CITY OF ALBUQUERQUE

June 5, 2006

Mr. Christian J. Sholtis, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE – Courtyard 1
Albuquerque, NM 87109

RE: SUN GATE ESTATES SUBDIVISION, UNITS 1 & 2 (N-9/D8B)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 09/09/2004
Engineers Certification dated 05/31/2006

Dear Chris:

Based upon the information provided in your Engineer's Certification Submittal dated 06/01/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

If you have any questions, you can contact me at 924-3982

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: Marilyn Maldonado, Unit 1 - COA# 736782; Unit 2 – COA # 736783
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

N-9/D8B

PROJECT TITLE: Sungate Estates, subd. Units 1 and 2 ZONE MAP/DRG. FILE #: N9/D8B
DRB #. 1003591 EPC#. WORK ORDER #. 736782, 736783

LEGAL DESCRIPTION: Sungate Estates, Units 1 and 2
CITY ADDRESS: 98th Street SW/Blake Rd SW

ENGINEERING FIRM: Bohannan Huston, Inc. CONTACT: Christian J. Sholtis, PE
ADDRESS: 7500 Jefferson Street NE PHONE: (505) 823-1000
CITY, STATE: Albuquerque, NM ZIP CODE: 87109

OWNER: DR Horton Custom Homes CONTACT: Kevin Daggett
ADDRESS: 4400 Alameda NE, Ste B PHONE: 797-4245
CITY, STATE: Albuquerque, NM ZIP CODE: 87113

ARCHITECT: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

SURVEYOR: Aldrich Land Surveying CONTACT: Tim Aldrich
ADDRESS: PO Box 30701 PHONE: 884-1990
CITY, STATE: Albuquerque, NM ZIP CODE: 87190-0701

CONTRACTOR: Franklins Earthmoving CONTACT: John Ellis
ADDRESS: 2425 Jefferson NE PHONE: 884-6947
CITY, STATE: Albuquerque, NM ZIP CODE: 87110

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1ST SUBMITTAL, ***REQUIRES TCL or equal***
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- X ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEER'S CERTIFICATION (TCL)
- ____ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- X SIA / FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM.)
- ____ CERTIFICATE OF OCCUPANCY (TEMP.)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- ____ NO
- X COPY PROVIDED

RECEIVED
JUN 01 2006
HYDROLOGY SECTION

DATE SUBMITTED: 6-1-06 BY: Christian J. Sholtis, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

Bohannan ▲ Huston inc.

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335
www.bhinc.com
voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Brad Bingham
Plaza Del Sol

Requested by: Chris Sholtis/ SW

Date: 6/1/2006

Time Due:
- ☒ **This A.M.**
- ☐ **This P.M.**
- ☐ **Rush** _____
- ☐ **By Tomorrow**

Phone: 924-3986

Job No.: 050146

Job Name: Sun Gate Estates Units 1 & 2

DELIVERY VIA

- ☐ **Courier**
- ☐ **Federal Express**
- ☐ **Mail**
- ☐ **UPS**
- ☒ **Other**

PICK UP

Item: _____

ITEM NO.	QUANTITY	DESCRIPTION
1	1	Engineer's Certification- SIA Financial Guarantee release

COMMENTS / INSTRUCTIONS

DRB# 1003591

RECEIVED
JUN 01 2006
HYDROLOGY SECTION

ENGINEERING ▲
SPATIAL DATA ▲
ADVANCED TECHNOLOGIES ▲

REC'D BY: _____ ***DATE:*** _____ ***TIME:*** _____

DRAINAGE REPORT
FOR
SUN GATE ESTATES

SEPTEMBER 8, 2004

Prepared for:

D.R. HORTON

4400 Alameda NE - Suite B

Albuquerque, NM 87113

Scan Report & 24x36 sheets in Report

Bohannan ▲ Huston INC.

ENGINEERING ▲

SPATIAL DATA ▲

ADVANCED TECHNOLOGIES ▲

DRAINAGE REPORT
FOR
SUN GATE ESTATES SUBDIVISION

SEPTEMBER 8, 2004

Prepared for:

D.R. HORTON
4400 ALAMEDA NE - SUITE B
ALBUQUERQUE, NM 87113

Prepared by:

BOHANNAN HUSTON, INC.
COURTYARD I
7500 JEFFERSON STREET NE
ALBUQUERQUE, NM 87109

CHRISTIAN J. SHOLTIS
NEW MEXICO
16244
LICENSED PROFESSIONAL ENGINEER

PREPARED BY:

9/9/04
Jenny Salgado, E.I. Date

UNDER THE SUPERVISION OF:

9-9-04
Christian J. Sholtis, P.E. Date

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I. INTRODUCTION

This drainage study establishes a drainage management plan for the proposed development of Sun Gate Estates Subdivision on Tract 31A-1-A. The Sun Gate Estates Subdivision is approximately 45 acres of residential (R-2) land to be subdivided into 198 single family residential lots. As the proposed residence complies with the proposed zoning of the property, no additional entitlement or zoning effort is required prior to building on the property, The property is in the Rio Bravo Sector Plan and is located on Albuquerque's southwest mesa, south of Blake Road and west of 98th Street. This site will be accessible from Amole Mesa Avenue, Open Range Avenue, and Blake Road.

Sun Gate Estates is in the Amole Arroyo Watershed and encompassed by the Amole-Hubbell Drainage Management Plan. In addition, a draft Drainage Management Plan (DMP) has been developed by Bohannan Huston Inc. for the Gibson Boulevard corridor between 118th Street and the Amole Arroyo. The drainage area covered by the DMP is approximately 300 acres of residential, commercial, and special use zoned property that bound the north and south side of the future Gibson Boulevard between 118th Street to the west and the Amole Arroyo to the east. Sun Gate Estates is in the Drainage Management Plan (DMP) area. Approval of the Gibson Boulevard DMP by the City of Albuquerque and AMAFCA is not required for approval of this Drainage Study for Sun Gate Estates. Planned development will include storm drain installation, which is adequately sized to accommodate off-site flows. The storm drain within Amole Mesa Avenue is to be constructed with the Longford at Arrowwood Subdivision (hereinafter Reference 2) identified in the Drainage Master Plan for Arrowwod written by Wilson & Company, dated June 1, 2004.

This report outlines the hydrological methods used, and summarizes the existing and proposed drainage conditions necessary to support the planned 198-unit development. More specifically, this report is submitted in conjunction with the preliminary plat application. Therefore, preliminary plat 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. Calculations and supporting data are presented in the appendices. Drainage basin maps, a grading plan, storm drain plans, profiles, details, street profiles, and a copy of the preliminary plat are included at the end of this report.

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. The Arid-lands Hydrologic Model (AHYMO) 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. Street capacities were analyzed using Manning's equation, consistent with the revised DPM Section 22.2. The storm sewer system is analyzed using current DPM methods for pressure and gravity flow conditions. All data and calculations supporting this study are located in Appendix B.

This report will reference the following reports:

1) The hydrologic analysis is also based on the approved drainage report: *Amole-Hubbell Drainage Management Plan, Volume I, Final Facilities Plan Report* dated July 22, 1999, prepared by Leedshill-Herkenhoff, Inc.

2) Drainage Master Plan, Tracts 29, 30, 31 at Arrowwood proposed by Wilson & Company, June 1, 2004. This plan allows for free discharge of developed runoff from Tract 31 into a proposed storm drain system in Amole Mesa Avenue which conveys flows to the Amole Channel.

3) Drainage Management Plan for Gibson Boulevard corridor between 118th Street and the Amole Arroyo, prepared by BHI, dated May 8, 2003. This report allows for free discharge from Tract 31 into a proposed storm drain system in Amole Mesa Avenue which conveys flows to the Amole Channel.

III. EXISTING CONDITIONS

A. Topography

Sun Gate Estates is currently undeveloped land with grades ranging from approximately 1% to 6%. Review of soils information in the area indicates an SCS soil classification of BCC (Bluepoint loamy fine sand). BCC soils consist of deep, somewhat

excessively drained soils formed in sandy alluvial soils, with rapid permeability, slow runoff characteristics, and severe hazard for wind erosion. The Bluepoint Series fits within Hydrologic Group "A", which indicates low runoff potential. Vegetation is light consisting mostly of native grasses

B. Existing Drainage Patterns

Sun Gate Estates is located in the Amole Arroyo Drainage Basin. The site generally drains from Northwest to Southeast. Future development in the area will not alter the natural drainage pattern of the area except adjacent streets which include: Amole Mesa Avenue, 98th Street, Blake Road, and Open Range Avenue.

IV. PROPOSED DEVELOPED CONDITIONS

Sun Gate Estates subdivision is a proposed single-family residential development with 198 lots on 45 acres. Proposed street configurations are shown on the *Preliminary Plat*, **Exhibit 1.** The site was divided into six basins; A, B, C, D, E, F, and G. Basins B through G are off site basins surrounding the Sun Gate Estates Subdivision. Basin A is the on-site basin, which is broken up into eight sub-basins. These sub-basins consist of A1, A2, A3, A4, A5, A6, A7, and A8. The Amole-Hubbell DMP allows for full discharge of developed flows from the Amole Arroyo Basin to the Amole and Hubbell Lake storage facilities. The drainage concepts for Sun Gate Estates are consistent with those presented in the "Draft Master Drainage Study for the Gibson Boulevard Corridor between 118th Street and the Amole Arroyo". The Sun Gate Estates drainage area corresponds to Basin DB18 in the Gibson Boulevard DMP.

The percent impervious land treatment for the proposed conditions is determined from Table A-5 of the DPM, Section 22.2. The land treatment values used in the AHYMO analysis are both A and B equal 20 %, and D equals 60%.

A. Offsite Flows

No offsite flows reach the site from the south or east because the natural ground slopes away from Sun Gate Estates on these sides. The offsite flow from the north is intercepted by Sun Gate Subdivision.

The property to the Northwest of Sun Gate Estates is being developed as El Rancho Grande Units 14 and 15. The majority of the offsite flow to the west is conveyed south by a natural arroyo that is parallel to the western boundary of Units 14 and 15. A drainage swale will be graded west of Messina Drive that will convey this flow into the natural arroyo parallel to the western boundary.

B. Onsite Flows

Developed runoff from Sun Gate Estates will be conveyed by the internal street system to Mountain Gate Lane, where it will be collected by a proposed public storm drain system within Amole Mesa Avenue and conveyed to the Amole Arroyo. This strom drain system which will accept flows from this project will be built as part of the Longford at Arrowwood Subdivision. Inlets are located along Mountain Gate Lane. There are two type A inlets located near the east end of Sun Mountain Trail. Each of these inlets collects 7.5 cfs and allows the street flow directly after to be 38.7 cfs. Also, there are two more type A inlets located near the east end of Sun Chaser Trail on Mountain Gate Lane. These inlets each collect 9.4 cfs. The next set of inlets are located by lots 137 and 138. There are two type A inlets and one type C inlet. The three of these inlets also collect 9.4 cfs. The flow just before this set of inlets is 42.7 cfs. There are three more inlets located just North of Canyon Gate Trail on Mountain Gate Lane. There are two type A inlets and one type C inlet. Each of these inlets collects 9.4 cfs. There are also two more inlets located just past Canyon Gate Trail along Mountain Gate Lane. These also collect 9.4 cfs. Just past the last pair of inlets the street flow is 25 cfs. These inlets collect the runoff from the residential streets into a storm drain that discharges to the Southeast at Mountain Gate Lane into a sump grate and then into the master storm drain located on Amole Mesa. The sump grate is designed for twice the 100 year storm because there is no emergency outfall. See **Appendix B** for street capacity and inlet capacity calculations. This drainage plan proposes discharging 143.5 cfs to the storm drain in Amole Mesa Avenue.

C. FEMA Floodplain

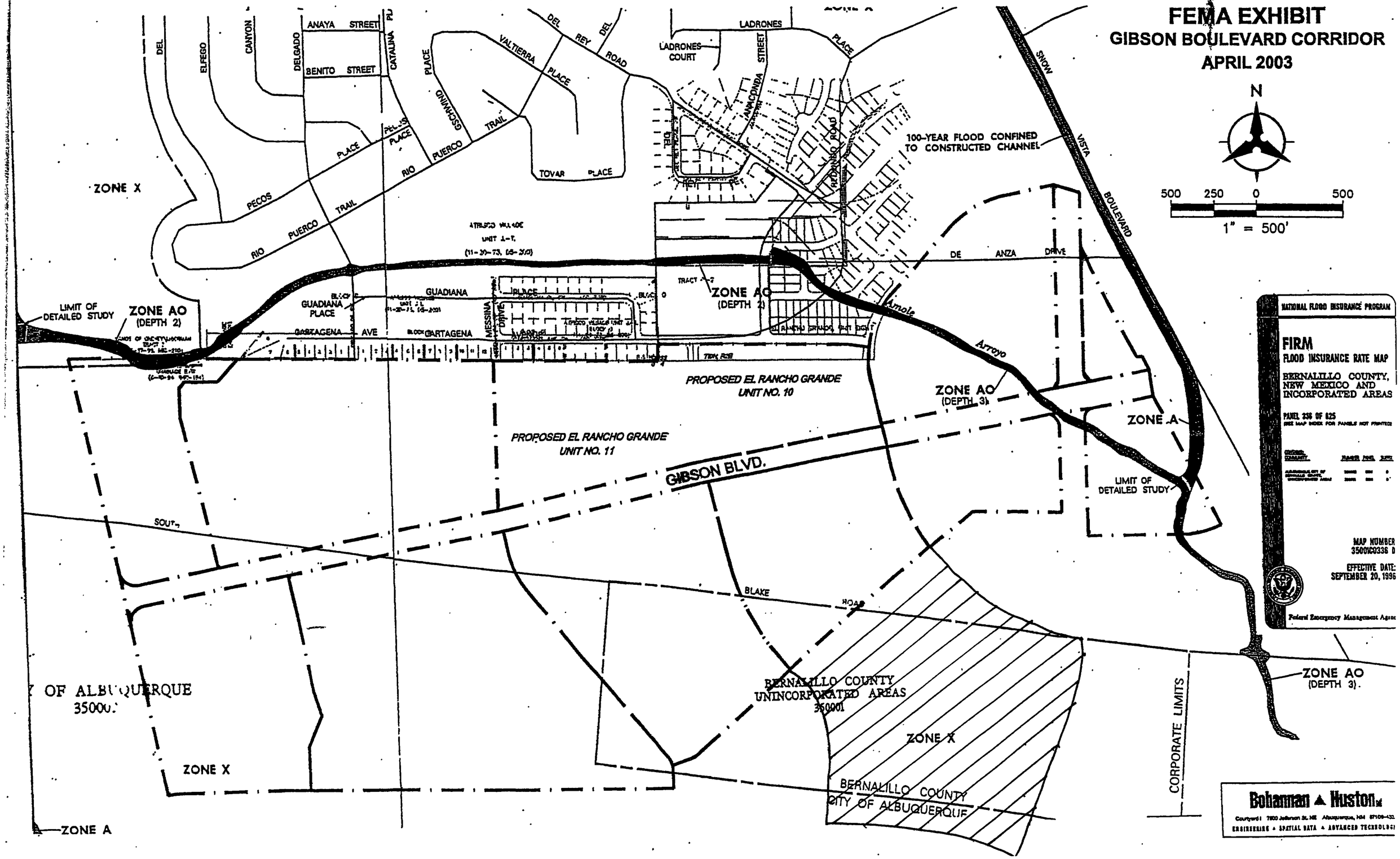
As designated on Panel 336 of 825 (Map number 35001C0336D) of the National Flood Insurance Program, Flood Insurance Rate Maps published by FEMA for Bernalillo

County, New Mexico, effective date September 20, 1996, there is no existing flood hazard zone (zone AO) within the proposed development. 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 Sun Gate Estates Subdivision. Included is the preliminary plat, proposed conditions basin map, grading plan, infrastructure list, and all necessary hydrologic and hydraulic analyses. Erosion and dust control, consisting of erosion control berms, silt fencing and sedimentation basins, are proposed to prevent soil washing or blowing into paved streets, storm drains, and existing development areas. This drainage plan maintains the overall drainage pattern of the area and allows for the safe management of storm runoff in permanent as well as interim conditions, and is in conformance with the Drainage Master Plans for the site.

