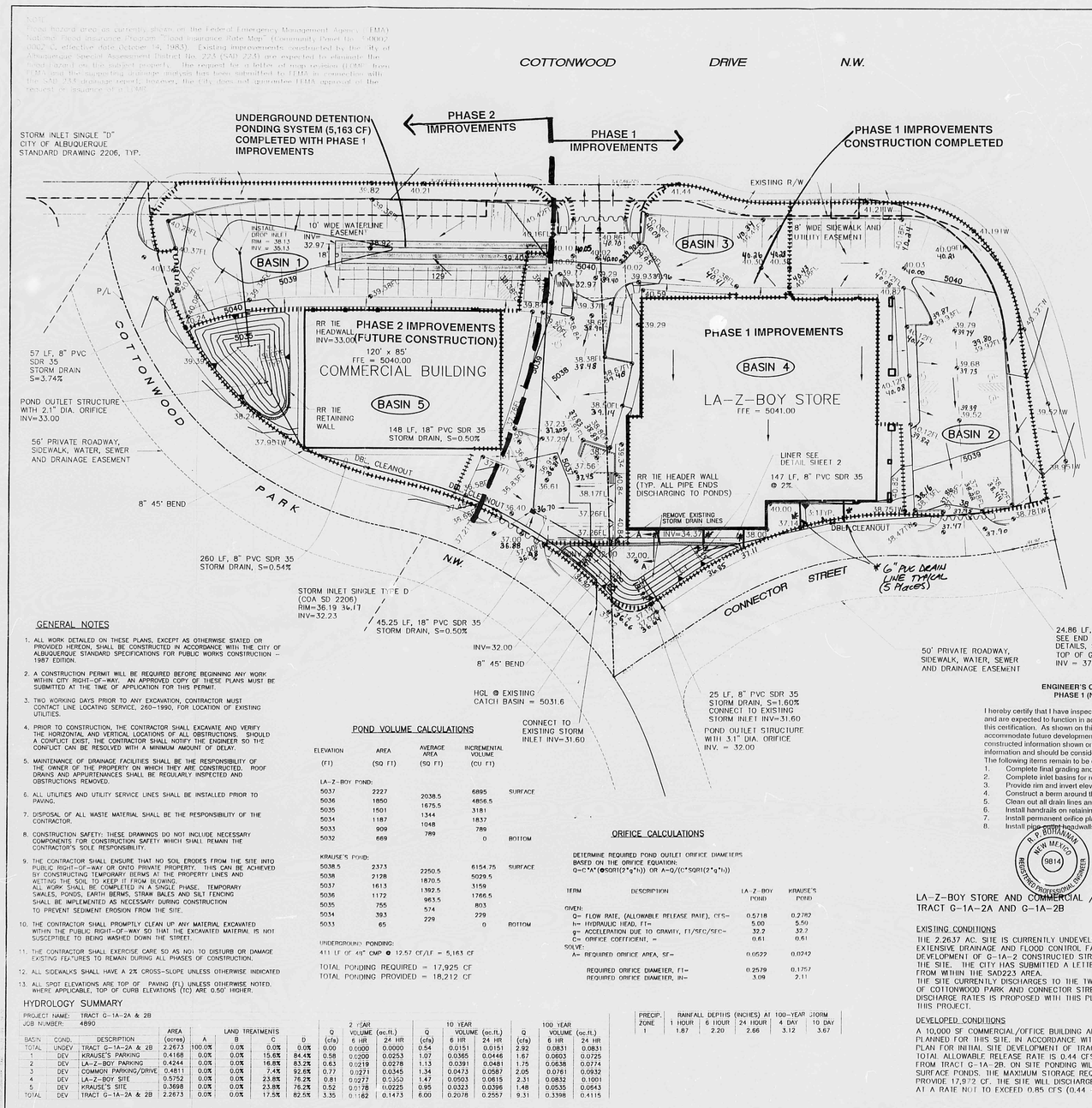
D 24 C 20 B 16 A 12 CITY OF ALBUQERQUE C D

PUBLIC WORKS/HYDROLOGY

3 OF 4

A14/D10B

NOTE
Flood hazard area as currently shown on the Federal Emergency Management Agency (FEMA) National Flood Insurance Program "Flood Insurance Rate Map" (Community Panel No. 350002 0002 C, effective date October 16, 1983). Existing improvements constructed by the City of Albuquerque special Assessment District No. 223 (SAD 223) are expected to eliminate the flood hazard on the subject property. The request for a letter of map revision (LOMR) from FEMA and the supporting drainage analysis has been submitted to FEMA in connection with the SAD 223 drainage report; however, the City does not guarantee FEMA approval of the request or issuance of a LOMR.



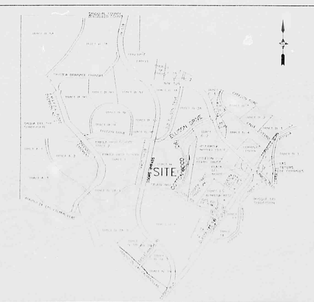
30' 0 15' 30' 60'
1" = 30'

LEGAL DESCRIPTION

TRACTS G-1A-2A & G-1A-2B
SEVEN BAR RANCH
ALBUQUERQUE
BERNALILLO COUNTY
NEW MEXICO

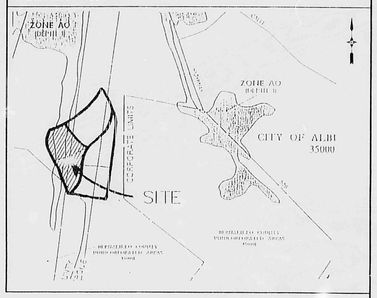
VICINITY MAP

ZONE ATLAS MAP NO.



FLOOD HAZARD MAP & OFFSITE FLOWS

FEMA MAP NO.



