Federal Emergency Management Agency

Washington, D.C. 20472

JAN 08 2002

IN REPLY REFER TO:
Case Number: 01-06-1901R

Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

104

The Honorable Martin Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Dear Mayor Chavez:

This is in reference to a letter dated August 17, 2001, from Carlos A. Montoya, City/County Floodplain Administrator, requesting a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency (FEMA) for the proposed Painted Sky Subdivision. The proposed project will be located along an unnamed tributary to Mirehaven Arroyo C from a point approximately 2,800 feet downstream of Interstate 40 to a point approximately 500 feet upstream of Interstate 40 and will consist of the construction of six retention ponds, positioned in a row beginning approximately 500 feet upstream of Interstate 40 and continuing northwest 1950 feet along the Interstate 40 easement. The project will also include the ponds' associated drainage system, which will capture all runoff to the unnamed tributary to Mirehaven Arroyo C at a point approximately 300 feet upstream of Interstate 40. The area of the proposed project is shown on the Bernalillo County, New Mexico and Incorporated Areas, which includes the City of Albuquerque, Flood Insurance Rate Map (FIRM) number 35001C0328 D, dated September 20, 1996. This project also affects flood hazard information for Bernalillo County, New Mexico (Unincorporated Areas).

We received the following data, prepared by James D. Hughes, P.E., of Mark Goodwin & Associates, P.A., in support of this request:

- AHYMO97 hydrologic model, dated May 31, 2000, of the 1% annual chance (100-year) flood, representing the proposed conditions for the unnamed tributary to Mirehaven Arroyo C;

- backup hydrologic calculations in a report titled *Drainage Report for Painted Sky Subdivision,* dated August 2000;

- a drainage map, dated August 2000, titled *Offsite Drainage Map*, at a scale of 1 inch=500 feet, with a contour interval of 2 feet, in support of the hydrologic model of the unnamed tributary to Mirehaven Arroyo C;

- a certified topographic work map, dated December 7, 2000, titled *Workmap from Floodway Map*, at a scale of 1 inch=500 feet, with a contour interval of 2 feet, showing the effective and proposed floodplain along the unnamed tributary to Mirehaven Arroyo C;

- design plans for the retention ponds and roadside drainage system, dated December 7, 2000, titled *Painted Sky Subdivison Grading and Drainage Plan*;

- a report titled *C.L.O.M.R. Request for Painted Sky,* dated June 21, 2001;

- a copy of the Bernalillo County, New Mexico and Incorporated Areas FIRM number 35001C0328 D, annotated to reflect proposed conditions; and

- completed application/certification forms, including community concurrence with the proposed project.

We received all of the data required to perform a technical review of the CLOMR request as of October 15, 2001.

We have reviewed the submitted data and determined that the proposed project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP). If the project is built as proposed, a revision to the FIRM for your community will be warranted. This revision will show the following effects, as shown by the data submitted to support the request:

<u>1% Annual Chance Floodplain</u>

When the proposed model was compared to the effective FIRM for the unnamed tributary to Mirehaven Arroyo C, it was determined that a maximum increase in the 1% annual chance floodplain for the entire revision area of 250 feet would occur at a point approximately 100 feet upstream of Interstate 40. A maximum decrease in the 1% annual chance floodplain for the entire revision area of 210 feet would occur at a point approximately 220 feet downstream of Interstate 40. However, the maximum increase in the 1% annual chance floodplain for your community is 200 feet and would occur at a point approximately 500 feet downstream of Interstate 40. A maximum decrease in the 1% annual chance floodplain for your community of 60 feet would occur at a point approximately 125 feet downstream of Interstate 40.

In addition, the proposed project will revise the currently effective flood zone designations along the unnamed tributary to Mirehaven Arroyo C. The unnamed tributary to Mirehaven Arroyo C is currently designated as Zone AO on the effective FIRM. This designation indicates the presence of flood depths of 1 to 3 feet (sheet flow on sloping terrain), with the average depth in this case determined to be 1 foot in the channel of the unnamed tributary to Mirehaven Arroyo C. The sheet flow in this channel will be intercepted by a series of six retention ponds and the designation changed to Zone AE, for which the base flood elevations have been determined by calculating the depth in each of the retention ponds during the 1% annual chance rainfall event.

Future revisions to the FIRM, or restudies of the flood hazards in this area, could modify this determination.

We based this determination on the 1% annual chance discharges computed in the revised hydrologic model. Future development of projects upstream may increase discharges, which may increase flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, establish greater flood hazards in this area.

Your community must approve all proposed floodplain development, including this proposed project, and ensure that permits required by other Federal agencies and/or State and local agencies have been obtained. State and/or community officials may set standards for construction that are more restrictive than the minimum NFIP standards or may limit development in floodplains, based on knowledge of local conditions and in the interest of safety. If the State and/or the community have adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

Retention ponds will fail to maintain the designed storage capacity without proper maintenance, such as the regular clearing of accumulated bottom sediments. To avoid such failures, we require participating communities to ensure that the storage capacity within the retention pond is maintained according to NFIP regulations Subparagraph 60.3(b)(7). Therefore, upon completion of the project, your community must submit documentation ensuring that the retention pond will be maintained to preserve its design function. We may request that your community submit a description and schedule of its retention pond maintenance, as outlined in Subparagraph 65.6(a)(12) of the NFIP regulations.

NFIP regulations Section 65.3 states that when a community's Base (1% annual chance) Flood Elevations (BFEs) increase or decrease because of physical changes that affect flooding conditions, the community must submit technical or scientific data to FEMA that substantiate these changes. The community must submit such data as soon as possible, but no later than 6 months after such data become available, so that FEMA can base flood insurance premium rates and floodplain management requirements on the most up-to-date and accurate information available.

Upon completion of the proposed project, your community must request a revision to the FIRM per NFIP regulations Section 65.3. The revision request should include the data listed below.

1. Evidence of compliance with NFIP regulations Paragraph 65.4(b), which states that "all requests for changes to effective maps . . . must be made in writing by the community's Chief Executive Officer (CEO) or an official designated by the CEO. Should the CEO refuse to submit such a request on behalf of another party, we will agree to review the request only if written evidence is provided indicating the CEO or designee has been requested to do so."

2. As-built plans of all relevant project elements or a statement declaring that the project was built as proposed, either of which must be certified by a Professional Engineer. Please provide digital copies of the as-built plans, if available.

3. Hydrologic analyses for as-built conditions of the 1% annual chance flood if they differ from the proposed conditions model.

4. Certified topographic mapping, delineating the 1% annual chance floodplain for the unnamed tributary to Mirehaven Arroyo C, representing as-built conditions.

   a. Please show this information on a certified map of suitable scale and topographic definition to provide reasonable accuracy.

   b. Please label all items for easy cross-referencing to the hydrologic model and summary data.

5. A copy of the Bernalillo County, New Mexico and Incorporated Areas FIRM number 35001C0328 D, dated September 20, 1996, annotated to reflect as-built conditions.

6. Please submit documentation of individual legal notices that were sent to property owners who are adversely impacted by any widening and/or shifting of the 1% annual chance floodplain for the unnamed tributary to Mirehaven Arroyo C.

   a. If you submit notification and acceptance from the adversely impacted property owners, FEMA can issue a Letter of Map Revision (LOMR) effective the date of issuance.

   b. If you submit notification of, but not acceptance by, the adversely impacted property owners, FEMA may issue a LOMR effective 3 to 6 months after the date of issuance.

   c. If you submit neither notification of nor acceptance by the adversely impacted property owners, FEMA can either defer the map change, if minor, or revise the map by reissuance rather than by letter. Reissued maps are typically effective 9 to 12 months after issuance of a preliminary map.

7. Documentation showing compliance with NFIP regulations Subparagraph 65.6(a)(12) regarding maintenance.

If the project is built as proposed in the data submitted in support of this request, you do not have to resubmit items 3 through 5 listed above; otherwise, please resubmit them.

We have enclosed a copy of our application/certification forms for your reference. The application/certification forms package may be downloaded directly from the FEMA website at http://www.fema.gov/mit/tsd/EN_main.htm or copies may be obtained by contacting the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). Typically, we do not require all of these forms if the project is completed as proposed in the data submitted in support of this request. The enclosed document, titled *Requirements for Submitting Application/ Certification Forms to Support Requests for NFIP Map Revisions*, describes in detail the circumstances under which the forms are required.

The NFIP is primarily funded by policyholders, not taxes. We recover costs associated with reviewing and processing requests for modifications to published FIRMs to minimize the financial burden on the policyholders. The fee for an as-built LOMR request in follow-up to this CLOMR is $3,400, which we must receive before we can begin processing. This fee represents the new fee schedule effective June 1, 2000. However, the fee schedule is subject to change, and the requester is required to submit the fee in effect at the time of the submission. Your payment must be a check or money order made payable to the National Flood Insurance Program and should be forwarded to:

Federal Emergency Management Agency
Fee Charge System Administrator
P.O. Box 3173
Merrifield, Virginia 22216

Once we receive the processing fee and the items listed above, complete our review, and verify that the completed project meets all applicable NFIP standards, we will revise your community's FIRM to incorporate the effects of the completed project, as appropriate.

Part 65 of the enclosed NFIP regulations further describes the data needed to support a request to revise a FIRM. Your compliance with the criteria outlined in the NFIP regulations will streamline our review, allowing us to expeditiously revise your community's FIRM.

If you have any questions regarding this CLOMR, please contact the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627).

Sincerely,

William R Blanton Jr

William R. Blanton Jr., Project Officer
Hazards Study Branch
Federal Insurance and
Mitigation Administration

For: Matthew B. Miller, P.E., Chief
Hazards Study Branch
Federal Insurance and
Mitigation Administration

cc: Juan R. Vigil, County Manager, Bernalillo County
Carlos A. Montoya, Floodplain Administrator, City of Albuquerque
James D. Hughes, Mark Goodwin & Associates
Community Map Repository, City of Albuquerque

D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

October 2, 2001

Ms. Andre Cadogan, PE
Program Manager, Region VI
National Flood Insurance Program
FEMA Map coordination Contractor
12101 Indian Creek Court
Beltsville, MD 20705

RE: Painted Sky CLOMR Case # 01-06-1901-R

Dear Ms. Cadogan:

Attached please find the 1st page of the MT-2 Form 1 with all signatures. Payment was made separately for the amount of $ 4,000.00 review fee. Hopefully this completes the application and a CLOMR can be issued soon.

Please call me with any questions or comments.

RECEIVED
OCT 04 2001
HYDROLOGY SECTION

Sincerly,

MARK GOODWIN & ASSOCIATES

Doug Hughes

Doug Hughes PE.

DH/bm

RECEIVED
OCT 04 2001
HYDROLOGY SECTION

Attachement

XC: Carlos Montoya Flood Plain Administrator
Fred Ambrogi @ Westland
Lynn Mazur @ AMAFCA

F:\\paintedsky\MT-2form.ltr

4. ENCROACHMENT INFORMATION

1. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP?
☐ Yes ☐ No N/A

Yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

2. Does the development in the floodway cause the 1% annual chance (base) elevation to increase at any location by more than 0.000 feet? ☐ Yes ☐ No ☒ N/A

3. Does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the base flood elevation to increase at any location by more than one foot (or other increase limit if community or state has adopted more stringent criteria - even if a floodway has not been delineated by FEMA)? ☐ Yes ☒ No

If the answer to either items is Yes, please attach documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

5. MAINTENANCE RESPONSIBILITY

The community is willing to assume responsibility for ☐ performing ☒ overseeing compliance with the maintenance and operation plans of the Painted Sky Temporary Ponds
(Name)
flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Operation and maintenance plans are attached. ☒ Yes ☐ No ☐ N/A

6. REVIEW FEE

The review fee for the appropriate request category has been included. ☒ Yes Fee amount: $3,100.00

OR

This request is based on a federally sponsored flood-control project where 50 percent or more of the project's cost is federally sponsored, or the request is based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM; thus the project is fee exempt. ☐ Yes

Please see Instructions for Fee Amounts

7. SIGNATURE

Note: I understand that my signature indicates that all information submitted in support of this request is correct

James D. Hughes
Signature of Revision Requester

James D. Hughes
Printed Name and Title of Revision Requester

Mark Goodwin & Associates
Company Name

Telephone No.: 505-828-2200 Date: 6/19/01

Note: Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

Carlos A Montoya
Signature of Community Official

Carlos A. Montoya - Floodplain Adm
Printed Name and Title of Community Official

Albuq. N. Mex
Community Name

505-924-3982
Telephone No.: Date: 10-2-01

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is in accordance with 44 CFR Ch. 1, Sect 65.2

James D. Hughes
Signature

James D. Hughes Senior Engineer
Printed Name and Title of Revision Requester

Registr No. 11674 Expires (Date) 12/31/02 State NM

Type of License/Expertise: PE / Floodplains

Check which forms have been included with this request

Form Name and (Number)	Required If ......
☒ Hydrologic (3)	new or revised discharges
☐ Hydraulic (4)	new or revised water-surface elevations
☒ Mapping (5)	floodplain/floodway changes
☐ Channelization (6)	channel is modified
☐ Bridge/Culvert (7)	addition/revision of bridge/culvert
☐ Levee/Floodwall (8)	addition/revision of levee/floodwall
☐ Coastal (9)	new or revised coastal elevations
☐ Coastal Structures (10)	addition/revision of coastal structure
☒ Dam (11)	addition/revision of dam
☐ Alluvial Fan (12)	structures proposed on alluvial fan

NATIONAL FLOOD INSURANCE PROGRAM

FEMA MAP COORDINATION CONTRACTOR

SEP 24 2001

Mr. Carlos A. Montoya City/County Floodplain Administrator City of Albuquerque P.O. Box 1293 Albuquerque, NM 87103	IN REPLY REFER TO: Case No.: 01-06-1901R Community: City of Albuquerque, Bernalillo County, New Mexico Community No.: 350002 316-ACK.FRQ

Dear Mr. Montoya:

This responds to your request dated August 17, 2001, that the Federal Emergency Management Agency (FEMA) issue a conditional revision to the Flood Insurance Rate Map (FIRM) for the above-referenced community. Pertinent information about the request is listed below.

