DRAINAGE STUDY
FOR
PARADISE SKIES UNIT 10 SUBDIVISION

APRIL 2003

Prepared for:

LONGFORD HOMES
7301 JEFFERSON NE
ALBUQUERQUE, NM 87109

Prepared by:

BOHANNAN HUSTON, INC.
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ALBUQUERQUE, NM 87109

Prepared by:

5/20/03

4/8/03

Rick L. Beltramo, P.E. Date

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APPENDICES

PLATES

I. INTRODUCTION

This drainage study establishes a drainage management plan for the proposed development of the property legally described as Lots 1-26 and 35-42 of Paradise Heights Unit 4. This property is approximately 8 acres of residential (R-1) land to be re-subdivided as the "Paradise Skies Unit 10 Subdivision" with proposed R-T zoning. The subject property is located on Albuquerque's northwest mesa, west of Unser Boulevard and south of McMahon Boulevard. (See vicinity map on the *Preliminary Plat* for location, *Plate 1*). Paradise Skies Unit 10 is planned to consist of 53 single-family, residential dwellings.

This study provides hydrologic and hydraulic analysis and provides a drainage management plan as necessary to support the planned 53-unit development. More specifically, this report is submitted in conjunction with the preliminary plat application. Preliminary plat approval and grading plan approval is requested. Prior to final plat and building permit approvals of this project, the City of Albuquerque (COA) must approve final grading plans and work order construction plans.

II. METHODOLOGY

Existing and proposed site hydrological conditions were analyzed for the 100-year, 6-hour storm in accordance with the revised Section 22.2, Hydrology, of the Development Process Manual (DPM) for the City of Albuquerque, dated January 1993. Street capacities were analyzed using Manning's equation, consistent with the revised DPM Section 22.2. All data and calculations supporting this study are located in *Appendix B*. The AHYMO computer program was utilized to determine peak flow rates for design of the storm drainage improvements within the project. The 100-year, 6-hour storm is used as the design event. The results are included in *Appendix A*.

III. EXISTING CONDITIONS

A. Topography

Paradise Skies Unit 10 is currently undeveloped land, sloping from north to south and east to west with grades ranging from approximately 5% to 10%. Soils consist of deep, well-drained loamy fine sands typical of the West Mesa. Vegetation is light and consists mostly of native grasses and sand sagebrush.

B. Existing Drainage Patterns

Paradise Skies Unit 10 is located within the Calabacillas Arroyo Drainage Basin and will indirectly discharge into the Calabacillas Arroyo to the south. Adjacent properties and public roadways have been or will be constructed which intercept much of the potential off-site runoff. A portion of undeveloped flows from the north currently discharge through the property. Paradise Skies Units 6, 7, 8, and 9, to the east of Paradise Skies Unit 10, slope in an easterly direction away from the proposed site. Undeveloped lands to the northwest discharge into the Calabacillas Arroyo. The proposed area of Paradise Skies Unit 10 currently flows west into the Calabacillas Arroyo and south into Paradise Skies Unit 5.

IV. PROPOSED CONDITIONS

Paradise Skies Unit 10 Subdivision is a proposed single-family, detached-unit residential development with 53 lots on 8 acres, producing a density of approximately 6.6 dwelling units per acre. Proposed street configurations are shown on *Plate 1,* the *Preliminary Plat*. The drainage concepts for this property were presented in "Drainage Calculations for Paradise Skies Unit 5" by Mark Goodwin & Associates. This drainage report follows the approved concepts with a few modifications.

A. Offsite Flows

The proposed development will be graded so that it will not be affected by offsite flows from the north side of McMahon Blvd. Lands to the west will drain undeveloped flows into the Calabacillas Arroyo. When Lots 43-47 are developed, they will drain developed flows into Brookline Drive. Properties to the north will convey flow into McMahon Blvd. The developed residential properties to the east currently flow away from Paradise Skies Unit 10.

