

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

June 20, 2024

Mark H. Burak, P.E.
1512 Sagebrush Trail SE
Albuquerque, NM 87123

**RE: Carmel – Ventura Subdivision
Grading and Drainage Plans
Engineer's Stamp Date: 04/14/2024
Hydrology File: C20D090**

Dear Mr. Burak:

Based upon the information provided in your submittal received 05/06/2024, the Grading & Drainage Plan is approved for Building Permit and Grading Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PO Box 1293

PRIOR TO CERTIFICATE OF OCCUPANCY:

Albuquerque

1. Engineer's Certification, per the DPM Part 6-14 (G): *Engineer's Certification Checklist For Subdivisions* is required.

NM 87103

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

www.cabq.gov

If you have any questions, please contact me at 924-3314 or amontoya@cabq.gov.

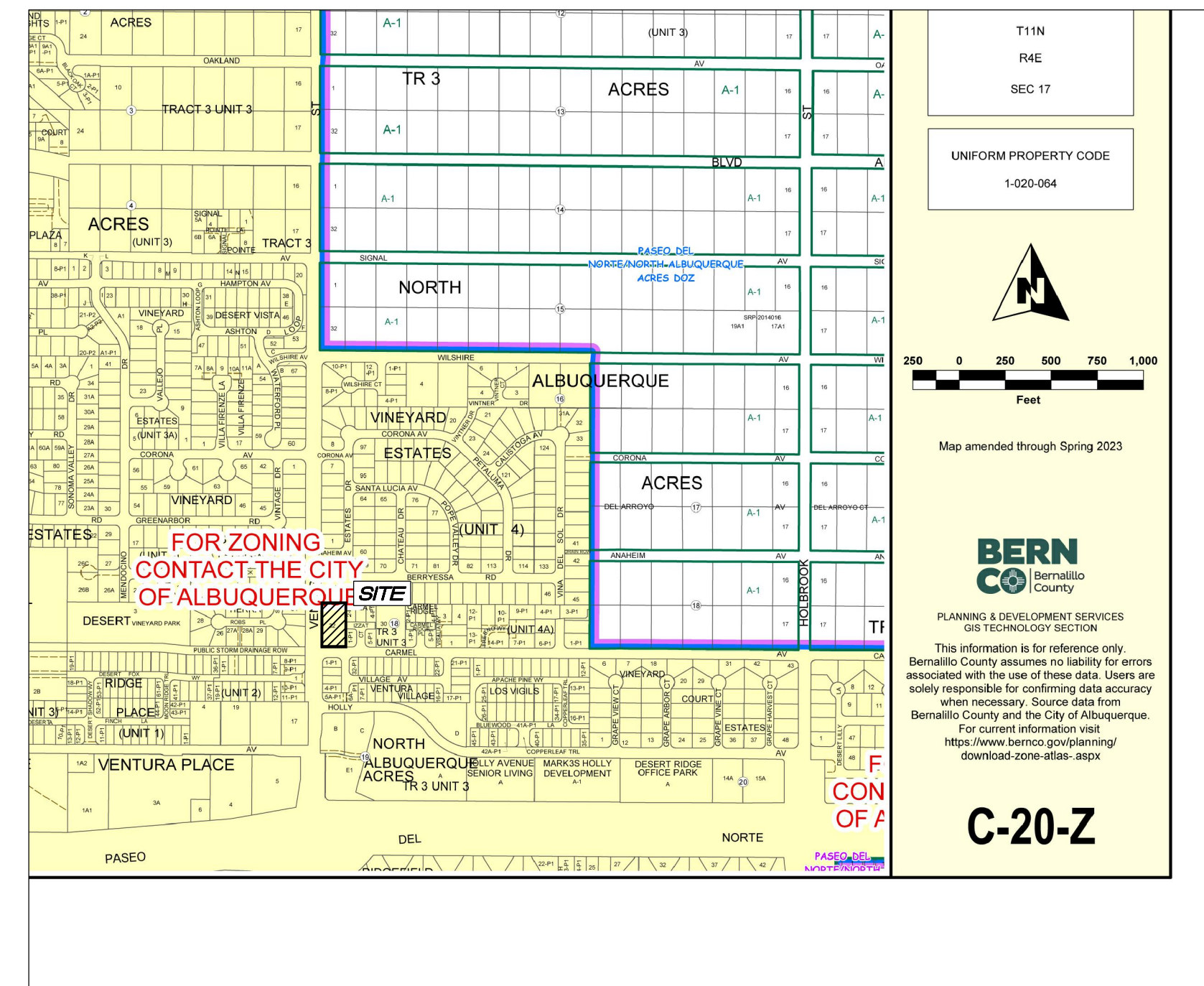
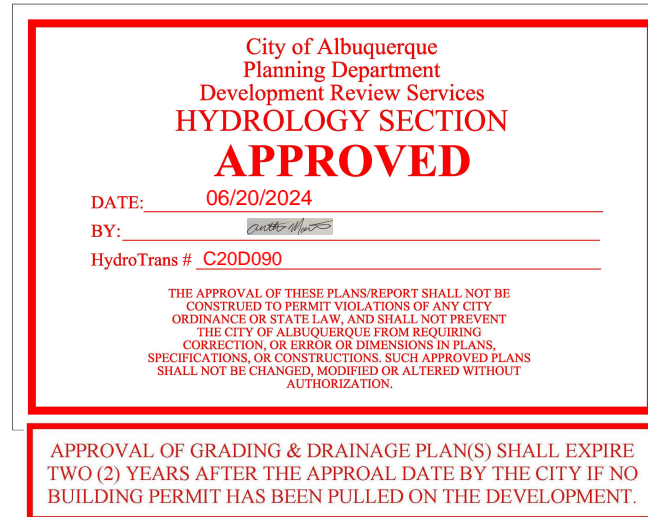
Sincerely,

