City of Albuquerque

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HYDROLOGY SECTION
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September 4, 1986

Michael Yost, P.E.
Community Sciences Corporation
Post Office Box 1328
Albuquerque, New Mexico 87048

RE: REVISED DRAINAGE REPORT OF TAYLOR RANCH, TRACTS 22A, 24, 27-A3, 27B, 30A, 30B, 32, 33, 34, AND 35, RECEIVED AUGUST 21, 1986 (E-12/D4)

Dear Mike:

The above referenced submittal, revised August 1986, is approved. Subsequent drainage submittals for development will be expected to be consistant with this approved master plan.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Doug Reynolds, BDC
Dan Sabo, AMAFCA

RAG/bsj

A) Purpose and Scope

The purpose of this study is to provide an update of a previously published report entitled "Taylor Ranch Drainage Management Plan and Report to Facilitate Bulk Land Parcelization including Tracts: 22A, 24, 27-A3, 27B, ~~3A~~ 30A, 30B, 32, 33, 34, and 35," (as well as Addendums One through Four of this same study). An update of this previously submitted work was requested by the City Engineer's office to facilitate approval of development requests on certain parcels in light of A.M.A.F.C.A.'s recently sponsored North Coors Drainage Study, now under consideration by the A.M.A.F.C.A. board.

This report, in conjunction with the other studies referenced herein, addresses the same issues as the original study at approximately the same level of detail. That level is commonly denoted the "conceptual" level and is primarily concerned with identifying major drainage patterns, flow rates and points of confluence for the study area, along with estimates of conveyance and ponding requirements where appropriate and feasible. These elements are reanalyzed in light of the most recent planning decisions and regulatory interpretations impacting the study area.

B) Site Location, Topography, Methodology

Topographical factors as well as engineering methodology were thoroughly covered in the original study and remain unchanged for all intents and purposes; therefore they will not be elaborated upon further here. Plate 1 presents a location map for convenient orientation to project location.

C) Design Criteria

1) Engineering Parameters:

Hydrological computations are based upon the 100 year - 6 hour and 1 hour rainfalls appropriate for this study area. These are 2.2 inches and 1.9 inches respectively. Fractions impervious were assigned based upon anticipated land uses within the zoning designations for each parcel, and these are itemized in Table 1. Curve numbers for pervious areas were selected based upon the anticipated, ultimate landscape treatment for these surfaces. For most developed areas this figure is 69 reflecting the anticipation of a mixture of turf, shrubbery, and southwestern style landscaping.

2) Flood Control Regulations:

This plan has been designed to comply with the current City of Albuquerque Drainage Ordinance which calls for on-site detention of runoff where capacities of downstream conveyances are inadequate to carry unrestrained, developed flows. Recognizing that much of

the land along Coors Road north currently has no reliable outfall, A.M.A.F.C.A. sponsored a study in 1984 to evaluate the engineering alternatives for providing a publically sponsored outfall for drainage runoff along much of North Coors. Said study is presently under review by the A.M.A.F.C.A. Board, however this plan assumes that the most restrictive alternative will be selected, and all computations, conclusions, and recommendations are based upon this assumption. This approach has been taken in order to provide a conservative estimation of what form the ultimate drainage management plan might take. The most conservative option(s) being considered by A.M.A.F.C.A. would provide for an allowable discharge of 0.26 cfs per acre for basin areas 18.2W, 19.1W and 19.2W of the A.M.A.F.C.A. study. This translates to a gross allowable discharge of 54 cfs for those areas of this study which will drain toward Coors Road. 207.7 ac

D) Offsite Drainage

The primary additional offsite consideration above those addressed in the original report is the proposal to divert detained flows (originating in Homestead (HHE) Hills East and subcatchments P1-P4 of the (Hughes Riverview Sector Plan)) around Alban Hills and down La Orilla Road via 24" storm sewer. The majority of these flows would flow within an existing natural arroyo which crosses through Alban Hills if said flows were detained and released at their natural point of outfall.

However, the City's requirement that a documentary easement be acquired across all downstream private properties prior to any development discharging across them is impractical in this case, so the 24" R.C.P. outfall to and down La Orilla Road is being proposed as the only viable alternative. At point E2 on La Orilla Road these offsite flows are merged with the site generated flows from areas E2 and E5 and routed to the linear pond along Coors Road.

Since part of the revised plan provides for discharge into the existing La Mariposa inlet on Taylor Ranch Drive, it was necessary to establish the current, contributory areas draining to this structure in order to route runoff from these areas with onsite runoff. These offsite areas are labeled TRD-1 and TRD-2, and represent a combination of historical data, visual reconnaissance, and judgment.

E) Onsite Drainage

Plate 2 illustrates subcatchment boundaries and the essence of the drainage plan as devised. Table 2 itemizes key hydrological parameters as well as peak flow rates, while Table 3 demonstrates compliance with Ordinance regulations regarding street flow for the two known street locations where surface runoff is of concern.

Onsite runoff breaks into two broad classifications - areas draining toward Coors Road and areas draining to the La Mariposa Basin. Area F and Tracts 22A, 30A, and 30B will

drain to the La Mariposa Detention Facility immediately west of Taylor Ranch Drive. Of these Tracts 30A, 30B, and 22A are thoroughly discussed in the Master Drainage Plan for (Hughes Estate) by Community Sciences Corporation, July 1985. AREA F, which is a portion of Tract 32, will drain via concrete easement channel, drop inlet and storm sewer into the existing Taylor Ranch Drive inlet to the La Mariposa Basin. Since the intersection of Taylor Ranch Drive, Golf Course Road, and La Orilla Road is slated for complete reconstruction, construction of the storm sewer connection will be facilitated at the time. A great amount of effort was expended in establishing the hydraulic feasibility of this alternative although the precise routing of the La Mariposa inflow hydrograph with flows from areas TRD-1, TRD-2 and F was not practical. The hydraulic capacity of the storm sewer carrying flows from Area F into the existing inlet is verified in Appendix B for two conditions.

1) With basin water elevation below top of flap gates and full flows from areas TRD-1, TRD-2 and F

2) With basin water elevation at 100 year water surface level and flows from area F only in the storm sewer.

All other areas within the study limits drain toward (or will be graded to drain toward) Coors Road. The focus of the proposed management plan for these areas is a 668,200 cubic foot lineal detention facility along Coors Road which will

throttle peak inflows of 440.9 cfs down to a peak outflow rate of 50.5 cfs. The detention pond will be constructed to the full dimensions shown to serve development of Tracts 27-A3, 27B, 32, and 33C on an interim retention basis until the A.M.A.F.C.A. sponsored outfall is placed in service. At that time the outlets will be constructed to release the 50.5 cfs outflow into two, existing culverts beneath Coors Road. Receipt of outflow from these culverts has already been incorporated into the plans for and construction of Montano Plaza.