Identifier:	Painted Sky
Flooding Source:	Unnamed Tributary to Mirehaven Arroyo "C"
FIRM Panel Affected:	Bernalillo County, New Mexico and Incorporated Areas, FIRM number 35001C0328 D, dated September 20, 1996

FEMA has implemented a procedure to recover costs associated with reviewing and processing requests for modifications to published flood information and maps. Effective June 1, 2000, FEMA revised that fee schedule. A copy of the notice summarizing the current fee schedule, which was published in the *Federal Register*, is enclosed for your information. In accordance with this schedule, the fee for your request is $4,000 and must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or credit card payment. For identification purposes, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until payment is received.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:	Using overnight service:
Federal Emergency Management Agency	Fee-Charge System Administrator
Fee-Charge System Administrator	c/o Dewberry & Davis, METS Division
P.O. Box 3173	8401 Arlington Boulevard, Stop 19A
Merrifield, VA 22116-3173	Fairfax, VA 22031

We have completed an inventory of the items that you submitted. The item identified below is required before we can begin a detailed review of your request.

- The MT-2 Form 1, titled "Revision Requester and Community Official Form," must be signed by a certified professional engineer. Please resubmit MT-2 Form 1 with the required signature.

If all required items are not submitted within 90 days of the date of this letter, FEMA will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures.

If you are unable to meet the 90-day deadline for submittal of required items and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to us in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe and (2) a new date for the submittal of the data. FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

When you write to us about your request, please include the case number referenced above in your letter. If you have general questions about your case, FEMA policy, or the National Flood Insurance Program, please call FEMA's toll free map assistance line at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please contact the Engineer assigned to your case, Nick Ganch, by phone at 1-800-697-7275 Ext. 274, or by e-mail at naganch@pbsj.com.

Sincerely,

Andre Cadogan, P.E.
Program Manager, Region VI

cc: Mr. James D. Hughes, P.E., Mark Goodwin & Associates, P.A.

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 17, 2001

Bill Blanton
Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472

RE: Request for a Conditional Letter of Map Revision for Painted Sky Subdivision

City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001CO328 D, Effective Date September 20, 1996

Dear Mr. Blanton,

The purpose of this submittal is to convey the documents in order to request a Conditional Letter of Map Revision based on drainage improvements.

Enclosed with this letter are Drainage Report dated August 2000, and construction drawings for Painted Sky Subdivision.

As the City Floodplain Administrator, I have reviewed the response provided with this submittal. Our Community would greatly appreciate your prompt response and approval for this Conditional Letter of Map Revision.

If you have any questions, you can contact me at (505) 924-3982.

Sincerely,

Carlos A. Montoya
City/County Floodplain Administrator

C: James D. Hughes Mark Goodwin & Assoc.
Alan Johnson, FEMA Headquarters
Jack Quarles, FEMA Region VI

D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

June 21, 2001

Mr. Carlos Montoya
City of Albuquerque Flood Plain Administrator
Plaza del Sol
620 2nd NW
Albuquerque, NM 87103

Re: Explanation of request for CLOMR for painted Sky

Dear Mr. Montoya:

Painted Sky Subdivision is a Residential Land Development Project that will make the following two changes to Existing Flood Plans.

1. A temporary retention pond, maped as floodplan by letter of Map Revision Case No 95-06-162-R is to be filled in for use as residential lots and replaced by a series of ponds in the AMAFCA Right of Way in the North west corner of the intersector of I-40 and Unser Blvd. PondsNo D,E,F,G AND J replace the existing pond.

2. An unnamed Tributary to the Mirehaven Arroyo "C" See FIRM Panel 328 effective September 20, 1996, will be eliminated between I-40 and the confluence with the Mirehaven Arroyo "C" by constructing a temporary Rention Pond just upstream of I-40. "Pond No. K and 102 and 103" (one pond) eleminates flows to the downstream flood plan.

All of the above temporary ponds will be constructed and maintained by Westland the developer of painted Sky Subdivision. All of the ponds will be eliminated in the near future, and the runoff will be directed to AMAFCA's newly constructed Unit I-40 diversion channel, but this request is for the ponds only not the future channel.

Supporting Documents Include:

1. *Painted Sky Drainage Report and Grading Plans*
2. *Copy of FIRM Panel 328 D, showing proposed flood plans.*

Sincerely,

MARK GOODWIN & ASSOCIATES, PA

James D. Hughes

James D. Hughes, PE
Senior Engineer

JDH/mt

xc: Fred Ambrogi @ Westland
AMAFCA
FEMA

f:\\painted.sky\comments.n11

FEDERAL EMERGENCY MANAGEMENT AGENCY **REVISION REQUESTER AND COMMUNITY OFFICIAL**	O.M.B No. 3067-0148 Expires April 30, 2001

Public reporting burden for this form is estimated to average 2.13 hours per response. The burden estimate includes ıe time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and ompleting and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

1. REQUESTED RESPONSE FROM FEMA

This request is for a:

☒ CLOMR A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60,65 & 72).

☐ LOMR A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, floodway or flood elevations. LOMRs typically decrease flood hazards. (See 44 CFR Ch. 1 Parts 60 & 65.)

☐ Other Describe:

2. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data ☐ Floodway Revision

☐ Other Describe:

ıte: A photograph is not required, but is very helpful during review.

2. Flooding Source: Un-named tributary to Mirehaven Arroyo "C"

3. Project Name/Identifier: Painted Sky

4. FEMA zone designations affected: AO (Depth 1')
(example: A, AH, AO, A1-A30, A99, AE, V, V1-V30, VE, B, C, D, X)

5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301 480287	Katy, City Harris County	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
35002	Albuquerque, City	NM	35001C	0328D	09/20/96
35001	Bernalillo County	NM	35001C	0328D	09/20/96

6. The area of revision encompasses the following types of flooding and structures. Check all that apply.

Types of Flooding	Structures
☒ Riverine	☐ Channelization
☐ Coastal	☐ Levee/Floodwall
☐ Alluvial fan	☐ Bridge/Culvert
☒ Shallow Flooding (e.g. Zones AO and AH)	☒ Dam
☐ Lakes	☐ Fill
☐ Other (describe)	☐ Other (describe)

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

4. ENCROACHMENT INFORMATION

1. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP?
☐ Yes ☐ No N/A

Yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

2. Does the development in the floodway cause the 1% annual chance (base) elevation to increase at any location by more than 0.000 feet? ☐ Yes ☐ No ☒ N/A

3. Does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the base flood elevation to increase at any location by more than one foot (or other increase limit if community or state has adopted more stringent criteria - even if a floodway has not been delineated by FEMA)? ☐ Yes ☒ No

If the answer to either items is Yes, please attach documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

5. MAINTENANCE RESPONSIBILITY

The community is willing to assume responsibility for ☐ performing ☒ overseeing compliance with the maintenance and operation plans of the Painted Sky Temporary Ponds
(Name)
flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Operation and maintenance plans are attached. ☒ **Yes** ☐ **No** ☐ **N/A**

6. REVIEW FEE

The review fee for the appropriate request category has been included. ☒ Yes Fee amount: $3,100.00

OR

This request is based on a federally sponsored flood-control project where 50 percent or more of the project's cost is federally sponsored, or the request is based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM; thus the project is fee exempt. ☐ Yes

Please see Instructions for Fee Amounts

7. SIGNATURE

Note: **I understand that my signature indicates that all information submitted in support of this request is correct**

James D. Hughes
Signature of Revision Requester

James D. Hughes
Printed Name and Title of Revision Requester

Mark Goodwin & Associates
Company Name

Telephone No.: 505-828-2200 Date: 6/19/01

Note: **Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.**

Carlos A. Montoya
Signature of Community Official

Carlos A. Montoya Floodplain Adm
Printed Name and Title of Community Official

Albuquerque N Mex
Community Name

505-924-3982
Telephone No.: Date: 8-17-01

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is in accordance with 44 CFR Ch. 1, Sect 65.2

Signature

Printed Name and Title of Revision Requester

Registr No. ______ Expires (Date) ______ State

Type of License/Expertise:

Check which forms have been included with this request

Form Name and (Number)	Required if ......
☒ **Hydrologic (3)**	new or revised discharges
☐ **Hydraulic (4)**	new or revised water-surface elevations
☒ **Mapping (5)**	floodplain/floodway changes
☐ **Channelization (6)**	channel is modified
☐ **Bridge/Culvert (7)**	addition/revision of bridge/culvert
☐ **Levee/Floodwall (8)**	addition/revision of levee/floodwall
☐ **Coastal (9)**	new or revised coastal elevations
☐ **Coastal Structures (10)**	addition/revision of coastal structure
☒ **Dam (11)**	addition/revision of dam
☐ **Alluvial Fan (12)**	structures proposed on alluvial fan

FEDERAL EMERGENCY MANAGEMENT AGENCY

CREDIT CARD INFORMATION

O.M.B. Burden No. 3067-0148
Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

ublic reporting burden for this form is estimated to average 6 minutes per response. The burden estimate ıcludes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

If paying by credit card, this form must be completed. **THIS FORM SHOULD NOT BE INCLUDED WITH THE REST OF THE FORMS PACKAGE. IT MUST BE MAILED OR FAXED TO:**

Federal Emergency Management Agency
Revisions Fee-Collection System Administrator
P.O. Box 3173
Merrifield, Virginia 22116
Fax: (703) 849-0282

Case # ______(if known) Amount: $

☐ FEE ☐ ADDITIONAL FEE ☐ INVOICE

☐ VISA ☐ MASTERCARD

\RD NUMBER:

EXPIRATION DATE:

____
Signature

NAME *(AS IT APPEARS ON CARD)*:
(please print)

ADDRESS:
(for your credit card receipt- please print)

DAYTIME PHONE:

NOTICE: A COPY OF FORM 1, BEING SUBMITTED FOR THIS REQUEST MUST BE ATTACHED TO THIS FORM.

FEDERAL EMERGENCY MANAGEMENT AGENCY
HYDROLOGIC ANALYSIS

O.M.B No. 3067-0148
Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

ublic reporting burden for this form is estimated to average **3.67** hours per response. The burden estimate includes ıe time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: Albuquerque City

Flooding Source: Un-named tributary to Mirehaven Arroyo "C"

Project Name/Identifier: Painted Sky

1. REASON FOR NEW HYDROLOGIC ANALYSIS

☒ No existing analysis ☐ Improved data ☐ Changed physical condition of watershed

☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☐ Other

For the reason stated above, please attach a detailed explanation. If a computer program/model was used in revising the hydrologic analysis, **please provide a diskette with the input files** for the same flood recurrence intervals contained in the FIS for that stream; and at least for the 1% annual chance (base) flood where no detailed study exists.

Explanation provided: ☐ Yes ☒ No **Diskettes provided:** ☐ Yes ☐ No

2. METHODOLOGY FOR NEW ANALYSIS

Indicate Method	Required Data	Data Included
☐ Statistical Analysis of Gage Records	Form 3 - Attachment A	☐ Yes ☐ No
☐ Regional Regression Equations	Form 3 - Attachment C	☐ Yes ☐ No
☒ Precipitation/Runoff Model	Form 3 - Attachment D	☒ Yes ☐ No
☐ Other	Back-up computations and supporting data	☐ Yes ☐ No

3. APPROVAL OF ANALYSIS

The hydrologic analysis has already been approved by a local, state, or Federal Agency. ☒ Yes ☐ No ☐ Not Required

If Yes, attach evidence of approval. ☒ **Approval attached.** If No, attach explanation. ☐ **Explanation attached.**

4. COMPARISON OF BASE FLOOD DISCHARGES

Location:	Drainage Area (SqMi)	FIS(cfs)	Revised (cfs)
At Unser Blvd	167 acres	N/A	197.85
At Confluence with Mirehaven Arroyo "C"	?	N/A	?