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POND VOLUME CALCULATIONS

ELEVATION (FT)	AREA (SQ FT)	AVERAGE AREA (SQ FT)	INCREMENTAL VOLUME (CU FT)	
LA-Z-BOY POND:				
5037	2227		6895	SURFACE
5036	1850	2038.5	4856.5	
5035	1501	1675.5	3181	
5034	1187	1344	1837	
5033	909	1048	789	
5032	669	789	0	BOTTOM
KRAUSE'S POND:				
5038.5	2373		6154.75	SURFACE
5038	2128	2250.5	5029.5	
5037	1613	1870.5	3159	
5036	1172	1392.5	1766.5	
5035	755	963.5	803	
5034	393	574	229	
5033	65	229	0	BOTTOM

UNDERGROUND PONDING:
411 LF OF 48" CMP @ 12.57 CF/LF = 5,163 CF

TOTAL PONDING REQUIRED = 17,925 CF
TOTAL PONDING PROVIDED = 18,212 CF

ORIFICE CALCULATIONS

DETERMINE REQUIRED POND OUTLET ORIFICE DIAMETERS BASED ON THE ORIFICE EQUATION:
$Q = C*A*(\sqrt{2*g*h})$ OR $A = Q/(C*\sqrt{2*g*h})$

ITEM	DESCRIPTION	LA-Z-BOY POND	KRAUSE'S POND
GIVEN:			
Q=	FLOW RATE, (ALLOWABLE RELEASE RATE), CFS=	0.5718	0.2782
h=	HYDRAULIC HEAD, FT=	5.00	5.50
g=	ACCELERATION DUE TO GRAVITY, FT/SEC/SEC=	32.2	32.2
C=	ORIFICE COEFFICIENT, =	0.61	0.61
SOLVE:			
A=	REQUIRED ORIFICE AREA, SF=	0.0522	0.0242
	REQUIRED ORIFICE DIAMETER, FT=	0.2579	0.1757
	REQUIRED ORIFICE DIAMETER, IN=	3.09	2.11

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

HYDROLOGY SUMMARY

PROJECT NAME: TRACT G-1A-2A & 2B
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	2 YEAR Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	2 YEAR VOLUME (ac.ft.) 24 HR	10 YEAR Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	10 YEAR VOLUME (ac.ft.) 24 HR	100 YEAR Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	100 YEAR VOLUME (ac.ft.) 24 HR
TOTAL	UNDEV	TRACT G-1A-2A & 2B	2.2673	100.0%	0.0%	0.0%	0.0%	0.00	0.0000	0.0000	0.54	0.0151	0.0151	2.92	0.0831	0.0831
1	DEV	KRAUSE'S PARKING	0.4168	0.0%	0.0%	15.6%	84.4%	0.58	0.0200	0.0253	1.07	0.0365	0.0446	1.67	0.0603	0.0725
2	DEV	LA-Z-BOY PARKING	0.4244	0.0%	0.0%	16.8%	83.2%	0.63	0.0219	0.0278	1.13	0.0391	0.0481	1.75	0.0638	0.0774
3	DEV	COMMON PARKING/DRIVE	0.4811	0.0%	0.0%	7.4%	92.6%	0.77	0.0271	0.0345	1.34	0.0473	0.0587	2.05	0.0761	0.0932
4	DEV	LA-Z-BOY SITE	0.5752	0.0%	0.0%	23.8%	76.2%	0.81	0.0277	0.0350	1.47	0.0503	0.0615	2.31	0.0832	0.1001
5	DEV	KRAUSE'S SITE	0.3698	0.0%	0.0%	23.8%	76.2%	0.52	0.0178	0.0225	0.95	0.0323	0.0396	1.48	0.0535	0.0643
TOTAL	DEV	TRACT G-1A-2A & 2B	2.2673	0.0%	0.0%	17.5%	82.5%	3.35	0.1162	0.1473	6.00	0.2078	0.2557	9.31	0.3398	0.4115

LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	
SPOT ELEVATIONS	×5088	
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	
LANDSCAPING	L.S.	
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE		
SANITARY SEWER M.H. & LINE		
FIRE HYDRANT & WATER LINE		
REDUCERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE		
GAS LINE		
UNDERGROUND TELEPHONE		
CABLE TELEVISION		
POWER/TELEPHONE POLE		
UNDERGROUND ELECTRICAL		
DRIP ELEVATION		
HYDROLOGICAL ANALYSIS PT.		

ENGINEER'S CERTIFICATION FOR TEMPORARY CERTIFICATE OF OCCUPANCY
PHASE 1 (NORTH) IMPROVEMENTS - LA-Z-BOY FURNITURE GALLERIES

I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.
The following items remain to be completed before a permanent certificate of occupancy can be approved:
1. Complete final grading and riprap in the detention pond.
2. Complete inlet basins for roof drain outfalls.
3. Provide rim and invert elevations for the manholes at each end of the underground ponding system.
4. Construct a berm around the Phase 2 (south) area to retain runoff on site.
5. Clean out all drain lines and inlets.
6. Install handrails on retaining walls.
7. Install permanent orifice plates and trash racks (2 places).
8. Install pipe outfall headwalls (2 places).

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

R. P. Bohannan
R. P. Bohannan, PE
New Mexico PE No. 9814
Date 8/12/99

LA-Z-BOY STORE AND COMMERCIAL / OFFICE BUILDING
TRACT G-1A-2A AND G-1A-2B

EXISTING CONDITIONS

THE 2.2637 AC. SITE IS CURRENTLY UNDEVELOPED. THE CITY, THROUGH SAD 223, CONSTRUCTED EXTENSIVE DRAINAGE AND FLOOD CONTROL FACILITIES AROUND AND ADJACENT TO THE SITE. THE DEVELOPMENT OF G-1A-2 CONSTRUCTED STREETS AND STORM DRAINAGE FACILITIES ADJACENT TO THE SITE. THE CITY HAS SUBMITTED A LETTER OF MAP REVISION TO REMOVE ALL FLOOD PLAINS FROM WITHIN THE SAD223 AREA.
THE SITE CURRENTLY DISCHARGES TO THE TWO EXISTING STORM SEWER DRAINS AT THE CORNER OF COTTONWOOD PARK AND CONNECTOR STREET. NO CHANGE TO THE CURRENT ALLOWABLE DISCHARGE RATES IS PROPOSED WITH THIS PLAN. THERE ARE NO OFFSITE FLOWS ENTERING THIS PROJECT.

DEVELOPED CONDITIONS

A 10,000 SF COMMERCIAL/OFFICE BUILDING AND A 19,734 SF LA-Z-BOY STORE ARE PLANNED FOR THIS SITE. IN ACCORDANCE WITH THE PREVIOUS GRADING AND DRAINAGE PLAN FOR INITIAL SITE DEVELOPMENT OF TRACTS G-1A-2A THRU G-1A-2E. THE TOTAL ALLOWABLE RELEASE RATE IS 0.44 CFS FROM TRACT G-1A-2A AND 0.41 CFS FROM TRACT G-1A-2B. ON SITE PONDING WILL BE ACCOMPLISHED WITH TWO CONNECTED SURFACE PONDS. THE MAXIMUM STORAGE REQUIRED IS 17,925 CF. SITE PONDING WILL PROVIDE 17,972 CF. THE SITE WILL DISCHARGE THROUGH A SINGLE 3.8" DIA. ORIFICE AT A RATE NOT TO EXCEED 0.85 CFS (0.44 + 0.41).