The western portion of Tract 33C drains to Taylor Ranch Drive. Combined with offsite flows this runoff will flow down Montano Road and subsequently to the existing culvert beneath Coors immediately north of the Coors Road /Montano Road intersection. Some of these flows will be diverted down Montano Plaza Dr. and routed through the proposed pond.

Appendix B contains sample calculations which verify the adequacy of the proposed linear pond to serve as an interim retention facility for several of the Drainage Basins scheduled for development prior to placement of the AMAFCA outfall. It is recognized that any additional development within this overall drainage basin will require additional analysis and possible expansion of the interim retention capacity until the outfall is physically in place.

TABLE 2
HYDROLOGICAL PARAMETERS AND FLOW RATES
(REVISED 8/86)

Area Point Designation	Area (sq. mi.)	Areas Contributing to Subcatchment	Gross Area (sq. mi.)	Fraction Impervious	CN (Pervious)	Tc (minutes)	Q_{100}	Remarks
A1	.0274	A1	.0274	0.75	69	8	54.2	
B1	.0040	B1	.0040	0.75	69	4	7.9	
B2	.0264	B1, B2	.0304	0.75	69	7	60.2	
C3	.0231	C3	.0231	0.38	69	11	25.2	
C2	.0479	C2, C3, PR2A	.0783	0.61	69	15	102.4*	Part of Montano added in to account for Montano water diverting onto Montano Plaza Drive.
C1	.0017	C1	.0017	0.72	75	4	103.6*	Q includes C1 - C3, C2 routed to C1
D1		D1	.0818	0.59	69	12	121.3*	
E6	.0095	E6	.0095	0.38	69	11	10.4	
E5	.0129	E5	.0129	0.65	69	10	22.9	
E4	.0088	E4	.0088	0.41	69	9	11.2*	
E2	.0034	E2	.0034	0.84	75	7	49.8*	Q includes E6, E5, and E4
E2	-	-	-	-	-	-	68.6*	routed to E2 Offsite Flows in La Orilla Storm Sewer
E1	.0467	E1	.0467	0.55	69	13	65.8*	Routed to E2 and included
E1	-	-	-	-	-	-	130.1*	Includes E1 -E6 plus offsite flows in La Orilla Storm Sewer
Pond	-	all except F and PR2B	-	-	-	-	440.9*	Inflow
							50.5*	Outflow
TRD-1	.0797	TRD-1	.0797	0.40	70 81	16	81.4	Flows in Taylor Ranch Drive at point TRD-1
TRD-2	.0147	TRD-2	.0147	0.55	62	19	93.8	Q includes TRD-1 & TRD-2, TRD-1 routed to TRD-2
F	.0133	F	.0133	0.38	69	8	16.5	
F	-	-	-	-	-	-	98.2	Q includes TRD-1, TRD-2, F
PR2B	.0095	PR2B	.0095	0.48	69	18	10.8	
PR2A	.0073	PR2A	.0073	0.48	69	9	10.4	
PR2B	-	All except F	-	-	-	-	53.8*	

CHANGED BY 8/86 REVISION

TABLE 3

Street Flow Characteristics

Point Designation	100 yr. Peak Flow	10 yr. Peak Flow	Estimated Street Slope	100 yr. Flow Depth	10 yr. Flow Depth	10 yr. Vel.	V x D	Remarks
E2	49.8	32.8	4.5%	0.38	0.34	5.62	1.91	OK, Revised 8/86
C1	103.6	51.9	2.2%	0.59	0.30	2.4	2.54	OK

AREA/POINT DESIGNATION = HHE1 - Homestead Hills East
AREA = .0319 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 14.6 MINUTES
FRAC IMPERV= .45
CN (PERVIOUS)= 75
CN (IMPERVIOUS)= 95

See Riverview Report

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
244	39.3

VOL = 75537.48 CF

POINT HHE1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
195	0.1
200	0.4
205	1.0
210	1.9
215	3.3
220	5.6
225	8.5
230	14.8
235	25.3
240	36.1
245	39.3
250	34.0
255	25.2
260	16.8
265	9.9
270	5.6
275	3.4
280	2.0
285	1.5
290	1.4
295	1.4
300	1.3
305	1.3
310	1.2
315	1.1
320	1.0
325	1.0

330	1.1
335	1.1
340	1.0
345	1.0
350	0.9
355	0.8
360	0.8
365	0.7
370	0.5
375	0.3
380	0.1

DEPTH-1(GUESS) = .5 FT.
DEPTH-2 = 0 FT.
SIDESLOPE-1 = 50 HORZ/VERT
SIDESLOPE-2 = 0 HORZ/VERT
WIDTH = 0 FT.
N = .017
SLOPE = 5.000001E-03 FT./FT.
REACH LENGTH = 1250 FT.

HYDROGRAPH AT POINT HHE1 TIME TRANSLATED TO POINT P3

COMPUTED VELOCITY = 2.863678

TIME	Q(CFS)
200	0.1
205	0.3
210	0.7
215	1.5
220	2.6
225	4.5
230	7.2
235	11.9
240	20.5
245	31.1
250	39.3
255	36.4
260	29.2
265	20.6
270	13.0
275	7.6
280	4.4
285	2.6
290	1.7
295	1.4
300	1.4
305	1.3
310	1.3
315	1.2
320	1.1
325	1.1
330	1.0
335	1.0

340	1.1
345	1.1
350	1.0
355	1.0
360	0.9
365	0.8
370	0.7
375	0.5
380	0.3
385	0.2

street, Homestead Hills Circle

AREA/POINT DESIGNATION = P1+P3 See Riverview Report
AREA = .0452 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 20 MINUTES
FRAC IMPERV= .57
CN (PERVIOUS)= 70
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
245	52.7

VOL = 114696.9 CF

POINT P1+P3 ADDED TO MAIN FLOWS

TIME	Q(CFS)
185	0.1
190	0.2
195	0.2
200	0.7
205	1.6
210	3.1
215	6.0
220	10.2
225	16.3
230	26.6
235	42.6
240	66.2
245	83.8
250	90.8
255	79.5
260	62.6
265	43.1

270	26.0
275	14.7
280	9.1
285	5.6
290	3.8
295	3.4
300	3.3
305	3.2
310	3.1
315	2.9
320	2.7
325	2.5
330	2.5
335	2.6
340	2.6
345	2.5
350	2.4
355	2.2
360	2.1
365	1.8
370	1.5
375	1.1
380	0.6
385	0.3
390	0.1

POINT P1 RESERVOIR ROUTED

OUTFLOW	2S/T+O
0.0	0.
0.9	116
2.5	478
4.6	741
7.0	1021
8.9	1318
9.5	1631

TIME	Q(CFS)
215	0.1
220	0.3
225	0.5
230	0.8
235	1.1
240	1.6
245	2.3
250	3.4
255	4.7
260	5.9
265	6.7
270	7.1
275	7.3
280	7.3
285	7.3

MAX STORAGE = 160074.4 C.F.
DIAMETER = 2
SLOPE = 5.000001E-03
N = .013
REACH LENGTH = 900 FT.