FEMA EXHIBIT
GIBSON BOULEVARD CORRIDOR
APRIL 2003



APPENDICES

APPENDIX A - AHYMO INPUT AND SUMMARY FILES FOR DEVELOPED CONDITIONS

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APPENDIX C - DRAFT INFRASTRUCTURE LIST

APPENDIX A

AHYMO INPUT AND SUMMARY FILES
FOR DEVELOPED CONDITIONS

```
    AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                          - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =
09/07/2004
    INPUT FILE = SUNGATE.HYM                                                                   USER NO.= AHYMO-S-9702c1BohanHu-
AH
                                                                                                                                  PAGE =   1
                                 FROM  TO                    PEAK        RUNOFF                TIME TO    CFS
                       HYDROGRAPH  ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
    COMMAND        IDENTIFICATION  NO.  NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

    *S*                   PROJECT NAME:  SUNGATE ESTATES SUBDIVISION
    *S*                   DATE:  AUGUST 12, 2004
    *S*                   INPUT FILE NAME:  SUNGATE_ESTATES.HYM
    *S*                   OUTUPUT FILE NAME:  SUNGATE.OUT
    *S*                   PROJECT NUMBER:  040111
    *S*                           COMMENTS:  100 YEAR-6 HOUR STORM
    *S ////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
    START                                                                                                                  TIME=
.00
    RAINFALL  TYPE= 1                                                                                                      RAIN6=
2.200
    *S*****************************************************************************
    *S* COMPUTE DEVELOPED CONDITIONS
    *S*****************************************************************************
    COMPUTE NM HYD  SUB-BASIN.A1   -     1        .00740        17.09        .597      1.51376    1.500    3.608 PER IMP=
60.00
    *S*****************************************************************************
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60.00
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60.00
    *S*****************************************************************************
    COMPUTE NM HYD  SUB-BASIN.A4   -     4        .01190        27.47        .961      1.51376    1.500    3.607 PER IMP=
60.00
    *S*****************************************************************************
    COMPUTE NM HYD  SUB-BASIN.A5   -     5        .01050        24.24        .848      1.51376    1.500    3.607 PER IMP=
60.00
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60.00
    *S*****************************************************************************
    COMPUTE NM HYD      BASIN.A7   -     7        .00341         7.88        .275      1.51376    1.500    3.612 PER IMP=
60.00
    *S*****************************************************************************
    COMPUTE NM HYD      BASIN.A8   -     8        .00491        11.34        .396      1.51376    1.500    3.610 PER IMP=
60.00
    *S*****************************************************************************
    *S                       ADD SUB-BASINS A8,A2 FOR DISCHARGE
    ADD HYD                8.20  8& 2   9        .01191        27.51        .962      1.51371    1.500    3.609
    *S*****************************************************************************
    *S                       ADD SUB-BASINS A8,A2,A3 FOR DISCHARGE
    ADD HYD                9.30  9& 3  10        .02091        48.29       1.688      1.51372    1.500    3.609
    *S*****************************************************************************
    *S                       ADD SUB-BASINS A8,A2,A3,A4 FOR DISCHARGE
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ADD HYD                 10.40 10& 4  11        .03281        75.76       2.649      1.51372    1.500    3.608
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*S                          ADD SUB-BASINS A8,A2,A3,A4,A5 FOR DISCHARGE
ADD HYD                 11.50 11& 5  12        .04331       100.01       3.497      1.51373    1.500    3.608
*S*************************************************************************************
*S                          ADD SUB-BASINS A8,A2,A3,A4,A5,A6 FOR DISCHARGE
ADD HYD                 12.60 12& 6  13        .05131       118.48       4.142      1.51373    1.500    3.608
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ADD HYD                 13.70 13& 7  14        .05472       126.36       4.418      1.51372    1.500    3.608
*S*************************************************************************************
*S                          TOTAL DEVELOPED FLOW FROM SUN GATE ESTATES SUBDIVISION
ADD HYD                 TOTAL 14& 1  15        .06212       143.45       5.015      1.51372    1.500    3.608
*S*************************************************************************************
*s* COMPUTE EXISTING CONDITIONS
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   COMMAND       IDENTIFICATION  NO.   NO.      (SQ MI)    (CFS)       (AC-FT)   (INCHES)   (HOURS)  ACRE     NOTATION

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   COMPUTE NM HYD       BASIN.B   -    17       .00200       5.41        .200    1.87288     1.500   4.225 PER IMP=
90.00
   *S*************************************************************************
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90.00
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90.00
   *S*************************************************************************
   COMPUTE NM HYD       BASIN.E   -    21       .00220       5.95        .220    1.87288     1.500   4.224 PER IMP=
90.00
   *S*************************************************************************
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90.00
   *S*************************************************************************
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90.00
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   FINISH
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*S*                    DATE:  AUGUST 12, 2004
*S*                    INPUT FILE NAME:  SUNGATE_ESTATES.HYM
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*S*                    PROJECT NUMBER:  040111
*S*                    COMMENTS:     100 YEAR-6 HOUR STORM
*S
////////////////////////////////////////////////////////////////////////////
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                      RAIN DAY=2.60 IN    DT=0.05 HRS
*************************************************************************
*********
*S************************************************************************
*********
*S* COMPUTE DEVELOPED CONDITIONS
*S************************************************************************
*********
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                      PER A=0.0   PER B=20.0   PER C=20.0    PER D=60.0
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*********
COMPUTE NM HYD        ID=2     HYD NO=SUB-BASIN.A2    DA=0.0070 SQ MI
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*********
COMPUTE NM HYD        ID=3     HYD NO=SUB-BASIN.A3    DA=0.0090 SQ MI
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                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=3     CODE=1
*S************************************************************************
*********
COMPUTE NM HYD        ID=4     HYD NO=SUB-BASIN.A4    DA=0.0119 SQ MI
                      PER A=0.0   PER B=20.0   PER C=20.0    PER D=60.0
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PRINT HYD             ID=4     CODE=1
*S************************************************************************
*********
COMPUTE NM HYD        ID=5     HYD NO=SUB-BASIN.A5    DA=0.0105 SQ MI
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*S************************************************************************
*********
COMPUTE NM HYD        ID=6     HYD NO=SUB-BASIN.A6    DA=0.0080 SQ MI
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*S************************************************************************
*********
COMPUTE NM HYD        ID=7     HYD NO=BASIN.A7    DA=0.00341 SQ MI
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*S*****************************************************************
*********
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PRINT HYD             ID=9     CODE=1
*S*****************************************************************
*********
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ADD HYD               ID=10     HYD NO=9.3    ID I==9  ID II=3
PRINT HYD             ID=10     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4 FOR DISCHARGE
ADD HYD               ID=11     HYD NO=10.4    ID I==10      ID II=4
PRINT HYD             ID=11     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5 FOR DISCHARGE
ADD HYD               ID=12     HYD NO=11.5    ID I==11      ID II=5
PRINT HYD             ID=12     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5,A6 FOR DISCHARGE
ADD HYD               ID=13     HYD NO=12.6    ID I==12      ID II=6
PRINT HYD             ID=13     CODE=1
*S*****************************************************************
*********
*S          ADD SUB-BASINS A8,A2,A3,A4,A5,A6,A7 FOR DISCHARGE
ADD HYD               ID=14     HYD NO=13.7    ID I==13      ID II=7
PRINT HYD             ID=14     CODE=1
*S*****************************************************************
*********
*S          TOTAL DEVELOPED FLOW FROM SUN GATE ESTATES SUBDIVISION
ADD HYD               ID=15     HYD NO=TOTAL    ID I=14      ID II=1
PRINT HYD             ID=15     CODE=1
*S*****************************************************************
*********
*s* COMPUTE EXISTING CONDITIONS
*S*****************************************************************
*********
COMPUTE NM HYD        ID=16     HYD NO=BASIN.A    DA=0.0703 SQ MI
                      PER A=50.0   PER B=50.0   PER C=0.0    PER D=0.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=16     CODE=1
*S*****************************************************************
*********
COMPUTE NM HYD        ID=17     HYD NO=BASIN.B    DA=0.0020 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=17     CODE=1
*S*****************************************************************
*********
COMPUTE NM HYD        ID=19     HYD NO=BASIN.C    DA=0.0030 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=19     CODE=1
```

```
*S*********************************************************************
*********
COMPUTE NM HYD        ID=20     HYD NO=BASIN.D    DA=0.0054 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=20     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=21     HYD NO=BASIN.E    DA=0.0022 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=21     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=22     HYD NO=BASIN.F    DA=0.0021 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=22     CODE=1
*S*********************************************************************
*********
COMPUTE NM HYD        ID=23     HYD NO=BASIN.G    DA=0.0023 SQ MI
                      PER A=0.0   PER B=0.0   PER C=10.0    PER D=90.0
                      TP=-0.1333 HR     MASSRAIN=-1
PRINT HYD             ID=23     CODE=1
*S*********************************************************************
*********
FINISH
```

APPENDIX B

STREET CAPACITY AND
STORM DRAIN INLET ANALYSIS

SUN GATE ESTATES SUBDIVISION
Internal Street Capacity Calculations
September 2004

1. **Sun Canyon Lane**
   (See Basin Map)
   Q = 11.34 cfs

   The amount of developed runoff produced from Sub-basin A8 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface North East towards Morning Sun Trail. See PC stream output.

2. **Morning Sun Trail**
   (See Basin Map)
   Q = 27.51cfs

   The total flow produced from Sub-basins A8 and A2 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue towards the South stub of Mountain Gate Lane. See PC stream output.

3. **Sun Mountain Trail**
   (See Basin Map)
   Q = 20.78 cfs

   The runoff produced from bSub-basin A3 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

4. **Sun Chaser Trail**
   (See Basin Map)
   Q = 27.47 cfs

   The runoff produced from Sub-basin A4 does not exceed the street capacity. Therefore, inlets are not required on this street. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

5. **Sub-basins A5**
   (See Basin Map)
   Q = 24.24 cfs

   The flow in Wagon Gate Trail, and a portion of Sunny Sky Lane does not exceed the street capacity for those roads, therefore, inlets are not required. Flow will continue on the surface East towards Mountain Gate Lane. See PC stream output.

6. **Canyon Gate Trail**
(See Basin Map)
Q = 26.35 cfs

The total flow produced from Sub-basins A7 and A6 does not exceed the street capacity. Therefore, inlets are not required. Flow will continue East towards Mountain Gate Lane. See PC stream output.

7. **Sunny Sky Lane-Sub-basins A7 and A8**
(See Basin Map)
Q= 10.79 cfs

The flow produced by Sub-basins A7 and A8 does not exceed the street capacity. Therefore, inlets are not required. Some flow will divert East down Wagon Gate Trail towards Mountain Gate Lane, while the rest of the flow will continue South towards Canyon Gate Trail and then East towards Mountain Gate Lane. See PC stream output.

8. **Sunny Sky Lane-Sub-Basins A7 and A6**
(See Basin Map)
Q = 14.75 cfs

The flow produced by Sub-basins A7 and A8 do not exceed the street capacity. Therefore, inlets are not required. Flow will continue South towards Canyon Gate Trail and then East towards Mountain Gate Lane. See PC stream output.

9. **Mountain Gate Trail**
(See Basin Map)
Q = 143.5 cfs

The flow collected from all other Sub-basins show that the street capacity has been exceeded. Therefore, inlets are required throughout this street. See PC stream output and inlet nomograph.

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CANYON LANE

MANNING'S N= .017 SLOPE= .036

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.47	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.74	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.98	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.18	1.25	0.02	0.06
0.05	0.05	0.04	0.1	1.64	1.37	1.56	0.03	0.08
0.06	0.06	0.06	0.1	1.97	1.55	1.88	0.04	0.10
0.07	0.07	0.08	0.1	2.30	1.72	2.19	0.05	0.12
0.08	0.08	0.10	0.2	2.63	1.88	2.50	0.05	0.13
0.09	0.09	0.13	0.3	2.96	2.03	2.81	0.06	0.15
0.10	0.10	0.16	0.3	3.29	2.18	3.13	0.07	0.17
0.11	0.11	0.19	0.4	3.62	2.32	3.44	0.08	0.19
0.12	0.12	0.23	0.6	3.95	2.46	3.75	0.09	0.21
0.13	0.13	0.26	0.7	4.28	2.59	4.07	0.10	0.23
0.14	0.14	0.31	0.8	5.15	2.54	4.93	0.10	0.24
0.15	0.15	0.36	0.9	6.03	2.55	5.79	0.10	0.25
0.16	0.16	0.43	1.1	6.91	2.58	6.65	0.10	0.26
0.17	0.17	0.50	1.3	7.79	2.64	7.51	0.11	0.28
0.18	0.18	0.58	1.6	8.67	2.72	8.38	0.11	0.29
0.19	0.19	0.66	1.9	9.54	2.80	9.24	0.12	0.31
0.20	0.20	0.76	2.2	10.42	2.90	10.10	0.13	0.33
0.21	0.21	0.87	2.6	11.30	2.99	10.96	0.14	0.35
0.22	0.22	0.98	3.0	12.18	3.09	11.83	0.15	0.37
0.23	0.23	1.10	3.5	13.06	3.19	12.69	0.16	0.39
0.24	0.24	1.23	4.1	13.93	3.29	13.55	0.17	0.41
0.25	0.25	1.37	4.7	14.81	3.40	14.41	0.18	0.43
0.26	0.26	1.52	5.3	15.69	3.50	15.27	0.19	0.45
0.27	0.27	1.68	6.0	16.57	3.60	16.14	0.20	0.47
0.28	0.28	1.84	6.8	17.45	3.71	17.00	0.21	0.49
0.29	0.29	2.02	7.7	18.32	3.81	17.86	0.23	0.52
0.30	0.30	2.20	8.6	19.20	3.91	18.72	0.24	0.54
0.31	0.31	2.39	9.6	20.08	4.02	19.59	0.25	0.56
0.32	0.32	2.59	10.7	20.96	4.12	20.45	0.26	0.58
0.33	0.33	2.80	11.8	21.84	4.22	21.31	0.28	0.61
0.34	0.34	3.02	13.0	22.71	4.32	22.17	0.29	0.63
0.35	0.35	3.25	14.3	23.59	4.42	23.03	0.30	0.65
0.36	0.36	3.48	15.7	24.47	4.52	23.90	0.32	0.68
0.37	0.37	3.72	17.2	25.35	4.62	24.76	0.33	0.70
0.38	0.38	3.98	18.7	26.23	4.71	25.62	0.35	0.73
0.39	0.39	4.24	20.4	27.10	4.81	26.48	0.36	0.75
0.40	0.40	4.50	22.1	27.98	4.91	27.35	0.37	0.77
0.41	0.41	4.78	23.9	28.86	5.00	28.21	0.39	0.80
0.42	0.42	5.06	26.3	28.88	5.20	28.21	0.42	0.84
0.43	0.43	5.35	28.8	28.90	5.38	28.22	0.45	0.88