NO.	REVISIONS	BY	DATE

LA-Z-BOY
GRADING AND DRAINAGE PLAN
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501
E-Mail: eal_engr@swcp.com

DESIGNED BY	DRAWN BY	CHECKED BY	SHEET
VAF	DEC	RPB	1
JOB NO.	DATE		OF
4890	5-99		2

AUG 12 1999
HYDROLOGY SECTION

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DaRK

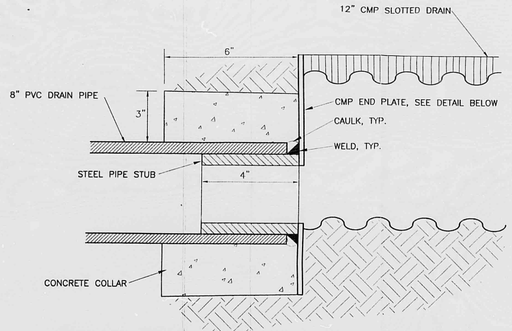
CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

R# 33 DATE 3-13-02 OP. EJT.

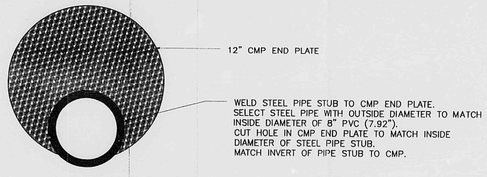
CITY OF ALBUQUERQUE
This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.
The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS146-1977)
Chris T. Adkins 1/15/02
DIRECTOR

Roberta Duran
NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
07/27/02

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



SLOTTED DRAIN / PVC PIPE CONNECTION DETAIL
N.T.S.



SLOTTED DRAIN END PLATE DETAIL
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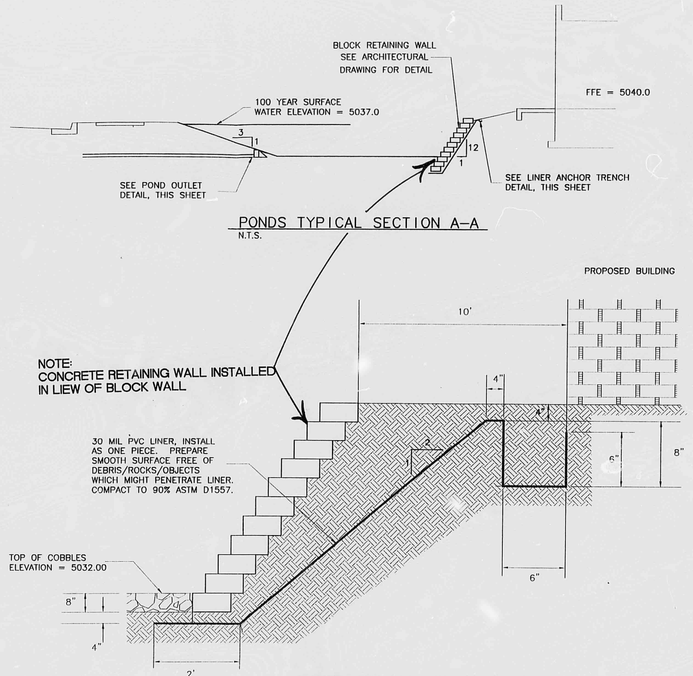
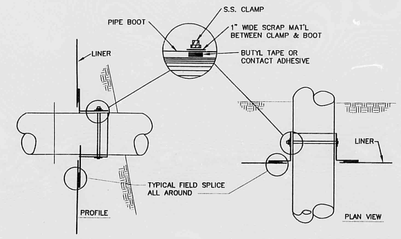
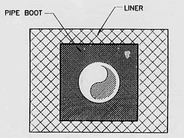


PONDS TYPICAL SECTION A-A
N.T.S.

LINER ANCHOR TRENCH DETAIL
N.T.S.





LINER PENETRATION DETAIL

ENGINEER'S CERTIFICATION FOR TEMPORARY CERTIFICATE OF OCCUPANCY
PHASE 1 (NORTH) IMPROVEMENTS – LA-Z-BOY FURNITURE GALLERIES

I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.

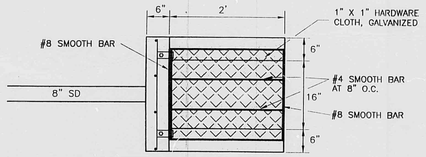
The following items remain to be completed before a permanent certificate of occupancy can be approved:

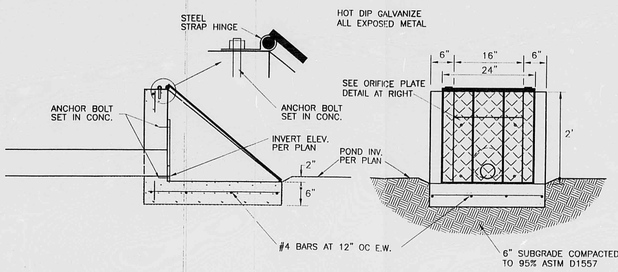
1. Complete final grading and riprap in the detention pond.
2. Complete inlet basins for roof drain outfalls.
3. Provide rim and invert elevations for the manholes at each end of the underground ponding system.
4. Construct a berm around the Phase 2 (south) area to retain runoff on site.
5. Clean out all drain lines and inlets.
6. Install handrails on retaining walls.
7. Install permanent orifice plates and trash racks (2 places).
8. Install [illegible] headwalls (2 places).

NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

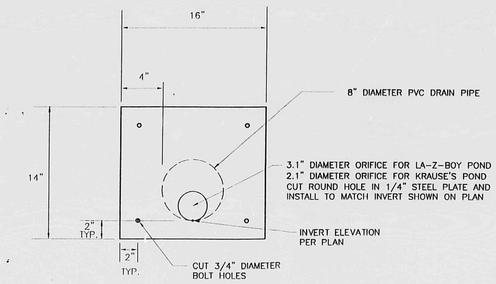
R P Bohannan Date 8/12/99

R. P. Bohannan, PE
New Mexico PE No. 9814

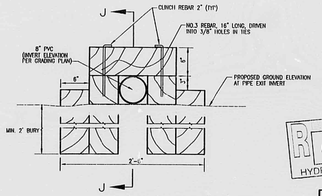




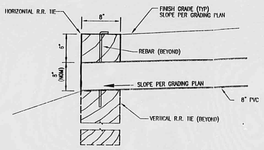
POND OUTLET
N.T.S.



ORIFICE PLATE DETAIL
N.T.S.