Note: When revised discharges are not significantly different than the FIS discharges, FEMA may require a confidence limits analysis (see attachment B) at a later date to complete the review.

If only a portion of a detailed study area was revised please attach an explanation describing the transition from the proposed discharges to the effective discharges. ☐ **Explanation Included** ☒ **Explanation Not Required**

5. HISTORICAL FLOODING INFORMATION

If historical data are available for the flooding source please provide: Location, peak discharges/water-surface elevations and dates, and source of information. ☐ **Data Attached** ☐ **Data Not Available**

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

ATTACHMENT D: PRECIPITATION/RUNOFF MODEL

		FIS:	Revised:
.	Method or model used:		AHYMO
	Version:		
	Date:		
2.	Source of rainfall depth:		City of Albuquerque DPM
3.	Source of rainfall distribution:		Section 22.2
4.	Rainfall duration:		6 hr Model plus 10 day by hand
5.	Areal adjustment to precipitation (%):		None
6.	Maximum overland flow length		300'
7.	Hydrograph development method:		AHYMO
8.	Loss rate method:		AHYMO
	Source of soils information:		Section 22.2 DPM
	Source of land use information:		Zone Atlas/Tax Maps
9.	Channel routing method:		Not Used
10.	Reservoir routing:	☐ Yes ☐ No	☐ Yes ☒ No
.	Baseflow considerations: **If Yes, explain below how baseflow was determined:**	☐ Yes ☐ No	☐ Yes ☒ No
12.	Snowmelt considerations:	☐ Yes ☐ No	☐ Yes ☒ No
13.	Model calibration: **If Yes, explain below how calibration was performed**	☐ Yes ☐ No	☐ Yes ☒ No
14.	Future land use condition: **If Yes, explain why below**	☐ Yes ☐ No	☐ Yes ☒ No

15. **Attach precipitation/runoff model, hydrologic model schematic, curve number calculations, time of concentration calculations, and supporting maps, delineating the watershed boundary and drainage area divides.** (See Report)

Information and Maps provided? ☒ Yes ☐ No

NOTE: FEMA policy is to base flooding on existing conditions.

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE / COASTAL MAPPING**	O.M.B No. 3067-0148 Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

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Note: Fill out one form for each flooding source studied

Community Name: Albuquerque, City

Flooding Source: Un-named Tributary to the Mirehaven Arroyo "c"

Project Name/Identifier: Painted Sky

This is a ☒ Manual ☐ Digital submission. *Digital map submissions may be used to update digital FIRMs (DFIRMs). For updating DFIRMs, these submissions must be coordinated with FEMA Headquarters as far in advance as possible.*

1. MAPPING CHANGES

1. A topographic workmap must be submitted showing the following information (check N/A when not applicable):

	Yes	No	N/A
a. Revised approximate 100-year floodplain boundaries (Zone A)	☒	☐	☐
b. Revised detailed 100- and 500-year floodplain boundaries.	☐	☐	☒
c. Revised floodway boundaries	☐	☐	☒
d. Location and alignment of all cross sections with stationing control indicated.	☐	☐	☒
e. Stream alignments, road alignments and dam alignments.	☐	☐	☒
Current community boundaries.	☒	☐	☐
. Effective 100- year floodplain and floodway boundaries from FIRM/FBFM reduced or enlarged to the scale of the topographic workmap	☒	☐	☐
h. Tie-ins between the effective and revised 100-, 500-year and floodway boundaries	☐	☐	☒
i. The requester's property boundaries and community easements	☒	☐	☐
j. The signed certification of a registered professional engineer	☒	☐	☐
k. Location and description of reference marks	☐	☐	☒
l. Vertical datum (example: NGVD, NAVD)	☒	☐	☐
m. Coastal zone designations tie into adjacent areas not being revised	☐	☐	☒
n. Location and alignment of all coastal transects used to revise the coastal analyze	☐	☐	☒
o. V-zone has been delineated to extend landward to the heel of the primary frontal dune	☐	☐	☒

If any items are marked No or N/A please attach an explanation.

2. What is the source and date of the updated topographic information (example: orthophoto maps, July 1985; filed survey, May 1979, beach profile, June 1987 etc.)?

3. What is the scale and contour interval of the following workmaps?

Effective FIS	Scale 1" = 500'	Contour Interval N/A
Revision Request	Scale 1" = 500'	Contour Interval

NOTE: Revised topographic information must be of equal or greater detail than effective.

4. Attach an annotated FIRM/FBFM at the scale of the effective FIRM/FBFM showing the revised 100- and 500-year floodplain and the floodway boundaries and how they tie into those shown on the effective FIRM/FBFM downstream and upstream of the revisions or adjacent to the area of revision for coastal studies. **FIRM/FBFM attached?** ☒ **Yes** ☐ **No**

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

2. EARTH FILL PLACEMENT

1. The fill is: ☐ Existing ☒ Proposed

2. Has fill been/will be placed in the regulatory floodway? ☐ Yes ☒ No
If Yes, please attach completed Riverine Hydraulic Analysis Form (Form 4).

3. Has fill been/will be placed in floodway fringe (*area between the floodway and 100-year floodplain boundaries*)? ☒ Yes ☐ No

If Yes, then complete A, B, C, and D below.

a. Are fill slopes for granular materials steeper than one vertical on one-and-one-half horizontal? ☐ Yes ☒ No

If Yes, justify steeper slopes

b. Is adequate erosion protection provided for fill slopes exposed to moving flood waters? (*Slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap.)*

☒ Yes ☐ No

If No, describe erosion protection provided

c. Has all fill placed in revised 100-year floodplain been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test Method or acceptable equivalent method? ☒ Yes ☐ No

d. Can structures conceivably be constructed on the fill at any time in the future? ☒ Yes ☐ No

If Yes, attach certification of fill compaction (item 3c. above) by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer in accordance with Subparagraph 65.5(a)(6) of the NFIP regulations.

Fill certification attached ☐ Yes ☒ No Later with LOMR

4. Has fill been/will be placed in a V zone? ☐ Yes ☒ No

If Yes, is the fill protected from erosion by a flood control structure such as a revetment or seawall?

☐ Yes ☐ No N/A

If Yes, attach the Coastal Structures Form (Form 10).

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #D
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):
   - ☐ Existing dam
   - ☒ New dam
   - ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.

3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #D
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):
   - ☐ Existing dam
   - ☒ New dam
   - ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.
3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

Pond # D	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5199.4
500-year		
Normal Pool Elevation		

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No
2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 0.0' (It is a hole in the ground)

   Crest Elevation of top of dam: 5200.00

   base flood storage capacity: 3.83 ac. ft.

   Freeboard (measured from base flood elevation): 0.6'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 50'

Dimensional Height: 0.65'

Crest Elevation of Top of Spillway: 00.00

5. Outlet(s): N/A

   Type: ☐ gated ☐ ungated

   Width:

   Height:

   Diameter:

   Invert Elevation:

6. Explain flow regulation plan: N/A
7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No
8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ **Yes** ☐ **No** N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan.** **Plan Attached?** ☐ Yes ☒ No

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

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Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #E
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):

   ☐ Existing dam
   ☒ New dam
   ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.
3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

Pond # E	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5208.7
500-year		
Normal Pool Elevation		

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No

2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 8'

   Crest Elevation of top of dam: 5209.4

   base flood storage capacity: 0.375 ac Ft.

   Freeboard (measured from base flood elevation): 0.7'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 10'

Dimensional Height: 0.37'

Crest Elevation of Top of Spillway: 5208.7

5. Outlet(s): N/A

   Type: ☐ gated ☐ ungated

   Width:

   Height:

   Diameter:

   Invert Elevation:

6. Explain flow regulation plan: N/A

7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No

8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ Yes ☐ No N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan. Plan Attached?** ☐ Yes ☒ No

FEDERAL EMERGENCY MANAGEMENT AGENCY DAM	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

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Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #F
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):

   ☐ Existing dam
   ☒ New dam
   ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.
3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

Pond # F	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5212.4
500-year		
Normal Pool Elevation		

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No
2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 0.0 It is a hole in the ground

   Crest Elevation of top of dam: 5213.3

   base flood storage capacity: 0.541 ac. ft

   Freeboard (measured from base flood elevation): 0.9'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 10.0'

Dimensional Height: 0.48'

Crest Elevation of Top of Spillway: 5212.4

5. Outlet(s): N/A

Type: ☐ gated ☐ ungated

Width:

Height:

Diameter:

Invert Elevation:

6. Explain flow regulation plan: N/A
7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No
8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ **Yes** ☐ **No** N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan. Plan Attached?** ☐ Yes ☒ No

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

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Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #G
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):
   - ☐ Existing dam
   - ☒ New dam
   - ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.

3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

Pond #G	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5217.6
500-year		
Normal Pool Elevation		

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No

2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 0.0 It is a hole in the ground

   Crest Elevation of top of dam: 5218.5

   base flood storage capacity: 0.630 ac ft

   Freeboard (measured from base flood elevation): 0.9'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 10.0'

Dimensional Height: 0.52'

Crest Elevation of Top of Spillway: 5217.6

5. Outlet(s): N/A

Type: ☐ gated ☐ ungated

Width:

Height:

Diameter:

Invert Elevation:

6. Explain flow regulation plan: N/A

7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No

8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ **Yes** ☐ **No** N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan.** **Plan Attached?** ☐ Yes ☒ No

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

PUBLIC BURDEN DISCLOSURE NOTICE

Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #J
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
3. This request is for (check one of the following):
   - ☐ Existing dam
   - ☒ New dam
   - ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.

3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5223.4
500-year		
Normal Pool Elevation		

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No

2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 1.0'

   Crest Elevation of top of dam: 5224.0

   base flood storage capacity:

   Freeboard (measured from base flood elevation): 0.6'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 50'

Dimensional Height: 0.51'

Crest Elevation of Top of Spillway: 5223.4

5. Outlet(s): N/A

   Type: ☐ gated ☐ ungated

   Width:

   Height:

   Diameter:

   Invert Elevation:

6. Explain flow regulation plan: N/A

7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No

8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ **Yes** ☐ **No** N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan.** **Plan Attached?** ☐ Yes ☒ No

FEDERAL EMERGENCY MANAGEMENT AGENCY **DAM**	O.M.B. Burden No. 3067-0148 Expires April 30, 2001

Community Name: Albuquerque, NM

Flooding Source: Sheet Flow

Project Name/Identifier: Painted Sky

1. IDENTIFIER

1. **Name of Dam:** Pond #K and #102 and #103 (one pond)
2. Location of dam along flood source (in terms of stream distance or cross section identifier):
   Upstream (North) of I-40
3. This request is for (check one of the following):
   - ☐ Existing dam
   - ☒ New dam
   - ☐ Modifications of existing dam (describe modifications):
4. Was the dam designed by: ☐ Federal agency ☐ State agency ☐ Local government agency ☒ Private organization?

2. BACKGROUND

1. Does the dam have dedicated flood control storage? ☒ Yes ☐ No
2. Does the project involve revised hydrology? ☐ Yes ☒ No

   If Yes, complete Hydrologic Analysis Form (Form 3) and include calculations of the 100-year inflow flood hydrograph routed through the dam with the beginning pool at the normal pool elevation (spillway crest elevation for ungated spillway). Include any inflow hydrograph bulking by watershed sediment yield and provide necessary debris and sediment yield analysis.
3. Does the revised hydrology affect the 100-year water-surface (base flood) elevation behind the dam or downstream of the dam?

   ☐ Yes ☐ No N/A

   If yes, complete the Riverine Hydraulic Analysis Form (Form 4) and complete the table shown on the following page.

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. RESULTS

Pond # K, 102 and 103	Stillwater Elevation Behind the Dam	
	FIS	REVISED
10-year		
50-year		
100-year		5230.5
500-year		
Normal Pool Elevation		N/A

1. Was long-term sediment accumulation taken into consideration in determining the normal pool elevation? ☐ Yes ☒ No

2. Was the dam designed to withstand the hydrostatic and hydrodynamic forces associated with floods greater than the base flood? ☒ Yes ☐ No

   If No, the dam should not be modeled as considering the attenuation effects from the dam.

