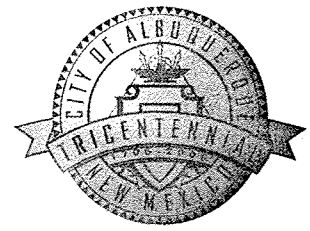


CITY OF ALBUQUERQUE



April 3, 2007

D. Mark Goodwin, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

Re: North Gateway Drainage Report and Conceptual Grading and Drainage Plan

Engineer's Stamp dated 3-1-07 (B18/D004)

Dear Mr. Goodwin,

Based upon the information provided in your submittal dated 3-9-07 the above referenced plan is approved for Preliminary Plat, Site Development Plan for Subdivision and Site Development Plan for Building Permit action by the DRB.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

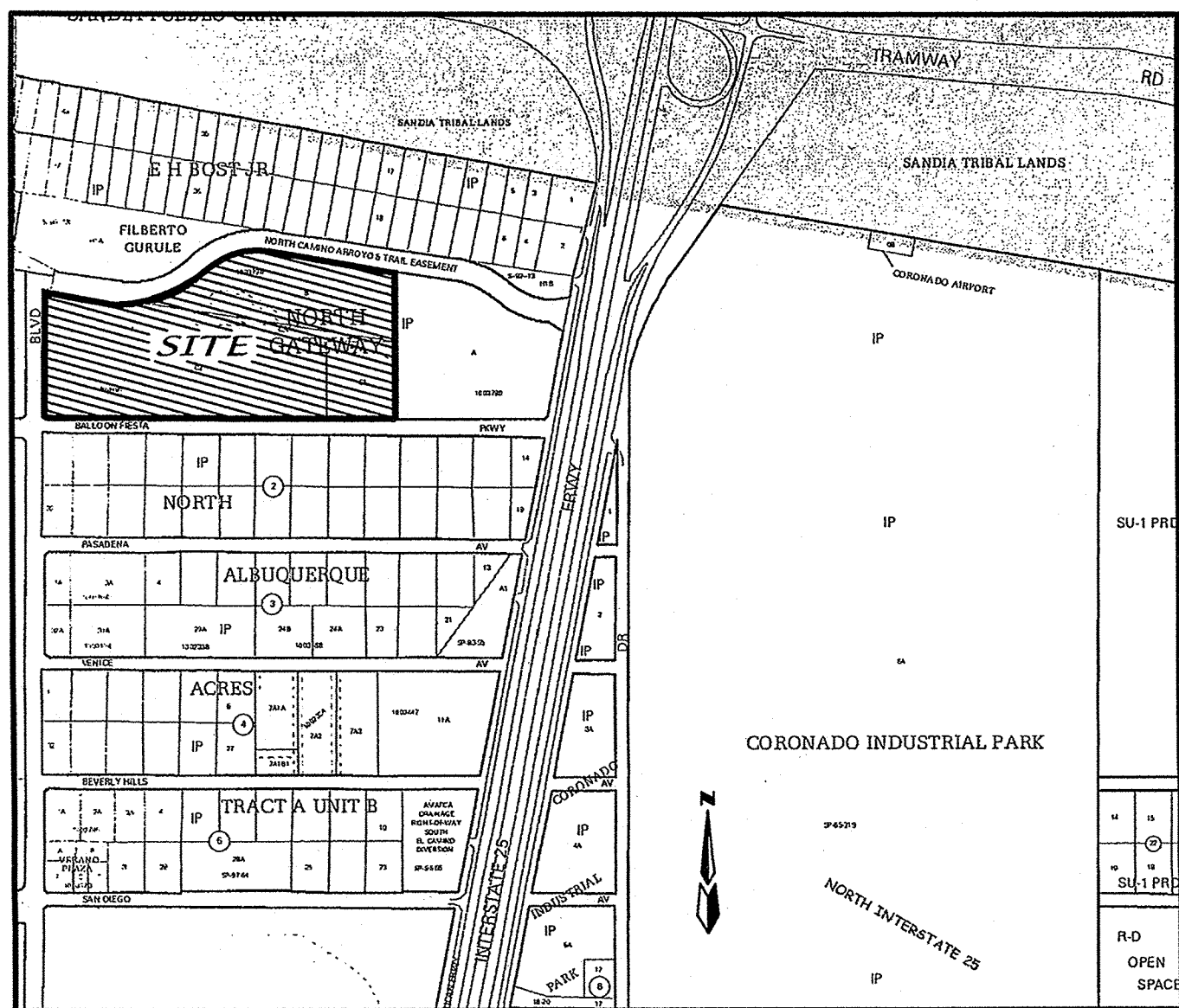
P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