Anthony Montoya, Jr., P.E.
Senior Engineer, Hydrology
Planning Department, Development Review Services

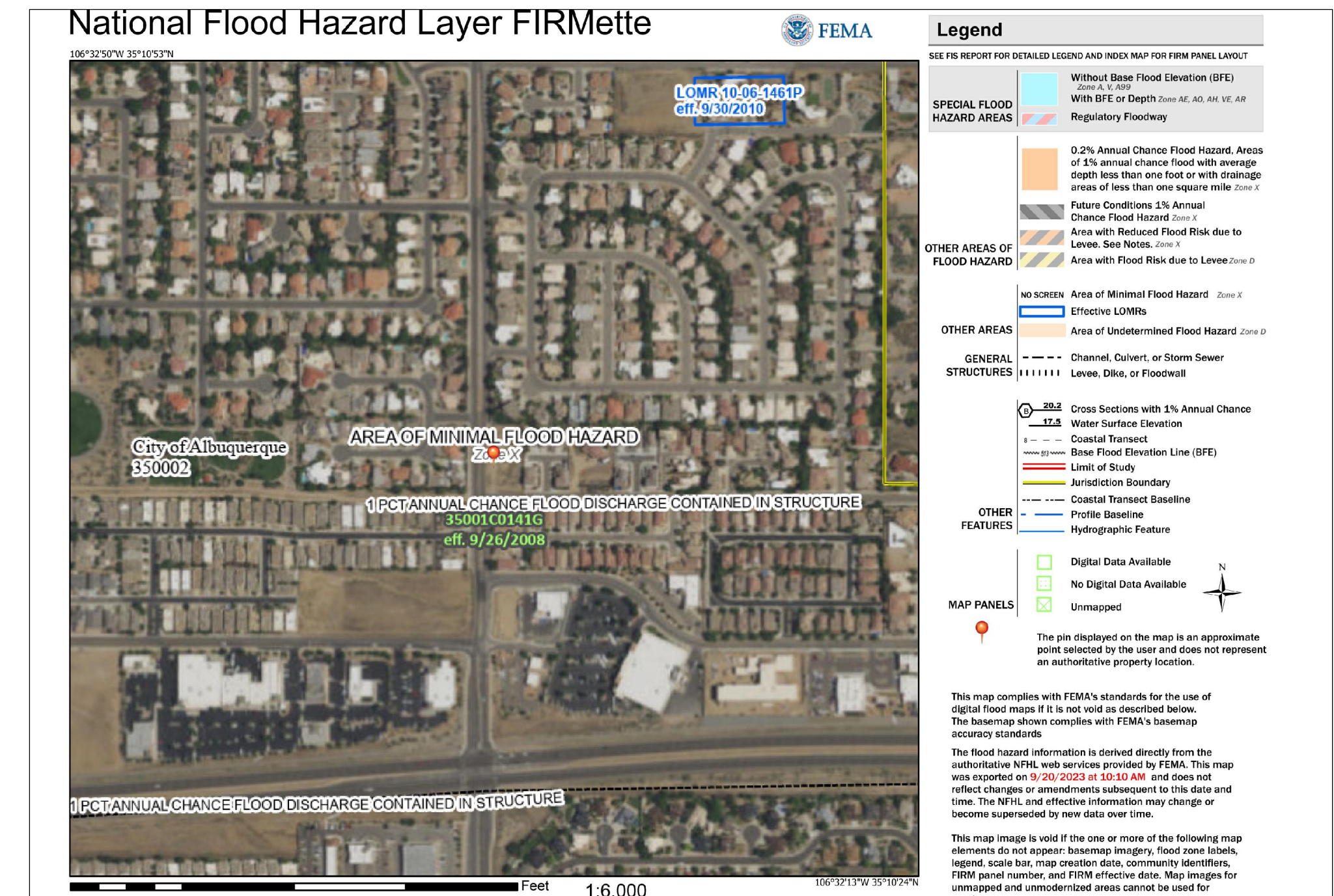
APRIL 2024

NOTES

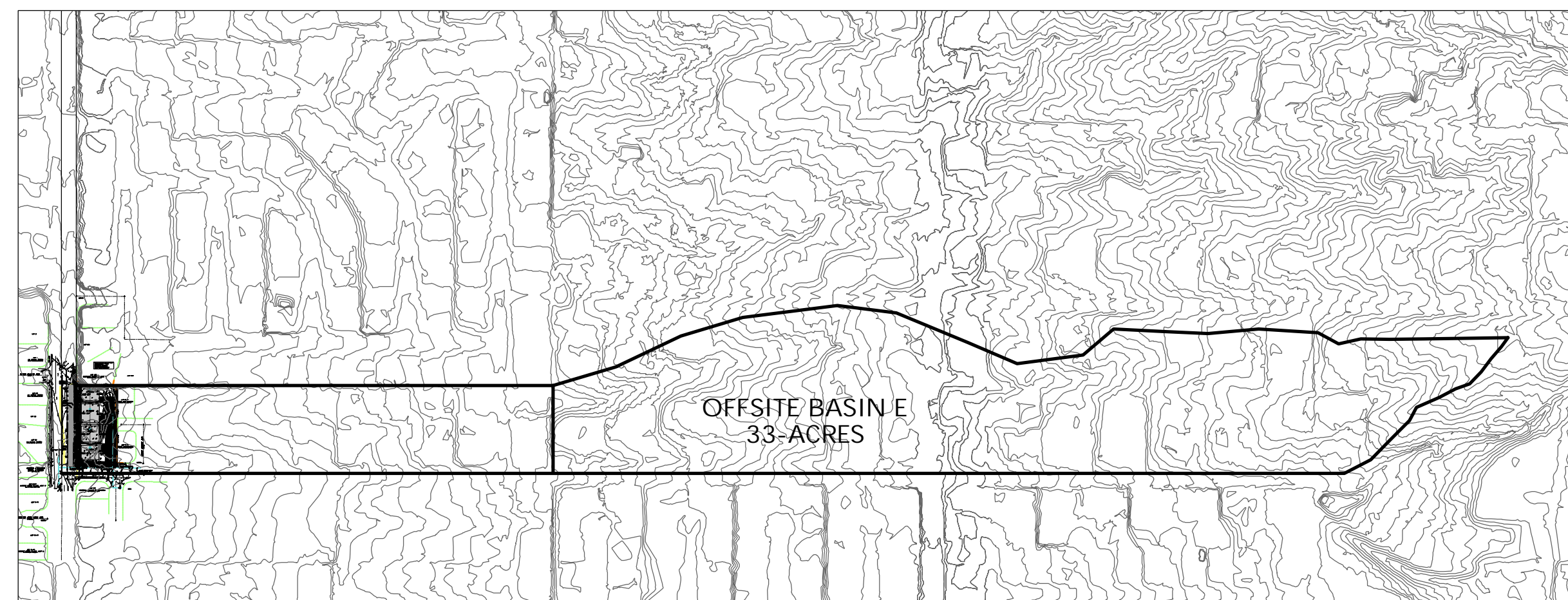
The concept of this development is to blend harmoniously into the existing environment. The area within the garden walls will be graded to a minimum slope to ensure that any runoff impacting the area will be spread into sheet flow to minimize discharge, depths and velocities associated with the design rainfall event.



VICINITY MAP



FEMA MAP



OFFSITE BASIN

[illegible]

DESIGNED BY:

DRAWN BY:

CHECKED BY:



Mark H. Burak, P.E.
1512 Sagebrush Trail SE
Albuquerque, New Mexico, 87123
(505) 235-2256
mburak@comcast.net