B. Onsite Flows

The internal street system conveys flow south into Paradise Skies Unit 5 and into the existing storm drain. The Paradise Skies Unit 5 Subdivision has a storm drain extended to its northern boundary in Brookline Place to accommodate flow from Paradise Skies Unit 10. The Unit 5 drainage study states that 18 cfs will be accepted from the offsite Unit 10 basin. This drainage plan proposes discharging 40 cfs from Unit 10 into Unit 5. This flow has been routed through the streets to demonstrate that a lower peak flow will occur at the southern boundary. In addition, the existing storm drain system in Unit 5 has been analyzed and it is determined to have excess capacity. Therefore, Unit 5 can accommodate fully developed discharge from the proposed Unit 10 and a small offsite basin. A more detailed analysis of the storm drain is provided in *Appendix C*.

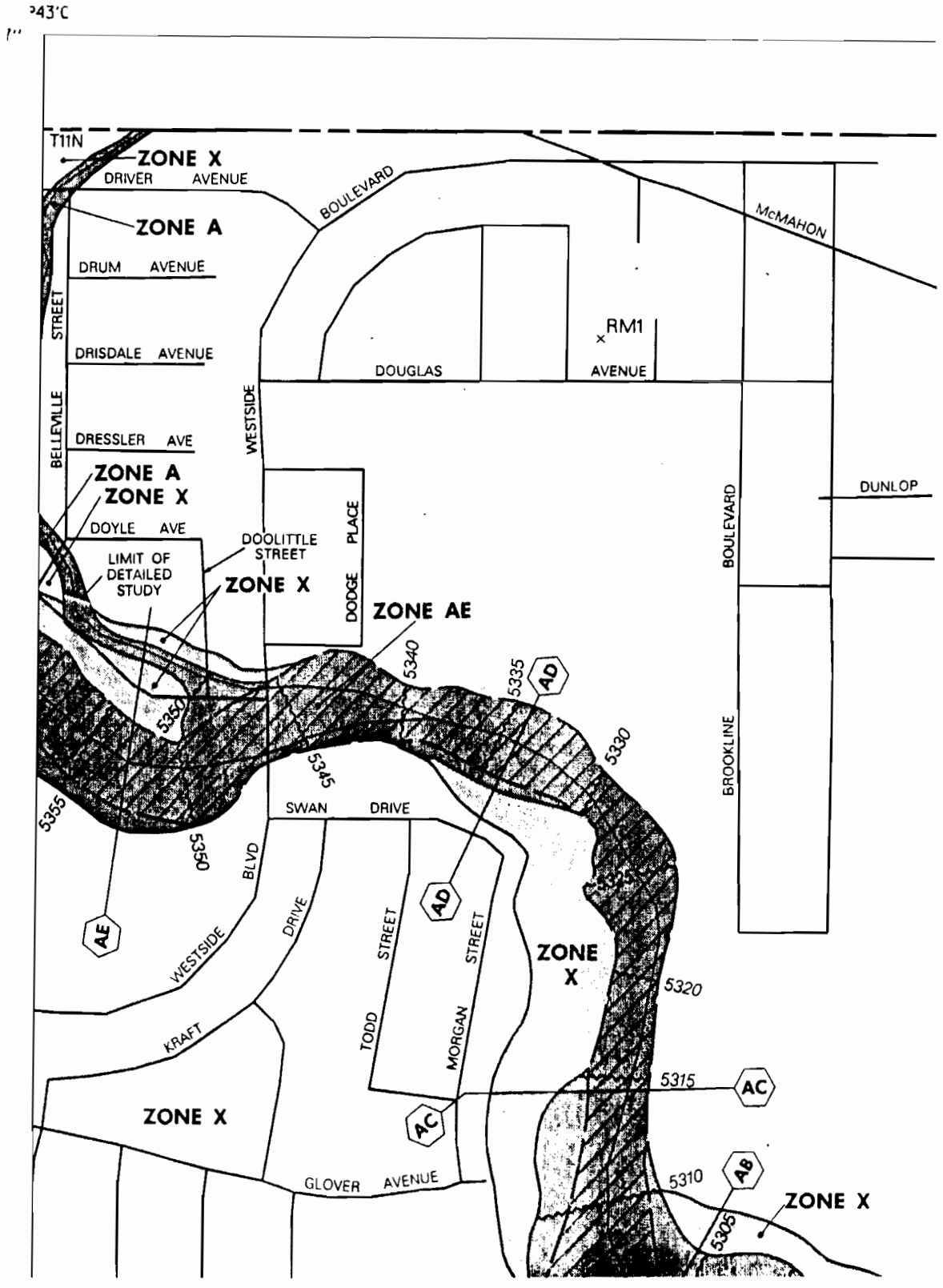
Due to existing grades of Rockcliff Drive, a small portion of Paradise Skies Unit 10 will discharge into McMahon Blvd. The McMahon Blvd. basin has also been analyzed with routed flows to determine that it can accommodate the minor addition of flows from Paradise Skies Unit 10. Please refer to the basin map and AHYMO analysis for additional information.