C: file
Brad Bingham



ZONE ATLAS B-18
LEGEND

5170' EXISTING MAJOR CONTOURS
EXISTING MINOR CONTOURS
FLOW ARROW

SAN MATEO DRIVE NE
(66' R/W)

TRACT C-2-B
5.0000 acres

TRACT C-2-A
8.2228 acres

EXISTING BUILDING

TRACT C-1-A
2.4377 acres

$Q_{100} = 11.06 \text{ cfs}$

EXISTING CONCRETE CHANNEL

$Q_{100} = 29.34 \text{ cfs}$

TRACT B-1
6.5111 acres

$Q_{100} = 2.87 \text{ cfs}$

$Q_{100} = 27.72 \text{ cfs}$

$Q_{100} = 22.67 \text{ cfs}$

$Q_{100} = 9.2 \text{ cfs}$

$Q_{100} = 13.93 \text{ cfs}$

BALLOON FIESTA PARKWAY NE
(73' R/W)

EXIST TYPE A
INLET

TYPE 'A'
INLET

EXISTING

NEW

NEW TYPE 'A' INLET

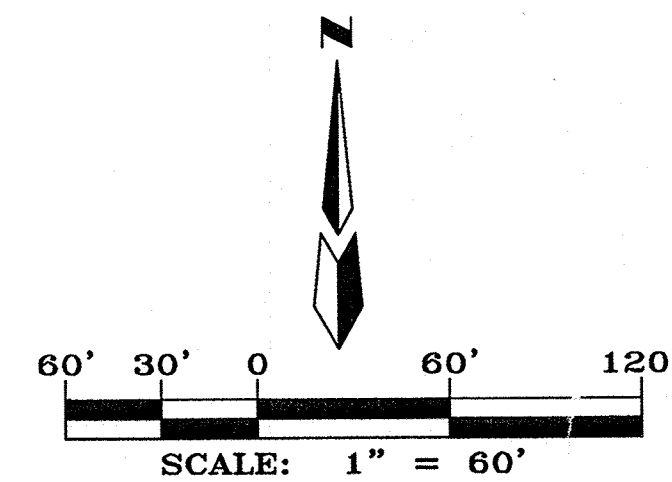
EXIST M-H

EXIST M-H

EXIST TYPE A
INLET

CONNECT TO NORTH STORM DRAIN SYSTEM

1. Banks approved
2. When dirt work
go west on
San Mateo



Stamp
date
from
Report
3-1-07
CC

NORTH GATEWAY			
CONCEPTUAL GRADING AND DRAINAGE			
MARK GOODWIN & ASSOCIATES, P.A. CONSULTING ENGINEERS P.O. BOX 90606 ALBUQUERQUE, NEW MEXICO 87199 (505)828-2200, FAX (505)797-9539			
Designed: JM	Drawn: SPS	Checked: DMG	Sheet 1 of 1
Scale: 1" = 60'	Date: 3/6/2007	Job: A06062	

$$Q = \frac{1.486}{1013} AR^{2.67} = \frac{1.486}{1013} \pi (5')^{2.67} = 33.85 \text{ cfs}$$