3. Provide the following data on the dam:

   Dimensional Height: 7'

   Crest Elevation of top of dam: 5232.0

   base flood storage capacity: 7.03 ac ft

   Freeboard (measured from base flood elevation): 1.5'

Spillway(s):

Type: ☐ gated ☒ ungated

Dimensional Width: 50'

Dimensional Height: 1.5'

Crest Elevation of Top of Spillway: 30.5

5. Outlet(s): N/A

   Type: ☐ gated ☐ ungated

   Width:

   Height:

   Diameter:

   Invert Elevation:

6. Explain flow regulation plan: N/A

7. Are the project features, including the emergency spillway, designed to accommodate the 100-year flood discharge without overtopping the dam? ☒ Yes ☐ No

8. Was the dam designed in accordance with all currently applicable local, State, and Federal regulations? ☒ Yes ☐ No

   If No, please attach an explanation. **Explanation attached** ☐ **Yes** ☐ **No** N/A

   FEMA may request a list of regulations that have been complied with and supporting documentation demonstrating compliance with these regulations.

9. **Attach copy of formal operation and maintenance plan. Plan Attached?** ☐ Yes ☒ No

PARKWAY
PARKLAND
PAINTED SKY ELEMENTARY
TOWN OF ATRISCO GRANT
ATRISCO A-1 GRANT
TOWN OF ATRISCO GRANT
CIRCLE ESTATES
MANDARIN RD
TANGERINE ROAD
CRIMSON AVENUE
PAINTED SKY DRIVE
INTERSTATE
100 YR ELEV = 99.4
100 YR ELEV = 08.7
100 YR ELEV. = 12.4
100 YR ELEV. = 17.6
100 YR ELEV. 23.4
100 YR ELEV = 30.5
CORPORATE
LIMITS
UNSER
UNSER BLVD
These Drainage Divides show that there is no significant drainage area left below the Interstate, Delete the Floodplain.
Work Map on Floodway Map Effective Sept. 15 1983
F:\DATA\DWGS\99JOBS\9049PS\FLOODPLAIN.dwg Wed Jun 27 08:50:11 2001

DRAINAGE REPORT

FOR

PAINTED SKY SUBDIVISION

Prepared for

Westland Development Co.
401 Coors NW
Albuquerque, NM 87121

Prepared by

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

JAMES D. HUGHES
11674
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER

James D. Hughes

9-1-00
Rev 11-13-00 JDH
Rev 12-7-00 JDH

August 2000

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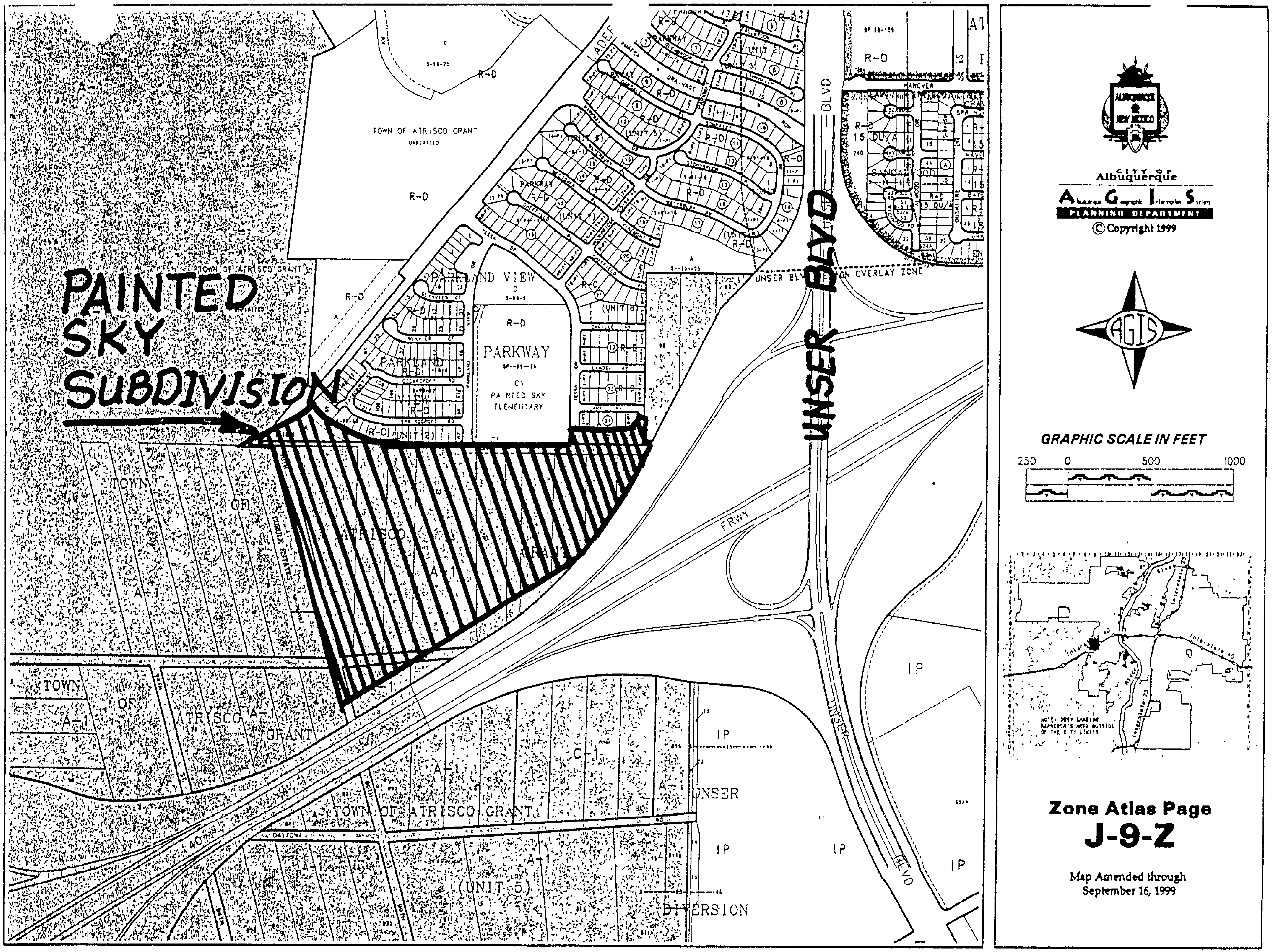

PAINTED
SKY
SUBDIVISION
TOWN OF ATRISCO GRANT
UNPLATTED
R-D
A-1
PARKLAND VIEW
PARKWAY
C1
PAINTED SKY
ELEMENTARY
UNSER BLVD
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DIVERSION
(UNIT 5)
TOWN OF ATRISCO GRANT
CITY OF
Albuquerque
Albuquerque Geographic Information System
PLANNING DEPARTMENT
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AGIS
GRAPHIC SCALE IN FEET
250
0
500
1000
Zone Atlas Page
J-9-Z
Map Amended through
September 16, 1999

PURPOSE

The purpose of this report is to demonstrate the adequacy of the proposed drainage to allow this site to be subdivided into about 290 single-family, detached residential lots (Zoned RLT) in 6 units, and so associated public drainage infrastructure can be constructed and turned over to the City of Albuquerque for maintenance.

EXISTING CONDITIONS

The project comprises an on-site area of about 53.3 acres within the City of Albuquerque that slopes from northwest to southwest at about 3%. The site is bounded on the north by Gavin Road which prevents off-site drainage from entering this site. It is bounded on the west by undeveloped land in Bernalillo County that drains through this site to a temporary retention pond in the southeast corner where FEMA has identified a Flood Hazard Zone in a Letter of Map Revision. This site is bounded on the south and east by the I-40 Highway and an existing AMAFCA Right of Way where the West I-40 Diversion Channel is planned. One additional Flood Hazard Zone passes through the southwest corner of this project. Currently all on-site drainage plus all off-site drainage that enters this site is ponded on-site except for the floodplain that passes through the southwest corner.

Previous reports include:

1. *Parkway Subdivision Units 8 & 9 Drainage Report*
2. *Tierra Oeste Subdivision Drainage Report*
3. *LOMR Submittal for Cedar Ridge Estates Subdivision*

Other reports in progress include:

1. *West I-40 Diversion Drainage Management Plan*
2. *Tierra Oeste Subdivision Revised Ladera Blvd Drainage Plan*

Additional projects currently being planned include:

1. *Final Design of the West I-40 Diversion for the Unser Blvd Pond down to existing West Bluff Outfall*
2. *Final Design of Ladera Blvd and 98th Street with Bulk Plat for Westland Sector Development Plan*

Previous reports indicated that some drainage would cross Ladera Blvd and flow through this development, but all of the above mentioned pending plans are proceeding and being revised to show Ladera Blvd Storm Sewer Intercepting all developed flows between the Ladera Ponds and Ladera Blvd so that in the developed condition no off-site flows will enter this project.

PROPOSED MANAGEMENT PLAN

Painted Sky Subdivision will free discharge fully developed flows through on-site storm sewer systems into AMAFCA's West I-40 Diversion Channel. In the interim developed 100 yr, 10 day flows will go into Temporary On-Site Retention Ponds such that no flow will leave this site.

On-site flows will be conveyed by surface drainage in the streets to (6) six sumps where inlets will receive flows and convey them into the temporary ponds for now. The pipes will then be connected to the AMAFCA Channel at a later date. Abandonment of Pond D and the pipe connection to the channel will be a prerequisite to the development of 5 lots. Abandonment of Ponds E, F, G, J and K and connection to the channel will be part of the channel construction. Alternatively the channel construction may precede the development of some or all phases of the subdivision development in which case the ponds will not be constructed and the subdivision development will connect to pipes stubbed out from the channel construction.

Gavin Road drainage was designed with the Parkway Units 8 & 9 drainage report which calls for storm sewer from Tessa Drive to the Parkway Unit 8 pond. This development will build the inlets at Tessa Drive and the street and storm sewer so that 9 new lots can be subdivided on Gavin east of the Elementary School.

Ladera Blvd drainage is being designed by others. This development will be responsible for the south half of Ladera Blvd frontage improvements (ie...150 LF with Unit 1 and 200 LF with Unit 6). The storm sewer will be located in the north half of Ladera Blvd. A temporary diversion ditch may be located on the north half of Ladera until the property on that side of the road is developed. Inlet spacing on Ladera should be every 500' to 700' according to preliminary estimates. Final design is pending by others.

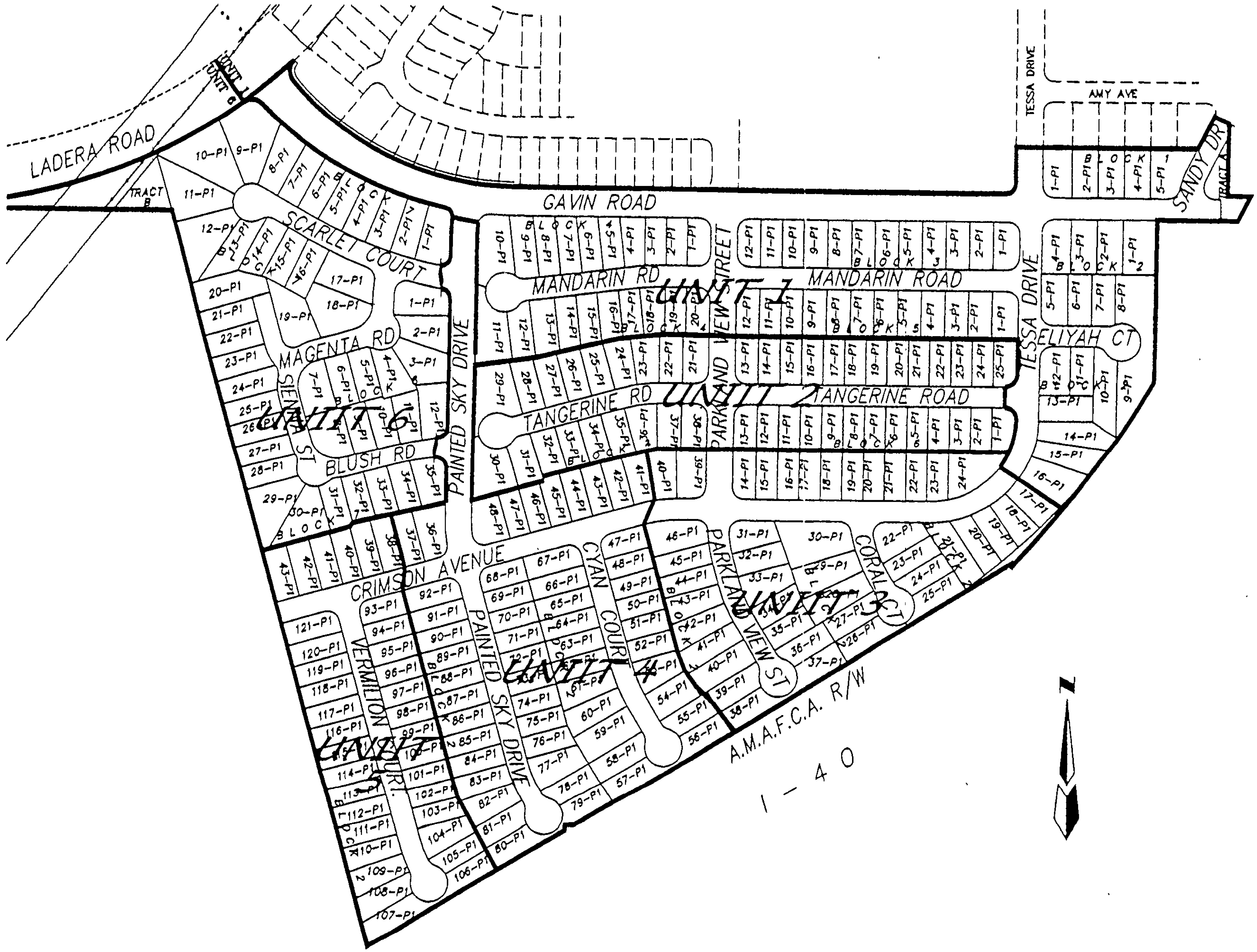
PHASING PLAN

The earthwork will be split into two major phases. Units 1, 2 and 3 will be the first phase. Then Units 4, 5 and 6 will all be graded as the second phase. The ultimate drainage outfall for all on-site drainage will be AMAFCA's West I-40 Diversion Channel which may begin construction as early as November 2001. Phase 1 of Painted Sky is expected to begin a year earlier in November 2000 and will include Temporary Retention Ponds sized for the 100 yr, 10 day runoff from the developed portions of the site, and Pond G will be temporarily oversized to receive the 100 yr, 10 day runoff (2.6 ac•ft) from the undeveloped land west of Units 1, 2 and 3 which will be diverted into the pond by a Temporary Diversion Dike also to be constructed with the first phase of grading.