ACTUAL Q = 11.34

ROLL CURB THROUGH OC

STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CANYON LANE

MANNING'S N= .017 SLOPE= .0074

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.21	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.34	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.44	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.54	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.62	1.56	0.01	0.06
0.06	0.06	0.06	0.0	1.97	0.70	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.78	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.85	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.92	2.81	0.01	0.10
0.10	0.10	0.16	0.2	3.29	0.99	3.13	0.02	0.12
0.11	0.11	0.19	0.2	3.62	1.05	3.44	0.02	0.13
0.12	0.12	0.23	0.3	3.95	1.11	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.18	4.07	0.02	0.15
0.14	0.14	0.31	0.4	5.15	1.15	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.15	5.79	0.02	0.17
0.16	0.16	0.43	0.5	6.91	1.17	6.65	0.02	0.18
0.17	0.17	0.50	0.6	7.79	1.20	7.51	0.02	0.19
0.18	0.18	0.58	0.7	8.67	1.23	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.27	9.24	0.03	0.22
0.20	0.20	0.76	1.0	10.42	1.31	10.10	0.03	0.23
0.21	0.21	0.87	1.2	11.30	1.36	10.96	0.03	0.24
0.22	0.22	0.98	1.4	12.18	1.40	11.83	0.03	0.25
0.23	0.23	1.10	1.6	13.06	1.45	12.69	0.03	0.26
0.24	0.24	1.23	1.8	13.93	1.49	13.55	0.03	0.27
0.25	0.25	1.37	2.1	14.81	1.54	14.41	0.04	0.29
0.26	0.26	1.52	2.4	15.69	1.59	15.27	0.04	0.30
0.27	0.27	1.68	2.7	16.57	1.63	16.14	0.04	0.31
0.28	0.28	1.84	3.1	17.45	1.68	17.00	0.04	0.32
0.29	0.29	2.02	3.5	18.32	1.73	17.86	0.05	0.34
0.30	0.30	2.20	3.9	19.20	1.77	18.72	0.05	0.35
0.31	0.31	2.39	4.4	20.08	1.82	19.59	0.05	0.36
0.32	0.32	2.59	4.8	20.96	1.87	20.45	0.05	0.37
0.33	0.33	2.80	5.4	21.84	1.91	21.31	0.06	0.39
0.34	0.34	3.02	5.9	22.71	1.96	22.17	0.06	0.40
0.35	0.35	3.25	6.5	23.59	2.00	23.03	0.06	0.41
0.36	0.36	3.48	7.1	24.47	2.05	23.90	0.07	0.43
0.37	0.37	3.72	7.8	25.35	2.09	24.76	0.07	0.44
0.38	0.38	3.98	8.5	26.23	2.14	25.62	0.07	0.45
0.39	0.39	4.24	9.2	27.10	2.18	26.48	0.07	0.46
0.40	0.40	4.50	10.0	27.98	2.23	27.35	0.08	0.48
0.41	0.41	4.78	10.8	28.86	2.27	28.21	0.08	0.49
0.42	0.42	5.06	11.9	28.88	2.36	28.21	0.09	0.51
0.43	0.43	5.35	13.1	28.90	2.44	28.22	0.09	0.52

ACTUAL ?
G = 11.34 ?
ROLL CURB
THROUGH CUT

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	15.4	28.94	2.61	28.23	0.11	0.56
0.46	0.46	6.19	16.7	28.96	2.69	28.23	0.11	0.57
0.47	0.47	6.48	17.9	28.98	2.77	28.24	0.12	0.59
0.48	0.48	6.76	19.2	29.01	2.85	28.24	0.13	0.61
0.49	0.49	7.04	20.6	29.03	2.92	28.25	0.13	0.62
0.50	0.50	7.32	22.0	29.05	3.00	28.25	0.14	0.64
0.51	0.51	7.61	23.4	29.07	3.08	28.26	0.15	0.66
0.52	0.52	7.89	24.9	29.09	3.15	28.26	0.15	0.67
0.53	0.53	8.17	26.3	29.11	3.22	28.27	0.16	0.69
0.54	0.54	8.45	27.9	29.13	3.30	28.27	0.17	0.71
0.55	0.55	8.74	29.4	29.15	3.37	28.28	0.18	0.73
0.56	0.56	9.02	31.0	29.17	3.44	28.28	0.18	0.74
0.57	0.57	9.30	32.6	29.19	3.51	28.29	0.19	0.76
0.58	0.58	9.59	34.3	29.21	3.58	28.29	0.20	0.78
0.59	0.59	9.87	36.0	29.23	3.65	28.30	0.21	0.80
0.60	0.60	10.15	37.7	29.25	3.71	28.30	0.21	0.81
0.61	0.61	10.43	39.4	29.27	3.78	28.31	0.22	0.83
0.62	0.62	10.72	41.2	29.29	3.85	28.31	0.23	0.85
0.63	0.63	11.00	43.0	29.31	3.91	28.32	0.24	0.87
0.64	0.64	11.28	44.9	29.34	3.98	28.32	0.25	0.89
0.65	0.65	11.57	46.7	29.36	4.04	28.33	0.25	0.90
0.66	0.66	11.85	48.6	29.38	4.11	28.33	0.26	0.92
0.67	0.67	12.13	50.6	29.40	4.17	28.34	0.27	0.94
0.68	0.68	12.42	51.4	30.44	4.14	30.30	0.27	0.95
0.69	0.69	12.72	52.3	31.49	4.11	31.34	0.26	0.95
0.70	0.70	13.06	52.5	33.45	4.02	32.39	0.25	0.95
0.71	0.71	13.39	53.6	34.50	4.00	33.44	0.25	0.96
0.72	0.72	13.73	54.7	35.54	3.99	34.48	0.25	0.97
0.73	0.73	14.08	56.0	36.59	3.98	35.53	0.25	0.98
0.74	0.74	14.44	57.3	37.64	3.97	36.58	0.24	0.98
0.75	0.75	14.81	58.7	38.68	3.96	37.62	0.24	0.99
0.76	0.76	15.19	60.2	39.73	3.96	38.67	0.24	1.00
0.77	0.77	15.58	61.7	40.78	3.96	39.72	0.24	1.01
0.78	0.78	15.98	63.3	41.83	3.96	40.77	0.24	1.02
0.79	0.79	16.40	65.0	42.87	3.96	41.81	0.24	1.03
0.80	0.80	16.82	66.7	43.92	3.97	42.86	0.24	1.04
0.81	0.81	17.25	68.5	44.97	3.97	43.91	0.24	1.05
0.82	0.82	17.70	70.4	46.01	3.98	44.95	0.25	1.07
0.83	0.83	18.15	72.3	47.06	3.98	46.00	0.25	1.08

STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUNNY SKY LANE

MANNING'S N= .017 SLOPE= .015

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.30	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.48	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.63	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.76	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	0.89	1.56	0.01	0.06
0.06	0.06	0.06	0.1	1.97	1.00	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.11	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.21	2.50	0.02	0.10
0.09	0.09	0.13	0.2	2.96	1.31	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.40	3.13	0.03	0.13
0.11	0.11	0.19	0.3	3.62	1.50	3.44	0.03	0.14
0.12	0.12	0.23	0.4	3.95	1.59	3.75	0.04	0.16
0.13	0.13	0.26	0.4	4.28	1.67	4.07	0.04	0.17
0.14	0.14	0.31	0.5	5.15	1.64	4.93	0.04	0.18
0.15	0.15	0.36	0.6	6.03	1.64	5.79	0.04	0.19
0.16	0.16	0.43	0.7	6.91	1.67	6.65	0.04	0.20
0.17	0.17	0.50	0.8	7.79	1.71	7.51	0.05	0.22
0.18	0.18	0.58	1.0	8.67	1.76	8.38	0.05	0.23
0.19	0.19	0.66	1.2	9.54	1.81	9.24	0.05	0.24
0.20	0.20	0.76	1.4	10.42	1.87	10.10	0.05	0.25
0.21	0.21	0.87	1.7	11.30	1.93	10.96	0.06	0.27
0.22	0.22	0.98	2.0	12.18	1.99	11.83	0.06	0.28
0.23	0.23	1.10	2.3	13.06	2.06	12.69	0.07	0.30
0.24	0.24	1.23	2.6	13.93	2.13	13.55	0.07	0.31
0.25	0.25	1.37	3.0	14.81	2.19	14.41	0.07	0.32
0.26	0.26	1.52	3.4	15.69	2.26	15.27	0.08	0.34
0.27	0.27	1.68	3.9	16.57	2.33	16.14	0.08	0.35
0.28	0.28	1.84	4.4	17.45	2.39	17.00	0.09	0.37
0.29	0.29	2.02	5.0	18.32	2.46	17.86	0.09	0.38
0.30	0.30	2.20	5.6	19.20	2.53	18.72	0.10	0.40
0.31	0.31	2.39	6.2	20.08	2.59	19.59	0.10	0.41
0.32	0.32	2.59	6.9	20.96	2.66	20.45	0.11	0.43
0.33	0.33	2.80	7.6	21.84	2.72	21.31	0.12	0.45
0.34	0.34	3.02	8.4	22.71	2.79	22.17	0.12	0.46
0.35	0.35	3.25	9.3	23.59	2.85	23.03	0.13	0.48
0.36	0.36	3.48	10.2	24.47	2.92	23.90	0.13	0.49
0.37	0.37	3.72	11.1	25.35	2.98	24.76	0.14	0.51
0.38	0.38	3.98	12.1	26.23	3.04	25.62	0.14	0.52
0.39	0.39	4.24	13.2	27.10	3.11	26.48	0.15	0.54
0.40	0.40	4.50	14.3	27.98	3.17	27.35	0.16	0.56
0.41	0.41	4.78	15.4	28.86	3.23	28.21	0.16	0.57
0.42	0.42	5.06	17.0	28.88	3.35	28.21	0.17	0.59
0.43	0.43	5.35	18.6	28.90	3.48	28.22	0.19	0.62

ROLL CURB LIMIT @ LOT 12
ACTUAL Q = 10.13

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	21.9	28.94	3.71	28.23	0.21	0.66	
0.46	0.46	6.19	23.7	28.96	3.83	28.23	0.23	0.69	
0.47	0.47	6.48	25.5	28.98	3.94	28.24	0.24	0.71	
0.48	0.48	6.76	27.4	29.01	4.05	28.24	0.26	0.74	
0.49	0.49	7.04	29.3	29.03	4.16	28.25	0.27	0.76	
0.50	0.50	7.32	31.3	29.05	4.27	28.25	0.28	0.78	
0.51	0.51	7.61	33.3	29.07	4.38	28.26	0.30	0.81	
0.52	0.52	7.89	35.4	29.09	4.49	28.26	0.31	0.83	
0.53	0.53	8.17	37.5	29.11	4.59	28.27	0.33	0.86	STREET CAPACITY
0.54	0.54	8.45	39.7	29.13	4.69	28.27	0.34	0.88	
0.55	0.55	8.74	41.9	29.15	4.79	28.28	0.36	0.91	
0.56	0.56	9.02	44.2	29.17	4.90	28.28	0.37	0.93	
0.57	0.57	9.30	46.5	29.19	4.99	28.29	0.39	0.96	
0.58	0.58	9.59	48.8	29.21	5.09	28.29	0.40	0.98	
0.59	0.59	9.87	51.2	29.23	5.19	28.30	0.42	1.01	
0.60	0.60	10.15	53.7	29.25	5.29	28.30	0.43	1.03	
0.61	0.61	10.43	56.2	29.27	5.38	28.31	0.45	1.06	
0.62	0.62	10.72	58.7	29.29	5.48	28.31	0.47	1.09	
0.63	0.63	11.00	61.3	29.31	5.57	28.32	0.48	1.11	
0.64	0.64	11.28	63.9	29.34	5.66	28.32	0.50	1.14	
0.65	0.65	11.57	66.6	29.36	5.75	28.33	0.51	1.16	
0.66	0.66	11.85	69.3	29.38	5.84	28.33	0.53	1.19	
0.67	0.67	12.13	72.0	29.40	5.93	28.34	0.55	1.22	
0.68	0.68	12.42	73.2	30.44	5.89	30.30	0.54	1.22	
0.69	0.69	12.72	74.4	31.49	5.85	31.34	0.53	1.22	
0.70	0.70	13.06	74.7	33.45	5.72	32.39	0.51	1.21	
0.71	0.71	13.39	76.3	34.50	5.70	33.44	0.50	1.21	
0.72	0.72	13.73	77.9	35.54	5.68	34.48	0.50	1.22	
0.73	0.73	14.08	79.7	36.59	5.66	35.53	0.50	1.23	
0.74	0.74	14.44	81.6	37.64	5.65	36.58	0.50	1.24	
0.75	0.75	14.81	83.6	38.68	5.64	37.62	0.49	1.24	
0.76	0.76	15.19	85.7	39.73	5.64	38.67	0.49	1.25	
0.77	0.77	15.58	87.8	40.78	5.64	39.72	0.49	1.26	
0.78	0.78	15.98	90.1	41.83	5.64	40.77	0.49	1.27	
0.79	0.79	16.40	92.5	42.87	5.64	41.81	0.49	1.28	
0.80	0.80	16.82	95.0	43.92	5.65	42.86	0.50	1.30	
0.81	0.81	17.25	97.5	44.97	5.65	43.91	0.50	1.31	
0.82	0.82	17.70	100.2	46.01	5.66	44.95	0.50	1.32	
0.83	0.83	18.15	103.0	47.06	5.67	46.00	0.50	1.33	

A7

$\frac{7.88}{12} = 0.66$ cfs/lot

0.66×8 lots $= 5.3$ cfs

A5

$\frac{24.24}{35} = 0.69$ cfs/lot

$0.69 \times 7 = 4.8$ cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUNNY SKY LANE

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

ROLL CURB LIMIT @ LOT 124

ACTUAL Q = 13.45

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

A7/A5

Q=10.13cfs

A7

$\frac{7.88}{12} = 0.66$

0.66 x 4 = 2.64cfs

A6

$\frac{18.47}{27} = 0.68$

.68 x 1 = .68cfs

Q = 13.45cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN CHASER TRAIL

MANNING'S N= .017 SLOPE= .0284

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.42	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.66	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.87	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.05	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.22	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.38	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.52	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.67	2.50	0.04	0.12
0.09	0.09	0.13	0.2	2.96	1.80	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	1.93	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.06	3.44	0.07	0.18
0.12	0.12	0.23	0.5	3.95	2.18	3.75	0.07	0.19
0.13	0.13	0.26	0.6	4.28	2.30	4.07	0.08	0.21
0.14	0.14	0.31	0.7	5.15	2.26	4.93	0.08	0.22
0.15	0.15	0.36	0.8	6.03	2.26	5.79	0.08	0.23
0.16	0.16	0.43	1.0	6.91	2.30	6.65	0.08	0.24
0.17	0.17	0.50	1.2	7.79	2.35	7.51	0.09	0.26
0.18	0.18	0.58	1.4	8.67	2.42	8.38	0.09	0.27
0.19	0.19	0.66	1.7	9.54	2.49	9.24	0.10	0.29
0.20	0.20	0.76	2.0	10.42	2.57	10.10	0.10	0.30
0.21	0.21	0.87	2.3	11.30	2.66	10.96	0.11	0.32
0.22	0.22	0.98	2.7	12.18	2.74	11.83	0.12	0.34
0.23	0.23	1.10	3.1	13.06	2.83	12.69	0.12	0.35
0.24	0.24	1.23	3.6	13.93	2.93	13.55	0.13	0.37
0.25	0.25	1.37	4.1	14.81	3.02	14.41	0.14	0.39
0.26	0.26	1.52	4.7	15.69	3.11	15.27	0.15	0.41
0.27	0.27	1.68	5.4	16.57	3.20	16.14	0.16	0.43
0.28	0.28	1.84	6.1	17.45	3.29	17.00	0.17	0.45
0.29	0.29	2.02	6.8	18.32	3.38	17.86	0.18	0.47
0.30	0.30	2.20	7.7	19.20	3.48	18.72	0.19	0.49
0.31	0.31	2.39	8.5	20.08	3.57	19.59	0.20	0.51
0.32	0.32	2.59	9.5	20.96	3.66	20.45	0.21	0.53
0.33	0.33	2.80	10.5	21.84	3.75	21.31	0.22	0.55
0.34	0.34	3.02	11.6	22.71	3.84	22.17	0.23	0.57
0.35	0.35	3.25	12.7	23.59	3.93	23.03	0.24	0.59
0.36	0.36	3.48	14.0	24.47	4.01	23.90	0.25	0.61
0.37	0.37	3.72	15.3	25.35	4.10	24.76	0.26	0.63
0.38	0.38	3.98	16.6	26.23	4.19	25.62	0.27	0.65
0.39	0.39	4.24	18.1	27.10	4.27	26.48	0.28	0.67
0.40	0.40	4.50	19.6	27.98	4.36	27.35	0.30	0.70
0.41	0.41	4.78	21.3	28.86	4.44	28.21	0.31	0.72
0.42	0.42	5.06	23.4	28.88	4.62	28.21	0.33	0.75
0.43	0.43	5.35	25.6	28.90	4.78	28.22	0.36	0.79