$$A = \frac{\pi}{4} D^2 = \frac{\pi}{4} (5')^2 = 19.63 \text{ sq ft}$$

$$R = \frac{A}{P} = \frac{19.63}{\pi \cdot 5} = 1.25$$

$$Q = \frac{1.486}{1013} (1.77) (3.75)^{2.67} = 15.75 \text{ cfs}$$

$$A = \frac{\pi}{4} (1.5')^2 = 1.77 \text{ sq ft}$$

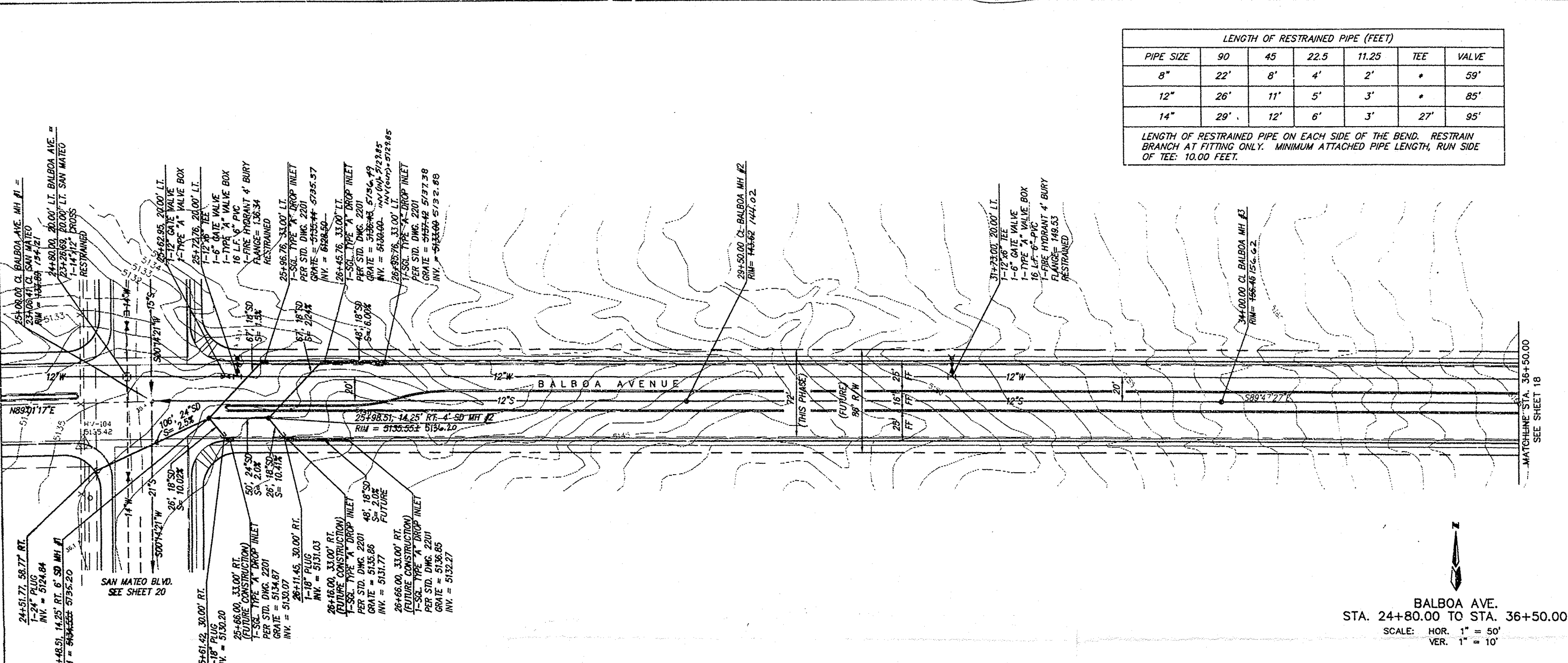
$$R = \frac{A}{P} = \frac{1.77}{\pi \cdot 1.5} = 0.39$$