HYDROGRAPH AT POINT P1 TIME TRANSLATED TO POINT P4

COMPUTED VELOCITY = 4.630595

TIME	Q(CFS)
220	0.2
225	0.3
230	0.6
235	0.9
240	1.3
245	1.8
250	2.7
255	3.9
260	5.1
265	6.2
270	6.8
275	7.2
280	7.3
285	7.3
290	7.3
295	7.3
300	7.2
305	7.2
310	7.1
315	7.1
320	7.0
325	7.0
330	6.9
335	6.8
340	6.8
345	6.7
350	6.6
355	6.5
360	6.5
365	6.4
370	6.3
375	6.2
380	6.1
385	6.0
390	6.0
395	5.9
400	5.8
405	5.7
410	5.6
415	5.5
420	5.4
425	5.3

- See Riverview Report

AREA/POINT DESIGNATION = P2
AREA = .0247 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 11 MINUTES
FRAC IMPERV= .65
CN (PERVIOUS)= 70
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
243	39.8

VOL = 68893.88 CF

POINT P2 RESERVOIR ROUTED

OUTFLOW	2S/T+O
0.0	0.
0.9	134
1.3	280
1.6	438
1.8	610

TIME	Q(CFS)
220	0.2
225	0.3
230	0.5
235	0.8
240	1.1
245	1.3
250	1.4
255	1.5
260	1.5
265	1.5
270	1.5
275	1.5

MAX STORAGE = 60099.58 C.F.

POINT P2 ADDED TO MAIN FLOWS

TIME	Q(CFS)
210	0.1
215	0.2
220	0.4
225	0.6
230	1.1
235	1.7
240	2.4
245	3.1
250	4.1
255	5.3
260	6.6
265	7.7
270	8.4
275	8.7
280	8.8
285	8.9
290	8.9
295	8.8
300	8.8
305	8.7
310	8.7
315	8.6
320	8.6
325	8.5
330	8.4
335	8.3
340	8.3
345	8.2
350	8.1
355	8.0
360	8.0
365	7.9
370	7.8
375	7.7
380	7.6
385	7.5
390	7.4
395	7.3
400	7.2
405	7.1
410	7.0
415	6.9
420	6.8
425	6.7
430	6.6
435	6.5
440	6.4
445	6.3
450	6.2
455	6.2

740	3.2
745	3.2
750	3.1
755	3.1
760	3.1
765	3.1
770	3.1
775	3.0
780	3.0
785	3.0
790	3.0
795	2.9
800	2.9
805	2.9
810	2.9
815	2.8
820	2.8
825	2.8
830	2.8
835	2.8
840	2.7
845	2.7
850	2.7
855	2.7
860	2.7
865	2.6
870	2.6
875	2.6
880	2.6
885	2.6
890	2.5
895	2.5
900	2.5
905	1.0

street - Golf Course Road

AREA/POINT DESIGNATION = P4 - See Riverview Report
AREA = .0128 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 14.2 MINUTES
FRAC IMPERV= .61
CN (PERVIOUS)= 65
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
243	18.7

VOL = 32623.56 CF

POINT P4 ADDED TO MAIN FLOWS

TIME	Q(CFS)
200	0.3
205	0.9
210	1.3
215	2.4
220	4.3
225	5.8
230	9.8
235	16.0
240	21.0
245	20.5
250	15.8
255	12.7
260	11.0
265	10.2
270	9.7
275	9.4
280	9.4
285	9.4
290	9.4
295	9.3
300	9.3
305	9.2
310	9.1
315	9.0
320	8.9
325	8.9
330	8.8
335	8.8
340	8.7
345	8.6
350	8.5
355	8.3
360	8.3
365	8.1
370	7.9
375	7.8
380	7.6
385	7.5
390	7.4
395	7.3
400	7.2
405	7.1
410	7.0
415	6.9
420	6.8
425	6.7
430	6.6
435	6.5
440	6.4
445	6.3

730	3.2
735	3.2
740	3.2
745	3.2
750	3.1
755	3.1
760	3.1
765	3.1
770	3.1
775	3.0
780	3.0
785	3.0
790	3.0
795	2.9
800	2.9
805	2.9
810	2.9
815	2.8
820	2.8
825	2.8
830	2.8
835	2.8
840	2.7
845	2.7
850	2.7
855	2.7
860	2.7
865	2.6
870	2.6
875	2.6
880	2.6
885	2.6
890	2.5
895	2.5
900	2.5
905	1.0

DIAMETER = 2
SLOPE = 5.000001E-03
N = .013
REACH LENGTH = 2500 FT.

HYDROGRAPH AT POINT P4 TIME TRANSLATED TO POINT E2

COMPUTED VELOCITY = 5.819184

TIME	Q(CFS)
205	0.2
210	0.6
215	1.1
220	1.9
225	3.5
230	5.2
235	8.1
240	13.3

805	2.9
810	2.9
815	2.9
820	2.9
825	2.8
830	2.8
835	2.8
840	2.8
845	2.7
850	2.7
855	2.7
860	2.7
865	2.7
870	2.6
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	1.7
915	0.4

**ANALYSIS SHIFTED TO ALTERNATE BRANCH BEGINNING AT AREA/POINT DESIGNATION E5 **

AREA/POINT DESIGNATION = E5
AREA = .0129 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 10 MINUTES
FRAC IMPERV= .65
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	22.9

VOL = 35686.73 CF

POINT E5 ADDED TO MAIN FLOWS

TIME	Q(CFS)
195	0.1
200	0.6
205	1.3
210	1.5
215	3.3
220	5.6
225	6.7
230	12.5
235	20.2
240	22.9
245	16.3
250	8.0
255	5.3
260	3.7
265	1.5
270	0.8
275	0.7
280	0.6
285	0.6
290	0.6
295	0.6
300	0.6
305	0.5
310	0.4
315	0.4
320	0.4
325	0.5
330	0.5
335	0.4
340	0.4
345	0.4
350	0.4
355	0.3
360	0.3
365	0.2

AREA/POINT DESIGNATION = E4
AREA = .0088 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 9 MINUTES
FRAC IMPERV= .41
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	11.2

VOL = 17562.35 CF

POINT E4 ADDED TO MAIN FLOWS

TIME	Q(CFS)
190	0.1
195	0.2
200	0.9
205	1.8
210	2.1
215	4.7
220	8.0
225	9.5
230	18.4
235	30.0
240	34.1
245	24.4
250	12.2
255	8.2
260	5.7
265	2.3
270	1.2
275	1.1
280	0.9
285	0.9
290	0.9
295	0.9
300	0.9
305	0.8
310	0.7
315	0.6
320	0.7