COVER / NOTES

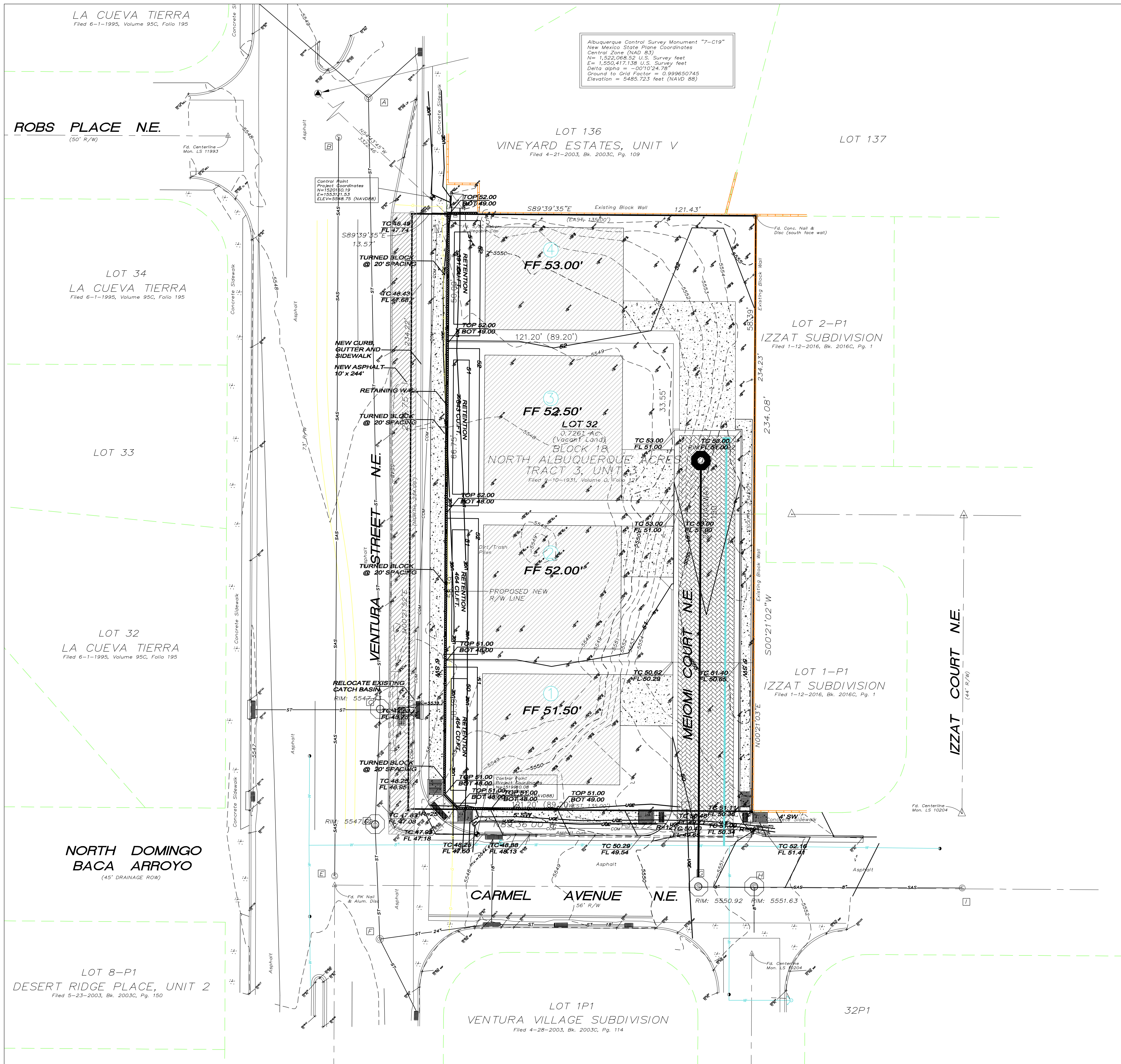
Carmel-Ventura Subdivision

LOTS 31-32, BLOCK 6, TRACT 2, UNIT 1
NORTH ALBUQUERQUE ACRES, NM

DRAWING NUMBER

C1

1 OF 6



City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 06/20/2024
BY: [Signature]
HydroTrac # C200090

THE APPROVAL OF THESE PLANS AND/OR SPECIFICATIONS SHALL NOT BE
CONSIDERED TO PERMIT VIOLATION OF ANY CITY OR
STATE ORDINANCES OR ANY CITY LAW, AND SHALL NOT PREVENT
THE CITY OF ALBUQUERQUE FROM RESCUING
CORRECTIONS OR REPAIRS OR CONSTRUCTION IN PLACE,
OR OPERATIONS OR CONSTRUCTION, SUCH APPROVED PLANS
SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT
AUTHORIZATION.

APPROVAL OF GRADING & DRAINAGE PLANS SHALL EXPIRE
TWO (2) YEARS AFTER THE APPROVAL DATE BY THE CITY IF NO
BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