R.R. TIE HEADWALL DETAIL
NOT TO SCALE



SECTION J-J
NOT TO SCALE

RECEIVED
AUG 12 1999
HYDROLOGY SECTION

NO.	REVISIONS	BY	DATE

LA-Z-BOY
DETAILS
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501
E-Mail: eai_engr@swcp.com

DESIGNED BY	DRAWN BY:	CHECKED BY:	
VAF	DEC	RPB	SHEET 2
JOB NO: 4890	DATE: 5-99		OF 2

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

R# 23 DATE 3-13-02 OF E&R

CITY OF ALBUQUERQUE
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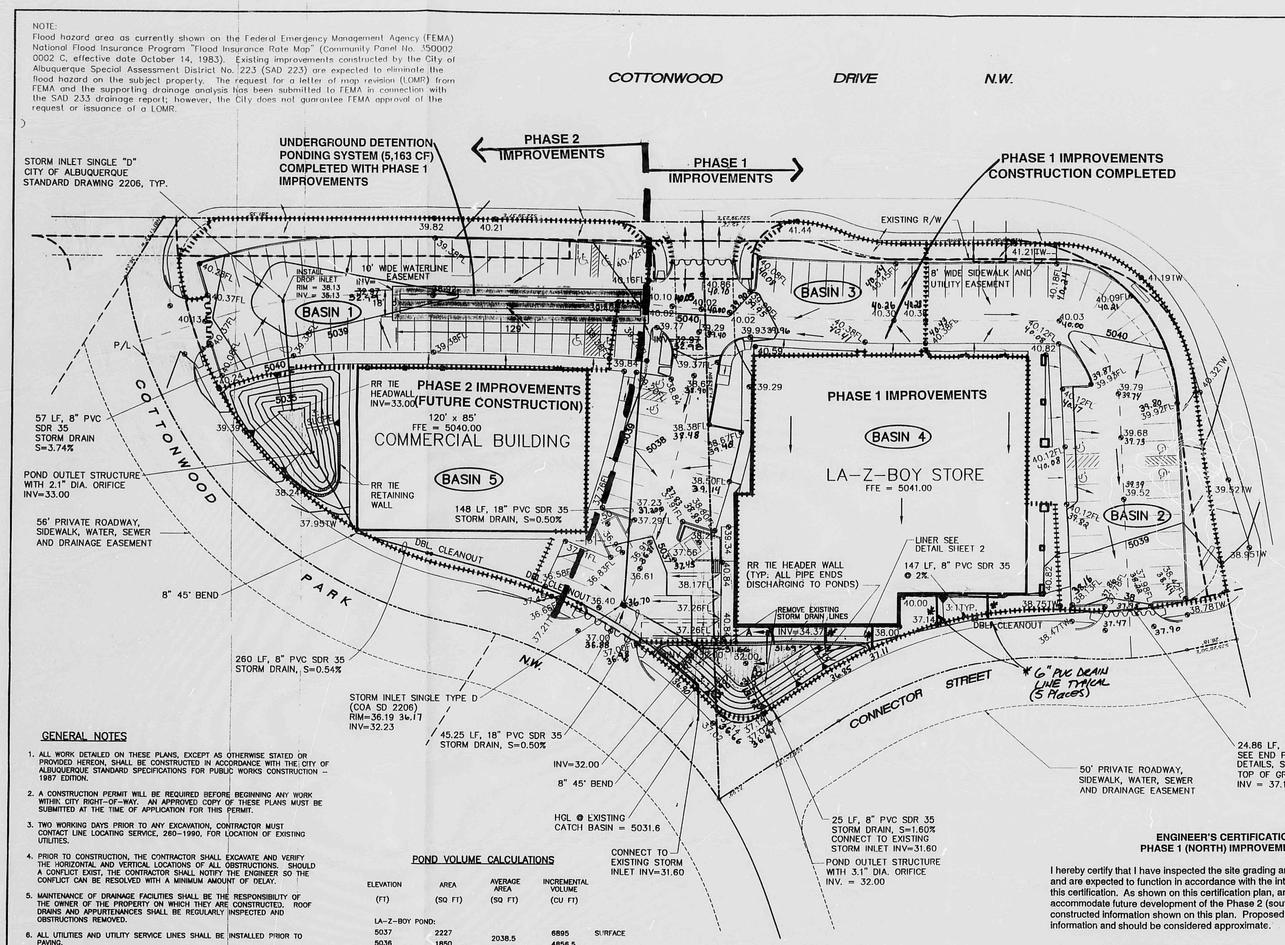
Chris J. Ashley 11/5/02
DIRECTOR
Roberta Duran
NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
07/02/05

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

NOTE:
Flood hazard area as currently shown on the Federal Emergency Management Agency (FEMA) National Flood Insurance Program "Flood Insurance Rate Map" (Community Panel No. 350002 0002 C, effective date October 14, 1983). Existing improvements constructed by the City of Albuquerque Special Assessment District No. 223 (SAD 223) are expected to eliminate the flood hazard on the subject property. The request for a letter of map revision (LOMR) from FEMA and the supporting drainage analysis has been submitted to FEMA in connection with the SAD 233 drainage report; however, the City does not guarantee FEMA approval of the request or issuance of a LOMR.



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4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH THEY ARE CONSTRUCTED. ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
6. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
7. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S SOLE RESPONSIBILITY.
9. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING. ALL WORK SHALL BE COMPLETED IN A SINGLE PHASE. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.
10. 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.
11. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DISTURB OR DAMAGE EXISTING FEATURES TO REMAIN DURING ALL PHASES OF CONSTRUCTION.
12. ALL SIDEWALKS SHALL HAVE A 2% CROSS-SLOPE UNLESS OTHERWISE INDICATED
13. ALL SPOT ELEVATIONS ARE TOP OF PAVING (TP) UNLESS OTHERWISE NOTED. WHERE APPLICABLE, TOP OF CURB ELEVATIONS (TC) ARE 0.50' HIGHER.

POND VOLUME CALCULATIONS

ELEVATION (FT)	AREA (SQ FT)	AVERAGE AREA (SQ FT)	INCREMENTAL VOLUME (CU FT)	
LA-Z-BOY POND:				
5037	2227	2038.5	6895	SURFACE
5036	1850	1675.5	4856.5	
5035	1501	1344	3181	
5034	1187	1048	1837	
5033	909	789	789	
5032	669		0	BOTTOM
KRAUSE'S POND:				
5038.5	2373	2250.5	6154.75	SURFACE
5038	2128	1870.5	5029.5	
5037	1613	1392.5	3159	
5036	1172	963.5	1766.5	
5035	755	574	803	
5034	393	229	229	
5033	65		0	BOTTOM

UNDERGROUND PONDING:
411 LF OF 48" CMP @ 12.57 CF/LF = 5,163 CF

TOTAL PONDING REQUIRED = 17,925 CF
TOTAL PONDING PROVIDED = 18,212 CF

ORIFICE CALCULATIONS

DETERMINE REQUIRED POND OUTLET ORIFICE DIAMETERS BASED ON THE ORIFICE EQUATION:
$Q=C^*A^*(@SQRT(2^*g^*h))$ OR $A=Q/(C^*SQRT(2^*g^*h))$