ROLL CURB LIMIT @ LOT 1

ACTUAL Q = 27.47

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	30.2	28.94	5.11	28.23	0.41	0.86
0.46	0.46	6.19	32.6	28.96	5.27	28.23	0.43	0.89
0.47	0.47	6.48	35.1	28.98	5.42	28.24	0.46	0.93
0.48	0.48	6.76	37.7	29.01	5.58	28.24	0.48	0.96
0.49	0.49	7.04	40.3	29.03	5.73	28.25	0.51	1.00
0.50	0.50	7.32	43.1	29.05	5.88	28.25	0.54	1.04
0.51	0.51	7.61	45.8	29.07	6.03	28.26	0.56	1.07
0.52	0.52	7.89	48.7	29.09	6.17	28.26	0.59	1.11
0.53	0.53	8.17	51.6	29.11	6.32	28.27	0.62	1.15
0.54	0.54	8.45	54.6	29.13	6.46	28.27	0.65	1.19
0.55	0.55	8.74	57.6	29.15	6.60	28.28	0.68	1.23
0.56	0.56	9.02	60.8	29.17	6.74	28.28	0.70	1.26
0.57	0.57	9.30	63.9	29.19	6.87	28.29	0.73	1.30
0.58	0.58	9.59	67.2	29.21	7.01	28.29	0.76	1.34
0.59	0.59	9.87	70.5	29.23	7.14	28.30	0.79	1.38
0.60	0.60	10.15	73.8	29.25	7.27	28.30	0.82	1.42
0.61	0.61	10.43	77.3	29.27	7.41	28.31	0.85	1.46
0.62	0.62	10.72	80.8	29.29	7.54	28.31	0.88	1.50
0.63	0.63	11.00	84.3	29.31	7.66	28.32	0.91	1.54
0.64	0.64	11.28	87.9	29.34	7.79	28.32	0.94	1.58
0.65	0.65	11.57	91.6	29.36	7.92	28.33	0.97	1.62
0.66	0.66	11.85	95.3	29.38	8.04	28.33	1.00	1.66
0.67	0.67	12.13	99.1	29.40	8.17	28.34	1.04	1.71
0.68	0.68	12.42	100.7	30.44	8.10	30.30	1.02	1.70
0.69	0.69	12.72	102.4	31.49	8.05	31.34	1.01	1.70
0.70	0.70	13.06	102.8	33.45	7.87	32.39	0.96	1.66
0.71	0.71	13.39	104.9	34.50	7.84	33.44	0.95	1.66
0.72	0.72	13.73	107.2	35.54	7.81	34.48	0.95	1.67
0.73	0.73	14.08	109.7	36.59	7.79	35.53	0.94	1.67
0.74	0.74	14.44	112.3	37.64	7.78	36.58	0.94	1.68
0.75	0.75	14.81	115.0	38.68	7.77	37.62	0.94	1.69
0.76	0.76	15.19	117.9	39.73	7.76	38.67	0.94	1.70
0.77	0.77	15.58	120.9	40.78	7.76	39.72	0.93	1.70
0.78	0.78	15.98	124.0	41.83	7.76	40.77	0.93	1.71
0.79	0.79	16.40	127.3	42.87	7.76	41.81	0.94	1.73
0.80	0.80	16.82	130.7	43.92	7.77	42.86	0.94	1.74
0.81	0.81	17.25	134.2	44.97	7.78	43.91	0.94	1.75
0.82	0.82	17.70	137.9	46.01	7.79	44.95	0.94	1.76
0.83	0.83	18.15	141.7	47.06	7.81	46.00	0.95	1.78

STREET CAPACITY

$$\frac{27.47}{36} = 0.76 \ \frac{cfs}{lots}$$

$$\frac{9.5}{0.76} = 12.5 \ lots$$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN MOUNTAIN TRAIL

MANNING'S N= .017 SLOPE= .0193

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.34	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.54	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.71	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.87	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	1.00	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.13	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.26	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.37	2.50	0.03	0.11
0.09	0.09	0.13	0.2	2.96	1.49	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.59	3.13	0.04	0.14
0.11	0.11	0.19	0.3	3.62	1.70	3.44	0.04	0.15
0.12	0.12	0.23	0.4	3.95	1.80	3.75	0.05	0.17
0.13	0.13	0.26	0.5	4.28	1.90	4.07	0.06	0.19
0.14	0.14	0.31	0.6	5.15	1.86	4.93	0.05	0.19
0.15	0.15	0.36	0.7	6.03	1.86	5.79	0.05	0.20
0.16	0.16	0.43	0.8	6.91	1.89	6.65	0.06	0.22
0.17	0.17	0.50	1.0	7.79	1.94	7.51	0.06	0.23
0.18	0.18	0.58	1.1	8.67	1.99	8.38	0.06	0.24
0.19	0.19	0.66	1.4	9.54	2.05	9.24	0.07	0.26
0.20	0.20	0.76	1.6	10.42	2.12	10.10	0.07	0.27
0.21	0.21	0.87	1.9	11.30	2.19	10.96	0.07	0.28
0.22	0.22	0.98	2.2	12.18	2.26	11.83	0.08	0.30
0.23	0.23	1.10	2.6	13.06	2.34	12.69	0.08	0.31
0.24	0.24	1.23	3.0	13.93	2.41	13.55	0.09	0.33
0.25	0.25	1.37	3.4	14.81	2.49	14.41	0.10	0.35
0.26	0.26	1.52	3.9	15.69	2.56	15.27	0.10	0.36
0.27	0.27	1.68	4.4	16.57	2.64	16.14	0.11	0.38
0.28	0.28	1.84	5.0	17.45	2.71	17.00	0.11	0.39
0.29	0.29	2.02	5.6	18.32	2.79	17.86	0.12	0.41
0.30	0.30	2.20	6.3	19.20	2.87	18.72	0.13	0.43
0.31	0.31	2.39	7.0	20.08	2.94	19.59	0.13	0.44
0.32	0.32	2.59	7.8	20.96	3.02	20.45	0.14	0.46
0.33	0.33	2.80	8.7	21.84	3.09	21.31	0.15	0.48
0.34	0.34	3.02	9.5	22.71	3.16	22.17	0.16	0.50
0.35	0.35	3.25	10.5	23.59	3.24	23.03	0.16	0.51
0.36	0.36	3.48	11.5	24.47	3.31	23.90	0.17	0.53
0.37	0.37	3.72	12.6	25.35	3.38	24.76	0.18	0.55
0.38	0.38	3.98	13.7	26.23	3.45	25.62	0.19	0.57
0.39	0.39	4.24	14.9	27.10	3.52	26.48	0.19	0.58
0.40	0.40	4.50	16.2	27.98	3.59	27.35	0.20	0.60
0.41	0.41	4.78	17.5	28.86	3.66	28.21	0.21	0.62
0.42	0.42	5.06	19.3	28.88	3.80	28.21	0.22	0.64
0.43	0.43	5.35	21.1	28.90	3.94	28.22	0.24	0.67

ROLL CURB LIMIT @ LOT 93

ACTUAL Q = 20.75

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	24.9	28.94	4.21	28.23	0.28	0.73
0.46	0.46	6.19	26.9	28.96	4.34	28.23	0.29	0.75
0.47	0.47	6.48	29.0	28.98	4.47	28.24	0.31	0.78
0.48	0.48	6.76	31.1	29.01	4.60	28.24	0.33	0.81
0.49	0.49	7.04	33.3	29.03	4.72	28.25	0.35	0.84
0.50	0.50	7.32	35.5	29.05	4.85	28.25	0.36	0.86
0.51	0.51	7.61	37.8	29.07	4.97	28.26	0.38	0.89
0.52	0.52	7.89	40.1	29.09	5.09	28.26	0.40	0.92
0.53	0.53	8.17	42.5	29.11	5.21	28.27	0.42	0.95
0.54	0.54	8.45	45.0	29.13	5.32	28.27	0.44	0.98
0.55	0.55	8.74	47.5	29.15	5.44	28.28	0.46	1.01
0.56	0.56	9.02	50.1	29.17	5.55	28.28	0.48	1.04
0.57	0.57	9.30	52.7	29.19	5.67	28.29	0.50	1.07
0.58	0.58	9.59	55.4	29.21	5.78	28.29	0.52	1.10
0.59	0.59	9.87	58.1	29.23	5.89	28.30	0.54	1.13
0.60	0.60	10.15	60.9	29.25	6.00	28.30	0.56	1.16
0.61	0.61	10.43	63.7	29.27	6.10	28.31	0.58	1.19
0.62	0.62	10.72	66.6	29.29	6.21	28.31	0.60	1.22
0.63	0.63	11.00	69.5	29.31	6.32	28.32	0.62	1.25
0.64	0.64	11.28	72.5	29.34	6.42	28.32	0.64	1.28
0.65	0.65	11.57	75.5	29.36	6.53	28.33	0.66	1.31
0.66	0.66	11.85	78.6	29.38	6.63	28.33	0.68	1.34
0.67	0.67	12.13	81.7	29.40	6.73	28.34	0.70	1.37
0.68	0.68	12.42	83.0	30.44	6.68	30.30	0.69	1.37
0.69	0.69	12.72	84.4	31.49	6.64	31.34	0.68	1.37
0.70	0.70	13.06	84.7	33.45	6.49	32.39	0.65	1.35
0.71	0.71	13.39	86.5	34.50	6.46	33.44	0.65	1.36
0.72	0.72	13.73	88.4	35.54	6.44	34.48	0.64	1.36
0.73	0.73	14.08	90.4	36.59	6.42	35.53	0.64	1.37
0.74	0.74	14.44	92.6	37.64	6.41	36.58	0.64	1.38
0.75	0.75	14.81	94.8	38.68	6.40	37.62	0.64	1.39
0.76	0.76	15.19	97.2	39.73	6.40	38.67	0.64	1.40
0.77	0.77	15.58	99.6	40.78	6.39	39.72	0.63	1.40
0.78	0.78	15.98	102.2	41.83	6.40	40.77	0.64	1.42
0.79	0.79	16.40	104.9	42.87	6.40	41.81	0.64	1.43
0.80	0.80	16.82	107.7	43.92	6.40	42.86	0.64	1.44
0.81	0.81	17.25	110.6	44.97	6.41	43.91	0.64	1.45
0.82	0.82	17.70	113.7	46.01	6.42	44.95	0.64	1.46
0.83	0.83	18.15	116.8	47.06	6.44	46.00	0.64	1.47

STREET CAPACITY

$$\frac{20.78}{31} = 0.67 \ \frac{cfs}{lot}$$

$$\frac{11.5}{0.67} = 17.16 \text{ lots}$$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

SUN MOUNTAIN TRAIL

MANNING'S N= .017 SLOPE= .0279

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.41	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.66	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.86	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.04	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.21	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.36	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.51	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.65	2.50	0.04	0.12
0.09	0.09	0.13	0.2	2.96	1.79	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	1.92	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.04	3.44	0.06	0.17
0.12	0.12	0.23	0.5	3.95	2.16	3.75	0.07	0.19
0.13	0.13	0.26	0.6	4.28	2.28	4.07	0.08	0.21
0.14	0.14	0.31	0.7	5.15	2.24	4.93	0.08	0.22
0.15	0.15	0.36	0.8	6.03	2.24	5.79	0.08	0.23
0.16	0.16	0.43	1.0	6.91	2.28	6.65	0.08	0.24
0.17	0.17	0.50	1.2	7.79	2.33	7.51	0.08	0.25
0.18	0.18	0.58	1.4	8.67	2.39	8.38	0.09	0.27
0.19	0.19	0.66	1.6	9.54	2.47	9.24	0.09	0.28
0.20	0.20	0.76	1.9	10.42	2.55	10.10	0.10	0.30
0.21	0.21	0.87	2.3	11.30	2.63	10.96	0.11	0.32
0.22	0.22	0.98	2.7	12.18	2.72	11.83	0.11	0.33
0.23	0.23	1.10	3.1	13.06	2.81	12.69	0.12	0.35
0.24	0.24	1.23	3.6	13.93	2.90	13.55	0.13	0.37
0.25	0.25	1.37	4.1	14.81	2.99	14.41	0.14	0.39
0.26	0.26	1.52	4.7	15.69	3.08	15.27	0.15	0.41
0.27	0.27	1.68	5.3	16.57	3.17	16.14	0.16	0.43
0.28	0.28	1.84	6.0	17.45	3.26	17.00	0.17	0.45
0.29	0.29	2.02	6.8	18.32	3.36	17.86	0.17	0.46
0.30	0.30	2.20	7.6	19.20	3.45	18.72	0.18	0.48
0.31	0.31	2.39	8.5	20.08	3.54	19.59	0.19	0.50
0.32	0.32	2.59	9.4	20.96	3.63	20.45	0.20	0.52
0.33	0.33	2.80	10.4	21.84	3.71	21.31	0.21	0.54
0.34	0.34	3.02	11.5	22.71	3.80	22.17	0.22	0.56
0.35	0.35	3.25	12.6	23.59	3.89	23.03	0.24	0.59
0.36	0.36	3.48	13.8	24.47	3.98	23.90	0.25	0.61
0.37	0.37	3.72	15.1	25.35	4.06	24.76	0.26	0.63
0.38	0.38	3.98	16.5	26.23	4.15	25.62	0.27	0.65
0.39	0.39	4.24	17.9	27.10	4.24	26.48	0.28	0.67
0.40	0.40	4.50	19.5	27.98	4.32	27.35	0.29	0.69
0.41	0.41	4.78	21.1	28.86	4.40	28.21	0.30	0.71
0.42	0.42	5.06	23.2	28.88	4.57	28.21	0.32	0.74
0.43	0.43	5.35	25.3	28.90	4.74	28.22	0.35	0.78