325	0.7
330	0.8
335	0.7
340	0.6
345	0.6
350	0.6
355	0.5
360	0.5
365	0.3

AREA/POINT DESIGNATION = E6
AREA = .0095 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 11 MINUTES
FRAC IMPERV= .38
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
243	10.4

VOL = 18044.15 CF

POINT E6 ADDED TO MAIN FLOWS

TIME	Q(CFS)
190	0.1
195	0.2
200	1.0
205	2.2
210	2.7
215	5.7
220	9.8
225	11.9
230	22.8
235	37.7
240	44.4
245	34.2
250	19.0
255	12.6
260	8.4
265	3.9
270	2.0
275	1.5

280	1.3
285	1.2
290	1.2
295	1.2
300	1.2
305	1.1
310	0.9
315	0.9
320	0.9
325	1.0
330	1.0
335	1.0
340	0.9
345	0.8
350	0.8
355	0.7
360	0.7
365	0.4
370	0.1

DEPTH-1(GUESS) = .4 FT.
DEPTH-2 = 0 FT.
SIDESLOPE-1 = 0 HORZ/VERT
SIDESLOPE-2 = 50 HORZ/VERT
WIDTH = 0 FT.
N = .017
SLOPE = .045 FT./FT.
REACH LENGTH = 1300 FT.

HYDROGRAPH AT POINT E6 TIME TRANSLATED TO POINT E2

COMPUTED VELOCITY = 6.732115

TIME	Q(CFS)
190	0.1
195	0.1
200	0.5
205	1.4
210	2.3
215	3.8
220	7.2
225	10.6
230	15.8
235	28.1
240	40.1
245	44.4
250	28.7
255	16.7
260	11.1
265	6.8
270	3.2
275	1.8
280	1.4
285	1.3

290	1.2
295	1.2
300	1.2
305	1.2
310	1.1
315	0.9
320	0.9
325	1.0
330	1.0
335	1.0
340	0.9
345	0.9
350	0.8
355	0.7
360	0.7
365	0.6
370	0.3
375	0.1

street, La Orilla Road

AREA/POINT DESIGNATION = E2
AREA = .0034 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 7 MINUTES
FRAC IMPERV= .84
CN (PERVIOUS)= 75
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	7.6

VOL = 11721.37 CF

POINT E2 ADDED TO MAIN FLOWS

TIME	Q(CFS)
190	0.1
195	0.2
200	0.7
205	1.8
210	2.8
215	4.9
220	9.1
225	12.8
230	20.0

235	34.8
240	47.6
245	49.8
250	31.3
255	18.4
260	12.2
265	7.3
270	3.5
275	2.0
280	1.6
285	1.5
290	1.4
295	1.4
300	1.4
305	1.3
310	1.2
315	1.0
320	1.0
325	1.1
330	1.2
335	1.2
340	1.1
345	1.0
350	0.9
355	0.8
360	0.8
365	0.6
370	0.4
375	0.1

BRANCHES AT POINT E2 MERGED AND FLOWS ADDED

TIME	Q(CFS)
185	0.1
190	0.2
195	0.2
200	0.8
205	2.1
210	3.5
215	6.0
220	11.0
225	16.3
230	25.2
235	42.8
240	61.0
245	68.6
250	52.3
255	36.2
260	26.3
265	19.0
270	14.0
275	12.0
280	11.2
285	10.9
290	10.8
295	10.8

860	2.7
865	2.7
870	2.6
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	1.7
915	0.4

DIAMETER = 2.5
SLOPE = .02
N = .013
REACH LENGTH = 1400 FT.

HYDROGRAPH AT POINT E2 TIME TRANSLATED TO POINT E1

COMPUTED VELOCITY = 13.37934

TIME	Q(CFS)
190	0.1
195	0.2
200	0.6
205	1.6
210	3.0
215	5.1
220	9.3
225	14.5
230	22.1
235	36.7
240	54.6
245	68.6
250	58.0
255	41.9
260	29.8
265	21.6
270	15.8
275	12.7
280	11.5
285	11.0
290	10.9
295	10.8
300	10.8
305	10.7
310	10.5
315	10.3
320	10.1
325	10.1
330	10.1
335	10.0
340	9.9
345	9.8

910	1.9
915	0.9
920	0.2

AREA/POINT DESIGNATION = E1
AREA = .0467 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 13 MINUTES
FRAC IMPERV= .55
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
243	65.8

VOL = 114195.1 CF

POINT E1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
175	0.1
180	0.2
185	0.2
190	0.3
195	0.4
200	1.6
205	4.3
210	6.9
215	12.4
220	22.2
225	31.6
230	51.6
235	86.4
240	120.4
245	130.1
250	99.9
255	68.1
260	45.7
265	30.8
270	20.6
275	15.3
280	13.6
285	13.0
290	12.8

855	2.7
860	2.7
865	2.7
870	2.7
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	1.9
915	0.9
920	0.2

DIAMETER = 4
SLOPE = .018
N = .013
REACH LENGTH = 450 FT.

HYDROGRAPH AT POINT E1 TIME TRANSLATED TO POINT D1

COMPUTED VELOCITY = 15.41504

TIME	Q(CFS)
175	0.1
180	0.2
185	0.2
190	0.3
195	0.4
200	1.5
205	4.0
210	6.6
215	11.9
220	21.2
225	30.6
230	49.6
235	83.0
240	117.1
245	130.1
250	102.8
255	71.2
260	47.8
265	32.2
270	21.6
275	15.9
280	13.8
285	13.1
290	12.8
295	12.7
300	12.7
305	12.5
310	12.1
315	11.7
320	11.5

885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	2.0
915	1.0
920	0.2

AREA/POINT DESIGNATION = D1
AREA = .0818 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 12 MINUTES
FRAC IMPERV= .59
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
243	121.3

VOL = 210532 CF

POINT D1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
165	0.1
170	0.2
175	0.2
180	0.3
185	0.4
190	0.6
195	0.8
200	3.5
205	9.1
210	13.9
215	25.7
220	45.5
225	62.8
230	104.6
235	175.1
240	238.4
245	243.3
250	179.7
255	119.2

820	2.9
825	2.8
830	2.8
835	2.8
840	2.8
845	2.8
850	2.7
855	2.7
860	2.7
865	2.7
870	2.7
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	2.0
915	1.0
920	0.2

**ANALYSIS SHIFTED TO ALTERNATE BRANCH BEGINNING AT AREA/POINT DESIGNATION PR2A **

AREA/POINT DESIGNATION = PR2A
AREA = .0073 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 9 MINUTES
FRAC IMPERV= .48
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	10.4

