DRAINAGE REPORT

WESTWOOD RANCH APARTMENTS

ALBUQUERQUE, NEW MEXICO

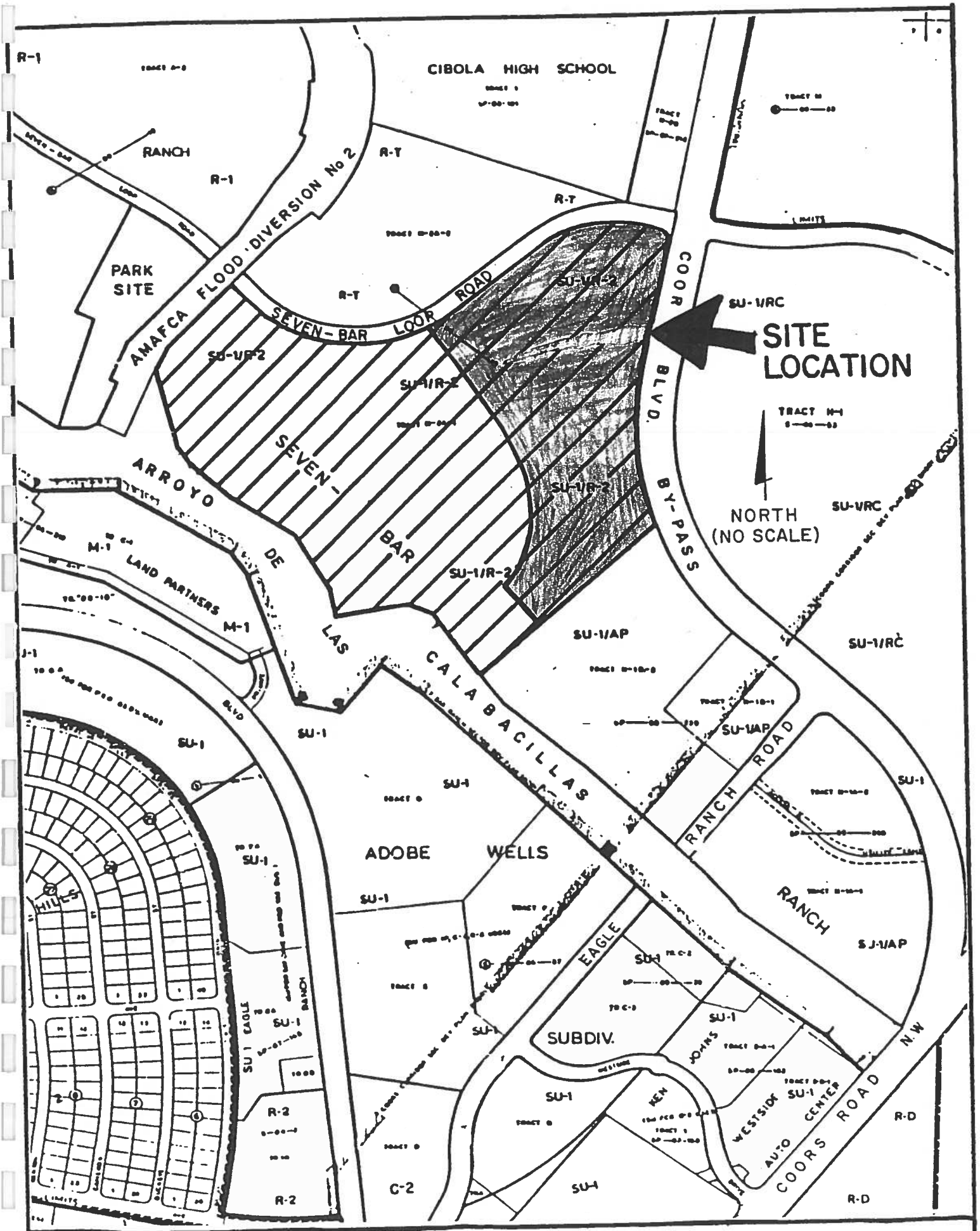
TABLE OF CONTENTS

I. DISCUSSION

Westwood Ranch Apartments is a proposed 472-unit development in the City of Albuquerque. The project is approximately 22 acres and located on the southwest corner of Coors Bypass Road and Seven Bar Loop Road. It is bounded by an undeveloped portion of an auto park to the east, the Calabacillas Arroyo and R-T subdivision to the south, a community park site to the west, vacant R-T zoning and the Cibola High School to the northwest and the undeveloped regional mall site to the northeast.