The second major phase of grading will include all of Units 4, 5 and 6. The temporary floodwall on the west side of this site will also be constructed with this phase. The water diverted by the floodwall (1.597 ac•ft) must be ponded to prevent increased flows from entering the downstream floodplain, and the floodplain may not be prevented from entering this site in its historic path until the upstream adjoining property is developed and creates its own separate conveyance into the West I-40 Diversion Channel. Since the natural floodplain can not be relocated and Basin #102 must be ponded in that same vicinity, it is easier to build a single pond sized for temporary retention of 100 yr, 10 day runoff from both Basin 102 and 103 (6.2 ac•ft total) rather than trying to keep the flows from those two basins separated. Included flows from on-site developed Basin 'K' the required pond volume is 7.029 ac• ft.

The single 7.028 ac•ft pond also provides temporary public benefit until the West I-40 Diversion is constructed by eliminating flows to the downstream floodplain. When AMAFCA builds the West I-40 Diversion all of the other temporary retention ponds will be removed and this site will be allowed free discharge of 100 yr developed flows.

The first phase of grading may be done incrumentally such that Pond D is constructed with Unit 1 and may receive developed flows from both Units 1 and 2 while leaving the existing pond in Unit 3 in place to receive interim flows from undeveloped land to the west both on-site and off-site. Then with the development of Unit 3 all of the ponds in the AMAFCA Right-of-Way must be constructed including Pond #102, 103 and K which will cut off the floodplain in the southwest corner.



LADERA ROAD
GAVIN ROAD
TESSA DRIVE
AMY AVE
SANDY DR
TRACT B
SCARLET COURT
MAGENTA RD
SIENNA ST
BLUSH RD
PAINTED SKY DRIVE
MANDARIN RD
MANDARIN ROAD
TANGERINE RD
TANGERINE ROAD
PARKLAND VIEW STREET
ELIYAH CT
CRIMSON AVENUE
CYAN COURT
PARKLAND VIEW ST
CORAL CT
VERMILION COURT
UNIT 1
UNIT 2
UNIT 3
UNIT 4
UNIT 5
UNIT 6
A.M.A.F.C.A. R/W
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ONSITE BASIN MAP

(AREA #101)

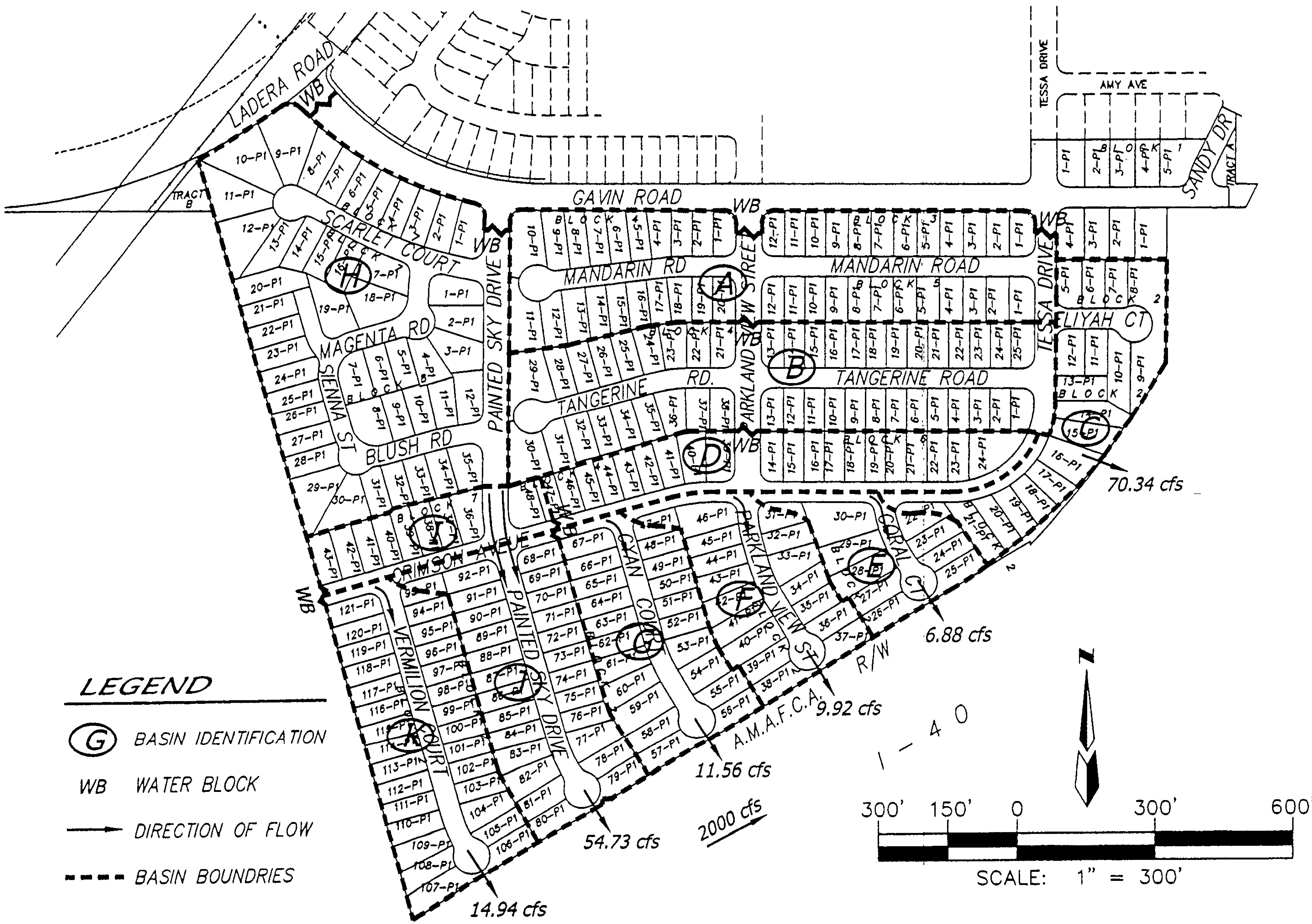


TABLE 1 — STREET DRAINAGE CAPACITIES

Basin No.	Area Ac.	% of Total	100 Year Flow (cfs)		Volume (AC-FT)[4]		Curb Type/Slope	Flow Depth ft[1]	Velocity fps	Energy Depth ft[2]	Location
			Increment.	Cumm.	Increment.	Cumm.					
A	6.80	14.13	23.78	—	1.296	—	Std. 26' F-F /3.9%	0.39	5.0	0.78	Mandrin Rd. Sta 20+00
C	2.94	6.11	10.28	34.06	0.560	—	Std. 28' F-F /0.91%	0:54	3.6	0.74	Tessa Drive Sta 28+50
B	7.04	14.62	24.62	—	1.341	—	Std. 26' F-F /5.0%	0.38	5.7	0 88	Tangerine Rd. Sta 20+50
D	3.34	6.92	11.66	—	0.635	3.832	Std. 26' F-F /3.0%	0.40	4.5	0.71	Crimson Ave. Sta 25+00
E	1.97	4.09	6.88	—	0.375	—	Roll 26' F-F /0.5%	0.30	1.7	0.34	Coral Court End
F	2.84	5.89	9.92	—	0.541	—	Roll 26' F-F /1.2%	0.30	2.6	0.40	Parkland View End
G	3.31	6.86	11.56	—	0.630	—	Roll 26' F-F /2.0%	0.28	3.2	0.44	Cyan Court End
H	10.14	21.05	35.43	—	1.931	—	Std. 36' F-F /1.0%	0.54	3.8	0.76	Painted Sky Sta 17+00
I	1.60	3.31	5.58	—	0.304	—	Roll 26' F-F /2.1%	0.27	3 3	0.44	Crimson Ave. Sta 13+50
J	3.93	8.15	13.72	41.73[5]	0.748	2.983	Std. 26' F-F /1.0%	0.57	4.0	0.84	Painted Sky End
K	4.27	8.87	14.94	—	0.814	—	Roll 28' F-F /1.4%	0.33	3.0	0.47	Vermillion Ct. End
Total	41.38	79.76	134.31	41.73	7.319	—	—	—	—	—	

Basin No.	Area Ac.	% of Total	100 Year Flow (cfs)		Volume (AC-FT)[4]		Curb Type/Slope	Flow Depth ft[1]	Velocity fps	Energy Depth ft[2]	Location
			Increment.	Cumm.	Increment.	Cumm.					
Gavin East of Tessa				40.01			Std./3.13%	0.47	5.1	0.87	Gavin East of Tessa
Sandy Drive				47.38			Std./0.57%	0.67	3.3	0.85	Sandy Drive

(1) Flow depths are taken from Plate 22.3 D-1 of the DPM and reduced by 3/4" for roll curb types to account for the difference in gutter depression. Allowable depths may not exceed curb heights which are 0.33' for roll curb and gutter and 0.67' for standard curb and gutter.

(2) Energy depth is calculated as flow depth plus energy head. Allowable depths are 0.18' above top of curb, unless the street section is modified to contain the additional height within the right-of-way. See Footnote 3.

(3) Sidewalk to be constructed 0.33' above TC.

(4) ***100 YEAR PRECIPITATION*** *(From Figures D, E and F, and Eq. 28 of DPM 22.2)* P_{60} = 1.89", P_{360} = 2.20", P_{1440} = 2.66", P_{10} days = 10.0-[24.9/(2.66")1.4] = 3.67" THE VOLUME LISTED IN THIS TABLE IS 100-YR, 10-DAY VOLUME

(5) Cumulative flow reduced by the amount intercepted in inlets #26 & 27 (13 cfs).

POND VOLUME CAPACITIES

ELEVATION (FT)	AREA (SQ. FT.)	AREA (ACRES)	A1+A2+SQR(A1*A2) (ACRES)	VOLUME (ACRE-FT)	VOLUME SUM (ACRE-FT)
POND #D (Required Volume =3.832 ac-ft)					
5188.00	6930	0.159	0.000	0.000	0.000
5199.40		0.556	1.013	3.850	3.850
5200.00	25150	0.577	1.701	0.340	4.190
POND #E (Required Volume =0.375 ac-ft)					
5199.40	100	0.002	0.000	0.000	0.000
5208.70		0.105	0.123	0.380	0.380
5209.40	4900	0.112	0.326	0.076	0.456
POND #F (Required Volume =0.541 ac-ft)					
5203.30	400	0.009	0.000	0.000	0.000
5212.40		0.135	0.179	0.543	0.543
5213.30	6400	0.147	0.422	0.127	0.669
POND #G (Required Volume =0.630 ac-ft)					
5208.50	600	0.014	0.000	0.000	0.000
5217.60		0.152	0.211	0.640	0.640
5218.50	7200	0.165	0.475	0.143	0.783
POND #J (Required Volume =2.983 ac-ft)					
5214.00	8100	0.186	0.000	0.000	0.000
5223.40		0.479	0.964	3.020	3.020
5224.00	21700	0.498	1.466	0.293	3.314
POND #K + #102 + #103 (Required Volume =7.028 ac-ft)					
5219.00	19206	0.441	0.000	0.000	0.000
5230.50		0.803	1.839	7.050	7.050
5231.00	35670	0.819	2.433	0.405	7.455

CAPACITIES OF INLETS ON GRADE

TESSA DRIVE AT GAVIN ROAD

INLETS # 16, 17, 18 AND 19

Tessa Drive north of Gavin Road 40' F-F carries 67.31 cfs at 1.0% at 0.67' depth. The first pair of Type 'A' inlets (#16 and 17) will intercept 9.3 cfs each, per plate 22.3 D-5. This leaves 48.91 cfs by-pass flow in the street at a depth of 0.59' approaching the second pair of Type 'C' inlets (#18 and 19) which intercepts 7.5 cfs each. This leaves 33.71 cfs by-pass flow in the street.