TERM	DESCRIPTION	LA-Z-BOY POND	KRAUSE'S POND
GIVEN:			
Q=	FLOW RATE, (ALLOWABLE RELEASE RATE), CFS=	0.5718	0.2782
h=	HYDRAULIC HEAD, FT=	5.00	5.50
g=	ACCELERATION DUE TO GRAVITY, FT/SEC/SEC=	32.2	32.2
C=	ORIFICE COEFFICIENT, =	0.61	0.61
SOLVE:			
A=	REQUIRED ORIFICE AREA, SF=	0.0522	0.0242
	REQUIRED ORIFICE DIAMETER, FT=	0.2579	0.1757
	REQUIRED ORIFICE DIAMETER, IN=	3.09	2.11

HYDROLOGY SUMMARY

PROJECT NAME: TRACT G-1A-2A & 2B
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	2 YEAR Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	2 YEAR VOLUME (ac.ft.) 24 HR	10 YEAR Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	10 YEAR VOLUME (ac.ft.) 24 HR	100 YEAR Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	100 YEAR VOLUME (ac.ft.) 24 HR
TOTAL	UNDEV	TRACT G-1A-2A & 2B	2.2673	100.0%	0.0%	0.0%	0.0%	0.00	0.0000	0.0000	0.54	0.0151	0.0151	2.92	0.0831	0.0831
1	DEV	KRAUSE'S PARKING	0.4168	0.0%	0.0%	15.6%	84.4%	0.58	0.0200	0.0253	1.07	0.0365	0.0446	1.67	0.0603	0.0725
2	DEV	LA-Z-BOY PARKING	0.4244	0.0%	0.0%	16.8%	83.2%	0.63	0.0219	0.0278	1.13	0.0391	0.0481	1.75	0.0636	0.0774
3	DEV	COMMON PARKING/DRIVE	0.4811	0.0%	0.0%	7.4%	92.6%	0.77	0.0271	0.0345	1.34	0.0473	0.0587	2.05	0.0781	0.0932
4	DEV	LA-Z-BOY SITE	0.5752	0.0%	0.0%	23.8%	76.2%	0.81	0.0277	0.0350	1.47	0.0503	0.0615	2.31	0.0832	0.1001
5	DEV	KRAUSE'S SITE	0.3698	0.0%	0.0%	23.8%	76.2%	0.52	0.0178	0.0225	0.95	0.0323	0.0396	1.48	0.0535	0.0643
TOTAL	DEV	TRACT G-1A-2A & 2B	2.2673	0.0%	0.0%	17.5%	82.5%	3.35	0.1162	0.1473	6.00	0.2078	0.2557	9.31	0.3398	0.4115

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM 1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
PHASE 1 (NORTH) IMPROVEMENTS – LA-Z-BOY FURNITURE GALLERIES

I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

R.P. Bohannan Date 9/8/99

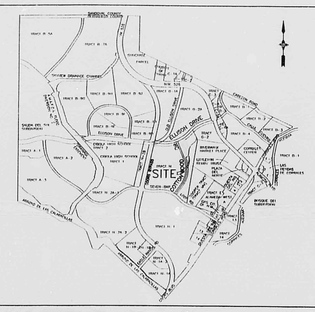
R. P. Bohannan, PE
New Mexico PE No. 9814

LEGAL DESCRIPTION

TRACTS G-1A-2A & G-1A-2B
SEVEN BAR RANCH
ALBUQUERQUE
BERNALILLO COUNTY
NEW MEXICO

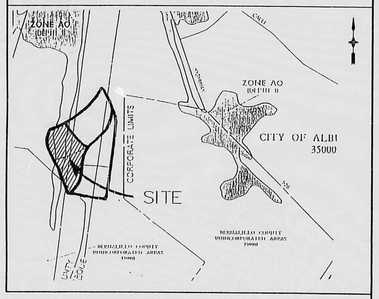
VICINITY MAP

ZONE ATLAS MAP NO.



FLOOD HAZARD MAP & OFFSITE FLOWS

FEMA MAP NO.



LEGEND

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	
SPOT ELEVATIONS	@ 5088	
DRAINAGE AREA BOUNDARY		
DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
ASPHALT PAVING	ASPHALT	
LANDSCAPING	L.S.	
RETAINING WALL		
GARDEN WALL		
SWALE		
PROPERTY LINE		
FENCE		
CATCH BASIN		
STORM DRAIN M.H. & LINE	36"SD	
SANITARY SEWER M.H. & LINE	8"SAS	
FIRE HYDRANT & WATER LINE	6"W	
REDUCERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE		
GAS LINE	G	
UNDERGROUND TELEPHONE	UT	
CABLE TELEVISION	CT	
POWER/TELEPHONE POLE		
UNDERGROUND ELECTRICAL	UE	
CURB ELEVATION	TC 5091.8 A	
HYDROLOGICAL ANALYSIS PT.		

RECEIVED
SEP 09 1999
HYDROLOGY SECTION

NO.	REVISIONS	BY	DATE

LA-Z-BOY
GRADING AND DRAINAGE PLAN
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

LA-Z-BOY STORE AND COMMERCIAL / OFFICE BUILDING
TRACT G-1A-2A AND G-1A-2B

EXISTING CONDITIONS

THE 2.2637 AC. SITE IS CURRENTLY UNDEVELOPED. THE CITY, THROUGH SAD 223, CONSTRUCTED EXTENSIVE DRAINAGE AND FLOOD CONTROL FACILITIES AROUND AND ADJACENT TO THE SITE. THE DEVELOPMENT OF G-1A-2 CONSTRUCTED STREETS AND STORM DRAINAGE FACILITIES ADJACENT TO THE SITE. THE CITY HAS SUBMITTED A LETTER OF MAP REVISION TO REMOVE ALL FLOOD PLAINS FROM WITHIN THE SAD223 AREA.
THE SITE CURRENTLY DISCHARGES TO THE TWO EXISTING STORM SEWER DRAINS AT THE CORNER OF COTTONWOOD PARK AND CONNECTOR STREET. NO CHANGE TO THE CURRENT ALLOWABLE DISCHARGE RATES IS PROPOSED WITH THIS PLAN. THERE ARE NO OFFSITE FLOWS ENTERING THIS PROJECT.