Hydrology calculations for the proposed development are based on the Drainage Master Plan done by Bohannan - Huston, dated May 3, 1993. The storm drain system is designed for the 100-year storm event. Design flows for the project are based on straight percentage relationships between the 100-year, 25-year and 10-year events.

The proposed development will be protected from flooding by an on-site piped drainage system. The system will carry runoff to the southwest corner of the site and connect to an existing storm drain. In order to balance earthwork, the proposed grading requires lowering the existing storm drain for a reach of approximately 400 feet. Preliminary hydraulic calculations for the lowered storm drain are included in this project. The existing storm drain connects to the Arroyo De Las Calabacillas.



VICINITY MAP

* FROM DRAINAGE REPORT FOR THE TRAILS AT SEVEN BAR SOUTH SUBDIVISION, BY BOHANNAN-HUSTON, MAY 3, 1993.

INTRODUCTION/PURPOSE OF REPORT

This report presents (1) a Drainage Master Plan for proposed Tracts L-1 and L-2 of the Trails at Seven Bar South Subdivision (Tract N-2A-1) and Tract N-2A-2, Seven Bar Ranch, and (2) detailed drainage plan for the proposed subdivision of Tract L-2 into a 177 unit, single family residential subdivision. Tracts L-1 and L-2 of the Trails at Seven Bar South Subdivision are located in the southwest corner of Seven Bar Loop Road and Coors Bypass Road intersection. Tract L-1 is proposed to be a multi-family (apartment) site containing approximately 21 acres of currently undeveloped property. Tract L-2 is proposed to be a single family residential subdivision containing approximately 36 acres; this land is also currently undeveloped property. The multi-family tract is zoned SU for R-2 uses, and the single family residential tract is zoned R-T.

The purpose of this report is to obtain drainage report approval for the following:

- Approval of the Drainage Master Plan for Tract N-2A-2, L-1, and L-2.
- Preliminary Plat approval for the platting of Tract L-1 as a single tract of land, and Tract L-2 as a 177 unit, single family phased residential subdivision (see enclosed preliminary plat, DRB-93-022).
- Final plat approvals will be subject to City Hydrology's receipt and approval of final grading plans for each individual phase of development (as such phases are described in the preliminary plat enclosed).

Due to the location of this property, with respect to property owners and affected governmental agencies, the following entities are reviewing and being made a part of this report:

- City of Albuquerque Housing Services Division (Ms. Sylvia Fettes).
- Soil Conservation Services (Black Diversion Channel)
- AMAFCA (Calabacillas Arroyo)

The lead review agency for this drainage report is the Hydrology Division of the City of Albuquerque.

STUDY METHODOLOGIES

Site hydrological conditions will be analyzed for the 100-year, 6-hour storm event using the City of Albuquerque's Development Process Manual with revisions to Chapter 22, in accordance with those proposed to the DPM Steering Committee, dated January 1993.

EXISTING SITE CONDITIONS

The following provides information on the existing hydrological conditions of the property of this report.

Legal Description

The existing legal description of the property described within this report is Tract N-2A-1 (proposed Tracts L-1 and L-2) and Tract N-2A-2, Seven Bar Ranch (described as Tract K in the Seven Bar Ranch Sector Plan).

Topography and Existing Drainage Patterns

The natural topography of the Drainage Master Plan area varies significantly by site. Tract N-2A-1 has a mildly sloping ground with approximately 2% to 3% slopes. Drainage is sheet flow in a predominately easterly direction towards Coors Bypass Road and the east boundary of Tract L-1. Vegetation is light, low-lying grasses and shrubs. Soils are sandy and easily erodible. The remains of an abandoned asphalt airport runway exist on this property.

Tract N-2A-2 currently drains in a sheet-flow fashion in a predominately southeasterly direction at slopes of approximately 4% to 5%. Soil and vegetation conditions are identical to those found on Tract N-2A-1. Storm drainage runoff from this tract crosses the existing right-of-way of Seven Bar Loop Road and enters the runoff of Tract N-2A-1.