VOL = 16209.7 CF

POINT PR2A ADDED TO MAIN FLOWS

TIME	Q(CFS)
200	0.3
205	0.5
210	0.6
215	1.4
220	2.3
225	2.8
230	5.5
235	9.1
240	10.4
245	7.5
250	3.8
255	2.6
260	1.8
265	0.7
270	0.4
275	0.3
280	0.3
285	0.3
290	0.3
295	0.3
300	0.3
305	0.3
310	0.2
315	0.2
320	0.2
325	0.2
330	0.2

335	0.2
340	0.2
345	0.2
350	0.2
355	0.2
360	0.2

DEPTH-1(GUESS) = .5 FT.
DEPTH-2 = 0 FT.
SIDESLOPE-1 = 50 HORZ/VERT
SIDESLOPE-2 = 0 HORZ/VERT
WIDTH = 0 FT.
N = .017
SLOPE = .0224 FT./FT.
REACH LENGTH = 2950 FT.

HYDROGRAPH AT POINT PR2A TIME TRANSLATED TO POINT C2

COMPUTED VELOCITY = 3.601431

TIME	Q(CFS)
210	0.1
215	0.3
220	0.5
225	0.8
230	1.6
235	2.5
240	3.5
245	6.5
250	9.4
255	10.4
260	6.5
265	3.5
270	2.4
275	1.5
280	0.6
285	0.4
290	0.3
295	0.3
300	0.3
305	0.3
310	0.3
315	0.3
320	0.2
325	0.2
330	0.2
335	0.2
340	0.2
345	0.2
350	0.2
355	0.2
360	0.2
365	0.2
370	0.2

375	0.1

includes C3

AREA/POINT DESIGNATION = C2
AREA = .071 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 15 MINUTES
FRAC IMPERV= .61
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
244	95.9

VOL = 187295.6 CF

POINT C2 ADDED TO MAIN FLOWS

TIME	Q(CFS)
180	0.1
185	0.2
190	0.3
195	0.4
200	1.3
205	3.1
210	5.7
215	10.2
220	17.3
225	25.9
230	42.0
235	67.1
240	92.9
245	102.4
250	91.4
255	70.4
260	45.9
265	26.5
270	15.2
275	9.3
280	5.2
285	3.8
290	3.5
295	3.4
300	3.3
305	3.2

310	3.0
315	2.7
320	2.6
325	2.6
330	2.6
335	2.7
340	2.6
345	2.5
350	2.3
355	2.1
360	2.0
365	1.7
370	1.2
375	0.7
380	0.3

DEPTH-1(GUESS) = .5 FT.
DEPTH-2 = -.4 FT.
SIDESLOPE-1 = 0 HORZ/VERT
SIDESLOPE-2 = 0 HORZ/VERT
WIDTH = 40 FT.
N = .017
SLOPE = .043 FT./FT.
REACH LENGTH = 700 FT.

HYDROGRAPH AT POINT C2 TIME TRANSLATED TO POINT C1

COMPUTED VELOCITY = 7.326976

TIME	Q(CFS)
180	0.1
185	0.2
190	0.2
195	0.4
200	1.0
205	2.5
210	4.9
215	8.8
220	15.0
225	23.1
230	36.8
235	59.1
240	84.7
245	102.4
250	94.9
255	77.1
260	53.7
265	32.7
270	18.8
275	11.2
280	6.5
285	4.2
290	3.6
295	3.4

300	3.4
305	3.3
310	3.1
315	2.8
320	2.6
325	2.6
330	2.6
335	2.7
340	2.6
345	2.5
350	2.4
355	2.2
360	2.0
365	1.8
370	1.3
375	0.9
380	0.4
385	0.1

AREA/POINT DESIGNATION = C1
AREA = .0017 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 4 MINUTES
FRAC IMPERV= .72
CN (PERVIOUS)= 75
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
239	3.4

VOL = 5296.018 CF

POINT C1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
180	0.1
185	0.2
190	0.2
195	0.4
200	1.2
205	2.8
210	5.1
215	9.6
220	15.9

225	24.1
230	39.9
235	62.5
240	88.1
245	103.6
250	95.7
255	77.9
260	53.9
265	32.8
270	18.9
275	11.3
280	6.6
285	4.3
290	3.7
295	3.5
300	3.4
305	3.3
310	3.1
315	2.9
320	2.7
325	2.6
330	2.7
335	2.7
340	2.7
345	2.6
350	2.4
355	2.2
360	2.1
365	1.8
370	1.3
375	0.9
380	0.4
385	0.1

BRANCHES AT POINT C1 MERGED AND FLOWS ADDED

TIME	Q(CFS)
165	0.1
170	0.3
175	0.3
180	0.4
185	0.6
190	0.8
195	1.2
200	4.7
205	11.9
210	19.0
215	35.3
220	61.4
225	86.9
230	144.5
235	237.6
240	326.5
245	346.9
250	275.4
255	197.1

820	2.9
825	2.8
830	2.8
835	2.8
840	2.8
845	2.8
850	2.7
855	2.7
860	2.7
865	2.7
870	2.7
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	2.0
915	1.0
920	0.2

AREA/POINT DESIGNATION = A1
AREA = .0274 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 8 MINUTES
FRAC IMPERV= .75
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	54.2

VOL = 84598.48 CF

POINT A1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
165	0.2
170	0.3
175	0.4
180	0.5
185	0.7
190	1.0

755	3.2
760	3.1
765	3.1
770	3.1
775	3.1
780	3.1
785	3.1
790	3.0
795	3.0
800	3.0
805	2.9
810	2.9
815	2.9
820	2.9
825	2.8
830	2.8
835	2.8
840	2.8
845	2.8
850	2.7
855	2.7
860	2.7
865	2.7
870	2.7
875	2.6
880	2.6
885	2.6
890	2.6
895	2.5
900	2.5
905	2.5
910	2.0
915	1.0
920	0.2

includes B1

AREA/POINT DESIGNATION = B2
AREA = .0304 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 7 MINUTES
FRAC IMPERV= .75
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
240	60.2

VOL = 93861.09 CF

POINT B2 ADDED TO MAIN FLOWS

TIME	Q(CFS)
165	0.2
170	0.4
175	0.4
180	0.6
185	0.8
190	1.2
195	1.8
200	7.8
205	18.3
210	26.6
215	52.3
220	90.3
225	121.2
230	207.8
235	338.7
240	440.9
245	428.2
250	314.9
255	222.9
260	148.4
265	89.0
270	52.9
275	35.2
280	27.2
285	23.8
290	22.8
295	22.3
300	22.4
305	21.6
310	20.2
315	19.1
320	18.9
325	19.2
330	19.5
335	19.3
340	18.6
345	18.0
350	17.2
355	16.4
360	15.7
365	14.1
370	11.6
375	9.7
380	8.4
385	7.9
390	7.6
395	7.5
400	7.4
405	7.3
410	7.2