DEVELOPED CONDITIONS

A 10,000 SF COMMERCIAL/OFFICE BUILDING AND A 19,734 SF LA-Z-BOY STORE ARE PLANNED FOR THIS SITE. IN ACCORDANCE WITH THE PREVIOUS GRADING AND DRAINAGE PLAN FOR INITIAL SITE DEVELOPMENT OF TRACTS G-1A-2A THRU G-1A-2E. THE TOTAL ALLOWABLE RELEASE RATE IS 0.44 CFS FROM TRACT G-1A-2A AND 0.41 CFS FROM TRACT G-1A-2B. ON SITE PONDING WILL BE ACCOMPLISHED WITH TWO CONNECTED SURFACE PONDS. THE MAXIMUM STORAGE REQUIRED IS 17,925 CF. SITE PONDING WILL PROVIDE 17,972 CF. THE SITE WILL DISCHARGE THROUGH A SINGLE 3.8" DIA. ORIFICE AT A RATE NOT TO EXCEED 0.85 CFS (0.44 + 0.41).

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

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CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
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DESIGNED BY:	DRAWN BY:	CHECKED BY:	
VAF	DEC	RPB	SHEET 1
JOB NO: 4890	DATE: 5-99		OF 2

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 23 DATE 3-13-00 OP

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DIRECTOR

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
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STATE OF NEW MEXICO
My commission expires: 01/31/02

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

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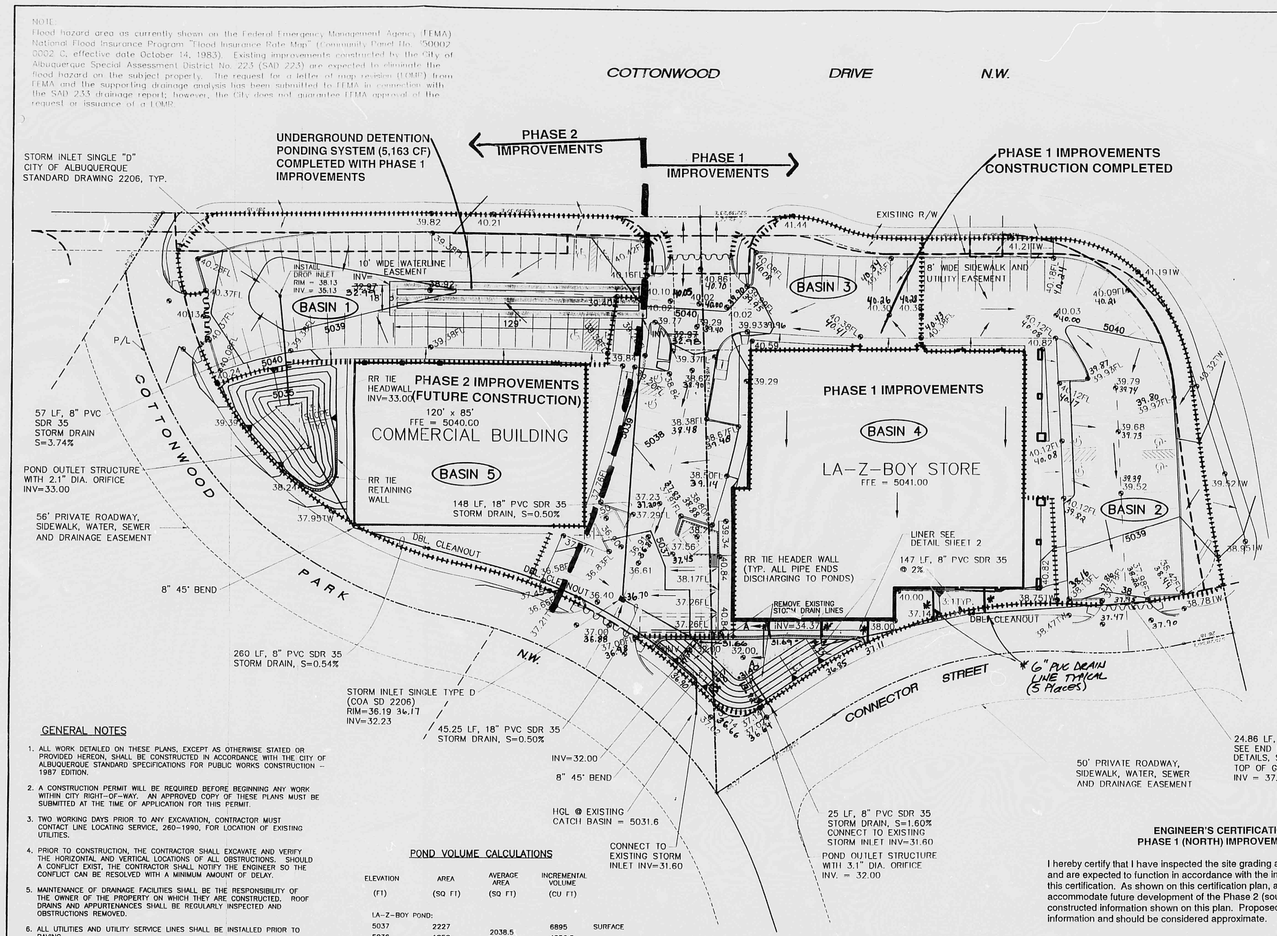

30' 0 15' 30' 60'
1" = 30'

LEGAL DESCRIPTION

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SEVEN BAR RANCH
ALBUQUERQUE
BERNALILLO COUNTY
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VICINITY MAP

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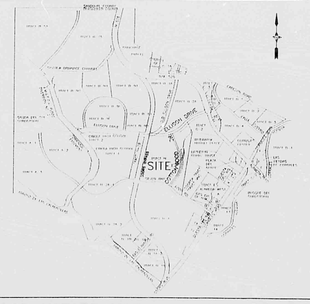

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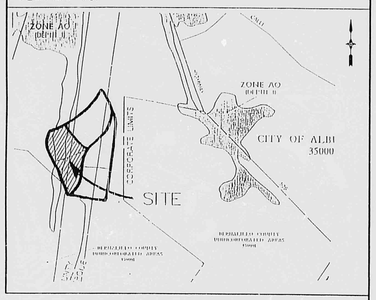

LEGEND

DESCRIPTION	NEW	EXISTING
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DRAINAGE DIVIDE		
WATER BLOCK		
DIRECTION OF FLOW		
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LANDSCAPING	L.S.	
RETAINING WALL		
GABIONS WALL		
SWALE		
PROPERTY LINE		
FENCE		
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STORM DRAIN M.H. & LINE	36"SD	
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PROVIDERS		
WATER VALVES		
WATER CONNECTIONS		
WATER JOINTS		
CONCRETE	CONCRETE	
GAS LINE	G	
UNDERGROUND TELEPHONE	UT	
CABLE TELEVISION	CT	
POWER/TELEPHONE POLE		
UNDERGROUND ELECTRICAL	UE	
CURB ELEVATION	TC 5099.28 FL 5099.18 A	
HYDROLOGIC ANALYSIS PT		

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3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH THEY ARE CONSTRUCTED. ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
6. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
7. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S SOLE RESPONSIBILITY.
9. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING. ALL WORK SHALL BE COMPLETED IN A SINGLE PHASE. TEMPORARY SWALES, PONDS, EARTH BERMS, STRAW BALES AND SILT FENCING SHALL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION TO PREVENT SEDIMENT EROSION FROM THE SITE.
10. 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.
11. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DISTURB OR DAMAGE EXISTING FEATURES TO REMAIN DURING ALL PHASES OF CONSTRUCTION.
12. ALL SIDEWALKS SHALL HAVE A 2% CROSS-SLOPE UNLESS OTHERWISE INDICATED
13. ALL SPOT ELEVATIONS ARE TOP OF PAVING (FL) UNLESS OTHERWISE NOTED. WHERE APPLICABLE, TOP OF CURB ELEVATIONS (TC) ARE 0.50' HIGHER.