Sheet 1 of 2, enclosed in the pocket located at the back of this report, identifies the existing drainage conditions of this site. Three primary basins exist: The north basin, enclosing all of Tract N-2A-2 and the northerly portion of N-2A-1, yields a flow rate of approximately 52 cfs in the 100-year, 6-hour storm event; a small center basin, entirely enclosed by Tract N-2A-1, currently flows at approximately 10.5 cfs; and the south basin,

enclosed by Tract N-2A-1, yields an existing flow rate of approximately 44.9 cfs. As described above, all these basins drain to Coors Bypass Road.

Drainage Facilities

Several existing drainage facilities, that either serve or are in a position to serve this property, are located in the area. The AMAFCA Black Diversion Channel is located on the northwest line of Tracts N-2A-1 and N-2A-2. This perched channel is a concrete lined, rectangular box structure currently maintained and managed by AMAFCA but owned and originally constructed by the Soil Conservation Service. The Calabacillas Arroyo is an unlined and partially improved arroyo located on the southwestern boundary of Tract N-2A-1 (proposed Tract L-2) . This major arroyo is overlaid by an existing AMAFCA drainage easement. Finally, an existing 30" RCP storm drain has been extended to immediately south of the southeast corner of Tract N-2A-1 (proposed Tract L-1).

PROPOSED DEVELOPMENT

The drainage master plan area is proposed to be divided into three residential developments:

- The Trails at Seven Bar South Subdivision is a proposed subdivision of Tract N-2A-1 into two tracts. The western portion of Tract N-2A-1 (identified as Tract L-2) will consist of 177 single family detached homes on lots with minimum dimensions of 45 feet wide by 105 feet deep and is proposed to be developed in three phases. This project will consist of public streets, public underground utilities and public underground drainage facilities. Primary access will be obtained from two entrances off Seven Bar Loop Road, which is a proposed public street extended west from the Coors Boulevard Bypass. The southern half of Seven Bar Loop Road will be constructed during the development of this project.

- Tract L-1 is a proposed subdivision of the eastern portion of Tract N-2A-1. At this time this tract is intended for a future multi-family development. This project will probably consist of private drives and parking areas, privately

maintained surface drainage and common areas, and public underground utilities and public underground drainage facilities. Primary access will be obtained from an entrance on Coors Bypass and on Seven Bar Loop Road, a proposed public street extended west from the Coors Boulevard Bypass. The southern half of Seven Bar Loop Road will be constructed during the development of the Trails at Seven Bar South Subdivision.

- Tract N-2A-2 lies to the north of Seven Bar Loop Road and is owned by the City of Albuquerque. At this time the tract is intended for single family development. This project will probably consist of public streets and public maintained surface drainage and common areas, and public underground utilities and public underground drainage facilities. Primary access will be obtained from two entrances off Seven Bar Loop Road, a proposed public street extended west from the Coors Boulevard Bypass. The northern half of Seven Bar Loop Road will be constructed during the development of this project.

HYDROLOGIC ANALYSIS

The new rational method hydrologic procedures identified within the proposed revision to Chapter 22, Section 22.2 of the Development Process Manual (DPM Update), are utilized to determine peak flow rates for design of the storm drainage improvements within the projects. The 100-year, 6-hour storm is used as the design event.

For the purposes of this analysis, the developed master plan area falls within four general drainage basins: one in the Cabezon Channel watershed (flows in Coors Bypass) and three in the Calabacillas Arroyo watershed. The basins identified below refer to Plate 2 - the Drainage Master Plan.

1. The eastern portion of Tract N-2A-2 (Basin D), the eastern portion of the Seven Bar Loop right-of-way (Basin F) and the northern portion of the western half of the Coors Boulevard Bypass right-of-way (Basin I) together generate fully developed runoff of 18.3 cfs (3.3 cfs + 9.4 cfs + 5.6 cfs, respectively) that ultimately flow north in a storm drain in the Coors Bypass to the detention pond

adjacent to Cibola High School and eventually into the Cabezon Channel. This flow is less than the 18.5 cfs allowed from these basins in the SAD 223 Drainage Management Plan of August 1992. The storm drain and detention pond are proposed with the construction of SAD 223 improvements.

2. The southern portion of the western half of the Coors Boulevard Bypass right-of-way (Basin J) generates a fully developed runoff of 4.5 cfs and flows south into the Coors Boulevard Bypass storm drain system where it eventually discharges into the Calabacillas Arroyo. This runoff, and its collection, has been designed as a part of the SAD 223 - Part 3 plans. No improvements to the existing pavement section in Coors Boulevard Bypass will be made with this development.