ROLL CURB LIMIT @ LOT 91

ACTUAL Q= 20.78

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	29.9	28.94	5.06	28.23	0.40	0.85
0.46	0.46	6.19	32.3	28.96	5.22	28.23	0.42	0.88
0.47	0.47	6.48	34.8	28.98	5.38	28.24	0.45	0.92
0.48	0.48	6.76	37.4	29.01	5.53	28.24	0.47	0.95
0.49	0.49	7.04	40.0	29.03	5.68	28.25	0.50	0.99
0.50	0.50	7.32	42.7	29.05	5.83	28.25	0.53	1.03
0.51	0.51	7.61	45.4	29.07	5.97	28.26	0.55	1.06
0.52	0.52	7.89	48.3	29.09	6.12	28.26	0.58	1.10
0.53	0.53	8.17	51.1	29.11	6.26	28.27	0.61	1.14
0.54	0.54	8.45	54.1	29.13	6.40	28.27	0.64	1.18
0.55	0.55	8.74	57.1	29.15	6.54	28.28	0.66	1.21
0.56	0.56	9.02	60.2	29.17	6.68	28.28	0.69	1.25
0.57	0.57	9.30	63.4	29.19	6.81	28.29	0.72	1.29
0.58	0.58	9.59	66.6	29.21	6.95	28.29	0.75	1.33
0.59	0.59	9.87	69.9	29.23	7.08	28.30	0.78	1.37
0.60	0.60	10.15	73.2	29.25	7.21	28.30	0.81	1.41
0.61	0.61	10.43	76.6	29.27	7.34	28.31	0.84	1.45
0.62	0.62	10.72	80.0	29.29	7.47	28.31	0.87	1.49
0.63	0.63	11.00	83.6	29.31	7.60	28.32	0.90	1.53
0.64	0.64	11.28	87.1	29.34	7.72	28.32	0.93	1.57
0.65	0.65	11.57	90.8	29.36	7.85	28.33	0.96	1.61
0.66	0.66	11.85	94.5	29.38	7.97	28.33	0.99	1.65
0.67	0.67	12.13	98.2	29.40	8.09	28.34	1.02	1.69
0.68	0.68	12.42	99.8	30.44	8.03	30.30	1.00	1.68
0.69	0.69	12.72	101.5	31.49	7.98	31.34	0.99	1.68
0.70	0.70	13.06	101.8	33.45	7.80	32.39	0.94	1.64
0.71	0.71	13.39	104.0	34.50	7.77	33.44	0.94	1.65
0.72	0.72	13.73	106.3	35.54	7.74	34.48	0.93	1.65
0.73	0.73	14.08	108.7	36.59	7.72	35.53	0.93	1.66
0.74	0.74	14.44	111.3	37.64	7.71	36.58	0.92	1.66
0.75	0.75	14.81	114.0	38.68	7.70	37.62	0.92	1.67
0.76	0.76	15.19	116.8	39.73	7.69	38.67	0.92	1.68
0.77	0.77	15.58	119.8	40.78	7.69	39.72	0.92	1.69
0.78	0.78	15.98	122.9	41.83	7.69	40.77	0.92	1.70
0.79	0.79	16.40	126.2	42.87	7.69	41.81	0.92	1.71
0.80	0.80	16.82	129.5	43.92	7.70	42.86	0.92	1.72
0.81	0.81	17.25	133.0	44.97	7.71	43.91	0.92	1.73
0.82	0.82	17.70	136.7	46.01	7.72	44.95	0.93	1.75
0.83	0.83	18.15	140.5	47.06	7.74	46.00	0.93	1.76

STREET CAPACITY

$$\frac{20.78}{31} = 0.67 \ \frac{cfs}{lots}$$

$$\frac{9.4}{0.67} = 14 \text{ lots}$$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MORNING SUN TRAIL

MANNING'S N= .017 SLOPE= .0125

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.28	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.44	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.57	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.70	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	0.81	1.56	0.01	0.06
0.06	0.06	0.06	0.1	1.97	0.91	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	1.01	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.11	2.50	0.02	0.10
0.09	0.09	0.13	0.2	2.96	1.20	2.81	0.02	0.11
0.10	0.10	0.16	0.2	3.29	1.28	3.13	0.03	0.13
0.11	0.11	0.19	0.3	3.62	1.37	3.44	0.03	0.14
0.12	0.12	0.23	0.3	3.95	1.45	3.75	0.03	0.15
0.13	0.13	0.26	0.4	4.28	1.53	4.07	0.04	0.17
0.14	0.14	0.31	0.5	5.15	1.50	4.93	0.03	0.17
0.15	0.15	0.36	0.5	6.03	1.50	5.79	0.03	0.18
0.16	0.16	0.43	0.6	6.91	1.52	6.65	0.04	0.20
0.17	0.17	0.50	0.8	7.79	1.56	7.51	0.04	0.21
0.18	0.18	0.58	0.9	8.67	1.60	8.38	0.04	0.22
0.19	0.19	0.66	1.1	9.54	1.65	9.24	0.04	0.23
0.20	0.20	0.76	1.3	10.42	1.71	10.10	0.05	0.25
0.21	0.21	0.87	1.5	11.30	1.76	10.96	0.05	0.26
0.22	0.22	0.98	1.8	12.18	1.82	11.83	0.05	0.27
0.23	0.23	1.10	2.1	13.06	1.88	12.69	0.05	0.28
0.24	0.24	1.23	2.4	13.93	1.94	13.55	0.06	0.30
0.25	0.25	1.37	2.7	14.81	2.00	14.41	0.06	0.31
0.26	0.26	1.52	3.1	15.69	2.06	15.27	0.07	0.33
0.27	0.27	1.68	3.6	16.57	2.12	16.14	0.07	0.34
0.28	0.28	1.84	4.0	17.45	2.18	17.00	0.07	0.35
0.29	0.29	2.02	4.5	18.32	2.25	17.86	0.08	0.37
0.30	0.30	2.20	5.1	19.20	2.31	18.72	0.08	0.38
0.31	0.31	2.39	5.7	20.08	2.37	19.59	0.09	0.40
0.32	0.32	2.59	6.3	20.96	2.43	20.45	0.09	0.41
0.33	0.33	2.80	7.0	21.84	2.49	21.31	0.10	0.43
0.34	0.34	3.02	7.7	22.71	2.55	22.17	0.10	0.44
0.35	0.35	3.25	8.5	23.59	2.60	23.03	0.11	0.46
0.36	0.36	3.48	9.3	24.47	2.66	23.90	0.11	0.47
0.37	0.37	3.72	10.1	25.35	2.72	24.76	0.11	0.48
0.38	0.38	3.98	11.0	26.23	2.78	25.62	0.12	0.50
0.39	0.39	4.24	12.0	27.10	2.84	26.48	0.12	0.51
0.40	0.40	4.50	13.0	27.98	2.89	27.35	0.13	0.53
0.41	0.41	4.78	14.1	28.86	2.95	28.21	0.13	0.54
0.42	0.42	5.06	15.5	28.88	3.06	28.21	0.15	0.57
0.43	0.43	5.35	17.0	28.90	3.17	28.22	0.16	0.59

ROLL CURB LIMIT @ LOT 17

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	20.0	28.94	3.39	28.23	0.18	0.63	
0.46	0.46	6.19	21.6	28.96	3.49	28.23	0.19	0.65	
0.47	0.47	6.48	23.3	28.98	3.60	28.24	0.20	0.67	
0.48	0.48	6.76	25.0	29.01	3.70	28.24	0.21	0.69	
0.49	0.49	7.04	26.8	29.03	3.80	28.25	0.22	0.71	ACTUAL
0.50	0.50	7.32	28.6	29.05	3.90	28.25	0.24	0.74	Q = 27.51
0.51	0.51	7.61	30.4	29.07	4.00	28.26	0.25	0.76	
0.52	0.52	7.89	32.3	29.09	4.09	28.26	0.26	0.78	
0.53	0.53	8.17	34.2	29.11	4.19	28.27	0.27	0.80	
0.54	0.54	8.45	36.2	29.13	4.28	28.27	0.28	0.82	
0.55	0.55	8.74	38.2	29.15	4.38	28.28	0.30	0.85	
0.56	0.56	9.02	40.3	29.17	4.47	28.28	0.31	0.87	STREET
0.57	0.57	9.30	42.4	29.19	4.56	28.29	0.32	0.89	CAPACITY
0.58	0.58	9.59	44.6	29.21	4.65	28.29	0.34	0.92	
0.59	0.59	9.87	46.8	29.23	4.74	28.30	0.35	0.94	
0.60	0.60	10.15	49.0	29.25	4.83	28.30	0.36	0.96	
0.61	0.61	10.43	51.3	29.27	4.91	28.31	0.37	0.98	
0.62	0.62	10.72	53.6	29.29	5.00	28.31	0.39	1.01	
0.63	0.63	11.00	55.9	29.31	5.08	28.32	0.40	1.03	
0.64	0.64	11.28	58.3	29.34	5.17	28.32	0.41	1.05	
0.65	0.65	11.57	60.8	29.36	5.25	28.33	0.43	1.08	
0.66	0.66	11.85	63.2	29.38	5.34	28.33	0.44	1.10	
0.67	0.67	12.13	65.7	29.40	5.42	28.34	0.46	1.13	
0.68	0.68	12.42	66.8	30.44	5.38	30.30	0.45	1.13	
0.69	0.69	12.72	67.9	31.49	5.34	31.34	0.44	1.13	
0.70	0.70	13.06	68.2	33.45	5.22	32.39	0.42	1.12	
0.71	0.71	13.39	69.6	34.50	5.20	33.44	0.42	1.13	
0.72	0.72	13.73	71.1	35.54	5.18	34.48	0.42	1.14	
0.73	0.73	14.08	72.8	36.59	5.17	35.53	0.41	1.14	
0.74	0.74	14.44	74.5	37.64	5.16	36.58	0.41	1.15	
0.75	0.75	14.81	76.3	38.68	5.15	37.62	0.41	1.16	
0.76	0.76	15.19	78.2	39.73	5.15	38.67	0.41	1.17	
0.77	0.77	15.58	80.2	40.78	5.15	39.72	0.41	1.18	
0.78	0.78	15.98	82.3	41.83	5.15	40.77	0.41	1.19	
0.79	0.79	16.40	84.4	42.87	5.15	41.81	0.41	1.20	
0.80	0.80	16.82	86.7	43.92	5.15	42.86	0.41	1.21	
0.81	0.81	17.25	89.0	44.97	5.16	43.91	0.41	1.22	
0.82	0.82	17.70	91.5	46.01	5.17	44.95	0.41	1.23	
0.83	0.83	18.15	94.0	47.06	5.18	46.00	0.42	1.25	

$$\frac{27.51}{22} = 1.25 \frac{cfs}{lot}$$

$$\frac{13}{1.25} = 10.4 \text{ lots}$$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .031

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.01	0.01	0.00	0.0	0.33	0.44	0.31	0.00	0.01	
0.02	0.02	0.01	0.0	0.66	0.69	0.63	0.01	0.03	
0.03	0.03	0.01	0.0	0.99	0.91	0.94	0.01	0.04	
0.04	0.04	0.03	0.0	1.32	1.10	1.25	0.02	0.06	
0.05	0.05	0.04	0.0	1.64	1.27	1.56	0.03	0.08	
0.06	0.06	0.06	0.1	1.97	1.44	1.88	0.03	0.09	
0.07	0.07	0.08	0.1	2.30	1.59	2.19	0.04	0.11	
0.08	0.08	0.10	0.2	2.63	1.74	2.50	0.05	0.13	
0.09	0.09	0.13	0.2	2.96	1.88	2.81	0.06	0.15	
0.10	0.10	0.16	0.3	3.29	2.02	3.13	0.06	0.16	
0.11	0.11	0.19	0.4	3.62	2.15	3.44	0.07	0.18	
0.12	0.12	0.23	0.5	3.95	2.28	3.75	0.08	0.20	
0.13	0.13	0.26	0.6	4.28	2.41	4.07	0.09	0.22	
0.14	0.14	0.31	0.7	5.15	2.36	4.93	0.09	0.23	
0.15	0.15	0.36	0.9	6.03	2.36	5.79	0.09	0.24	
0.16	0.16	0.43	1.0	6.91	2.40	6.65	0.09	0.25	
0.17	0.17	0.50	1.2	7.79	2.45	7.51	0.09	0.26	
0.18	0.18	0.58	1.5	8.67	2.52	8.38	0.10	0.28	
0.19	0.19	0.66	1.7	9.54	2.60	9.24	0.11	0.30	
0.20	0.20	0.76	2.0	10.42	2.69	10.10	0.11	0.31	
0.21	0.21	0.87	2.4	11.30	2.78	10.96	0.12	0.33	
0.22	0.22	0.98	2.8	12.18	2.87	11.83	0.13	0.35	
0.23	0.23	1.10	3.3	13.06	2.96	12.69	0.14	0.37	
0.24	0.24	1.23	3.8	13.93	3.06	13.55	0.15	0.39	
0.25	0.25	1.37	4.3	14.81	3.15	14.41	0.15	0.40	
0.26	0.26	1.52	4.9	15.69	3.25	15.27	0.16	0.42	
0.27	0.27	1.68	5.6	16.57	3.34	16.14	0.17	0.44	
0.28	0.28	1.84	6.3	17.45	3.44	17.00	0.18	0.46	
0.29	0.29	2.02	7.1	18.32	3.54	17.86	0.19	0.48	
0.30	0.30	2.20	8.0	19.20	3.63	18.72	0.20	0.50	
0.31	0.31	2.39	8.9	20.08	3.73	19.59	0.22	0.53	STD CURB
0.32	0.32	2.59	9.9	20.96	3.82	20.45	0.23	0.55	THROUGH CUT
0.33	0.33	2.80	11.0	21.84	3.92	21.31	0.24	0.57	
0.34	0.34	3.02	12.1	22.71	4.01	22.17	0.25	0.59	
0.35	0.35	3.25	13.3	23.59	4.10	23.03	0.26	0.61	
0.36	0.36	3.48	14.6	24.47	4.19	23.90	0.27	0.63	
0.37	0.37	3.72	16.0	25.35	4.28	24.76	0.29	0.66	
0.38	0.38	3.98	17.4	26.23	4.38	25.62	0.30	0.68	
0.39	0.39	4.24	18.9	27.10	4.47	26.48	0.31	0.70	
0.40	0.40	4.50	20.5	27.98	4.55	27.35	0.32	0.72	
0.41	0.41	4.78	22.2	28.86	4.64	28.21	0.33	0.74	ACTUAL
0.42	0.42	5.06	24.4	28.88	4.82	28.21	0.36	0.78	G = 24.24
0.43	0.43	5.35	26.7	28.90	5.00	28.22	0.39	0.82	

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	31.6	28.94	5.34	28.23	0.44	0.89
0.46	0.46	6.19	34.1	28.96	5.50	28.23	0.47	0.93
0.47	0.47	6.48	36.7	28.98	5.67	28.24	0.50	0.97
0.48	0.48	6.76	39.4	29.01	5.83	28.24	0.53	1.01
0.49	0.49	7.04	42.1	29.03	5.99	28.25	0.56	1.05
0.50	0.50	7.32	45.0	29.05	6.14	28.25	0.59	1.09
0.51	0.51	7.61	47.9	29.07	6.30	28.26	0.62	1.13
0.52	0.52	7.89	50.9	29.09	6.45	28.26	0.65	1.17
0.53	0.53	8.17	53.9	29.11	6.60	28.27	0.68	1.21
0.54	0.54	8.45	57.0	29.13	6.75	28.27	0.71	1.25
0.55	0.55	8.74	60.2	29.15	6.89	28.28	0.74	1.29
0.56	0.56	9.02	63.5	29.17	7.04	28.28	0.77	1.33
0.57	0.57	9.30	66.8	29.19	7.18	28.29	0.80	1.37
0.58	0.58	9.59	70.2	29.21	7.32	28.29	0.83	1.41
0.59	0.59	9.87	73.6	29.23	7.46	28.30	0.86	1.45
0.60	0.60	10.15	77.2	29.25	7.60	28.30	0.90	1.50
0.61	0.61	10.43	80.7	29.27	7.74	28.31	0.93	1.54
0.62	0.62	10.72	84.4	29.29	7.87	28.31	0.96	1.58
0.63	0.63	11.00	88.1	29.31	8.01	28.32	1.00	1.63
0.64	0.64	11.28	91.9	29.34	8.14	28.32	1.03	1.67
0.65	0.65	11.57	95.7	29.36	8.27	28.33	1.06	1.71
0.66	0.66	11.85	99.6	29.38	8.40	28.33	1.10	1.76
0.67	0.67	12.13	103.5	29.40	8.53	28.34	1.13	1.80
0.68	0.68	12.42	105.2	30.44	8.47	30.30	1.11	1.79
0.69	0.69	12.72	107.0	31.49	8.41	31.34	1.10	1.79
0.70	0.70	13.06	107.4	33.45	8.22	32.39	1.05	1.75
0.71	0.71	13.39	109.6	34.50	8.19	33.44	1.04	1.75
0.72	0.72	13.73	112.0	35.54	8.16	34.48	1.03	1.75
0.73	0.73	14.08	114.6	36.59	8.14	35.53	1.03	1.76
0.74	0.74	14.44	117.3	37.64	8.13	36.58	1.03	1.77
0.75	0.75	14.81	120.2	38.68	8.11	37.62	1.02	1.77
0.76	0.76	15.19	123.2	39.73	8.11	38.67	1.02	1.78
0.77	0.77	15.58	126.3	40.78	8.10	39.72	1.02	1.79
0.78	0.78	15.98	129.6	41.83	8.11	40.77	1.02	1.80
0.79	0.79	16.40	133.0	42.87	8.11	41.81	1.02	1.81
0.80	0.80	16.82	136.5	43.92	8.12	42.86	1.02	1.82
0.81	0.81	17.25	140.2	44.97	8.13	43.91	1.03	1.84
0.82	0.82	17.70	144.1	46.01	8.14	44.95	1.03	1.85
0.83	0.83	18.15	148.1	47.06	8.16	46.00	1.03	1.86

STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .019

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.34	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.54	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.71	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	0.86	1.25	0.01	0.05
0.05	0.05	0.04	0.0	1.64	1.00	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.12	1.88	0.02	0.08
0.07	0.07	0.08	0.1	2.30	1.25	2.19	0.02	0.09
0.08	0.08	0.10	0.1	2.63	1.36	2.50	0.03	0.11
0.09	0.09	0.13	0.2	2.96	1.47	2.81	0.03	0.12
0.10	0.10	0.16	0.2	3.29	1.58	3.13	0.04	0.14
0.11	0.11	0.19	0.3	3.62	1.68	3.44	0.04	0.15
0.12	0.12	0.23	0.4	3.95	1.79	3.75	0.05	0.17
0.13	0.13	0.26	0.5	4.28	1.88	4.07	0.06	0.19
0.14	0.14	0.31	0.6	5.15	1.85	4.93	0.05	0.19
0.15	0.15	0.36	0.7	6.03	1.85	5.79	0.05	0.20
0.16	0.16	0.43	0.8	6.91	1.88	6.65	0.05	0.21
0.17	0.17	0.50	1.0	7.79	1.92	7.51	0.06	0.23
0.18	0.18	0.58	1.1	8.67	1.98	8.38	0.06	0.24
0.19	0.19	0.66	1.4	9.54	2.04	9.24	0.06	0.25
0.20	0.20	0.76	1.6	10.42	2.10	10.10	0.07	0.27
0.21	0.21	0.87	1.9	11.30	2.17	10.96	0.07	0.28
0.22	0.22	0.98	2.2	12.18	2.24	11.83	0.08	0.30
0.23	0.23	1.10	2.6	13.06	2.32	12.69	0.08	0.31
0.24	0.24	1.23	3.0	13.93	2.39	13.55	0.09	0.33
0.25	0.25	1.37	3.4	14.81	2.47	14.41	0.09	0.34
0.26	0.26	1.52	3.9	15.69	2.54	15.27	0.10	0.36
0.27	0.27	1.68	4.4	16.57	2.62	16.14	0.11	0.38
0.28	0.28	1.84	5.0	17.45	2.69	17.00	0.11	0.39
0.29	0.29	2.02	5.6	18.32	2.77	17.86	0.12	0.41
0.30	0.30	2.20	6.3	19.20	2.84	18.72	0.13	0.43
0.31	0.31	2.39	7.0	20.08	2.92	19.59	0.13	0.44
0.32	0.32	2.59	7.8	20.96	2.99	20.45	0.14	0.46
0.33	0.33	2.80	8.6	21.84	3.07	21.31	0.15	0.48
0.34	0.34	3.02	9.5	22.71	3.14	22.17	0.15	0.49
0.35	0.35	3.25	10.4	23.59	3.21	23.03	0.16	0.51
0.36	0.36	3.48	11.4	24.47	3.28	23.90	0.17	0.53
0.37	0.37	3.72	12.5	25.35	3.35	24.76	0.17	0.54
0.38	0.38	3.98	13.6	26.23	3.43	25.62	0.18	0.56
0.39	0.39	4.24	14.8	27.10	3.50	26.48	0.19	0.58
0.40	0.40	4.50	16.1	27.98	3.57	27.35	0.20	0.60
0.41	0.41	4.78	17.4	28.86	3.64	28.21	0.21	0.62
0.42	0.42	5.06	19.1	28.88	3.77	28.21	0.22	0.64
0.43	0.43	5.35	20.9	28.90	3.91	28.22	0.24	0.67

STD CURB THROUGH CUT

ACTUAL Q = 24.24

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	24.7	28.94	4.18	28.23	0.27	0.72	
0.46	0.46	6.19	26.7	28.96	4.31	28.23	0.29	0.75	
0.47	0.47	6.48	28.7	28.98	4.44	28.24	0.31	0.78	
0.48	0.48	6.76	30.8	29.01	4.56	28.24	0.32	0.80	
0.49	0.49	7.04	33.0	29.03	4.69	28.25	0.34	0.83	
0.50	0.50	7.32	35.2	29.05	4.81	28.25	0.36	0.86	STREET
0.51	0.51	7.61	37.5	29.07	4.93	28.26	0.38	0.89	CAPACITY
0.52	0.52	7.89	39.8	29.09	5.05	28.26	0.40	0.92	
0.53	0.53	8.17	42.2	29.11	5.17	28.27	0.41	0.94	
0.54	0.54	8.45	44.7	29.13	5.28	28.27	0.43	0.97	
0.55	0.55	8.74	47.1	29.15	5.40	28.28	0.45	1.00	
0.56	0.56	9.02	49.7	29.17	5.51	28.28	0.47	1.03	
0.57	0.57	9.30	52.3	29.19	5.62	28.29	0.49	1.06	
0.58	0.58	9.59	54.9	29.21	5.73	28.29	0.51	1.09	
0.59	0.59	9.87	57.6	29.23	5.84	28.30	0.53	1.12	
0.60	0.60	10.15	60.4	29.25	5.95	28.30	0.55	1.15	
0.61	0.61	10.43	63.2	29.27	6.06	28.31	0.57	1.18	
0.62	0.62	10.72	66.1	29.29	6.16	28.31	0.59	1.21	
0.63	0.63	11.00	69.0	29.31	6.27	28.32	0.61	1.24	
0.64	0.64	11.28	71.9	29.34	6.37	28.32	0.63	1.27	
0.65	0.65	11.57	74.9	29.36	6.48	28.33	0.65	1.30	
0.66	0.66	11.85	78.0	29.38	6.58	28.33	0.67	1.33	
0.67	0.67	12.13	81.0	29.40	6.68	28.34	0.69	1.36	
0.68	0.68	12.42	82.3	30.44	6.63	30.30	0.68	1.36	
0.69	0.69	12.72	83.8	31.49	6.58	31.34	0.67	1.36	
0.70	0.70	13.06	84.0	33.45	6.44	32.39	0.64	1.34	
0.71	0.71	13.39	85.8	34.50	6.41	33.44	0.64	1.35	
0.72	0.72	13.73	87.7	35.54	6.39	34.48	0.63	1.35	
0.73	0.73	14.08	89.7	36.59	6.37	35.53	0.63	1.36	
0.74	0.74	14.44	91.8	37.64	6.36	36.58	0.63	1.37	
0.75	0.75	14.81	94.1	38.68	6.35	37.62	0.63	1.38	
0.76	0.76	15.19	96.4	39.73	6.35	38.67	0.63	1.39	
0.77	0.77	15.58	98.9	40.78	6.34	39.72	0.63	1.40	
0.78	0.78	15.98	101.4	41.83	6.35	40.77	0.63	1.41	
0.79	0.79	16.40	104.1	42.87	6.35	41.81	0.63	1.42	
0.80	0.80	16.82	106.9	43.92	6.35	42.86	0.63	1.43	
0.81	0.81	17.25	109.8	44.97	6.36	43.91	0.63	1.44	
0.82	0.82	17.70	112.8	46.01	6.37	44.95	0.63	1.45	
0.83	0.83	18.15	115.9	47.06	6.38	46.00	0.63	1.46	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

WAGON GATE TRAIL

MANNING'S N= .017 SLOPE= .044

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.52	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.82	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	1.08	0.94	0.02	0.05
0.04	0.04	0.03	0.0	1.32	1.31	1.25	0.03	0.07
0.05	0.05	0.04	0.1	1.64	1.52	1.56	0.04	0.09
0.06	0.06	0.06	0.1	1.97	1.71	1.88	0.05	0.11
0.07	0.07	0.08	0.1	2.30	1.90	2.19	0.06	0.13
0.08	0.08	0.10	0.2	2.63	2.07	2.50	0.07	0.15
0.09	0.09	0.13	0.3	2.96	2.24	2.81	0.08	0.17
0.10	0.10	0.16	0.4	3.29	2.41	3.13	0.09	0.19
0.11	0.11	0.19	0.5	3.62	2.56	3.44	0.10	0.21
0.12	0.12	0.23	0.6	3.95	2.72	3.75	0.11	0.23
0.13	0.13	0.26	0.8	4.28	2.87	4.07	0.13	0.26
0.14	0.14	0.31	0.9	5.15	2.81	4.93	0.12	0.26
0.15	0.15	0.36	1.0	6.03	2.81	5.79	0.12	0.27
0.16	0.16	0.43	1.2	6.91	2.86	6.65	0.13	0.29
0.17	0.17	0.50	1.4	7.79	2.92	7.51	0.13	0.30
0.18	0.18	0.58	1.7	8.67	3.01	8.38	0.14	0.32
0.19	0.19	0.66	2.1	9.54	3.10	9.24	0.15	0.34
0.20	0.20	0.76	2.4	10.42	3.20	10.10	0.16	0.36
0.21	0.21	0.87	2.9	11.30	3.31	10.96	0.17	0.38
0.22	0.22	0.98	3.3	12.18	3.42	11.83	0.18	0.40
0.23	0.23	1.10	3.9	13.06	3.53	12.69	0.19	0.42
0.24	0.24	1.23	4.5	13.93	3.64	13.55	0.21	0.45
0.25	0.25	1.37	5.2	14.81	3.76	14.41	0.22	0.47
0.26	0.26	1.52	5.9	15.69	3.87	15.27	0.23	0.49
0.27	0.27	1.68	6.7	16.57	3.98	16.14	0.25	0.52
0.28	0.28	1.84	7.6	17.45	4.10	17.00	0.26	0.54
0.29	0.29	2.02	8.5	18.32	4.21	17.86	0.28	0.57
0.30	0.30	2.20	9.5	19.20	4.33	18.72	0.29	0.59
0.31	0.31	2.39	10.6	20.08	4.44	19.59	0.31	0.62
0.32	0.32	2.59	11.8	20.96	4.55	20.45	0.32	0.64
0.33	0.33	2.80	13.1	21.84	4.66	21.31	0.34	0.67
0.34	0.34	3.02	14.4	22.71	4.78	22.17	0.35	0.69
0.35	0.35	3.25	15.9	23.59	4.89	23.03	0.37	0.72
0.36	0.36	3.48	17.4	24.47	5.00	23.90	0.39	0.75
0.37	0.37	3.72	19.0	25.35	5.10	24.76	0.40	0.77
0.38	0.38	3.98	20.7	26.23	5.21	25.62	0.42	0.80
0.39	0.39	4.24	22.5	27.10	5.32	26.48	0.44	0.83
0.40	0.40	4.50	24.4	27.98	5.43	27.35	0.46	0.86
0.41	0.41	4.78	26.5	28.86	5.53	28.21	0.48	0.89
0.42	0.42	5.06	29.1	28.88	5.74	28.21	0.51	0.93
0.43	0.43	5.35	31.8	28.90	5.95	28.22	0.55	0.98

STD CURB THROUGHOUT

ACTUAL Q = 24.24 STREET CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MORNING SUN TRAIL

MANNING'S N= .017 SLOPE= .0305

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.43	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.69	0.63	0.01	0.03
0.03	0.03	0.01	0.0	0.99	0.90	0.94	0.01	0.04
0.04	0.04	0.03	0.0	1.32	1.09	1.25	0.02	0.06
0.05	0.05	0.04	0.0	1.64	1.26	1.56	0.02	0.07
0.06	0.06	0.06	0.1	1.97	1.43	1.88	0.03	0.09
0.07	0.07	0.08	0.1	2.30	1.58	2.19	0.04	0.11
0.08	0.08	0.10	0.2	2.63	1.73	2.50	0.05	0.13
0.09	0.09	0.13	0.2	2.96	1.87	2.81	0.05	0.14
0.10	0.10	0.16	0.3	3.29	2.00	3.13	0.06	0.16
0.11	0.11	0.19	0.4	3.62	2.13	3.44	0.07	0.18
0.12	0.12	0.23	0.5	3.95	2.26	3.75	0.08	0.20
0.13	0.13	0.26	0.6	4.28	2.39	4.07	0.09	0.22
0.14	0.14	0.31	0.7	5.15	2.34	4.93	0.08	0.22
0.15	0.15	0.36	0.9	6.03	2.34	5.79	0.09	0.24
0.16	0.16	0.43	1.0	6.91	2.38	6.65	0.09	0.25
0.17	0.17	0.50	1.2	7.79	2.43	7.51	0.09	0.26
0.18	0.18	0.58	1.4	8.67	2.50	8.38	0.10	0.28
0.19	0.19	0.66	1.7	9.54	2.58	9.24	0.10	0.29
0.20	0.20	0.76	2.0	10.42	2.66	10.10	0.11	0.31
0.21	0.21	0.87	2.4	11.30	2.75	10.96	0.12	0.33
0.22	0.22	0.98	2.8	12.18	2.84	11.83	0.13	0.35
0.23	0.23	1.10	3.2	13.06	2.94	12.69	0.13	0.36
0.24	0.24	1.23	3.7	13.93	3.03	13.55	0.14	0.38
0.25	0.25	1.37	4.3	14.81	3.13	14.41	0.15	0.40
0.26	0.26	1.52	4.9	15.69	3.22	15.27	0.16	0.42
0.27	0.27	1.68	5.6	16.57	3.32	16.14	0.17	0.44
0.28	0.28	1.84	6.3	17.45	3.41	17.00	0.18	0.46
0.29	0.29	2.02	7.1	18.32	3.51	17.86	0.19	0.48
0.30	0.30	2.20	7.9	19.20	3.60	18.72	0.20	0.50
0.31	0.31	2.39	8.8	20.08	3.70	19.59	0.21	0.52
0.32	0.32	2.59	9.8	20.96	3.79	20.45	0.22	0.54
0.33	0.33	2.80	10.9	21.84	3.88	21.31	0.23	0.56
0.34	0.34	3.02	12.0	22.71	3.98	22.17	0.25	0.59
0.35	0.35	3.25	13.2	23.59	4.07	23.03	0.26	0.61
0.36	0.36	3.48	14.5	24.47	4.16	23.90	0.27	0.63
0.37	0.37	3.72	15.8	25.35	4.25	24.76	0.28	0.65
0.38	0.38	3.98	17.3	26.23	4.34	25.62	0.29	0.67
0.39	0.39	4.24	18.8	27.10	4.43	26.48	0.30	0.69
0.40	0.40	4.50	20.4	27.98	4.52	27.35	0.32	0.72
0.41	0.41	4.78	22.0	28.86	4.61	28.21	0.33	0.74
0.42	0.42	5.06	24.2	28.88	4.78	28.21	0.36	0.78
0.43	0.43	5.35	26.5	28.90	4.96	28.22	0.38	0.81