POND VOLUME CALCULATIONS

ELEVATION (FT)	AREA (SQ FT)	AVERAGE AREA (SQ FT)	INCREMENTAL VOLUME (CU FT)	
LA-Z-BOY POND:				
5037	2227		6895	SURFACE
		2038.5		
5036	1850		4856.5	
		1675.5		
5035	1501		3181	
		1344		
5034	1187		1837	
		1048		
5033	909		789	
		789		
5032	669		0	BOTTOM
KRAUSE'S POND:				
5038.5	2373		6154.75	SURFACE
		2250.5		
5038	2128		5029.5	
		1870.5		
5037	1613		3159	
		1392.5		
5036	1172		1766.5	
		963.5		
5035	755		803	
		574		
5034	393		229	
		229		
5033	65		0	BOTTOM

UNDERGROUND PONDING:
411 LF OF 48" CMP @ 12.57 CF/LF = 5,163 CF

TOTAL PONDING REQUIRED = 17,925 CF
TOTAL PONDING PROVIDED = 18,212 CF

ORIFICE CALCULATIONS

DETERMINE REQUIRED POND OUTLET ORIFICE DIAMETERS BASED ON THE ORIFICE EQUATION:
$Q = C*A*(\sqrt{2*g*h}))$ OR $A = Q/(C*SQRT(2*g*h))$

TERM	DESCRIPTION	LA-Z-BOY POND	KRAUSE'S POND
GIVEN:			
Q=	FLOW RATE, (ALLOWABLE RELEASE RATE), CFS=	0.5718	0.2782
h=	HYDRAULIC HEAD, FT=	5.00	5.50
g=	ACCELERATION DUE TO GRAVITY, FT/SEC/SEC=	32.2	32.2
C=	ORIFICE COEFFICIENT, =	0.61	0.61
SOLVE:			
A=	REQUIRED ORIFICE AREA, SF=	0.0522	0.0242
	REQUIRED ORIFICE DIAMETER, FT=	0.2579	0.1757
	REQUIRED ORIFICE DIAMETER, IN=	3.09	2.11

PRECIP. ZONE	RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM				
	1 HOUR	6 HOUR	24 HOUR	4 DAY	10 DAY
1	1.87	2.20	2.66	3.12	3.67

HYDROLOGY SUMMARY

PROJECT NAME: TRACT G-1A-2A & 2B
JOB NUMBER: 4890

BASIN	COND.	DESCRIPTION	AREA (acres)	LAND TREATMENTS A	B	C	D	Q (cfs)	2 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	10 YEAR VOLUME (ac.ft.) 6 HR	24 HR	Q (cfs)	100 YEAR VOLUME (ac.ft.) 6 HR	24 HR
TOTAL	UNDEV	TRACT G-1A-2A & 2B	2.2673	100.0%	0.0%	0.0%	0.0%	0.00	0.0000	0.0000	0.54	0.0151	0.0151	2.92	0.0831	0.0831
1	DEV	KRAUSE'S PARKING	0.4168	0.0%	0.0%	15.6%	84.4%	0.58	0.0200	0.0253	1.07	0.0365	0.0446	1.67	0.0603	0.0725
2	DEV	LA-Z-BOY PARKING	0.4244	0.0%	0.0%	16.8%	83.2%	0.63	0.0219	0.0278	1.13	0.0391	0.0481	1.75	0.0638	0.0774
3	DEV	COMMON PARKING/DRIVE	0.4811	0.0%	0.0%	7.4%	92.6%	0.77	0.0271	0.0345	1.34	0.0473	0.0587	2.05	0.0761	0.0932
4	DEV	LA-Z-BOY SITE	0.5752	0.0%	0.0%	23.8%	76.2%	0.81	0.0277	0.0350	1.47	0.0503	0.0615	2.31	0.0832	0.1001
5	DEV	KRAUSE'S SITE	0.3698	0.0%	0.0%	23.8%	76.2%	0.52	0.0178	0.0225	0.95	0.0323	0.0396	1.48	0.0535	0.0643
TOTAL	DEV	TRACT G-1A-2A & 2B	2.2673	0.0%	0.0%	17.5%	82.5%	3.35	0.1162	0.1473	6.00	0.2078	0.2557	9.31	0.3398	0.4115

ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
PHASE 1 (NORTH) IMPROVEMENTS – LA-Z-BOY FURNITURE GALLERIES

I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

R. P. Bohannan Date 9/8/99
R. P. Bohannan, PE
New Mexico PE No. 9814

LA-Z-BOY STORE AND COMMERCIAL / OFFICE BUILDING
TRACT G-1A-2A AND G-1A-2B

EXISTING CONDITIONS

THE 2.2637 AC. SITE IS CURRENTLY UNDEVELOPED. THE CITY, THROUGH SAD 223, CONSTRUCTED EXTENSIVE DRAINAGE AND FLOOD CONTROL FACILITIES AROUND AND ADJACENT TO THE SITE. THE DEVELOPMENT OF G-1A-2 CONSTRUCTED STREETS AND STORM DRAINAGE FACILITIES ADJACENT TO THE SITE. THE CITY HAS SUBMITTED A LETTER OF MAP REVISION TO REMOVE ALL FLOOD PLAINS FROM WITHIN THE SAD223 AREA.
THE SITE CURRENTLY DISCHARGES TO THE TWO EXISTING STORM SEWER DRAINS AT THE CORNER OF COTTONWOOD PARK AND CONNECTOR STREET. NO CHANGE TO THE CURRENT ALLOWABLE DISCHARGE RATES IS PROPOSED WITH THIS PLAN. THERE ARE NO OFFSITE FLOWS ENTERING THIS PROJECT.