3. The western portion of Tract N-2A-2 (Basin C) and the western portion of the Seven Bar Loop right-of-way (Basin E) together generate a fully developed runoff of 63.8 cfs (59.7 cfs + 4.1 cfs, respectively) that is proposed to be conveyed into the Black's Diversion Channel which empties into the Calabacillas Arroyo.

4. The remaining basins that comprise the whole of Tract N-2A-1 (Basins A, B, G and H) together generate a fully developed runoff of 191.8 cfs (115.1 cfs + 71.9 cfs + 2.3 cfs + 2.5 cfs, respectively) that is proposed to be routed and discharged directly into the Calabacillas Arroyo. Basin K generates 4.5 cfs that will be detained in the basin, then discharged to Coors Bypass in a controlled manner when SAD #223 improvements are complete.

Please refer to Tables 1 and 2 in Appendix 2, and Plate 2 for a detailed summary of hydrological parameters and basin characteristics.

DRAINAGE MANAGEMENT PLANS

For the purposes of the drainage management plan, the four general drainage basins above will again be used. Two sets of phasing will be used in the discussion below: "Master

Plan Phase" will refer to the phasing shown on Plate 2 - Drainage Master Plan, and "Subdivision Phase" will refer to the phasing of the Trails at Seven Bar South Subdivision as shown in Plates 3, 4 and 5.

Drainage Master Plan

The following describes the drainage master management plan for Tracts N-2A-1 and N-2A-2:

1. **Seven Bar Loop Road** - Under Master Plan Phase 1, the south half (eastern portion) of Seven Bar Loop Road will be built and will convey the street flow east to an inlet at the intersection with Coors Blvd. Bypass. A swale will be constructed in the north half of the Seven Bar Loop right-of-way to convey the undeveloped flow from Basins D and F east to an inlet at the intersection with Coors Blvd. Bypass. Both of these flows will then be conveyed to the temporary Public Retention Pond #2 on Basin K. This pond will be sized to accommodate twice the developed condition volume of a 100-year storm from Basins D, F and K. The flows from Basin I will be unchanged from the historical condition and will continue to flow north in an existing swale.

   As a part of Master Plan Phase 2, the north half (eastern portion) of Seven Bar Loop Road will be constructed and Tract N-2A-1 and will be developed for single family housing. Now the north half of Seven Bar Loop Road will convey the developed flows east to the existing inlet (although now modified) at the intersection with Coors Blvd. Bypass. As before, the flows will be collected and retained in the temporary Retention Pond #2.

   Under Master Plan Phase 1, the south half (western portion) of Seven Bar Loop Road will be built and will convey the street flow east to inlets located approximately 1400 feet west of the intersection with Coors Blvd. Bypass. The piped flows from these inlets will temporarily discharge into a swale to be constructed in the north half of the Seven Bar Loop right-of-way. This swale will also convey the undeveloped flow from Basins C and E east to a temporary

culvert that will cross south under Seven Bar Loop Road and into the temporary Retention Pond #1 on Tract L-1. This pond will be sized to accommodate twice the developed condition volume of a 100-year storm from Basin E and twice the undeveloped volume from Basin C.

As a part of Master Plan Phase 2, the north half (western portion) of Seven Bar Loop Road will be constructed and Tract N-2A-1 will be developed for single family housing. Now the north half of Seven Bar Loop Road will convey the developed flows east to new inlets located approximately 1400 feet west of the intersection with Coors Blvd. Bypass. As currently planned, a 42" storm drain will be constructed in Seven Bar Loop Road to convey all the developed flows from Basins C and E west and into the Black's Diversion Channel. The Black's Diversion Channel was designed by the Soil Conservation District but is currently operated and maintained by AMAFCA. In an analysis that was submitted to the SCS, it was shown that the addition of flows to the Black's Diversion Channel from a storm drain in the Seven Bar Loop Road would not adversely impact the peak flow in the channel due to the 48 minute difference in the respective times to peak. The SCS concurred with this conclusion and the correspondence can be found in Appendix 6. A preliminary design for the storm drain system in Seven Bar Loop Road can be found in Plate 7. The Retention Pond #1 will be removed and the culvert to it plugged.