LEGEND

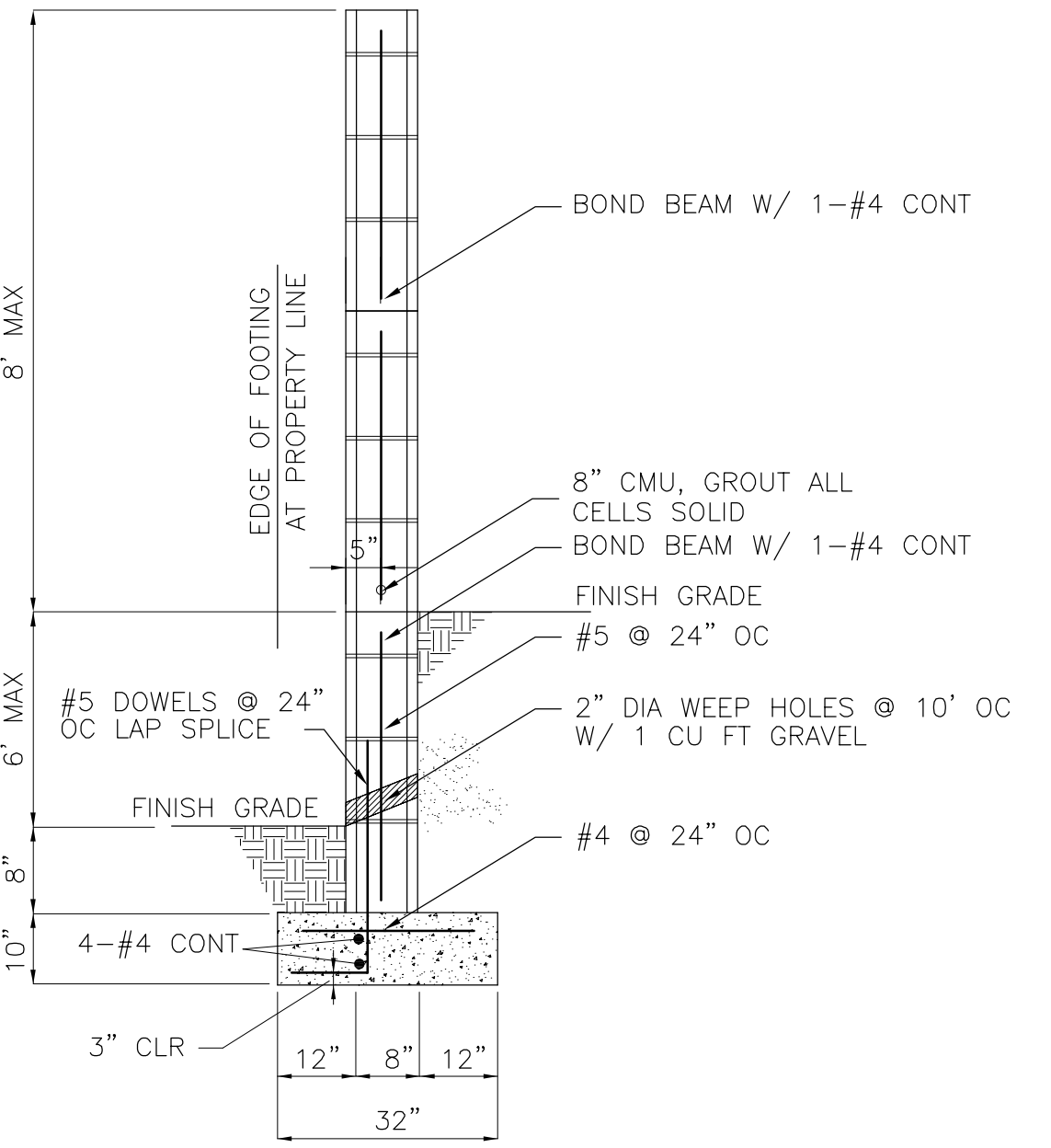
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- SAS Sanitary Sewer Line
- ST Storm Drain Line
- USE Underground Electric line
- OHE Overhead Electric line
- COM Underground Communications Line
- G Underground Gas Line
- W Underground Water Line
- Sanitary Sewer Clean-out
- Water Meter
- Water Valve
- Hydrant
- Cable Pedestal
- Electric Pedestal
- Electric Transformer
- Light Pole
- Concrete Symbol
- Power Pole
- Telephone Pedestal

20 0 10
(IN FEET)
1 inch = 20 ft.

CURB OPENING DRC SUMP CONDITION		
Double "A" Curb Ope		
Flow depth, y.....	0.75 feet	(y/h) percentage 88 %
Inlet length, L.....	7.0 feet	
Lateral Width, W.....	2.00 feet	Weir flow..... 7.12 cfs
Orifice height, h.....	0.50 feet	Orifice flow..... 8.20 cfs
1. Orifice condition if depth is 40% greater than orific		
2. Equations from FHWA HEC-12 dated March, 1984.		
BURAK		