C. FEMA Floodplain

The property does not lie within a flood hazard zone, as designated on Panel 104 of 825 of the National Flood Insurance Program, Flood Insurance Rate Map published by FEMA for Bernalillo County, New Mexico (September 20, 1996). See the FEMA Floodplain exhibit provided at the end of the report text.

V. CONCLUSION

This report provides a detailed study of the developed runoff and street capacities for the proposed Paradise Skies Unit 10 Subdivision. Included is the preliminary plat, proposed conditions basin map, grading plan, infrastructure list, and all necessary hydrologic and hydraulic analyses. This drainage plan maintains the overall drainage pattern of the area as proposed in "Paradise Skies Drainage Master Plan", and allows for safe management of storm runoff in permanent as well as interim conditions.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 104 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0104	D
BERNALILLO COUNTY, UNINCORPORATED AREAS	350001	0104	D

MAP NUMBER
35001C0104 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

Paradise Skies Unit 10 Subdivision

DETERMINATION OF LAND TREATMENT PERCENTAGES FOR RESIDENTIAL AREAS
Ref: Basin Map

Lots
Minimum Lot Dimensions: 50'x100'
Total Lots = 53
Total Lot Area = 6.1 acres
Total Impervious Area = 3.5 acres
Percent A=0
Percent B=42.6
Percent C=0
Percent D=57.4

Misc. Lot Areas (Represents Extra Large Lots)
Total Area = 1.4 acres
Percent A=0
Percent B=100
Percent C=0
Percent D=0

Right-of-Way
Total Area = 2.2 acres
Percent A=0
Percent B=10
Percent C=0
Percent D=90

Cumulative Percentages for Residential Areas
Total Area of Subdivision = 9.7 acres

$$\frac{6.1}{9.7}(57.4)+\frac{1.4}{9.7}(0)+\frac{2.2}{9.7}(90) \Rightarrow\Rightarrow Percent D = 56.5$$

Percent A = 0
Percent B = 43.5
Percent C = 0
Percent D = 56.5

PARADISE SKIES UNIT 10 SUBDIVISION
Internal Street Capacity Calculations
April 7, 2003

1. **Brookline Drive (Unit 10)**
Basin C (See Basin Map)
S = 3%
Q = 25 cfs

Total flow from Basin C and the Offsite Basin is 25 cfs. At 3%, a road with mountable curb can handle 10 cfs. Therefore, no inlets are needed. Roll curb will be placed along Brookline Drive from the north boundary to Lot 43. See PC stream output. Water flows south into Brookline Place.