ROLL CURB LIMIT @ LOT 17

ACTUAL Q=27.51

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.45	0.45	5.91	31.3	28.94	5.29	28.23	0.44	0.89
0.46	0.46	6.19	33.8	28.96	5.46	28.23	0.46	0.92
0.47	0.47	6.48	36.4	28.98	5.62	28.24	0.49	0.96
0.48	0.48	6.76	39.1	29.01	5.78	28.24	0.52	1.00
0.49	0.49	7.04	41.8	29.03	5.94	28.25	0.55	1.04
0.50	0.50	7.32	44.6	29.05	6.09	28.25	0.58	1.08
0.51	0.51	7.61	47.5	29.07	6.25	28.26	0.61	1.12
0.52	0.52	7.89	50.5	29.09	6.40	28.26	0.64	1.16
0.53	0.53	8.17	53.5	29.11	6.54	28.27	0.67	1.20
0.54	0.54	8.45	56.6	29.13	6.69	28.27	0.70	1.24
0.55	0.55	8.74	59.7	29.15	6.84	28.28	0.73	1.28
0.56	0.56	9.02	63.0	29.17	6.98	28.28	0.76	1.32
0.57	0.57	9.30	66.3	29.19	7.12	28.29	0.79	1.36
0.58	0.58	9.59	69.6	29.21	7.26	28.29	0.82	1.40
0.59	0.59	9.87	73.0	29.23	7.40	28.30	0.85	1.44
0.60	0.60	10.15	76.5	29.25	7.54	28.30	0.88	1.48
0.61	0.61	10.43	80.1	29.27	7.67	28.31	0.91	1.52
0.62	0.62	10.72	83.7	29.29	7.81	28.31	0.95	1.57
0.63	0.63	11.00	87.4	29.31	7.94	28.32	0.98	1.61
0.64	0.64	11.28	91.1	29.34	8.07	28.32	1.01	1.65
0.65	0.65	11.57	94.9	29.36	8.20	28.33	1.05	1.70
0.66	0.66	11.85	98.8	29.38	8.33	28.33	1.08	1.74
0.67	0.67	12.13	102.7	29.40	8.46	28.34	1.11	1.78
0.68	0.68	12.42	104.3	30.44	8.40	30.30	1.10	1.78
0.69	0.69	12.72	106.1	31.49	8.34	31.34	1.08	1.77
0.70	0.70	13.06	106.5	33.45	8.15	32.39	1.03	1.73
0.71	0.71	13.39	108.7	34.50	8.12	33.44	1.02	1.73
0.72	0.72	13.73	111.1	35.54	8.10	34.48	1.02	1.74
0.73	0.73	14.08	113.7	36.59	8.08	35.53	1.01	1.74
0.74	0.74	14.44	116.4	37.64	8.06	36.58	1.01	1.75
0.75	0.75	14.81	119.2	38.68	8.05	37.62	1.01	1.76
0.76	0.76	15.19	122.2	39.73	8.04	38.67	1.00	1.76
0.77	0.77	15.58	125.3	40.78	8.04	39.72	1.00	1.77
0.78	0.78	15.98	128.5	41.83	8.04	40.77	1.00	1.78
0.79	0.79	16.40	131.9	42.87	8.04	41.81	1.00	1.79
0.80	0.80	16.82	135.4	43.92	8.05	42.86	1.01	1.81
0.81	0.81	17.25	139.1	44.97	8.06	43.91	1.01	1.82
0.82	0.82	17.70	142.9	46.01	8.07	44.95	1.01	1.83
0.83	0.83	18.15	146.9	47.06	8.09	46.00	1.02	1.85

STREET CAPACITY

$\frac{16.17}{22} = 0.74 \frac{cfs}{lot}$

$0.74 \frac{cfs}{lot} \times 11 \text{ lots} = 8.14$

$11.34 + 8.14 = 19.48$

$\frac{19.48}{22} = 0.88$

$\frac{8.8}{0.88} = 10 \text{ lots}$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

CANYON GATE TRAIL

MANNING'S N= .017 SLOPE= .039

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.01	0.01	0.00	0.0	0.33	0.49	0.31	0.00	0.01	
0.02	0.02	0.01	0.0	0.66	0.77	0.63	0.01	0.03	
0.03	0.03	0.01	0.0	0.99	1.02	0.94	0.02	0.05	
0.04	0.04	0.03	0.0	1.32	1.23	1.25	0.02	0.06	
0.05	0.05	0.04	0.1	1.64	1.43	1.56	0.03	0.08	
0.06	0.06	0.06	0.1	1.97	1.61	1.88	0.04	0.10	
0.07	0.07	0.08	0.1	2.30	1.79	2.19	0.05	0.12	
0.08	0.08	0.10	0.2	2.63	1.95	2.50	0.06	0.14	
0.09	0.09	0.13	0.3	2.96	2.11	2.81	0.07	0.16	
0.10	0.10	0.16	0.4	3.29	2.27	3.13	0.08	0.18	
0.11	0.11	0.19	0.5	3.62	2.41	3.44	0.09	0.20	
0.12	0.12	0.23	0.6	3.95	2.56	3.75	0.10	0.22	
0.13	0.13	0.26	0.7	4.28	2.70	4.07	0.11	0.24	
0.14	0.14	0.31	0.8	5.15	2.65	4.93	0.11	0.25	
0.15	0.15	0.36	1.0	6.03	2.65	5.79	0.11	0.26	
0.16	0.16	0.43	1.1	6.91	2.69	6.65	0.11	0.27	
0.17	0.17	0.50	1.4	7.79	2.75	7.51	0.12	0.29	
0.18	0.18	0.58	1.6	8.67	2.83	8.38	0.12	0.30	
0.19	0.19	0.66	1.9	9.54	2.92	9.24	0.13	0.32	
0.20	0.20	0.76	2.3	10.42	3.01	10.10	0.14	0.34	
0.21	0.21	0.87	2.7	11.30	3.11	10.96	0.15	0.36	
0.22	0.22	0.98	3.2	12.18	3.22	11.83	0.16	0.38	
0.23	0.23	1.10	3.7	13.06	3.32	12.69	0.17	0.40	
0.24	0.24	1.23	4.2	13.93	3.43	13.55	0.18	0.42	
0.25	0.25	1.37	4.9	14.81	3.54	14.41	0.19	0.44	
0.26	0.26	1.52	5.5	15.69	3.64	15.27	0.21	0.47	
0.27	0.27	1.68	6.3	16.57	3.75	16.14	0.22	0.49	
0.28	0.28	1.84	7.1	17.45	3.86	17.00	0.23	0.51	
0.29	0.29	2.02	8.0	18.32	3.97	17.86	0.24	0.53	STD CURB
0.30	0.30	2.20	9.0	19.20	4.07	18.72	0.26	0.56	THROUGH CUT
0.31	0.31	2.39	10.0	20.08	4.18	19.59	0.27	0.58	
0.32	0.32	2.59	11.1	20.96	4.29	20.45	0.29	0.61	
0.33	0.33	2.80	12.3	21.84	4.39	21.31	0.30	0.63	
0.34	0.34	3.02	13.6	22.71	4.50	22.17	0.31	0.65	
0.35	0.35	3.25	14.9	23.59	4.60	23.03	0.33	0.68	
0.36	0.36	3.48	16.4	24.47	4.70	23.90	0.34	0.70	
0.37	0.37	3.72	17.9	25.35	4.81	24.76	0.36	0.73	
0.38	0.38	3.98	19.5	26.23	4.91	25.62	0.37	0.75	
0.39	0.39	4.24	21.2	27.10	5.01	26.48	0.39	0.78	
0.40	0.40	4.50	23.0	27.98	5.11	27.35	0.41	0.81	ACTUAL
0.41	0.41	4.78	24.9	28.86	5.21	28.21	0.42	0.83	Q = 26.35
0.42	0.42	5.06	27.4	28.88	5.41	28.21	0.45	0.87	STREET
0.43	0.43	5.35	30.0	28.90	5.60	28.22	0.49	0.92	CAPACITY

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ 10+24

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38 STD CURB
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40 THROUGH CUT
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	ACTUAL Q = 31.41
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

$\frac{17.09}{22} = 0.78$

$11.34 + 16.17 + (5 \times 0.78) = 31.41$ cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LOT 31

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

☐ WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH CUT

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	ACTUAL Q=56.09
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LOT 137

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

STD CURB THROUGH CUT

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	ACTUAL Q = 86.48

$11.34 + 16.17 + 20.75 + 27.47 + (14 \times .78) = 86.48$ cfs

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE @ LCT H2

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01	
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02	
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03	
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04	
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05	
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07	
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08	
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09	
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10	
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11	
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12	
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14	
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15	
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16	
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17	
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18	
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19	
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20	
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21	
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22	
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23	
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24	
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26	
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27	
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28	
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29	
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30	
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32	
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33	
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34	
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35	
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36	
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38	STD CURB
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39	THROUGH CUT
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40	
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41	
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43	
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44	
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45	
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46	
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47	
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49	
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51	

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	ACTUAL Q=114.82

$11.34 + 16.17 + 20.78 + 27.47 + 24.24 + (19 \times 0.78) = 114.82$

***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MOUNTAIN GATE LANE

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.83	5	11.00	0.13	9	37.17	0.67
2	8.38	0.67	6	23.00	0.41	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.83
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

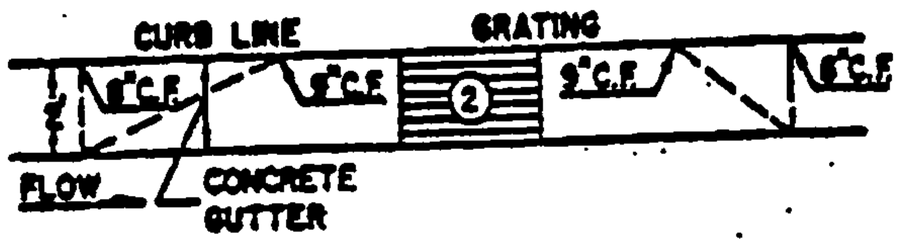
WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.33	0.19	0.31	0.00	0.01
0.02	0.02	0.01	0.0	0.66	0.30	0.63	0.00	0.02
0.03	0.03	0.01	0.0	0.99	0.40	0.94	0.00	0.03
0.04	0.04	0.03	0.0	1.32	0.48	1.25	0.00	0.04
0.05	0.05	0.04	0.0	1.64	0.56	1.56	0.00	0.05
0.06	0.06	0.06	0.0	1.97	0.63	1.88	0.01	0.07
0.07	0.07	0.08	0.1	2.30	0.70	2.19	0.01	0.08
0.08	0.08	0.10	0.1	2.63	0.77	2.50	0.01	0.09
0.09	0.09	0.13	0.1	2.96	0.83	2.81	0.01	0.10
0.10	0.10	0.16	0.1	3.29	0.89	3.13	0.01	0.11
0.11	0.11	0.19	0.2	3.62	0.95	3.44	0.01	0.12
0.12	0.12	0.23	0.2	3.95	1.00	3.75	0.02	0.14
0.13	0.13	0.26	0.3	4.28	1.06	4.07	0.02	0.15
0.14	0.14	0.31	0.3	5.15	1.04	4.93	0.02	0.16
0.15	0.15	0.36	0.4	6.03	1.04	5.79	0.02	0.17
0.16	0.16	0.43	0.4	6.91	1.06	6.65	0.02	0.18
0.17	0.17	0.50	0.5	7.79	1.08	7.51	0.02	0.19
0.18	0.18	0.58	0.6	8.67	1.11	8.38	0.02	0.20
0.19	0.19	0.66	0.8	9.54	1.14	9.24	0.02	0.21
0.20	0.20	0.76	0.9	10.42	1.18	10.10	0.02	0.22
0.21	0.21	0.87	1.1	11.30	1.22	10.96	0.02	0.23
0.22	0.22	0.98	1.2	12.18	1.26	11.83	0.02	0.24
0.23	0.23	1.10	1.4	13.06	1.30	12.69	0.03	0.26
0.24	0.24	1.23	1.7	13.93	1.34	13.55	0.03	0.27
0.25	0.25	1.37	1.9	14.81	1.39	14.41	0.03	0.28
0.26	0.26	1.52	2.2	15.69	1.43	15.27	0.03	0.29
0.27	0.27	1.68	2.5	16.57	1.47	16.14	0.03	0.30
0.28	0.28	1.84	2.8	17.45	1.51	17.00	0.04	0.32
0.29	0.29	2.02	3.1	18.32	1.56	17.86	0.04	0.33
0.30	0.30	2.20	3.5	19.20	1.60	18.72	0.04	0.34
0.31	0.31	2.39	3.9	20.08	1.64	19.59	0.04	0.35
0.32	0.32	2.59	4.4	20.96	1.68	20.45	0.04	0.36
0.33	0.33	2.80	4.8	21.84	1.72	21.31	0.05	0.38 STD CURB
0.34	0.34	3.02	5.3	22.71	1.76	22.17	0.05	0.39 THROUGH CUT
0.35	0.35	3.25	5.9	23.59	1.80	23.03	0.05	0.40
0.36	0.36	3.48	6.4	24.47	1.84	23.90	0.05	0.41
0.37	0.37	3.72	7.0	25.35	1.88	24.76	0.06	0.43
0.38	0.38	3.98	7.7	26.23	1.92	25.62	0.06	0.44
0.39	0.39	4.24	8.3	27.10	1.96	26.48	0.06	0.45
0.40	0.40	4.50	9.0	27.98	2.00	27.35	0.06	0.46
0.41	0.41	4.78	9.8	28.86	2.04	28.21	0.06	0.47
0.42	0.42	5.06	10.7	28.88	2.12	28.21	0.07	0.49
0.43	0.43	5.35	11.8	28.90	2.20	28.22	0.08	0.51