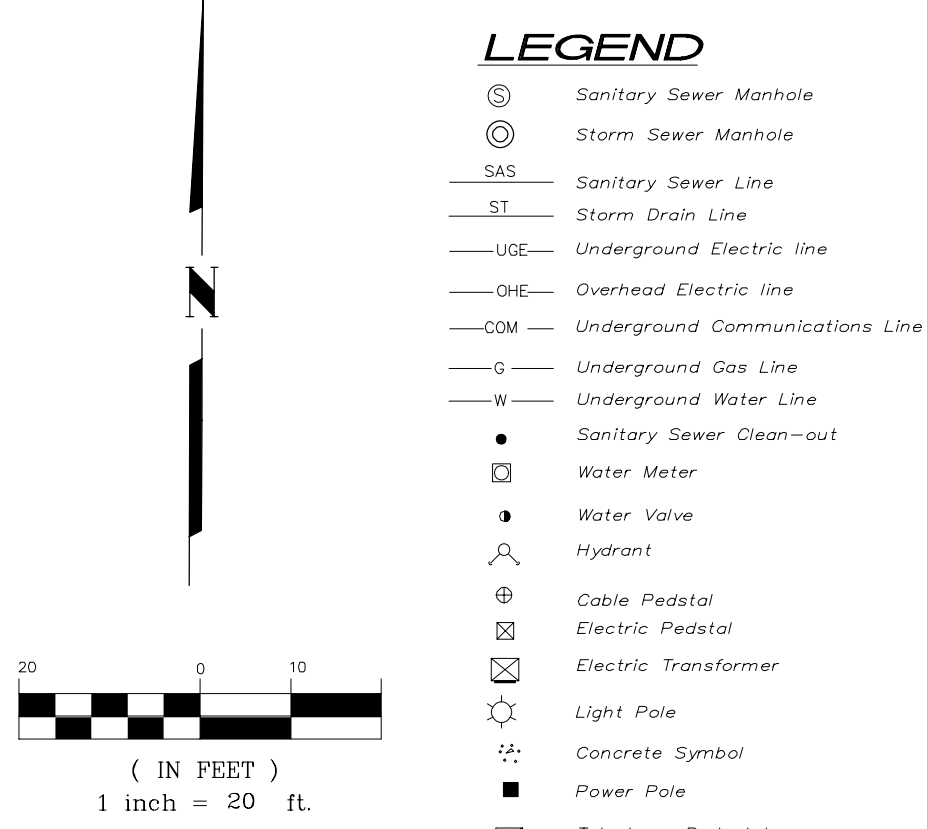
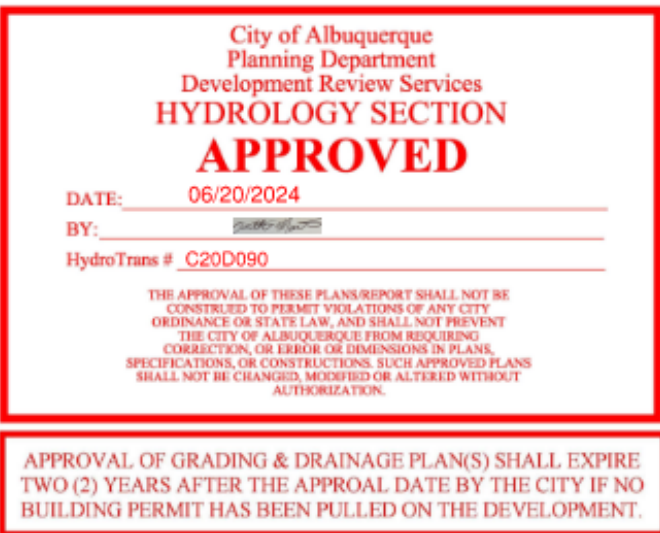
RECTANGULAR GRATE DROP II SUMP CONDITION		
Type Double "A" Inlet 2'x3' Standard		
Flow depth, y.....	0.75 feet	
Grate open area, A 24.00 sq.ft.		Weir flow..... 15.59 cfs
Grate Perimeter, P 16.00 feet		Orifice flow.... 55.84 cfs
Clogging percenta 50 %		
1. Orifice condition depends on bar config., grate size, de		
2. Equations from FHWA HEC-12 dated March, 1984.		
BURAK		

EXIST. DROP INLET CAPACITY



4'-6' RETAINING WALL DETAIL

DESIGNED BY:	DRAWN BY:	CHECKED BY:
Mark H. Burak, P.E. 1512 Sagebrush Trail SE, 87123 Albuquerque, New Mexico (505) 235-2256 mburak@comcast.net		
GRADING PLAN		
Carmel-Ventura Subdivision LOTS 31-32, BLOCK 6, TRACT 2, UNIT 1 NORTH ALBUQUERQUE ACRES, NM		
DRAWING NUMBER		
C2		
2 OF 3		