2. **Brookline Drive (Unit 10)**
Basin C (See Basin Map)
S = 7%
Q = 25 cfs

Total flow at the south end of Brookline Drive is 25 cfs. At 7%, a road with standard curb can handle 16.5 cfs. Three inlets will be placed at the southern boundary of Brookline Drive in Unit 10. These inlets will capture 19.2 cfs. Therefore, 5.7 cfs will surface flow into Basin E. See PC stream output and inlet nomograph.

3. **Rockcliff Drive (Unit 10)**
Basin B (See Basin Map)
S = 2%
Q = 15.2 cfs

At 2%, a road with mountable curb can handle 9 cfs. Therefore, roll curb will be placed along Rockcliff Drive from the north boundary until Lot 19. See PC stream output. Water flows south into Rockcliff Court.

4. **Rockcliff Drive (Unit 10)**
Basin B (See Basin Map)
S = 8%
Q = 15.2 cfs

At 8%, a road with standard curb can handle 21 cfs. Therefore, no inlets are needed. See PC stream output. Water flows into south into Rockcliff Court.

5. **Brookline Place (Unit 5)**
Basin E (See Basin Map)
S = 8%
Q = 18.0 cfs

Total street flow in this basin is 22.5 cfs. At 8%, a road with standard curb can handle 28 cfs. There are existing inlets in the cul-de-sac terminus to accept this flow. See PC stream output and storm drain analysis.

6. **Rockcliff Court (Unit 5)**

Basin D (See Basin Map)
S = 8%
Q = 25.8 cfs

Total flow in this basin is 25.8 cfs. At 8%, a road with standard curb can handle 28.9 cfs. Existing inlets in the cul-de-sac terminus will accommodate this flow. See PC stream output and storm drain analysis.

PARADISE SKIES UNIT 10 SUBDIVISION
Storm Drain and Inlet Calculations
April 7, 2003

1. **Brookline Drive**
   S = 7%
   Q = 24.9 cfs

   Total flow in Brookline Drive at the southern boundary is 24.9 cfs. There are three proposed inlets to capture a portion of this flow. At a flow depth of 0.33', each inlet will capture 6.4 cfs. An amount of 5.7 cfs will bypass and continue into Brookline Place. The existing storm drain can easily accommodate this flow. See inlet nomograph and analyzer report.

2. **Brookline Place Cul-de-Sac**
   S = 2.45%
   Q = 22.5 cfs

   At the cul-de-sac terminus, the total flow in the street is 22.5 cfs. There are two double 'C' inlets to capture flow from the 100-year storm event without exceeding top-of-curb height. This flow discharges into an existing 30" storm drain, through an energy dissipator and into the Calabacillas Arroyo. Should a storm event greater than the 100-year design storm occur or the inlets become clogged, wall drains are proposed for the existing retaining wall. In addition, there is excess capacity in the existing storm drain system. See inlet nomograph and analyzer report.

3. **Rockcliff Court Cul-de-Sac**
   S = 9%
   Q = 25.8 cfs

   At this cul-de-sac terminus, there are two double 'A' inlets to capture the entire flow from Rockcliff without exceeding top-of-curb height. This flow discharges into an existing 18" storm drain and connects to the energy dissipater. Wall drains are proposed as an additional safety factor. See inlet nomograph and analyzer report.

4. **Energy Dissipator**
   Q = 67.5 cfs

   The total flow from Paradise Skies Units 5 and 10 will discharge into an existing energy dissipator. The 36" storm drain pipe connecting the two cul-de-sacs into the dissipator can accommodate 103 cfs. Flow is discharged into the Calabacillas Arroyo.