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)	
0.45	0.45	5.91	13.9	28.94	2.35	28.23	0.09	0.54	
0.46	0.46	6.19	15.0	28.96	2.42	28.23	0.09	0.55	
0.47	0.47	6.48	16.1	28.98	2.49	28.24	0.10	0.57	
0.48	0.48	6.76	17.3	29.01	2.56	28.24	0.10	0.58	
0.49	0.49	7.04	18.5	29.03	2.63	28.25	0.11	0.60	
0.50	0.50	7.32	19.8	29.05	2.70	28.25	0.11	0.61	
0.51	0.51	7.61	21.1	29.07	2.77	28.26	0.12	0.63	
0.52	0.52	7.89	22.4	29.09	2.84	28.26	0.12	0.64	
0.53	0.53	8.17	23.7	29.11	2.90	28.27	0.13	0.66	
0.54	0.54	8.45	25.1	29.13	2.97	28.27	0.14	0.68	
0.55	0.55	8.74	26.5	29.15	3.03	28.28	0.14	0.69	
0.56	0.56	9.02	27.9	29.17	3.10	28.28	0.15	0.71	
0.57	0.57	9.30	29.4	29.19	3.16	28.29	0.15	0.72	
0.58	0.58	9.59	30.9	29.21	3.22	28.29	0.16	0.74	
0.59	0.59	9.87	32.4	29.23	3.28	28.30	0.17	0.76	
0.60	0.60	10.15	33.9	29.25	3.34	28.30	0.17	0.77	
0.61	0.61	10.43	35.5	29.27	3.40	28.31	0.18	0.79	
0.62	0.62	10.72	37.1	29.29	3.46	28.31	0.19	0.81	
0.63	0.63	11.00	38.8	29.31	3.52	28.32	0.19	0.82	
0.64	0.64	11.28	40.4	29.34	3.58	28.32	0.20	0.84	
0.65	0.65	11.57	42.1	29.36	3.64	28.33	0.21	0.86	
0.66	0.66	11.85	43.8	29.38	3.70	28.33	0.21	0.87	STREET CAPACITY
0.67	0.67	12.13	45.5	29.40	3.75	28.34	0.22	0.89	
0.68	0.68	12.42	46.3	30.44	3.72	30.30	0.22	0.90	
0.69	0.69	12.72	47.1	31.49	3.70	31.34	0.21	0.90	
0.70	0.70	13.06	47.2	33.45	3.62	32.39	0.20	0.90	
0.71	0.71	13.39	48.2	34.50	3.60	33.44	0.20	0.91	
0.72	0.72	13.73	49.3	35.54	3.59	34.48	0.20	0.92	
0.73	0.73	14.08	50.4	36.59	3.58	35.53	0.20	0.93	
0.74	0.74	14.44	51.6	37.64	3.57	36.58	0.20	0.94	
0.75	0.75	14.81	52.9	38.68	3.57	37.62	0.20	0.95	
0.76	0.76	15.19	54.2	39.73	3.57	38.67	0.20	0.96	
0.77	0.77	15.58	55.6	40.78	3.57	39.72	0.20	0.97	
0.78	0.78	15.98	57.0	41.83	3.57	40.77	0.20	0.98	
0.79	0.79	16.40	58.5	42.87	3.57	41.81	0.20	0.99	
0.80	0.80	16.82	60.1	43.92	3.57	42.86	0.20	1.00	
0.81	0.81	17.25	61.7	44.97	3.58	43.91	0.20	1.01	
0.82	0.82	17.70	63.4	46.01	3.58	44.95	0.20	1.02	
0.83	0.83	18.15	65.1	47.06	3.59	46.00	0.20	1.03	ACTUAL Q = 14/3

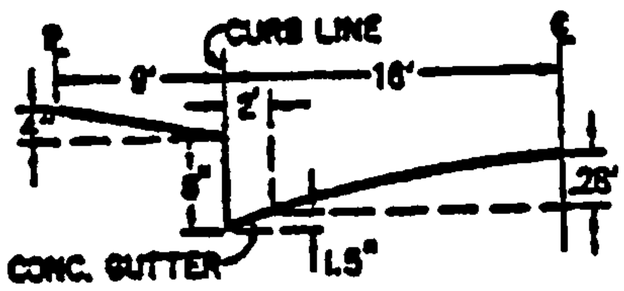
Mountain Gate Lane

S = 0.6%

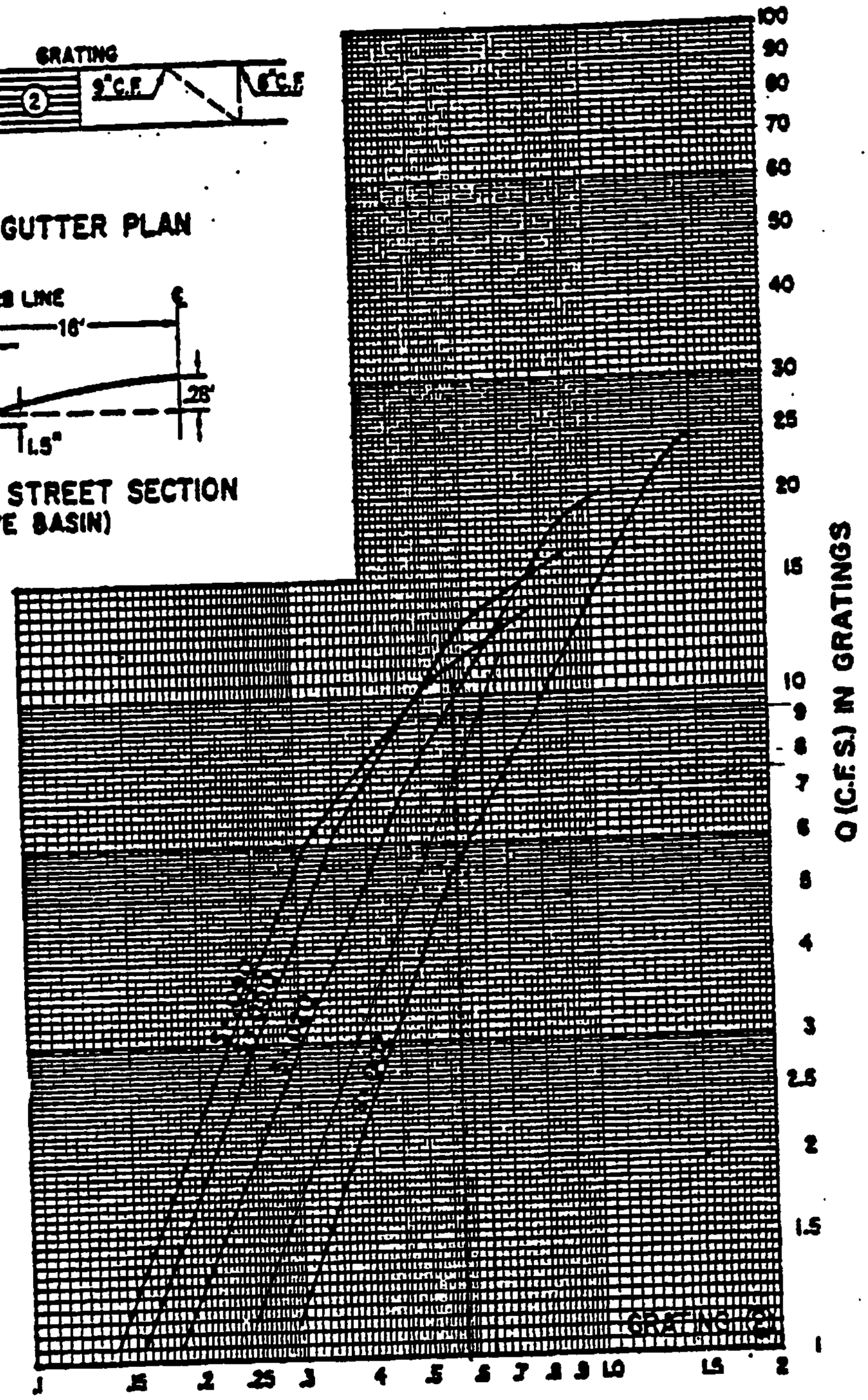
GRATING CAPACITIES FOR TYPE 'A', 'C' and 'D'



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



d = 0.58 ft
Q = 7.5 cfs

d = 0.64 ft
Q = 9.4 cfs

d = 0.63 ft
Q = 9.4 cfs

d = 0.65 ft
Q = 9.4 cfs

PLATE 22.3 D-5

APPENDIX C

DRAFT INFRASTRUCTURE LIST

Current DRC
Project No. _____

Date Submitted: September 8, 2004
Date Site Plan for Bldg Permit Approv _____
Date Site Plan for Sub. Approved: _____

Date Preliminary Plat Approved: _____

Date Preliminary Plat Expires: _____

DRB Project No. _____

Figure 12

INFRASTRUCTURE LIST

EXHIBIT "A"
TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

SUN GATE ESTATES SUBDIVISION
(TRACT 31A-1-A, LANDS OF SALAZAR FAMILY TRUST, SALAZAR QUATRO TRUST, JSJ INVESTMENT CO. AND FALBA HANNETT)

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			OFFSITE PUBLIC ROADWAY IMPROVEMENTS - PHASE 1						
		30' F - F (WEST HALF)	ARTERIAL PAVING W/ PCC STD & MED CURB & GUTTER & 6' WIDE PCC SIDEWALK ON WEST SIDE ONLY	98TH STREET	BLAKE ROAD	AMOLE MESA AVENUE	/	/	/
		24' F-EOA (SOUTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	BLAKE ROAD	OPEN RANGE AVENUE	98TH STREET	/	/	/
		24' F-EOA (SOUTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	OPEN RANGE AVENUE	BLAKE ROAD	MESA ARENOSO DRIVE	/	/	/
							/	/	/
			ONSITE PRIVATE ROADWAY IMPROVEMENTS - PHASE 1						
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY	STONE GATE WAY	OPEN RANGE AVENUE	SUN CANYON LANE	/	/	/
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON WEST SIDE ONLY	VALLEY GATE WAY	BLAKE ROAD	MORNING SUN TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CANYON LANE	LOT 1/ LOT 115	MORNING SUN TRAIL	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON WEST SIDE ONLY *	SUN CANYON LANE	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/	/	/

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	MOUNTAIN GATE LANE	LOT 34/ LOT 137	MORNING SUN TRAIL	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY *	MOUNTAIN GATE LANE	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/	/	/
							/	/	/

* SIDEWALKS DEFERRED PER EXHIBIT. SIDEWALKS WAIVED ON EAST AND NORTH SIDE OF SUN CANYON LANE STUB STREET AND ON WEST AND NORTH SIDE OF MOUNTAIN GATE LANE STUB STREET.

PUBLIC WATERLINE IMPROVEMENTS - PHASE 1

		10" DIA	PRESSURE REDUCING VALVE	SE CORNER OF BLAKE ROAD AND OPEN RANGE AVENUE			/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	BLAKE ROAD	EXIST. 12" WATERLINE IN OPEN RANGE AVENUE	SUN CANYON LANE	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	BLAKE ROAD	LOT 1/ LOT 115	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE TRAIL	/	/	/
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S, RJ'S	MOUNTAIN GATE TRAIL	AMOLE MESA AVENUE	MORNING SUN TRAIL	/	/	/
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S, RJ'S & REQ'D PRV	MOUNTAIN GATE TRAIL	MORNING SUN TRAIL	NORTH STUB STREET TERMINUS	/	/	/
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
							/	/	/

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC SANITARY SEWER IMPROVEMENTS - PHASE 1						
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CANYON LANE	LOT 1/ LOT 115	LOT 12	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MORNING SUN TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN MOUNTAIN TRAIL	SUN CANYON LANE	MOUNTAIN GATE TRAIL	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CHASER TRAIL	SUN CANYON LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MOUNTAIN GATE LANE	LOT 22	AMOLE MESA AVENUE	/	/	/
							/	/	/
			PUBLIC STORM DRAIN IMPROVEMENTS - PHASE 1						
		24"-48" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	MOUNTAIN GATE LANE	SUN MOUNTAIN TRAIL	AMOLE MESA AVENUE	/	/	/
		30" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS				/	/	/
			A GRADING AND DRAINAGE CERTIFICATION OF THE APPROVED GRADING PLAN IS REQUIRED PRIOR TO THE RELEASE OF FINANCIAL GUARANTEES.				/	/	/
			OFFSITE PUBLIC ROADWAY IMPROVEMENTS - PHASE 2						
		24' F-EOA (EAST HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY	MESA ARENOSO DRIVE	OPEN RANGE AVENUE	AMOLE MESA AVENUE	/	/	/
		24' F-EOA (NORTH HALF)	MAJOR LOCAL PAVING W/ PCC STD CURB & GUTTER & 4' WIDE PCC SIDEWALK ON NORTH SIDE ONLY	AMOLE MESA AVENUE	MESA ARENOSO DRIVE	98TH STREET	/	/	/

C.3

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			ONSITE PRIVATE ROADWAY IMPROVEMENTS - PHASE 2						
		40' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, 6' MEDIAN & 6' WIDE PCC SIDEWALK ON EAST SIDE ONLY	TRAIL GATE WAY	AMOLE MESA AVENUE	CANYON GATE TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES *	SUN CANYON LANE	SUNNY SKY LANE	LOT 115/ LOT 1	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON WEST SIDE ONLY*	SUN CANYON LANE	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	CANYON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON SOUTH SIDE ONLY*	CANYON GATE TRAIL	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		28' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON BOTH SIDES*	MOUNTAIN GATE LANE	CANYON GATE TRAIL	LOT 34/ LOT 137	/	/	/
		24' F-F	RESIDENTIAL PAVING W/ PCC STD CURB & GUTTER, & 4' WIDE PCC SIDEWALK ON EAST SIDE ONLY*	MOUNTAIN GATE LANE	CANYON GATE TRAIL	STUB STREET TERMINUS	/	/	/
							/	/	/

* SIDEWALKS DEFERRED PER EXHIBIT. SIDEWALKS WAIVED ON EAST AND SOUTH SIDE OF SUN CANYON LANE STUB STREET; WEST AND SOUTH SIDE OF MOUNTAIN GATE LANE STUB STREET; NORTH AND WEST SIDE OF CANYON GATE TRAIL STUB STREET.

C-4

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC WATERLINE IMPROVEMENTS - PHASE 2						
		10" DIA	PRESSURE REDUCING VALVE	SE CORNER OF BLAKE ROAD AND OPEN RANGE AVENUE			/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	BLAKE ROAD	EXIST. 12" WATERLINE IN OPEN RANGE AVENUE	SUN CANYON LANE	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	BLAKE ROAD	SUNNY SKY LANE	/	/	/
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUN CANYON LANE	SUNNY SKY LANE	SOUTH STUB STREET TERMINUS	/	/	/
		12" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		6" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE TRAIL	/	/	/
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CANYON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE TRAIL	/	/	/
		4" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CANYON GATE TRAIL	SUNNY SKY LANE	WEST STUB STREET TERMINUS	/	/	/
		8" DIA	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	MOUNTAIN GATE LANE	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
			PUBLIC SANITARY SEWER IMPROVEMENTS - PHASE 2						
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUN CANYON LANE	LOT 112	LOT 1/ LOT 115	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	SUNNY SKY LANE	SUN CANYON LANE	CANYON GATE TRAIL	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	WAGON GATE TRAIL	SUNNY SKY LANE	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CANYON GATE TRAIL	LOT 186	MOUNTAIN GATE LANE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	MOUNTAIN GATE TRAIL	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
							/	/	/

S-2

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC STORM DRAIN IMPROVEMENTS - PHASE 2						
		24"-48" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	MOUNTAIN GATE LANE	LOT 34/ LOT 137	AMOLE MESA AVENUE	/	/	/
							/	/	/
							/	/	/

A GRADING AND DRAINAGE CERTIFICATION OF THE APPROVED GRADING PLAN IS REQUIRED PRIOR TO THE RELEASE OF FINANCIAL GUARANTEES.

AGENT/OWNER

CHRISTIAN J. SHOLTIS, PE — 9/7/2004
PREPARED BY: PRINT NAME — DATE

BOHANNAN HUSTON, INC.
FIRM:

SIGNATURE

MAXIMUM TIME ALLOWED TO CONSTRUCT IMPROVEMENTS WITHOUT A DRB EXTENSION

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR	DATE	PARKS & GENERAL SERVICES	DATE
TRANSPORTATION DEVELOPMENT	DATE	AMAFCA	DATE
UTILITY DEVELOPMENT	DATE	CITY ENGINEER	DATE
			DATE

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT/OWNER

C-6/6

EXHIBITS

EXHIBIT 1 - PRELIMINARY PLAT

EXHIBIT 2 - GRADING PLAN

EXHIBIT 3 - EXISTING CONDITIONS BASIN MAP

EXHIBIT 4 - DEVELOPED CONDITIONS BASIN MAP

EXHIBIT 1

PRELIMINARY PLAT

EXHIBIT 2

GRADING PLAN

EXHIBIT 3

EXISTING CONDITIONS BASIN MAP

EXHIBIT 4

DEVELOPED CONDITIONS BASIN MAP

Bohannan ▲ Huston INC.

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