Hydrologic Calculations - COA DPM Ch 6 (100-Year, 6-Hour Storm)										Ventura / Carmel Subdivision																													
Burak Consulting																																							
Precipitation (DPM Ch6 Table 6.2)					P60	P360	P1440	P4days	P10days	Precipitation (DPM Ch6 Table 6.2)					P60	P360	P1440	P4days	P10days																				
Zone 3					1.84	2.43	2.84	3.29	4.1	Zone 3					1.84	2.43	2.84	3.29	4.1																				
Excess (DPM Ch6 Table 6.7)					0.86 inches-B					1.09 inches-C					2.58 inches-D																								
Precipitation					0.07 inches-A					0.67 inches-A					0.67 inches-A																								
Peak Discharge					1.84 cfs/ac-A					2.49 cfs/ac-B					3.17 cfs/ac-C					4.49 cfs/ac-D																			
Peak Discharge					1.84 cfs/ac-A					2.49 cfs/ac-B					3.17 cfs/ac-C					4.49 cfs/ac-D																			
Drainage Areas										Land Treatments - NAA Allowable Conditions										Land Treatments - Fully Developed Conditions																			
Areas		A	Percent A	B	Percent B	C	Percent C	D	Percent D	Area (sf)		A	Percent A	B	Percent B	C	Percent C	D	Percent D	Area (sf)		A	Percent A	B	Percent B	C	Percent C	D	Percent D	Area (sf)									
Basin A		0.04	43%	0.02	20%	0.02	20%	0.02	17%	3,950	0.00	0%	0.02	20%	0.03	30%	0.04	44%	3,950	0.00	0%	0.02	20%	0.03	30%	0.04	44%	3,950	0.00	0%	0.02	20%	3,950						
Basin B		0.05	43%	0.02	20%	0.02	20%	0.02	17%	5,268	0.00	0%	0.02	13%	0.01	10%	0.09	77%	5,268	0.00	0%	0.02	13%	0.01	10%	0.09	77%	5,268	0.00	0%	0.02	13%	5,268						
Basin C		0.05	43%	0.02	20%	0.02	20%	0.02	17%	4,618	0.00	0%	0.01	12%	0.01	12%	0.08	76%	4,618	0.00	0%	0.01	12%	0.01	12%	0.08	76%	4,618	0.00	0%	0.01	12%	4,618						
Basin D		0.05	43%	0.02	20%	0.02	20%	0.02	17%	4,660	0.00	0%	0.01	13%	0.01	13%	0.08	74%	4,660	0.00	0%	0.01	13%	0.01	13%	0.08	74%	4,660	0.00	0%	0.01	13%	4,660						
Basin E		14.34	43%	6.67	20%	6.67	20%	5.67	17%	1,432,935	14.34	43%	6.67	20%	6.67	20%	6.67	17%	1,432,935	14.34	43%	6.67	20%	6.67	20%	6.67	17%	1,432,935	14.34	43%	6.67	20%	1,432,935						
Basin F		0.05	43%	0.02	20%	0.02	20%	0.02	17%	4,573	0.00	0%	0.01	10%	0.00	0%	0.09	90%	4,573	0.00	0%	0.01	10%	0.00	0%	0.09	90%	4,573	0.00	0%	0.01	10%	4,573						
Basin G		0.04	43%	0.02	20%	0.02	20%	0.02	17%	3,925	0.00	0%	0.01	50%	0.00	0%	0.08	80%	3,925	0.00	0%	0.01	50%	0.00	0%	0.08	80%	3,925	0.00	0%	0.01	50%	3,925						
Basin H		0.05	43%	0.03	20%	0.03	20%	0.06	17%	65,773	0.00	0%	0.15	10%	0.00	0%	1.36	80%	65,773	0.00	0%	0.15	10%	0.00	0%	1.36	80%	65,773	0.00	0%	0.15	10%	65,773						
Basin J		0.02	43%	0.01	20%	0.01	20%	0.01	17%	2,102	0.00	0%	0.02	50%	0.00	0%	0.02	50%	2,102	0.00	0%	0.02	50%	0.00	0%	0.02	50%	2,102	0.00	0%	0.02	50%	2,102						
Basin K		0.03	43%	0.01	20%	0.01	20%	0.01	17%	2,794	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,794	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,794	0.00	0%	0.03	50%	2,794						
Basin L		0.02	43%	0.01	20%	0.01	20%	0.01	17%	2,446	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,446	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,446	0.00	0%	0.03	50%	2,446						
Basin M		0.02	43%	0.01	20%	0.01	20%	0.01	17%	2,428	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,428	0.00	0%	0.03	50%	0.00	0%	0.03	50%	2,428	0.00	0%	0.03	50%	2,428						
																				17.63% IMPERVIOUS																			
Peak Flow Rate - Existing Conditions										Peak Flow Rate - Developed Conditions																													
Discharge		A	B	C	D	100 yr Q (cfs)		100 yr Q (cfs)		A		B	C	D	100 yr Q (cfs)		100 yr Q (cfs)				A		B	C	D	100 yr Q (cfs)		100 yr Q (cfs)											
Basin A		0.07	0.05	0.06	0.07	0.2	0.2	0.00	0.05	0.05	0.10	0.04	0.18	Lot 1	0.3	0.00	0.03	0.04	0.04	0.04		0.00	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04								
Basin B		0.10	0.06	0.08	0.09	0.3	0.3	0.00	0.06	0.06	0.12	0.04	0.24	Lot 2	0.4	0.00	0.06	0.06	0.06	0.06		0.00	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06								
Basin C		0.08	0.05	0.07	0.08	0.3	0.3	0.00	0.05	0.05	0.10	0.04	0.36	Lot 3	0.4	0.00	0.05	0.05	0.05	0.05		0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05								