Analyzer Report

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Drainage Structure Analyzer

Pipe Hydraulic Analysis

BROOKLINE STORM DRAIN (3 INLETS)

Date: Monday, April 07, 2003 5:27:18 PM

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Input Data

Shape	Circular	
Material	RC C76-A	
Roughness	0.013000	
Method	Manning	
Flow Rate	19.2	cfs
Slope	7.000%	
Size (W x T):	18.00 x 2.0000	

Output Results

Flow Rate	19.2	cfs ← FROM INLET NOMOGRAPH
Slope	7.000%	
d/D	0.61	
Capacity	27.8	cfs
Velocity	16.98	ft/s
Depth	0.92	ft
Critical Depth	1.46	ft
Size (W x T):	18.00 x 2.0000	

Analyzer Report

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Drainage Structure Analyzer

Pipe Hydraulic Analysis

BROOKLINE STORM DRAIN
CUL-DE-SAC TERMINUS

Date: Monday, April 07, 2003 5:30:26 PM

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Input Data

Shape	Circular	
Material	RC C76-A	
Roughness	0.013000	
Method	Manning	
Flow Rate	41.7	cfs
Slope	1.840%	
Size (W x T):	30.00 x 2.7500	

Output Results

Flow Rate	41.7	cfs ← FROM AHYMO
Slope	1.840%	
d/D	0.65	
Capacity	55.6	cfs
Velocity	12.44	ft/s
Depth	1.61	ft
Critical Depth	2.16	ft
Size (W x T):	30.00 x 2.7500	

Analyzer Report

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Drainage Structure Analyzer

Pipe Hydraulic Analysis

ROCKCLIFF STORM DRAIN
CUL-DE-SAC TERMINUS

Date: Monday, April 07, 2003 5:29:40 PM

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Input Data

Shape	Circular	
Material	RC C76-A	
Roughness	0.013000	
Method	Manning	
Flow Rate	25.8	cfs
Slope	9.000%	
Size (W x T):	18.00 x 2.0000	

Output Results

Flow Rate	25.8	cfs ← FROM AHYMO
Slope	9.000%	
d/D	0.69	
Capacity	31.5	cfs
Velocity	19.90	ft/s
Depth	1.03	ft
Critical Depth	1.48	ft
Size (W x T):	18.00 x 2.0000	

Analyzer Report

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Drainage Structure Analyzer

Pipe Hydraulic Analysis

TOTAL FLOW INTO ENERGY DISSIPATOR

Date: Monday, April 07, 2003 5:30:56 PM

==========

Input Data

Shape	Circular	
Material	RC C76-A	
Roughness	0.013000	
Method	Manning	
Flow Rate	67.5	cfs
Slope	2.420%	
Size (W x T):	36.00 x 3.0000	

Output Results

Flow Rate	67.5	cfs ← FROM AHYMO
Slope	2.420%	
d/D	0.59	
Capacity	103.8	cfs
Velocity	15.64	ft/s
Depth	1.76	ft
Critical Depth	2.62	ft
Size (W x T):	36.00 x 3.0000	