$$A = \frac{\pi}{4} (1.5')^2 = 1.77 \text{ sq ft}$$

$$R = \frac{A}{P} = \frac{1.77}{\pi \cdot 1.5} = 0.39$$

$$Q = \frac{1.486}{1013} (1.77) (3.75)^{2.67} = 15.75 \text{ cfs}$$

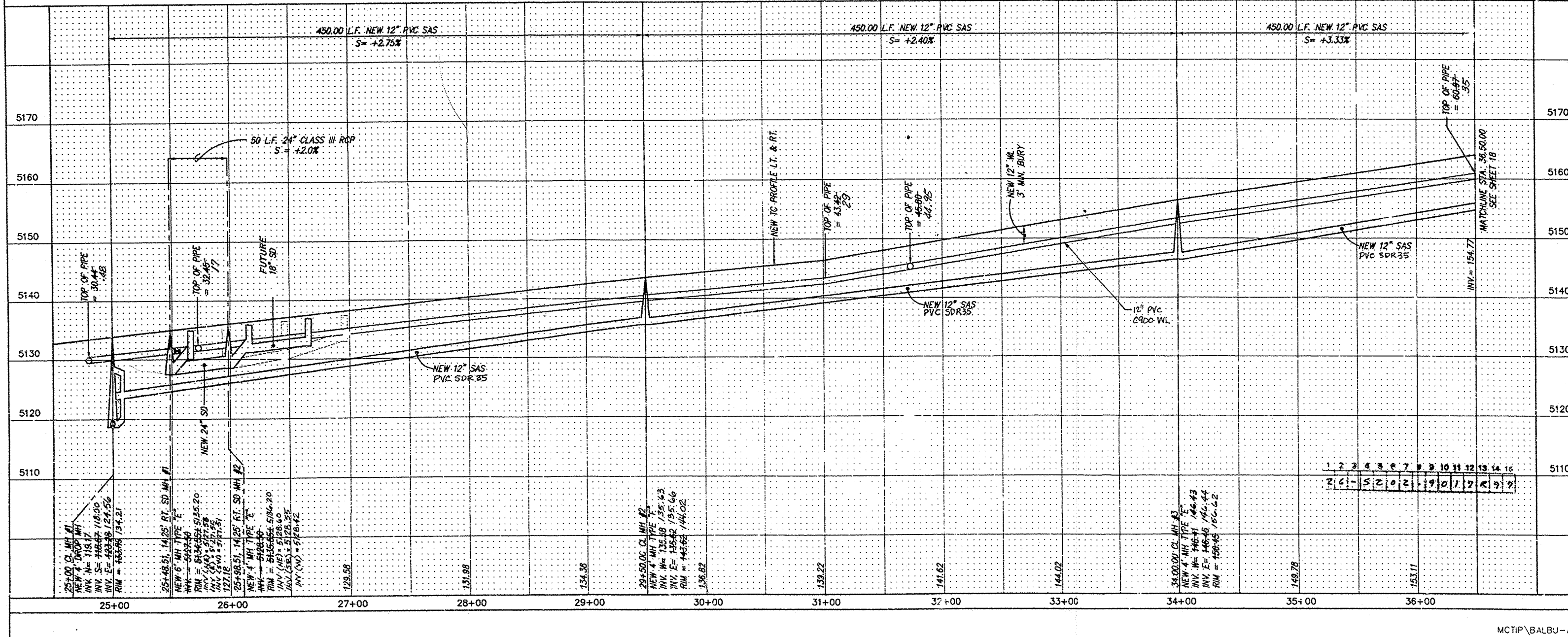
336 cfs



LENGTH OF RESTRAINED PIPE (FEET)						
PIPE SIZE	90	45	22.5	11.25	TEE	VALVE
8"	22'	8'	4'	2'	*	59'
12"	26'	11'	5'	3'	*	85'
14"	29'	12'	6'	3'	27'	95'

LENGTH OF RESTRAINED PIPE ON EACH SIDE OF THE BEND. RESTRAIN BRANCH AT FITTING ONLY. MINIMUM ATTACHED PIPE LENGTH, RUN SIDE OF TEE: 10.00 FEET.