GAVIN ROAD WEST OF TESSA DRIVE

INLETS #12, 13, 14 AND 15

Gavin Road (40' FF) carries 59.3 cfs at 2.94% slope with a depth of 0.53'. The first pair of type "A" inlets (inlets #12 & 13) will intercept 9.2 cfs each, per plate 22.3 D-5. This leaves 40.9 cfs by-pass flow in the street at a depth of 0.48' approaching the second pair of type "C" inlets (inlets #14 & 15) which intercepts 8.20 cfs each (per plate 22.3 D-5), leaving only 24.5 cfs in the street. That combines with the 33.91 cfs from the next side street, Tessa Drive, for a total of 58.41 cfs.

GAVIN ROAD EAST OF TESSA DRIVE

INLETS #24 & 25

Gavin Road east of Tessa Drive (28' FF) carries 58.41 cfs at 3.13% slope with a depth of 0.52'. A pair of type "C" inlets (inlets #26 & 27) will intercept 9.2 cfs each, per plate 22.3 D-5. This leaves 40.01 cfs by-pass flow in the street at a depth of 0.47' approaching Sandy Drive.

PAINTED SKY DRIVE NORTH OF CRIMSON AVENUE

INLETS #26 & 27

Painted Sky Drive (36' F-F) north of Crimson Avenue carries 35.43 cfs at 1.00% with a depth of 0.54'. The pair of Type 'A' inlets (Inlets #26 & 27) will intercept 6.5 cfs each per plate 22.3 D-5. This leaves 22.43 cfs by-pass flow in the street which combines with the 5.58 cfs from sub-basin I and the 13.72 cfs from sub-basin J for a total of 41.73 cfs which flows at 0.57' depth and a velocity of 4 fps to Sump Inlets #8, 9, 10 & 11 at the end of Painted Sky Cul-de-Sac.

TESSA DRIVE NORTH OF TANGERINE ROAD

INLETS #28 & 29

Tessa Drive (28' F-F) north of Tangerine Road carries 34.06 cfs at 0.91% with a depth of 0.54'. The pair of Type 'A' inlets (Inlets #28 & 29) will intercept 6.2 cfs each per plate 22.3 D-5. This leaves 21.66 cfs by-pass flow in the street which combines with by-pass flow from Inlets #30 & 31 in Tangerine Road.

TANGERINE ROAD WEST OF TESSA DRIVE

INLETS #30 & 31

Tangerine Road (26' F-F) west of Tessa Drive carries 24.62 cfs at 5.9% with a depth of 0.38'. The pair of Type 'A' inlets (Inlets #30 & 31) will intercept 7 cfs each per plate 22.3 D-5. This leaves 10.62 cfs by-pass flow in the street which combines with the 21.66 cfs by-pass flow from Inlets #28 & 29 in Tessa Drive for a total of 32.28 cfs which flows at a depth of 0.53' and a velocity of 3.5 fps for a total energy depth of 0.72'. This flow combines with the 11.66 cfs from sub-basin 'D' for a total of 43.94 cfs at Sump Inlets #1, 2, 3 and 4.

SANDY DRIVE SUMP INLET CAPACITIES

INLETS #20, 21, 22 & 23

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5' ± and the depth is 0.875' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 1.042'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 6.5' \times 0.875^{1.5} = 15.96$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 1.042^{1.5} = 12.76$ cfs
(Total) $Q_{cap} = 15.96$ cfs + 12.76 cfs = 28.72 cfs

* Note: These depths assume standard 8" curb with the right-of-way 9' behind the curb and **0.33'** above the top of the curb.

The 100-year flow to the sump inlets 20 thru 23 is 40.01 cfs by-pass from inlets 24 & 25 plus 6.44 cfs from the lower portion of Basin #100.4 plus 47.38 cfs from on Sandy Drive for a total of 93.83 cfs. There are four sump inlets (inlets #20, 21, 22 & 23) with a combined capacity of 114.88 cfs thus providing a safety factor that would allow 18% of the inlets to clog without exceeding the normal design criteria. For HGL calculations, each inlet is assumed to take one fourth of the 100-year flow (23.46 cfs each).

SANDY DRIVE SUMP EMERGENCY OVERFLOW SWALE

This sump has a 40' wide emergency overflow spillway designed to handle the 100-year flow (180.43 cfs) in the event that the storm sewer system failed completely. The depth of flow in the emergency overflow spillway is given by the broad crested weir equation as:

Emergency overflow $Q = 180.43$ cfs $= 2.7 \times 40' (\text{depth})^{1.5}$
depth = 1.41'

This depth is measured above the right-of-way elevation. The pads in the sump area are set 1.7' above the right-of-way, thus allowing 0.30' for construction tolerances. The emergency overflow swale is at a 0.5% slope, 40' wide, and has the following capacity at a 1.41 depth:

(from Manning's) $Q_{cap} = (1.486/0.03) \times (40' \times 1.41') \times (1.41)^{0.67} \times (0.005)^{0.5} = 248.68$ cfs > 180.43 cfs (OK)

Note: This swale will not be constructed with this project. The sump will overflow directly into the adjacent temporary retention pond in the event that the inlets fail.

TESSA DRIVE SUMP INLET CAPACITIES

INLETS #1, 2, 3 AND 4

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 6.5' \times 0.725^{1.5} = 12.04$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ cfs
(Total) $Q_{cap} = 12.04$ cfs + 10.11 cfs = 22.15 cfs

* Note: *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlets #1, 2, 3 and 4 is 43.94 cfs. There are four sump inlets (inlets #1, 2, 3 and 4) with a combined capacity of 88.60 cfs thus providing a safety factor that would allow 50% of the inlets to clog without exceeding the normal design criteria. For HGL calculations, each inlet is assumed to take one quarter of the 100-year flow (10.99 cfs each).

TESSA DRIVE SUMP EMERGENCY OVERFLOW SWALE

is not needed since the inlets will accommodate two times the 100 year flow, but if the number of inlets is reduced from four to two at final design then the following will be provided at a later date.

This sump has a 20' wide emergency overflow spillway designed to handle the 100-year flow (70.34 cfs) in the event that the storm sewer system failed completely. The depth of flow in the emergency overflow spillway is given by the broad crested weir equation as:

Emergency overflow $Q = 70.34$ cfs $= 2.7 \times 20' (\text{depth})^{1.5}$
depth = 1.19'

This depth is measured above the right-of-way elevation. The pads in the sump area are set 1.5' above the right-of-way, thus allowing 0.30' for construction tolerances. The emergency overflow swale is at a 0.5% slope, 20' wide, and has the following capacity at a 1.2 depth:

(from Manning's) $Q_{cap} = (1.486/0.03) \times (20' \times 1.2') \times (1.2)^{0.67} \times (0.005)^{0.5} = 94.99$ cfs > 70.34 cfs (OK)

Note: *This swale will not be constructed with this project. The sump will overflow directly into the adjacent temporary retention pond in the event that the inlets fail.*

CORAL COURT SUMP INLET CAPACITY

INLET #5

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the single grate facing the street is 3.25' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 3.25' \times 0.725^{1.5} = 6.02$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ cfs
(Total) $Q_{cap} = 6.02$ cfs + 10.11 cfs = 16.13 cfs

* Note: *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlet is 6.88 cfs. The inlet has a capacity of 16.13 cfs thus providing a safety factor that would allow 57% of the inlet to clog without exceeding the normal design criteria.

CORAL COURT SUMP EMERGENCY OVERFLOW SWALE is not needed since the inlet will accommodate two times the 100 year flow.

PARKLAND VIEW DRIVE SUMP INLET CAPACITY

INLET #6

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 6.5' \times 0.725^{1.5} = 12.04$ *cfs*
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ *cfs*
(Total) $Q_{cap} = 6.02$ *cfs* $+ 10.11$ *cfs* $= 22.15$ *cfs*

* *Note:* *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlet is 9.92 cfs. The inlet has a capacity of 22.15 cfs thus providing a safety factor that would allow 55% of the inlet to clog without exceeding the normal design criteria.

PARKLAND VIEW DRIVE SUMP EMERGENCY OVERFLOW SWALE is not needed since the inlet will accommodate two times the 100 year flow.

LAVENDER COURT SUMP INLET CAPACITY

INLET #7

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 6.5' \times 0.725^{1.5} = 12.04$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ cfs
(Total) $Q_{cap} = 6.02$ cfs + 10.11 cfs = 22.15 cfs

* Note: *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlet is 11.56 cfs. The inlet has a capacity of 22.15 cfs thus providing a safety factor that would allow 48% of the inlet to clog without exceeding the normal design criteria.

LAVENDER COURT SUMP EMERGENCY OVERFLOW SWALE
is not needed since the inlet will accommodate two times the 100 year flow.

PAINTED SKY ROAD SUMP INLET CAPACITY

INLETS #8, 9, 10 AND 11

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the double grate facing the street is 6.5' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 6.5' \times 0.725^{1.5} = 12.04$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ cfs
(Total) $Q_{cap} = 12.04$ cfs + 10.11 cfs = 22.15 cfs

* *Note:* *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlet is 41.73 cfs. There are four sump inlets (inlets #8, 9, 10 & 11) with a combined capacity of 88.60 cfs thus providing a safety factor that would allow 53% of the inlet to clog without exceeding the normal design criteria. For HGL calculations, each inlet is assumed to take one fourth of the 100-year flow (10.43 cfs each).

PAINTED SKY ROAD SUMP EMERGENCY OVERFLOW SWALE
is not needed since the inlet will accommodate two times the 100 year flow.

VERMILLION COURT SUMP INLET CAPACITY

INLET #32 & 33

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right-of-way elevation. The length of the single grate facing the street is 3.25' ± and the depth is 0.725' at the lip of the gutter. The sides are each 2' long (4' total) and the average depth is 0.892'*. From the weir equation:*

(Front) $Q_{cap} = 3.0 \times 3.25' \times 0.725^{1.5} = 6.02$ cfs
(Sides) $Q_{cap} = 3.0 \times 4.0' \times 0.892^{1.5} = 10.11$ cfs
(Total) $Q_{cap} = 12.04$ cfs + 10.11 cfs = 16.13 cfs

* Note: *These depths assume standard 8" curb with the right-of-way 9' behind the curb and 0.18' above the top of the curb.*

The 100-year flow to the sump inlet is 14.94 cfs. There are two sump inlets with a combined capacity of 32.26 cfs thus providing a safety factor that would allow 54% of the inlets to clog without exceeding the normal design criteria. For HGL calculations each inlet is assumed to take half of the 100 year flow (7.47 cfs each).

VERMILLION COURT SUMP EMERGENCY OVERFLOW SWALE
is not needed since the inlet will accommodate two times the 100 year flow.