60" WING 40"@ TC GRATE OPEN AREA

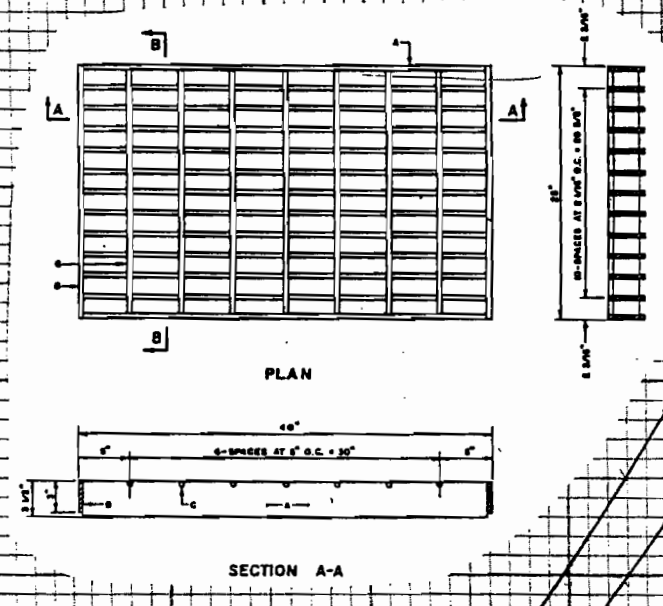
18.5" × 35.5" 18.5" NET OPEN AREA

GRATE @ 10" (0.83') BELOW TC

EQUATION	SGL A	DBL A	TRPL A	QDPL A
1) ORIFICE	$22.0h^{0.5}+16.5h^{1.5}$	$43.9h^{0.5}+16.5h^{1.5}$	$65.9h^{0.5}+16.5h^{1.5}$	$87.8h^{0.5}+16.5h^{1.5}$
2) 3-SIDED WEIR ($h \le 0.83'$)	$36.4h^{1.5}$	$46.2h^{1.5}$	$56.0h^{1.5}$	$65.7h^{1.5}$
3) 4-SIDED WEIR ($h > 0.83'$)	ADD TO 2): $11(h-.83)^{1.5}$	ADD TO 2): $22(h-.83)^{1.5}$	ADD TO 2): $33(h-.83)^{1.5}$	ADD TO 2): $44(h-.83)^{1.5}$

1) $Q = 0.6A\sqrt{2gh} + 3.3(5')h^{1.5}$

2) & 3) $Q = 3.3Ph^{1.5}$



GRATE CAPACITY (Q) IN CFS

90 85 80 75 70 65 60 55 52 50 45 40 35 30 25 20 15 10 5 0

TRIPLE GRATE

DOUBLE GRATE

SINGLE GRATE

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4

TC 0.83'

HEAD (h) IN FEET

H = 0.86'

BROOKLINE AND ROCKCLIFF CUL-DE-SAC

BOHANNAN-HUSTON INC.

PROJECT NAME 030219 SHEET ____ OF ____

PROJECT NO. PARADISE SKIES 10 BY MEL DATE 6-11-03

SUBJECT RATING CURVE FOR TYPE A INLETS CH'D ____ DATE ____

Design of spun concrete connector pipes flowing full (Plate 22.3 D-8)

$$Q = \frac{A\sqrt{2gH}}{\sqrt{1.2 + \frac{0.021L}{D^{1.2}}}}$$

Rockcliff Court

Q_{100} in storm drain = 25.8 cfs
Right-of-way elev. (above grate) = 19.85
Invert Out = 2.15
$H = 17.7'$
$L = 77'$ of 18" RCP $\Rightarrow D = 1.5'$ $A = 1.77\ ft^2$

$$Q = \frac{1.77\sqrt{64.4(17.7)}}{\sqrt{1.2 + (1.62/1.63)}} = 40.4 \text{ cfs}$$

(This is 1.5 times 100-year flow)

Brookline Place

Q_{100} in storm drain = 41.7 cfs
Right-of-way elev. (above grate) = 17.8
Invert Out = 0.70
$H = 17.1'$
$L = 264'$ of 30" RCP $\Rightarrow D = 2.5'$ $A = 4.91\ ft^2$

$$Q = \frac{4.91\sqrt{64.4(17.1)}}{\sqrt{1.2 + (5.54/3)}} = 93 \text{ cfs}$$

(More than twice 100-year flow)

Analyzer Report

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Drainage Structure Analyzer

Pipe Hydraulic Analysis

TOTAL FLOW INTO ENERGY DISSIPATOR

Date: Monday, April 07, 2003 5:30:56 PM

==========

Input Data

Shape	Circular
Material	RC C76-A
Roughness	0.013000
Method	Manning
Flow Rate	67.5 cfs
Slope	2.420%
Size (W x T):	36.00 x 3.0000

Output Results

Flow Rate	67.5 cfs ← FROM AHYMO
Slope	2.420%
d/D	0.59
Capacity	103.8 cfs
Velocity	15.64 ft/s
Depth	1.76 ft
Critical Depth	2.62 ft
Size (W x T):	36.00 x 3.0000

DRAINAGE CERTIFICATION

I, RICK BELTRAMO, NMPE 10596, OF THE FIRM BOHANNAN HUSTON INC., HEREBY CERTIFY THAT PARADISE SKIES UNIT 10 HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 5/20/03. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN PROVIDED BY ALDRICH LAND SURVEYING INC., NMPS 7719. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON 10/04/04 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR SIA/FINANCIAL GUARANTY RELEASE.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

THIS CERTIFICATION EXCLUDES LOTS 51-57.