POINT A1-E1 RESERVOIR ROUTED

OUTFLOW	2S/T+O
0.0	0.
9.2	924
22.3	1920
38.3	2988
47.5	4118
55.1	5114

TIME	Q(CFS)
200	0.2
205	0.4
210	0.9
215	1.6
220	3.0
225	5.1
230	8.3
235	14.9
240	25.1
245	37.4
250	43.2
255	46.9
260	49.1
265	50.1
270	50.5
275	50.4
280	50.1
285	49.7
290	49.3
295	48.9
300	48.5
305	48.1
310	47.7
315	47.2
320	46.7
325	46.3
330	45.9
335	45.4
340	45.0
345	44.6
350	44.1
355	43.7
360	43.2
365	42.8
370	42.3
375	41.8
380	41.2
385	40.7
390	40.2
395	39.6
400	39.1

685	11.7
690	11.5
695	11.3
700	11.1
705	10.9
710	10.7
715	10.5
720	10.3
725	10.1
730	10.0
735	9.8
740	9.6
745	9.4
750	9.3
755	9.1
760	9.0
765	8.9
770	8.8
775	8.7
780	8.6
785	8.4
790	8.3
795	8.2
800	8.1
805	8.0
810	7.9
815	7.8
820	7.7
825	7.6
830	7.5
835	7.4
840	7.3
845	7.3
850	7.2
855	7.1
860	7.0
865	6.9
870	6.8
875	6.7
880	6.7
885	6.6
890	6.5
895	6.4
900	6.3

MAX STORAGE = 668202.3 C.F.

AREA/POINT DESIGNATION = PR2B
AREA = .0095 SQ MI
1 HR RAIN = 1.9 INCHES
6 HR RAIN = 2.2 INCHES
TC= 18 MINUTES
FRAC IMPERV= .48
CN (PERVIOUS)= 69
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
244	10.8

VOL = 21094.81 CF

POINT PR2B ADDED TO MAIN FLOWS

TIME	Q(CFS)
195	0.1
200	0.3
205	0.8
210	1.5
215	2.7
220	4.8
225	7.7
230	12.6
235	22.1
240	35.1
245	48.1
250	52.5
255	53.8
260	53.6
265	52.8
270	52.0
275	51.3
280	50.6
285	50.1
290	49.7
295	49.2
300	48.8
305	48.4
310	48.0
315	47.5
320	47.0
325	46.6

1) Hydraulic Gradient - La Mariposa Inlets:

a) Equivalent Length - Flap Gates:

Assumes K for flap gates is same as for check value = 2.5. then

$$Lc = \frac{2.5\ (.75)^{1.33}}{2.9\ (.013)^{2}} = 348'$$

b) Gradient at Area F inlets - La Mariposa Empty (Assumes full flow from areas TRD-1 and TRD-2):

Top of inlet = 7.95
Q (one 36" pipe) = 49.1 cfs
n = .013
length of 36" pipe = 350'
Q (30" pipe) = 16.5

$$WSel = \frac{29\ (.013)^{2}\ 448\ (49.1/7.07)^{2}}{(.75)^{1.33}\ 64.4} + \frac{(49.1)^{2}}{.65^{2}\ (7.07)^{2}\ 64.4}$$

$$+ \frac{29\ (.013)^{2}\ 350\ (16.5/4.91)^{2}}{(.625)^{1.33}\ 64.4} = 15.00 < 16.8\ OK$$

†

c) Gradient at Area F inlets - La Mariposa at 100 year level (Assumes flow from Area F only):

100 year W.S. el in La Mariposa = 15.35
Q = 16.5 cfs
n = .013
pipe lengths - same as above

$$WS\ el = \frac{29\ (.013)^{2}\ 448\ (8.25/7.07)^{2}}{(.75)^{1.33}\ 64.4} + \frac{8.25^{2}}{.65^{2}\ (7.07)^{2}\ 64.4}$$

$$+ \frac{29\ (.013)^{2}\ 350\ (16.5/4.91)^{2}}{(.625)^{1.33}\ 64.4} = 16.45 < 16.8\ OK$$

2) Pipe Capacities

(All capacities are based upon the Manning formula, storm sewers are to operate under pressure flow conditions)

a) La Orilla Storm Sewer:

Qp = 21 cfs
Ø = 24"
n = .013
S = .005 (min.)

$$Q = \frac{3.14\ (1.49)(.50)^{2/3}\ (.005)^{1/2}}{.013} = 16 \text{ cfs}$$

b) Point E2 to E1:

Qp = 68.6
O = 36"
n = .013
S = 0.006

$$Q = \frac{7.07\ (1.49)(.75)^{2/3}\ (.006)^{1/2}}{.013} = 51.8 \text{ cfs}$$

c) E1 to Pond:

Qp = 130.1
Ø = 48"
n = .013
S = .013

$$Q = \frac{12.57\ (1.49)(1.00)^{2/3}\ (.013)^{1/2}}{.013} = 164.27 \text{ cfs}$$

3) Capacity of Catch Basins on La Orilla

a) Q = 49.8 cfs
d = .47
Slope = 4.5%

Try two "Type A's":

Q Grate = 9.4

$$Q \text{ curb} = 3.25\ (6)\ (.47)^{.83}\ (2.0) = 3.2$$

Capacity = 2 (9.4 + 3.2) = 25.2 cfs

9.4
3.2
12.6

b) Qremaining = 49.8 - 25.2 = 24.6 cfs
d = .38
slope = 4.5%

Try two "Type Double C's":

Q grate = 7.4

$$Q \text{ curb} = 3.25\ (6)\ (.38)^{.83}\ (2.0) = 2.1$$

Capacity = 2 (7.4 + 2.1) = 19.0 cfs

7.4
9.5

c) Qremaining = 24.6 - 19.0 = 5.6 cfs
d = .24
slope = 4.5%

Try two "Type Single C's":

Q Grate = 2.5 .83 2
Q curb =3.25 (3) (.24) = 0.2
Capacity = 2 (2.5 + 0.2) = 5.4

4) Required, Interim Retention Capacity

Area	Designation	Developed/Undeveloped	Area	% Imp.	CN
1)	B1	U	.004	-	82
2)	B2	U	.0264	-	82
3)	Half of C2	U	.024	-	82
4)	D1	D	.0416	0.57	70
5)	40%D2	U	.0161	-	82
6)	60%D2	D	.0241	0.57	70
7)	E1	D	.0284	0.57	70
8)	E3	D	.0230	0.57	70
9)	A1	D	.0274	0.75	70
10)	C1	D	.0017	0.72	75
11)	half of C2	D	.024	0.75	70
12)	C3	D	.0231	0.45	70
13)	E4 E6 ?	D	.0088	0.45	70
14)	E2	D	.0034	0.84	75
15)	E5	D	.0129	0.65	70
16)	HHE1 - Homestead Hills	D	.0319	0.45	75
17)	P3 - Road (Homestead Circle)	D	.0077	0.74	61
18)	P1 - Prairie Ridge III	D	.05	0.57	70
19)	P4 - Golf Course Road	D	.0142	0.74	61

a) Required Total Volume = 1,205,815 cf
b) Rermanent Pond Capacity at 4' = 610,500 cf
c) Net, required additional capacity = 595,315, less volume of pond on area (155,000) = 440,315 cf.