AHYMO SUMMARY OUTPUT

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 .   RUN DATE (MON/DAY/YR) =05/31/2000
INPUT FILE = PAINT99.DAT   USER NO.= M_GOODWN.I01

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
COMPUTE NM HYD	101.00	-	1	.07500	168.37	5.809	1.45214	1.499	3.508	PER IMP= 57.00
COMPUTE NM HYD	102.00	-	1	.06719	48.25	1.597	.44572	1.565	1.122	PER IMP= .00
COMPUTE NM HYD	103.00	-	1	.19422	149.60	4.617	.44572	1.565	1.204	PER IMP= .00
COMPUTE NM HYD	101.A	-	1	.04422	31.68	1.051	.44572	1.565	1.119	PER IMP= .00
FINISH										

AHYMO DATA

```
START                TIME=0.0
***** PAINTED SKY SUBDIVISION (48 AC SOUTH OF GAVIN RD. @ 6 DU/AC)
***** 100-YEAR 6-HOUR STORM EVENT
***** MAY 9, 2000
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.89 IN RAIN SIX=2.2 IN
                     RAIN DAY=2.66 IN DT=0.0333 HR
COMPUTE NM HYD       ID=1 HYD NO=101.0 AREA=0.07500 SQ MI
                     PER A, B, C, & D 0 29 14 57
                     TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=1 HYD NO=102.0 AREA=0.06719 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=1 HYD NO=103.0 AREA=0.19422 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=1 HYD NO=101.A AREA=0.04422 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1
PRINT HYD            ID=1 CODE=1

FINISH
```

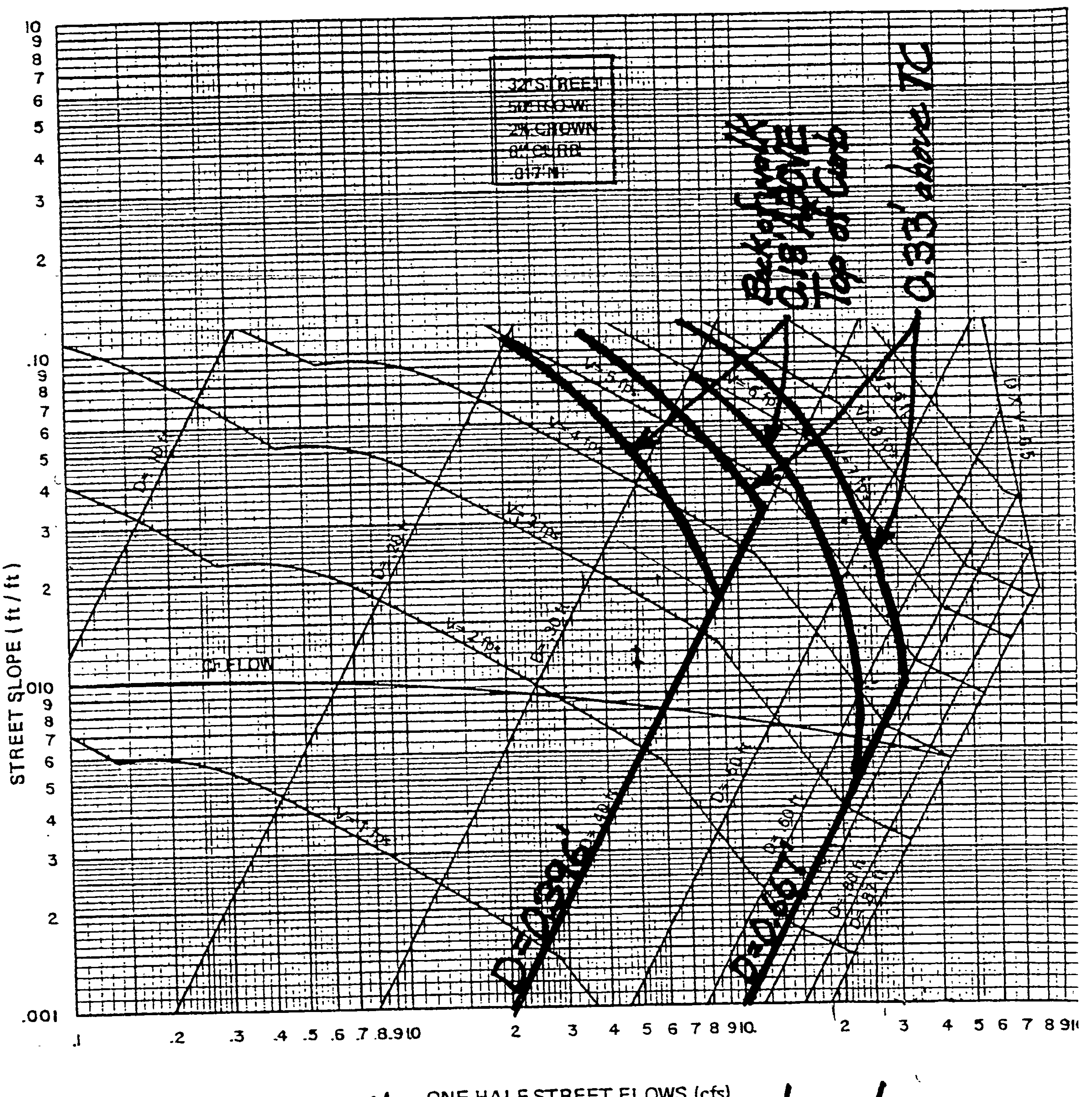
AHYMO DETAILED OUTPUT

```
AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
     RUN DATE (MON/DAY/YR) = 05/31/2000
     START TIME (HR:MIN:SEC) = 13:36:01     USER NO.= M_GOODWN.I01
     INPUT FILE = PAINT99.DAT

START               TIME=0.0
***** PAINTED SKY SUBDIVISION (48 AC SOUTH OF GAVIN RD. @ 6 DU/AC)
***** 100-YEAR 6-HOUR STORM EVENT
***** MAY 9, 2000
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.89 IN RAIN SIX=2.2 IN
                    RAIN DAY=2.66 IN DT=0.0333 HR

         COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
         DT =     .033300 HOURS          END TIME =      5.994000 HOURS
            .0000   .0014   .0029   .0044   .0059   .0074   .0090
            .0106   .0123   .0140   .0158   .0176   .0194   .0213
            .0233   .0253   .0273   .0295   .0317   .0340   .0363
            .0388   .0414   .0440   .0468   .0497   .0527   .0559
            .0592   .0627   .0665   .0716   .0772   .0832   .0955
            .1237   .1673   .2299   .3155   .4281   .5718   .7508
            .9694  1.1793  1.2654  1.3378  1.4022  1.4607  1.5145
           1.5645  1.6112  1.6550  1.6962  1.7350  1.7717  1.8065
           1.8394  1.8706  1.9002  1.9283  1.9550  1.9622  1.9678
           1.9732  1.9783  1.9831  1.9878  1.9922  1.9965  2.0006
           2.0046  2.0085  2.0122  2.0158  2.0193  2.0227  2.0260
           2.0292  2.0324  2.0354  2.0384  2.0414  2.0442  2.0470
           2.0498  2.0524  2.0551  2.0576  2.0602  2.0626  2.0651
           2.0675  2.0698  2.0721  2.0744  2.0766  2.0789  2.0810
           2.0832  2.0853  2.0873  2.0894  2.0914  2.0934  2.0953
           2.0973  2.0992  2.1011  2.1029  2.1048  2.1066  2.1084
           2.1102  2.1119  2.1136  2.1154  2.1170  2.1187  2.1204
           2.1220  2.1236  2.1252  2.1268  2.1284  2.1300  2.1315
           2.1330  2.1346  2.1361  2.1375  2.1390  2.1405  2.1419
           2.1434  2.1448  2.1462  2.1476  2.1490  2.1503  2.1517
           2.1530  2.1544  2.1557  2.1570  2.1583  2.1596  2.1609
           2.1622  2.1635  2.1647  2.1660  2.1672  2.1684  2.1697
           2.1709  2.1721  2.1733  2.1745  2.1757  2.1768  2.1780
           2.1792  2.1803  2.1814  2.1826  2.1837  2.1848  2.1859
           2.1870  2.1881  2.1892  2.1903  2.1914  2.1925  2.1935
           2.1946  2.1957  2.1967  2.1977  2.1988  2.1998

COMPUTE NM HYD      ID=1 HYD NO=101.0 AREA=0.07500 SQ MI
                    PER A, B, C, & D 0 29 14 57
                    TP=0.1333 HR MASS RAINFALL=-1

    K =   .072851HR    TP =   .133300HR    K/TP RATIO =   .546516    SHAPE CONSTANT, N =  7.081184
    UNIT PEAK =    168.40    CFS   UNIT VOLUME =     .9992      B =    525.09      P60 = 1.8900
    AREA =      .042750 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
    K =   .122209HR     TP =    .133300HR     K/TP RATIO =    .916796      SHAPE CONSTANT, N =  3.861526
    UNIT PEAK =   83.668     CFS    UNIT VOLUME =      1.000        B =    345.83        P60 = 1.8900
    AREA =       .032250 SQ MI     IA =     .45116 INCHES     INF =   1.11326 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                        PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =      1.45214 INCHES      =        5.8085 ACRE-FEET
    PEAK DISCHARGE RATE =      168.37 CFS  AT   1.499 HOURS   BASIN AREA =   .0750 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=102.0 AREA=0.06719 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1

    K =  .195189HR     TP =    .160000HR     K/TP RATIO =  1.219928      SHAPE CONSTANT, N =  2.917023
    UNIT PEAK =   115.48     CFS    UNIT VOLUME =      .9996        B =    274.99        P60 = 1.8900
    AREA =       .067190 SQ MI     IA =     .65000 INCHES     INF =   1.67000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                        PARTIAL HYDROGRAPH   102.00


    RUNOFF VOLUME =       .44572 INCHES      =        1.5972 ACRE-FEET
    PEAK DISCHARGE RATE =       48.25 CFS  AT   1.565 HOURS   BASIN AREA =   .0672 SQ. MI.


COMPUTE NM HYD       ID=1 HYD NO=103.0 AREA=0.19422 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1

    K =   .176880HR     TP =    .160000HR     K/TP RATIO =  1.105497      SHAPE CONSTANT, N =  3.198142
    UNIT PEAK =   361.25     CFS    UNIT VOLUME =      1.000        B =    297.60        P60 = 1.8900
    AREA =       .194220 SQ MI     IA =     .65000 INCHES     INF =   1.67000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD           ID=1 CODE=1

                                        PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =       .44572 INCHES      =        4.6169 ACRE-FEET
    PEAK DISCHARGE RATE =      149.60 CFS  AT   1.565 HOURS   BASIN AREA =   .1942 SQ. MI.
```

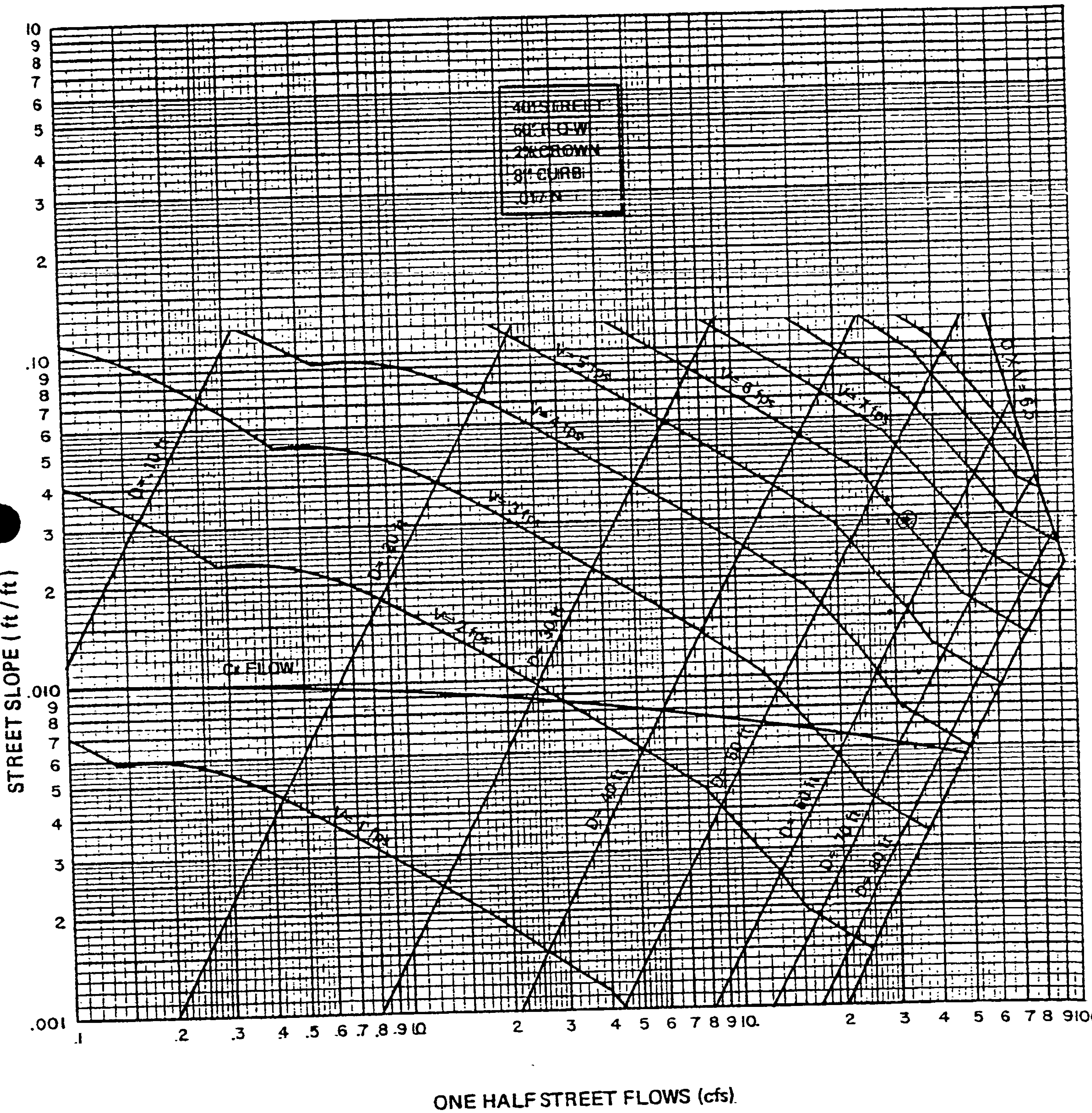
```
COMPUTE NM HYD       ID=1 HYD NO=101.A AREA=0.04422 SQ MI
                     PER A, B, C, & D 100 0 0 0
                     TP=0.16 HR MASS RAINFALL=-1

    K =   .195864HR    TP =   .160000HR    K/TP RATIO =  1.224153     SHAPE CONSTANT, N =  2.907881
    UNIT PEAK =   75.788    CFS   UNIT VOLUME =    .9996       B =   274.22      P60 = 1.8900
    AREA =      .044220 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=1 CODE=1

                                          HYDROGRAPH FROM AREA 101.A

    RUNOFF VOLUME =      .44572 INCHES     =       1.0512 ACRE-FEET
    PEAK DISCHARGE RATE =      31.68 CFS  AT   1.565 HOURS   BASIN AREA =   .0442 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 13:36:01
```