DATE: MARCH 7, 2005 — RICK BELTRAMO, NMPE 10596

RICHARD LYNN BELTRAMO — NEW MEXICO — 10596 — REGISTERED PROFESSIONAL ENGINEER

SURVEYOR'S CERTIFICATION

"I, Timothy Aldrich, a duly qualified Registered Professional Land Surveyor under the laws of the State of New Mexico, do hereby certify that the 'as-built' information shown on these drawings was obtained from field construction and 'as-built' surveys performed by me or under my supervision, that the 'as-built' information shown on these drawings was added by me or under my supervision, and that this 'as-built' information is true and correct to the best of my knowledge and belief." Aldrich Land Surveying is not responsible for any of the design concepts, calculations, engineering, or intent of the record drawings.

Timothy Aldrich, P.S. No. 11119 — 12-12-03 Date

NEW MEXICO — 11119 — REGISTERED PROFESSIONAL LAND SURVEYOR

LOTS 51 THRU 57 ARE EXCLUDED FROM THIS CERTIFICATION, AND INCLUDED IN A SEPERATE CERTIFICATION BY SMITH ENGINEERING.

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE SOILS REPORT.

3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.

4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL AND WETTING THE SOIL TO KEEP IT FROM BLOWING.

5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.

6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.

7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.

8. ALL ELEVATIONS SHOWN WITH "( )" ARE FUTURE MCMAHON BLVD. ELEVATION.

50 25 0 50
1" = 50'

LEGEND

- (91.62) FUTURE SPOT ELEVATION (MCMAHON BLVD. EL.)
- 91.62 PROPOSED SPOT ELEVATION
- ⊕ 00.0 EXISTING SPOT ELEVATION (GRND. & FL.)
- EXISTING CURB & GUTTER
- PROPOSED STANDARD CURB & GUTTER
- EXISTING CONTOUR W/ INDEX ELEVATION
- FLOW ARROW
- PROPOSED RETAINING WALL
- PROPOSED SLOPE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- LIMITS OF GRADING
- WALL DRAIN

RECEIVED MAR 11 2005 HYDROLOGY SECTION

Bohannan ▲ Huston Inc.
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

PARADISE SKIES UNIT 10 SUBDIVISION
GRADING PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. | Zone Map No. A-10-Z | Sheet 3 of 15

ROUGH GRADING (±0.5'):

APPROVED FOR ROUGH GRADING: DATE

SURVEY INFORMATION
BENCH MARKS
VO MA "SANDIA" (NAD 1927)
NAVD 1988 Conversion Control Diff: 1.76 (As Built)
FIELD NOTES
NO. BY DATE
ENGINEER'S SEAL
RICHARD LYNN BELTRAMO — NEW MEXICO — 10596 — REGISTERED PROFESSIONAL ENGINEER
5/20/03
AS-BUILT INFORMATION
CONTRACTOR DATE
SURVEYOR DATE
ENGINEER DATE
ADDRESS BY DATE
CHECKED BY DATE
MCPO ELEV. INFORMATION
RECORD DRAWING BY DATE
NO. Date REMARKS
1 6-24-04 Field Revisions
DESIGN
DRAWN BY
CHECKED BY
DATE 05/20/03
SCALE 1" = 50'
PROJECT NO. 030219

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May 20, 2003 - 10:57 AM
Layout1