As currently planned, the development of Tract L-1, under Master Plan Phase 3, will not have any impact on Basins C and E, on Seven Bar Loop Road. However, should the storm drain connection to the Black's Diversion Channel not be permitted, then provisions shall be made to accommodate all the developed flow from Basins C and E by routing it in a public drainage easement through Tract L-1 (adjacent to Coors Bypass) to the storm drain now proposed at the southern edge of Tracts L-1 and L-2 and discharge it into the Calabacillas Arroyo.

The improvements planned to Coors Bypass (SAD 223) under the Master Plan Phase 4 will have no effect on Basins C and E, or Seven Bar Loop Road.

The development of Tract L-1 for multi-family housing as a part of Master Plan Phase 3 will not impact this general basin other than possible landscaping improvements to the Retention Pond #2.

2. **Coors Boulevard Bypass Road** - Master Plan Phase 4 consists of the construction, by others, of improvements to the Coors Blvd. Bypass according to the SAD 223 - Part 3 plans. The flow from Basins D and F in Seven Bar Loop Road will be collected in the existing inlets in Seven Bar Loop Road but will now be conveyed to a manhole that is a part of a storm drain system in the Coors Blvd. Bypass. The developed flow from Basin I will now fall under the SAD 223 drainage improvements. Retention Pond #2 can be substantially reduced in size with the diversion of flows to the SAD 223 system.

The flows from Basin J will continue to flow south in the new curb until intercepted by the existing storm drain system in the Coors Blvd. Bypass and eventually discharged into the Calabacillas Arroyo. As a part of the Master Plan Phase 4, the Coors Blvd. Bypass street project will be constructed by others to include drainage improvements for Basin J. The construction of Seven Bar Loop Road in Master Plan Phase I substantially reduced the amount of runoff reaching Coors Bypass.

3. **Tracts L-1 and L-2, Trails at Seven Bar South Subdivision** - As a part of the Master Plan Phase 1 development, a storm drain system will be built from the southwestern most corner of Tract L-1 to an outfall in the Calabacillas Arroyo. This system will be designed to accept all the developed flows from Basins A, B, C, E, H and G, although the flows from Basins C and E are planned to the Black's Diversion Channel. A swale will be provided to convey the flow from Tract L-3 (Basin H) south to the access easement and then northeasterly down to the storm drain inflow. The design of the outlet structure at the Calabacillas

Arroyo will be approved by AMAFCA and the storm drain/outfall configuration has been shown in Plate 6. AMAFCA has given preliminary approval to the outfall and suggests that they may be able to maintain the outfall structure. Retention Pond #1 will be constructed on Tract L-1 but it will not affect the drainage in Basin B. Basin B will be allowed free (undeveloped) discharge into the Coors Blvd. Bypass right-of-way until such time that Tract L-1 is developed (Master Plan Phase 3). This discharge however, reduced from pre-Seven Bar Loop street flows.

The improvements planned under the Master Plan Phase 2 as part of the development of Tract N-2A-2 will have no effect on Basins B, H or G, unless a connection to the Black's Diversion Channel by a storm drain in Seven Bar Loop Road is not permitted (see Section 2 above).

Under the Master Plan Phase 3, most of the developed flows of Tract L-1 (Basin B) will be graded to provide positive surface drainage to the storm drain system inlet at the southwest corner of Tract L-1. It will then be conveyed to the Calabacillas Arroyo. The surface drainage may be replaced by an underground storm drain system, the configuration of which will be determined at the time of the development of Tract L-1, with the provision that all the developed flow be conveyed to the storm drain system.

The improvements planned under the Master Plan Phase 4 (Coors Bypass improvements) will have no effect on Basins B, H or G.

DRAINAGE MASTER PLAN SUMMARY

The following outline describes required drainage infrastructure construction by phase:

Phase 1

Multi-phase residential development of Tract L-2.

Construction of south half of Seven Bar Loop pavement.

Construction of Retention Ponds #1 and #2.

Construction of storm drain system and outfall to Calabacillas Arroyo.

Phase 2

Residential Development of Tract N-2A-2.

Construction of north half of Seven Bar Loop Pavement.

Construction of storm drain system in Seven Bar Loop Road.

Removal of Retention Pond #1.

Phase 3

Multi-Family Development of Tract L-1.

Removal of Retention Pond #2 by developer of Tract L-1.