NOTES
1. ALL STATIONING IS CENTERLINE STATIONING.
2. ALL STORM DRAIN IS CLASS III RCP.



SURVEY INFORMATION		ENGINEER'S SEAL	
NO.	BY	DATE	BY
1	DMG	1/15/97	DMG
FIELD NOTES		REVISIONS	
STANDARD INCHES BRASS TABLE, STAMPED 1-25-10, 1989.		NO.	
DATE 1-25-10, 1989.		DATE 02/96	
LOCATED AT THE N.E. CORNER OF THE U.S. INTERSTATE HIGHWAY		DATE 02/96	
1-25 SOUTH BOUND BRIDGE CROSSING STATE RD. 422 (ROY AVE.)		DATE 02/96	
TRAFFICWAY (RD.)		DATE 02/96	
X = 402463.48		DATE 02/96	
Y = 1529732.90		DATE 02/96	
Z = 5203.883		DATE 02/96	

RECORD DRAWING
DATE: 1/15/97

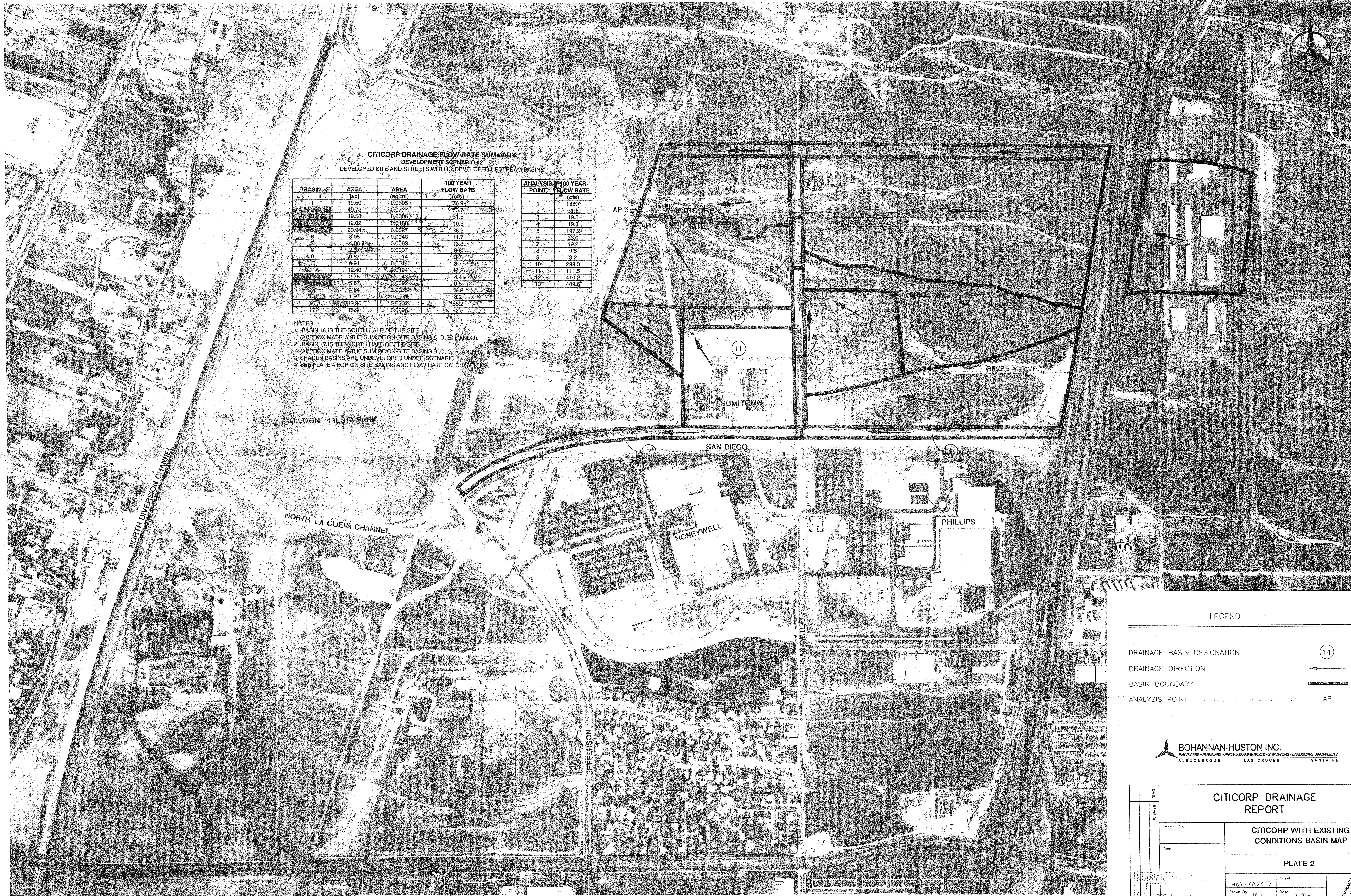
DMG D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 345-2010