DEVELOPED CONDITIONS

A 10,000 SF COMMERCIAL/OFFICE BUILDING AND A 19,734 SF LA-Z-BOY STORE ARE PLANNED FOR THIS SITE. IN ACCORDANCE WITH THE PREVIOUS GRADING AND DRAINAGE PLAN FOR INITIAL SITE DEVELOPMENT OF TRACTS G-1A-2A THRU G-1A-2E. THE TOTAL ALLOWABLE RELEASE RATE IS 0.44 CFS FROM TRACT G-1A-2A AND 0.41 CFS FROM TRACT G-1A-2B. ON SITE PONDING WILL BE ACCOMPLISHED WITH TWO CONNECTED SURFACE PONDS. THE MAXIMUM STORAGE REQUIRED IS 17,925 CF. SITE PONDING WILL PROVIDE 17,972 CF. THE SITE WILL DISCHARGE THROUGH A SINGLE 3.8" DIA. ORIFICE AT A RATE NOT TO EXCEED 0.85 CFS (0.44 + 0.41).

NO.	REVISIONS	BY	DATE

LA-Z-BOY
GRADING AND DRAINAGE PLAN
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER 5/24/99

Easterling & Associates, Inc.
CONSULTING ENGINEERS
2600 The American Rd., SE, Suite 100
Rio Rancho, New Mexico 87124
(505) 898-8021 FAX (505) 898-8501
E-Mail: ed_engr@swcp.com

DESIGNED BY	DRAWN BY	CHECKED BY	
VAF	DEC	RPB	SHEET 1
JOB NO.	DATE		OF 2
4890	5-99		

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

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HYDROLOGY SECTION

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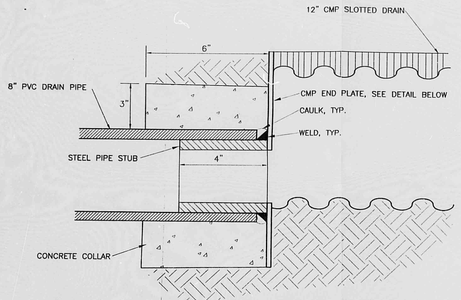
PUBLIC WORKS/HYDROLOGY

4 OF 4

A14/D10B



SLOTTED DRAIN / PVC PIPE CONNECTION DETAIL
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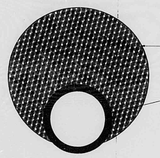

SLOTTED DRAIN END PLATE DETAIL
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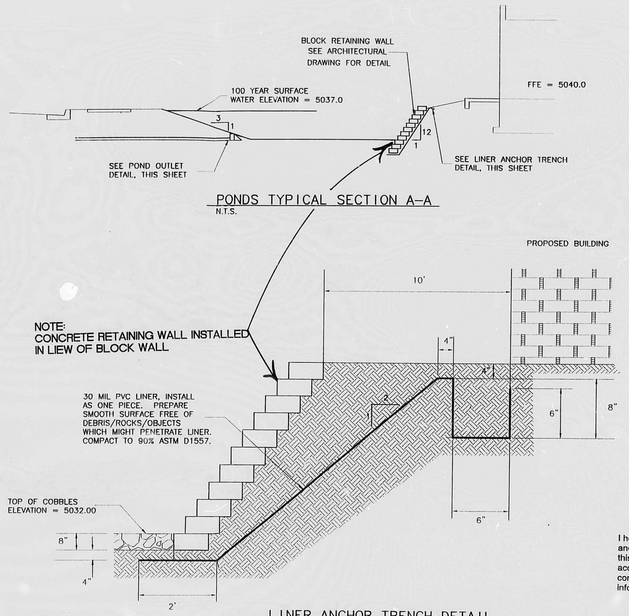

PONDS TYPICAL SECTION A-A
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LINER ANCHOR TRENCH DETAIL
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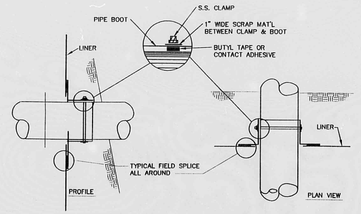
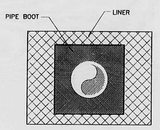




LINER PENETRATION DETAIL

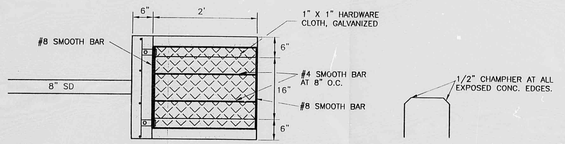
ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
PHASE 1 (NORTH) IMPROVEMENTS – LA-Z-BOY FURNITURE GALLERIES

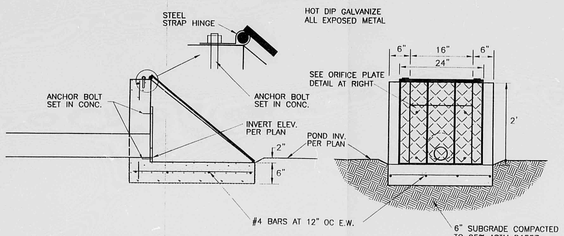
I hereby certify that I have inspected the site grading and drainage improvements and that they have been constructed and are expected to function in accordance with the intent of the approved Grading and Drainage Plan as amended by this certification. As shown on this certification plan, an underground detention ponding facility has been added to accommodate future development of the Phase 2 (south) portion of the site. Jaynes Corporation provided the as-constructed information shown on this plan. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate.

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

R. P. Bohannan, PE
New Mexico PE No. 9814

Date 9/8/99





POND OUTLET
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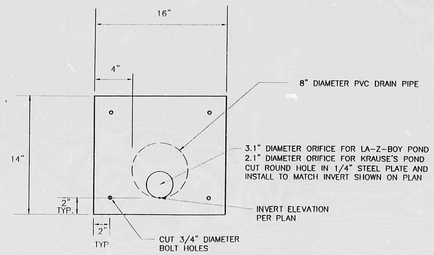

ORIFICE PLATE DETAIL
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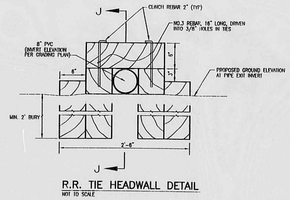
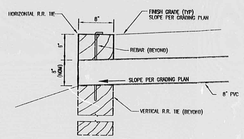


R.R. TIE HEADWALL DETAIL
NOT TO SCALE



SECTION J-J
NOT TO SCALE

NO.	REVISIONS	BY	DATE

LA-Z-BOY
DETAILS
TRACTS G1-1A-2A & G1-1A-2B
SEVEN BAR RANCH

R. P. BOHANNAN NEW MEXICO 9814 REGISTERED PROFESSIONAL ENGINEER

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(505) 898-8021 FAX (505) 898-8501
E-Mail: eai_engr@swcp.com

DESIGNED BY	DRAWN BY:	CHECKED BY:	SHEET 2
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JOB NO: 4890	DATE: 5-99		

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Roberta Duran
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