1
P1 of

$D_1 + D_2 + E_1 + E_3 = E_6 + E_1 + D_1$ in Report Text

.0416 .0095
.0161 .0467
.0241 .0818
.0284
.0230
.1332 ≈ .1380

CSC MODIFIED SCS RUNOFF MODEL

WATERSHED ANALYSIS POINT DESIGNATION = TRD-1
DRAINAGE AREA= .0797 SQ.MI.
1 HR RAINFALL= 1.25 INCHES
6 HR RAINFALL= 1.47 INCHES
TIME OF CONC.= 16 MINUTES
FRAC. IMPERV= .4
CN (PERVIOUS)= 70
CN (IMPERVIOUS)= 95

PEAK ONLY OUTPUTTED

TIME	Q(CFS)
244	41.1

VOL = 81493.9 cfs

ANALYSIS POINT TRD-1 ADDED TO MAIN FLOWS

TIME	Q(CFS)
200	0.3
205	0.8
210	1.6
215	3.2
220	6.0
225	9.4
230	16.1
235	26.9
240	37.8
245	40.6
250	35.7
255	26.8
260	18.1
265	11.0
270	6.4
275	4.0
280	2.5
285	1.9
290	1.8

TR-55 TABULAR DISCHARGE METHOD VERSION 1.11

Project : TAYLOR RANCH User: RAG Date: 02/11/88
County : State: Checked: ____ Date: _____
Subtitle: BASIN TRD-1

Total watershed area: 0.080 sq mi Rainfall type: II Frequency: 100 years

Subareas

	TRD-1
Area(sq mi)	0.08
Rainfall(in)	3.2
Curve number	81
Runoff(in)	1.47
Tc (hrs)	0.27
(Used)	0.30
TimeToOutlet	0.00
Ia/P	0.15

Time (hr)	Total Flow	Subarea Contribution to Total Flow (cfs) TRD-1
11.0	2	2
11.3	2	2
11.6	4	4
11.9	11	11
12.0	23	23
12.1	47	47
12.2	75	75
12.3	76P	76P
12.4	54	54
12.5	34	34
12.6	24	24
12.7	18	18
12.8	14	14
13.0	10	10
13.2	8	8
13.4	7	7
13.6	6	6
13.8	6	6
14.0	5	5
14.3	5	5
14.6	4	4
15.0	4	4
15.5	4	4
16.0	3	3
16.5	3	3
17.0	3	3
17.5	2	2
18.0	2	2
19.0	2	2
20.0	2	2
22.0	2	2
26.0	0	0

P - Peak Flow

TR-55 GRAPHICAL DISCHARGE METHOD VERSION 1.11

Project : TAYLOR RANCH
County :
Subtitle: BASIN TRD-1

State:

User: RAG
Checked: ____

Date: 02/11/88
Date: _____

Data: Drainage Area : .079 Sq Mi
Runoff Curve Number : 81
Time of Concentration: 0.27 Hours
Rainfall Type : II
Pond and Swamp Area : NONE

Storm Number	1	2
Frequency (yrs)	100	10
24-Hr Rainfall (in)	3.2	2.1
Ia/P Ratio	0.15	0.22
Runoff (in)	1.47	0.67
Unit Peak Discharge (cfs/sqmi/in)	687	648
Pond and Swamp Factor 0.0% Ponds Used	1.00	1.00
Peak Discharge (cfs)	80	34

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 16, 1986

Michael J. Yost, P.E.
Community Sciences Corporation
Post Office Box 1328
Corrales, New Mexico 87048

RE: REVISED CONCEPTUAL GRADING AND DRAINAGE PLAN FOR TAYLOR RANCH TRACTS 22A, 24, 27A3, 27, RECEIVED APRIL 9, 1986 FOR BULK LAND PLAT (E-12/D4)

Dear Michael:

The above referenced submittal dated April, 1986, is approved allowing free discharge from a portion of Tract 33C to Taylor Ranch Drive.

If you have any questions, call 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology

cc: Doug Reynolds
Celia Tomlinson

RAG/bsj

X-tra

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

January 13, 1986

Michael J. Yost
Community Sciences Corporation
Post Office Box 1328
Corrales, New Mexico 87048

RE: AMENDED CONCEPTUAL GRADING & DRAINAGE PLAN
FOR TAYLOR RANCH TRACTS 27-A3, 27B, 32 THRU 35
RECEIVED JANUARY 19, 1986 (E-12/D4)

Dear Michael:

The referenced submittal dated November, 1985, is approved for platting purposes.

If you have any questions regarding ths project, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Design Hydrology

cc: Bellamah Community Development

RAG/bsj

TRACTS 30A & 30B (Taylor Ranch) = PARCEL H-27 Riverview Sector Plan)

TRACT 22A (Taylor Ranch) = Portions of PARCEL H-28 Riverview Sector Plan)

FOR DETAILS OF DRAINAGE CONTROL ON THESE PARCELS SEE THE "MASTER DRAINAGE PLAN FOR HUGHES ESTATE, PORTIONS OF EAGLE RANCH, TAYLOR RANCH AND ZURIS-MANN LAND OWNERSHIPS" by COMMUNITY SCIENCES CORP. JULY, 1985 (NOW KNOWN AS RIVERVIEW SECTOR DEVELOPMENT PLAN)
These Tracts shown here for information only.

TRD1

HOMESTEAD CIRCLE, N.W.

TAYLOR RANCH DRIVE, N.W.

68' R/W

ELEVATIONS = TOP OF CURB

CAMINO DE ARREBOL

ELEVATIONS = TOP OF CURB ESTIMATED FUTURE TOP OF CURB INV. = 49.0±

DROP INLETS TO INTERCEPT ALL LA ORILLA SURFACE FLOWS

INV. 30.1 ±

36" RCP at 0.6% min.

36" RCP at 5.0%

Not Part of TAYLOR RANCH LANDS

INV. 26.0±

EASEMENT CHANNEL

STREET CURB & GUTTER

CITY SIDEWALK CULVERT

PAVEMENT LIMITS

SAMPLE TREATMENT FOR DISCHARGE TO MONTANO PLAZA DRIVE.