Extention of Storm Drain System north of Seven Bar Loop Road per SAD #223 to collect flows from Seven Bar Loop Road.

Construction of Graded Swale (or other On-Site Drainage System) across Tract L-1.

Phase 4

Construction of Coors Boulevard Bypass per SAD #223 Plans.

B. SUBDIVISION OF TRACT L-2

Under the Master Plan Phase 1, the Trails at Seven Bar South Subdivision will be developed in three subdivision phases as shown Plate 3. Subdivision Phase 1 consists of Basins A1 and A2. The flows from these basins will be conveyed in the street to two temporary retention ponds that are sized to contain twice the developed condition volume from these basins. The required pond volumes are 1.26 acre-feet and 0.58 acre-feet respectively for Basins A-1 and A-2.

Subdivision Phase 2 consists of Basins A6, A7, A8 and A9. The temporary retention ponds from Subdivision Phase 1 will be removed and the streets within the subdivision project will convey runoff to the Intersection of Arroyo Crest Drive, Arroyo Bend Drive and Calabacillas Court, where it will be intercepted by a proposed storm sewer system within these three streets and conveyed to the proposed 48" and 54" storm drain system at the southern boundary of the tract as shown in Plates 6 and 8. This storm drain system and outfall to the Calabacillas Arroyo will be constructed as part of Subdivision Phase 2 development.

Subdivision Phase 3 will complete the Trails at Seven Bar South Subdivision with the additions of Basins A3, A4 and A5. No additional storm drain improvements will be required

for this phase, and all the flow will be conveyed in the street right-of-way to the intersection of Sand Sage Road and Arroyo Crest Drive.

Prior to final plat and construction plan approvals, final grades and construction details for the individual phases described above will be supplied to the City's Hydrology Division..

PHASE SUMMARY (SUBDIVISION)

Please refer to the Basins Map (Plate 3) for the following discussion.

Phase 1 consists of the development of 40 single family lots and their required streets in Basins A-1 and A-2. As described above, the flows from these basins will be routed to two retention ponds located approximately where Arroyo Bend Drive and Arroyo Crest Drive end at the phase boundary. These ponds are sized to contain twice the developed volume from each basin and will remain in place until the storm drain system in Phase 2 is complete.

Phase 2 consists of the development of 69 single family lots and their required streets that lie within Basins A-6, A-7, A-8 and A-9. At this time, a storm drain system will be constructed to intercept flows at the intersection of Arroyo Bend Drive, Arroyo Crest Drive and Calabacillas Court, and convey them to the storm drain in the drainage easement (also being constructed as a part of this phase) and then to the Calabacillas Arroyo. After completion of this storm drain system, the temporary retention ponds from Phase 1 will be removed.

Phase 3, the last phase, will consist of the development of 68 single family lots and the remaining streets that lie within Basins A-3, A-4 and A-5. Since all the drainage from these basin can be contained in the street flows and the storm drain system for this subdivision were constructed as a part of Phase 2 development, no other drainage improvements will be required for the development of Phase 3.

HYDRAULIC ANALYSIS

The storm sewer system internal to the Trails at Seven Bar South Subdivision is analyzed using current DPM methods for pressure flow conditions. Inlet capacity computations along with all hydraulic computations are included in Appendix 3. The inlet at the cul-de-sac of Calabacillas Court is in a sump condition and is also provided with emergency overflow spillway swale in the drainage easement which flows to the manhole grate/inlet on the 48" storm drain that flows into the Calabacillas Arroyo.

The storm sewer in Seven Bar Loop Road is analyzed using current DPM methods for pressure flow conditions. Inlet capacity computations along with all hydraulic computations are included in Appendix 4.

Street capacities have been analyzed and the results are provided in the Appendix. All flows in the 100-year storm event are confined in the curb.

CALABACILLAS ARROYO

AMAFCA is currently reviewing a "Qualitative Study" of the existing prudent line along the north bank of the Calabacillas Arroyo. The study qualitatively concludes, via a review of the existing arroyo conditions as opposed to the arroyo conditions reviewed by the Simons-Li/AMAFCA Study (which established the current prudent line), that the existing prudent line continues to be satisfactory for defining development limits. AMAFCA's approval is anticipated in the near future.

CONCLUSION

The drainage management concepts presented in this report for both the Master Plan area, in general, and the imminent development of the single family residential development (Tract L-2) are both adequate and equitable to all concerned parties.