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: BALLOON FIESTA PARK - PHASE I
UTILITY & STORM DRAIN IMPROVEMENTS
BALBOA AVENUE

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO. 5202.90 ZONE MAP NO. B18 SHEET 17R 27



CITICORP DRAINAGE FLOW RATE SUMMARY			
DEVELOPMENT SCENARIO #2			
DEVELOPED SITE AND STREETS WITH UNDEVELOPED UPSTREAM BASINS			
BASIN	AREA (ac)	AREA (sq mi)	100 YEAR FLOW RATE (cfs)
1	19.50	0.0305	76.9
2	49.73	0.0777	73.7
3	19.58	0.0306	31.5
4	12.02	0.0188	19.3
5	20.94	0.0327	197.2
6	3.05	0.0048	11.7
7	4.06	0.0063	13.3
8	2.37	0.0037	9.8
9	0.87	0.0014	3.7
10	0.91	0.0014	3.7
11	12.40	0.0194	44.8
12	2.75	0.0043	4.4
13	5.62	0.0088	9.5
14	4.64	0.0073	19.3
15	1.97	0.0031	8.2
16	12.90	0.0202	55.2
17	18.91	0.0296	82.5

ANALYSIS POINT	100 YEAR FLOW RATE (cfs)
1	138.7
2	31.5
3	19.3
4	19.3
5	197.2
6	23.0
7	49.2
8	9.5
9	8.2
10	299.3
11	111.5
12	410.2
13	408.6

NOTES:
1. BASIN 16 IS THE SOUTH HALF OF THE SITE (APPROXIMATELY THE SUM OF ON-SITE BASINS A, D, E, I, AND J).
2. BASIN 17 IS THE NORTH HALF OF THE SITE (APPROXIMATELY THE SUM OF ON-SITE BASINS B, C, G, F, AND H).
3. SHADED BASINS ARE UNDEVELOPED UNDER SCENARIO #2.
4. SEE PLATE 4 FOR ON-SITE BASINS AND FLOW RATE CALCULATIONS.

LEGEND

DRAINAGE BASIN DESIGNATION

DRAINAGE DIRECTION

BASIN BOUNDARY

ANALYSIS POINT

14

→

API

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRISTS • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE LAS CRUCES SANTA FE

DATE REVISION	CITICORP DRAINAGE REPORT		
	CITICORP WITH EXISTING CONDITIONS BASIN MAP		
	PLATE 2		
	96177A2417	Sheet	
Drawn By JAJ	Date 3/96	Scale 1"=300'	MAR 09 2007
Checked By CWH	Scale		

HYDROLOGY SECTION