N.T.S.

Note: This example is not intended to be exclusive of other methods.

TRACT 33D (0.29 AC.)

INV. 90.0 ±

24" RCP at 0.5% min.

21.0 C.F.S. FROM RIVERVIEW PARCELS

LA ORILLA ROAD

INV 78.0 ±

INV 87.0 ±

EXISTING TEMPORARY DRAINAGE EASEMENT (to be relocated at time of site development)

36" at 2.2% min.

48" RCP at 1.3% min.

INV. 12.0 ±

INV = 08.0 ±

RIP RAP ANTI-EROSION BLANKET

PROPOSED 130' EASEMENT

100' PNM ESMNT.

EXISTING R/W (to be vacated)

INV. 92.3±

INV. 95.0±

INV. 94.5 ±

CONCRETE EASEMENT CHANNEL

INTERIM GRADED EARTH SWALE - to be constructed concurrently w/ TRACT 32 development "See Section A"

TRACT 32 (38.80 AC.) R-1 3.8 DU/AC.

CONNECT INTO EXISTING 4'X12' SPECIAL INLET

TRACT 34 43.49AC. R-1

48" RCP at 2.7%

INV. = 08.0±

EXISTING INTERIM RETENTION FACILITY±

EXISTING TEMPORARY DRAINAGE EASEMENT (to be relocated at time of site development)

EXISTING TWIN 30" CMP CULVERTS INV. 03.06

TRACT 33A-1 (25.3302 AC.) R1

668,000 CF PERMANENT POND
BOTTOM EL. 5003.0
TOP OF BERM 5009.0
100yr. W.S. EL. 5007.3

EXISTING STORM SEWER
EXISTING CAPACITY 74.9cfs
TO BE UPGRADED TO 103.6 c.f.s.

COORS ROAD, N.W.

ELEVATIONS = EDGE OF PAVEMENT

INTERIM POND EXPANSION

R/W

EL. 9.0

3:1 TYPICAL ALL SIDES

PERMANENT POND SECTION

COORS ROAD

EL. 7.0

70'

EL. 99.0

91'

SECTION X

(1"=50' hor., 1"=5' vert.)

EXISTING T.R. DRIVE INLET:
1-DOUBLE "C" INLET
1-4'X12' SPECIAL DROP INLET
T-IN 36" INLET PIPES w/ FLAP GATES

CONCRETE EASEMENT CHANNEL w/ DOUBLE "C" INLET. MINIMUM TOP OF GRATE 16.8

TYPE A DROP INLET

INTERIM DESILTATION POND
BOTTOM = 25 x 25, 3' BELOW TOP OF CURB, 3:1 SIDESLOPES - NOTE: SEE DETAIL THIS SHEET FOR ONE RECOMMENDED PERMANENT TREATMENT.

TRACT 33A-2 (21.5675 AC.)

TRACT 35 (20.47 AC.)

440,000 C.F. TEMPORARY POND EXPANSION - SEE SECTION X

EXISTING TWIN 30" CMP CULVERTS INV. 01.37

FUTURE CONTROLLED RELEASE OUTLETS TO COORS CULVERTS PEAK OUTFLOW = 50.5 cfs total

INTERIM GRADED EARTH SWALE - to be constructed concurrently w/ TRACT 32 development "See Section A"

PROPOSED INTERIM DRAINAGE EASEMENT (to be relocated at time of site development)

REAR YARDS DRAIN TO TAYLOR RANCH DRIVE

ELEVATIONS = TOP OF CURB

Bottom el. 5003.00 | 100yr. water depth | 130' EASEMENT | 12' | 33' TYP. | Top of berm 5009.00 | Existing roadway pavement | 3:1 | 4:1 | 6' | 3:1 | 2' depth of emergency spillway | 70'

SECTION B NORTHERLY POND SECTION

n.t.s.

Mariposa Detention Pond

CONCRETE EASEMENT CHANNEL

INTERIM RIP RAP ANTI-EROSION BLANKET

7.8 c.f.s.

MONTANO PLAZA

ROADSIDE DITCH

EXISTING EASEMENT TRACT 27B

APPROVED FOR DRAINAGE
9-5-86
DATE
Roger L. Hein, Pe Hydrology
SIGNATURE TITLE

LUTHERAN CHURCH SITE

Note: THIS SITE DRAINS INTO AN EXISTING ON-SITE TOTAL RETENTION POND

TRACT 33C R-1 4DU/AC (5.05AC)

TRACT 27-A3 (14.44 AC.) SU-1 20 DU/AC.

23.6cfs

NOTE: SEE SITE SPECIFIC DRAINAGE REPORT by Espey, Huston & Asso. for details.

⊗ ELEVATIONS = TOP OF TRACT 27B (18.00 AC) SU-1 20 DU/AC

EXISTING 30" CMP CULVERT, INV. 92.75

FIRE STATION #18

TRACT 27-A2

TRACT 27-A1

Note: TRACTS 27A1-27-A2 DRAIN INTO AN EXISTING ON-SITE TOTAL RETENTION POND.

Not Part of TAYLOR RANCH LANDS

KACHINA ST. 60' R/W

MONTANO PLAZA DRIVE, N.W.

3:1 3:1 2'6" min.

Min. longitudinal slope = 0.5%

SECTION A SWALE

RECEIVED
AUG 21 1986
HYDROLOGY SECTION

Legend

- TRACT BOUNDARY
- DRAINAGE BASIN BOUNDARY
- STORM SEWER INLETS
- FLOW LEADER
- (A-3) SUBCATCHMENT/POINT DESIGNATION
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- ROADSIDE DITCH
- ⊗ EXISTING ELEVATIONS
- × PRELIMINARY DESIGN ELEVATIONS
- APPROXIMATE LIMITS OF REVEGETATION. SEE SHEET 12 OF 12, COORS/MONTANO DRAINAGE DETENTION FACILITY, CITY PROJECT NO. 2759, FOR DETAILS AND SPECIFICATIONS.

PLAT PRINTED AUG 21 1986 CSC

AMENDED

PLATE 2

DRAINAGE MANAGEMENT PLAN PORTION OF TAYLOR RANCH

(TRACTS 22A, 24, 27-A3, 27B, 30A, 30B, 32, 33, 34, AND 35)

UPDATED 9/85
REVISED 10/85
REVISED 11/85
REVISED 4/86
REVISED 8/86

DATE	4-1986
SCALE	1" = 200'
DESIGNED	K.M.W.
DRAWN	W.J.W.
JOB NO.	73-19-166

community sciences corporation
LAND PLANNING ENGINEERING SURVEYING
P.O. Box 1328 Corrales, New Mexico 87048

E12-04