Approval of this report is recommended.

ASL Consulting Engineers

SHEET NO. _____ OF _____

ENGINEER J. ARVIN DATE 12-1-94 JOB NO. _____ BY _____

SUBJECT WESTWOOD RANCH CHECKED BY _____

CATCH BASIN SUMMARY

OFFICE _____ TELEPHONE _____

CATCH BASIN SUMMARY

C.B.	CONDITION	Q_{100}	% INT.	FLOWBY	TO C.B.	TYPE	CITY STD. C.B.	
A	SUMP	8.6	100	—	—	SINGLE "C"	2205	A
C	SUMP	8.6	100	—	—	SINGLE "C"		C
E	SUMP	4.7+1.2=5.9	100	—	—	SINGLE "C"		E
F	SUMP	0.7	100	—	—	SINGLE "C"		F
H	FLOWBY	7.2	72	1.2	E	SINGLE "C"		H
L	SUMP	6.8	100	—	—	SINGLE "C"		L

CATCH BASIN SIZING

CATCH BASINS:

"A", "C", "E", "F", "L": $Q_{100} \leq 8.6$ CFS (SUMP)

USE SINGLE "C"

C.B. "H": $Q_{100} = 7.2$ CFS (FLOWBY)

USE SINGLE "C"

CAPACITY = 6.0 CFS

FLOWBY = 7.2 − 6.0 = 1.2 CFS

TO C.B. "E"

WESTWOOD RANCH APARTMENTS

REVISED POND #2

-SEE "DRAINAGE MASTER PLAN FOR THE TRAILS AT SEVEN BAR SOUTH AND TRACT N-2A-2 SEVEN BAR RANCH"

FLOW INTO POND #2:

BASIN	ORIGINAL Q (CFS)	ORIGINAL V (AC-FT)	REVISED Q (CFS)	REVISED V (AC-FT)
D	3.3	0.12	3.3	0.12
F	9.4	0.34	9.4	0.34
K*	4.5	0.27	1.4	0.04
	17.2 CFS	0.73 AC-FT	14.1 CFS	0.50 AC-FT

* THE REDUCTION FROM BASIN K RESULTED FROM THE FINAL GRADING THAT DIVERTED ALL IMPERVIOUS FLOW TO THE SOUTH AND INTO THE APARTMENT SITE STORM DRAIN SYSTEM THAT FLOWS TO THE CALABACILLAS ARROYO. AREA = 0.5 AC, C = 0.6 E = 0.97

POND VOLUME = 0.50 AC-FT = 21,780 FT³ REQUIRED

-SEE ATTACHED SHEETS FOR POND GEOMETRY AND VOLUMETRICS

POND INV = 5059.0
100-YEAR DEPTH = 4.0'
100-YEAR WSEL = 5063.0
MAX POND DEPTH = 6.5'
MAX POND VOLUME = 47,908 FT³ = 1.10 AC-FT

-DEVELOPER SHALL PROVIDE A FENCE AS SHOWN AROUND THE POND.

BOHANNAN-HUSTON INC.

PROJECT NAME WESTWOOD RANCH SHEET 1 OF 3
PROJECT NO. 94143.40 BY DF DATE
SUBJECT POND #2 REVISION CH'D DATE

REVISED POND "2"

DEPTH	ELEV	BOTTOM	TOP	VOL	
0	59.0	3300	3300	0	
0.5	59.5	3300	3971	1,840	
1.0	60.0	3300	4553	3971	
1.5	60.5	3300	5136	6393	
2.0	61.0	3300	5716	9,106	
2.5	61.5	3300	6301	12,111	
3.0	62.0	3300	6884	15,400	
3.5	62.5	3300	7466	18,995	
4.0	63.0	3300	8049	22,874	← POND 2
4.5	63.5	3300	8631	27,045	
5.0	64.0	3300	9214 FT²	31,505	
5.5	64.5	3300	9927	36,616	
6.0	65.0	3300	10,640	42,064	
6.5	65.5	3300	11,353	47,900	

NEW POND "2" = 27,707 FT³

BOHANNAN-HUSTON INC.

PROJECT NAME Westwood Ranch SHEET 2 OF 3

PROJECT NO. 94143.40 BY DF DATE

SUBJECT Pond "2" Revised CH'D DATE