Basin D		0.08	0.05	0.07	0.08	0.3	0.3	0.00	0.03	0.03	0.04	0.04	0.36	Lot 4	0.4	0.00	0.03	0.03	0.03	0.03		0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03								
Basin E		26.39	16.61	21.15	25.46	89.6	89.6	26.39	16.61	21.15	25.46	89.6	26.39	16.61	21.15	25.46	89.6	26.39	16.61	21.15		26.39	16.61	21.15	25.46	89.6	26.39	16.61	21.15	25.46	89.6								
Basin F		0.08	0.05	0.07	0.08	0.3	0.3	0.00	0.03	0.03	0.04	0.04	0.42	0.5	0.5	0.00	0.02	0.02	0.02	0.02		0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02								
Basin G		0.04	0.04	0.06	0.07	0.2	0.2	0.00	0.02	0.02	0.00	0.00	0.36	0.4	0.4	0.00	0.02	0.02	0.02	0.02		0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02								
Basin H		1.19	0.75	0.96	1.15	4.1	4.1	0.00	0.38	0.38	0.00	0.41	0.00	0.00	0.00	0.41	0.00	0.38	0.38	0.38		0.00	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38								
										95.3 cu.ft.										Ventura Drop Inlet										98.6									
Basin J		0.04	0.02	0.03	0.04	0.1	0.1	0.00	0.06	0.06	0.00	0.00	0.11	Lot 1	0.2	0.00	0.04	0.04	0.04	0.04		0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04								
Basin K		0.05	0.03	0.04	0.05	0.2	0.2	0.00	0.08	0.08	0.00	0.14	Lot 2	0.2	0.2	0.00	0.08	0.08	0.08	0.08		0.00	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08								
Basin L		0.04	0.04	0.04	0.04	0.2	0.2	0.00	0.07	0.07	0.00	0.13	Lot 3	0.2	0.2	0.00	0.07	0.07	0.07	0.07		0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07								
Basin M		0.04	0.03	0.04	0.04	0.1	0.1	0.00	0.07	0.07	0.00	0.13	Lot 4	0.2	0.2	0.00	0.07	0.07	0.07	0.07		0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07								
										Ventura Drop Inlet										96																			
Volume										Runoff Volume - Existing Conditions										Runoff Volume - Developed Conditions																			
Six Hour Storm Event		100 yr V (cu-ft)								Six Hour Storm Event								100 yr V (cu-ft)																					
Basin A		95	57	72	144	368	0	57	129	374	559	0	57	129	374	559	0	57	129	374	559	0	57	129	374	559	0	57	129	374	559								
Basin B		128	76	96	193	490	0	49	48	872	969	0	49	48	872	969	0	49	48	872	969	0	49	48	872	969	0	49	48	872	969								
Basin C		111	66	84	169	430	0	40	50	755	845	0	40	50	755	845	0	40	50	755	845	0	40	50	755	845	0	40	50	755	845								
Basin D		112	67	85	170	434	0	43	55	741	840	0	43	55	741	840	0	43	55	741	840	0	43	55	741	840	0	43	55	741	840								
Basin E		34,883	20,825	26,395	53,105	135,208	34,883	20,825	26,395	53,105	135,208	34,883	20,825	26,395	53,105	135,208	34,883	20,825	26,395	53,105	135,208	34,883	20,825	26,395	53,105	135,208	34,883	20,825	26,395	53,105	135,208								
Basin F		110	66	83	167	426	0	33	0	885	918	0	33	0	885	918	0	33	0	885	918	0	33	0	885	918	0	33	0	885	918								
Basin G		94	56	71	143	365	0	28	0	759	788	0	28	0	759	788	0	28	0	759	788	0	28	0	759	788	0	28	0	759	788								
Basin H		1,579	943	1,195	2,404	6,121	0	471	0	12,727	13,918	0	471	0	12,727	13,918	0	471	0	12,727	13,918	0	471	0	12,727	13,918	0	471	0	12,727	13,918								
										143,840 cu.ft.										Ventura Drop Inlet										153,324									
Basin J		57	30	38	77	196	0	10	0	226	351	0	10	0	226	351	0	10	0	226	351	0	10	0	226	351	0	10	0	226	351								
Basin K		69	40	51	102	260	0	10	0	300	400	0	10	0	300	400	0	10	0	300	400	0	10	0	300	400	0	10	0	300	400								
Basin L		59	35	44	89	228	0	87	0	263	351	0	87	0	263	351	0	87	0	263	351	0	87	0	263	351	0	87	0	263	351								
Basin M		59	35	44	89	228	0	87	0	261	346	0	87	0	261	346	0	87	0	261	346	0	87	0	261	346	0	87	0	261	346								
										Ventura Drop Inlet										144,749																			
Volume										Runoff Volume - Existing Conditions										Runoff Volume - Developed Conditions																			
Ten Day Storm Event		100 yr / 10 day V (cu-ft)								Ten Day Storm Event								100 yr / 10 day V (cu-ft)																					
Basin A						461																																	
Basin B						615																																	
Basin C						539																																	
Basin D						544																																	
Basin E						169,562																																	
Basin F						534																																	
Basin G						458																																	
Basin H						7,677																																	

[illegible]