STREET CAPACITY

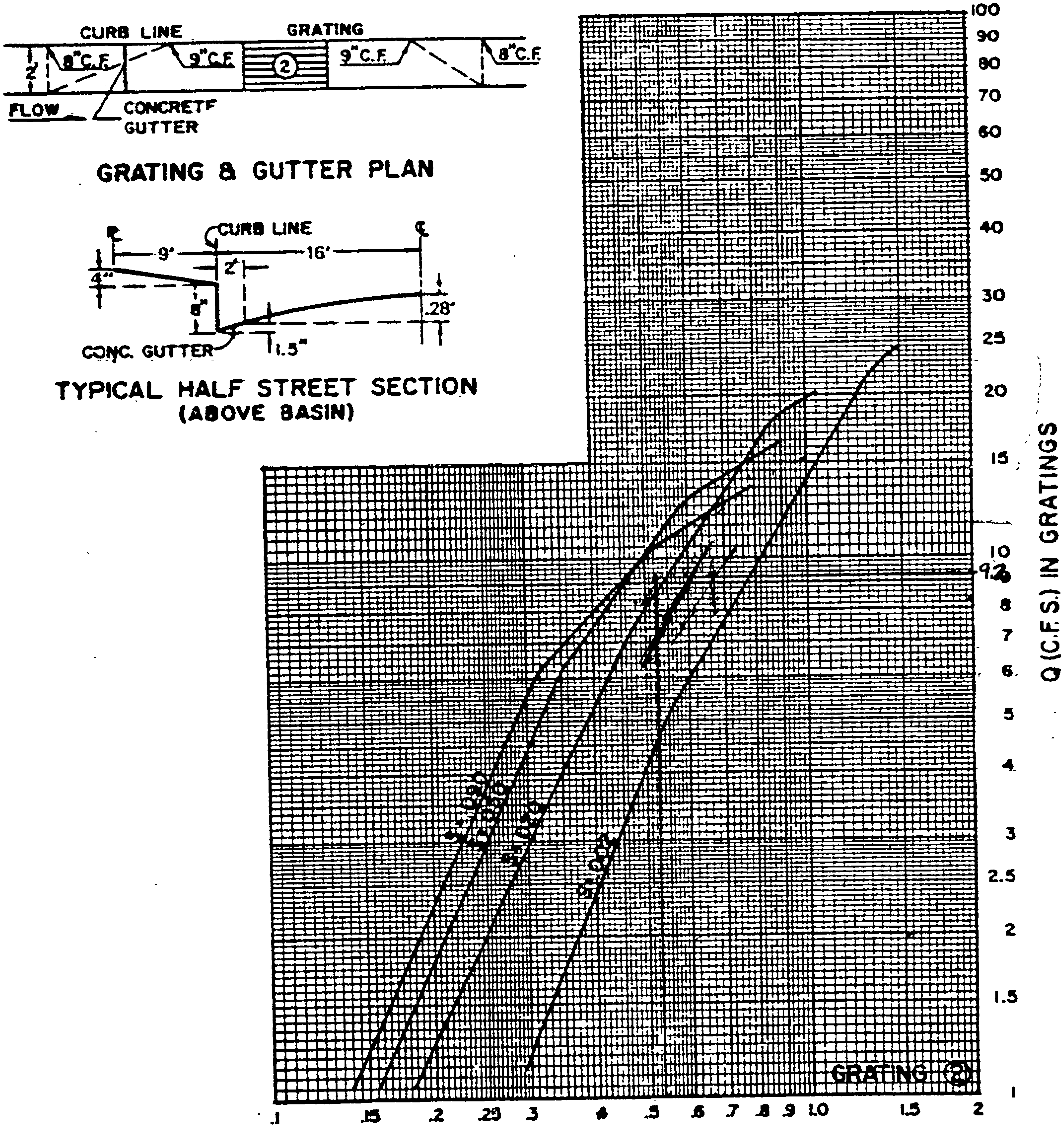


Depth for roll C & G to be reduced by 3/4" to account for difference in gutter depression.

STREET CAPACITY



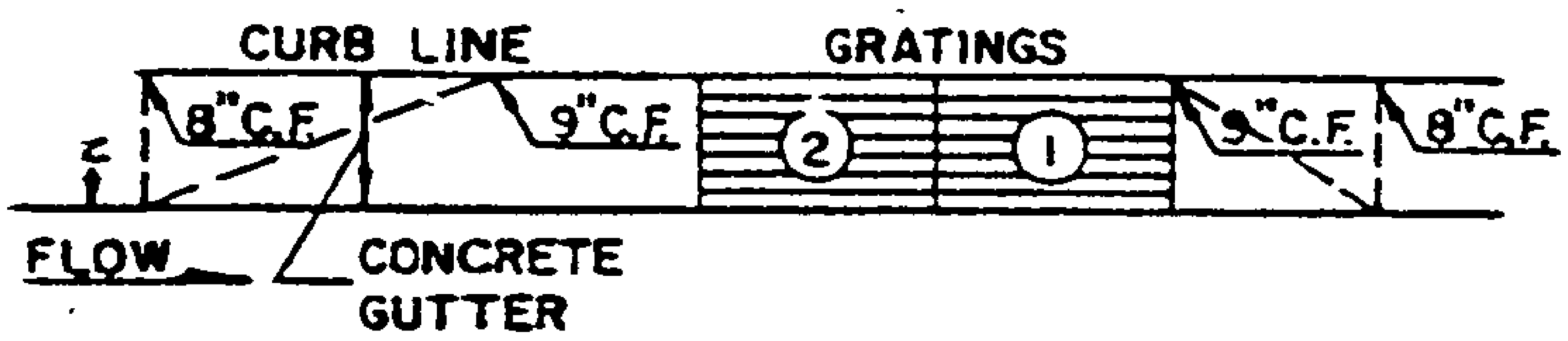
GRATING CAPACITIES FOR TYPE "A" , "C" and "D"



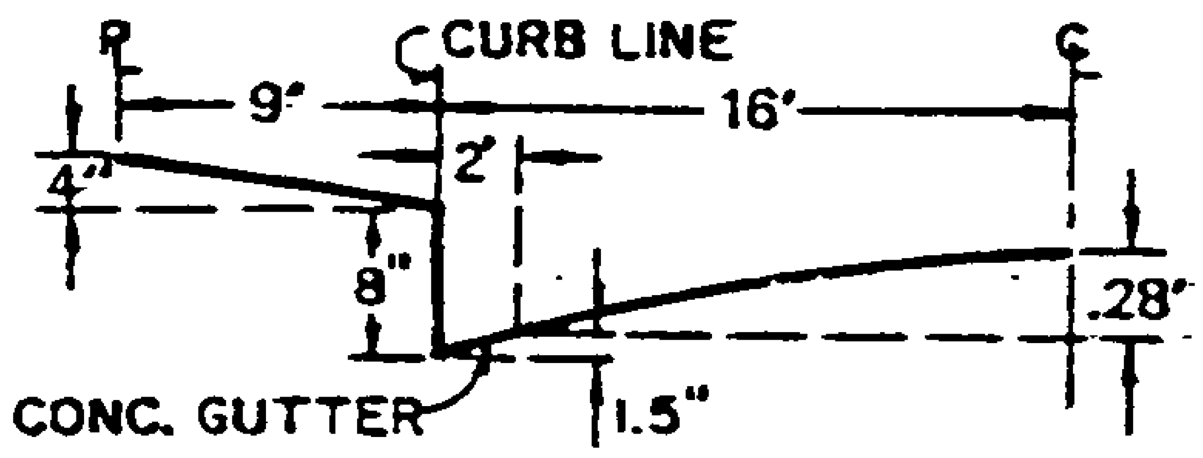
GRATING & GUTTER PLAN

TYPICAL HALF STREET SECTION
(ABOVE BASIN)

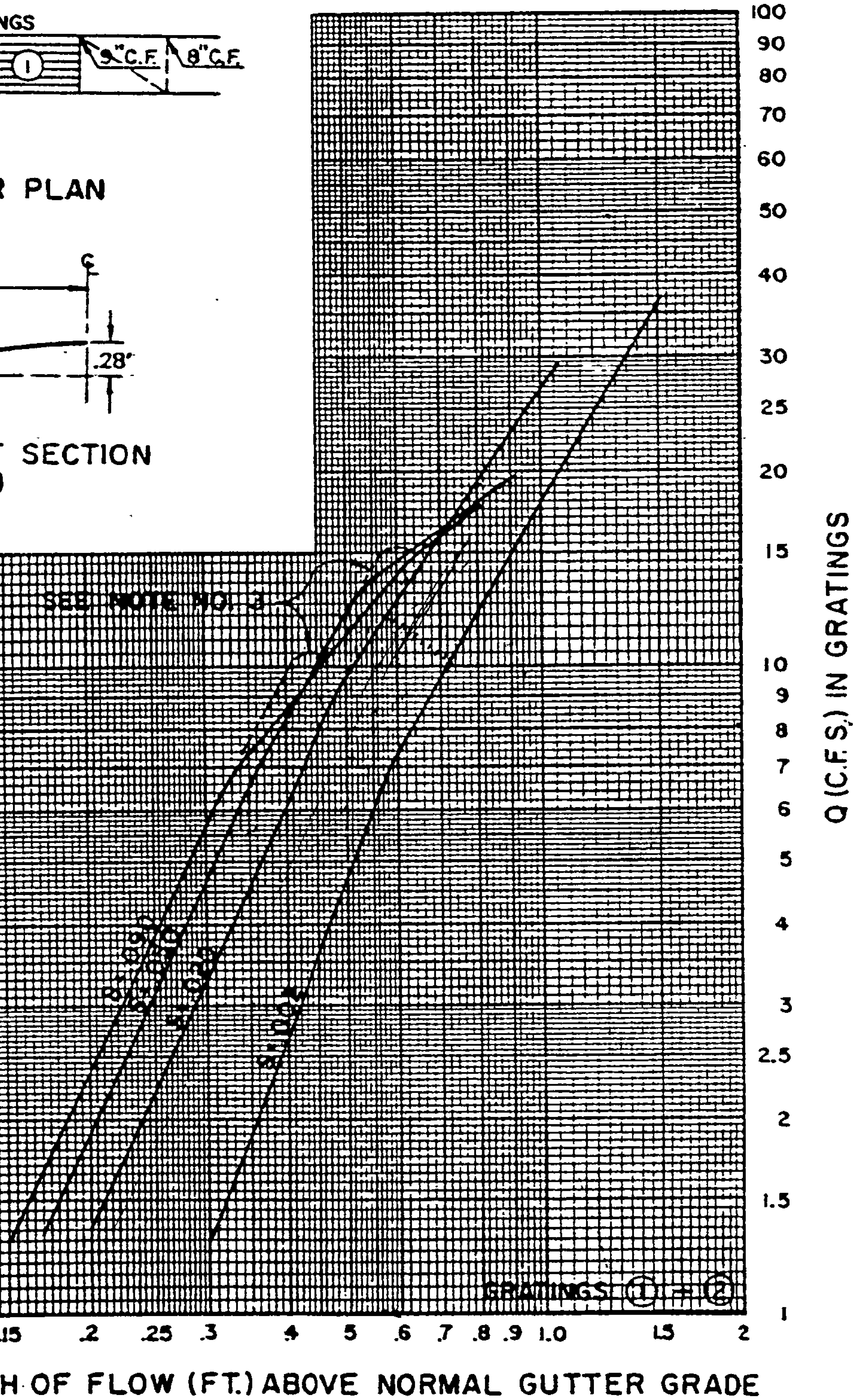
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



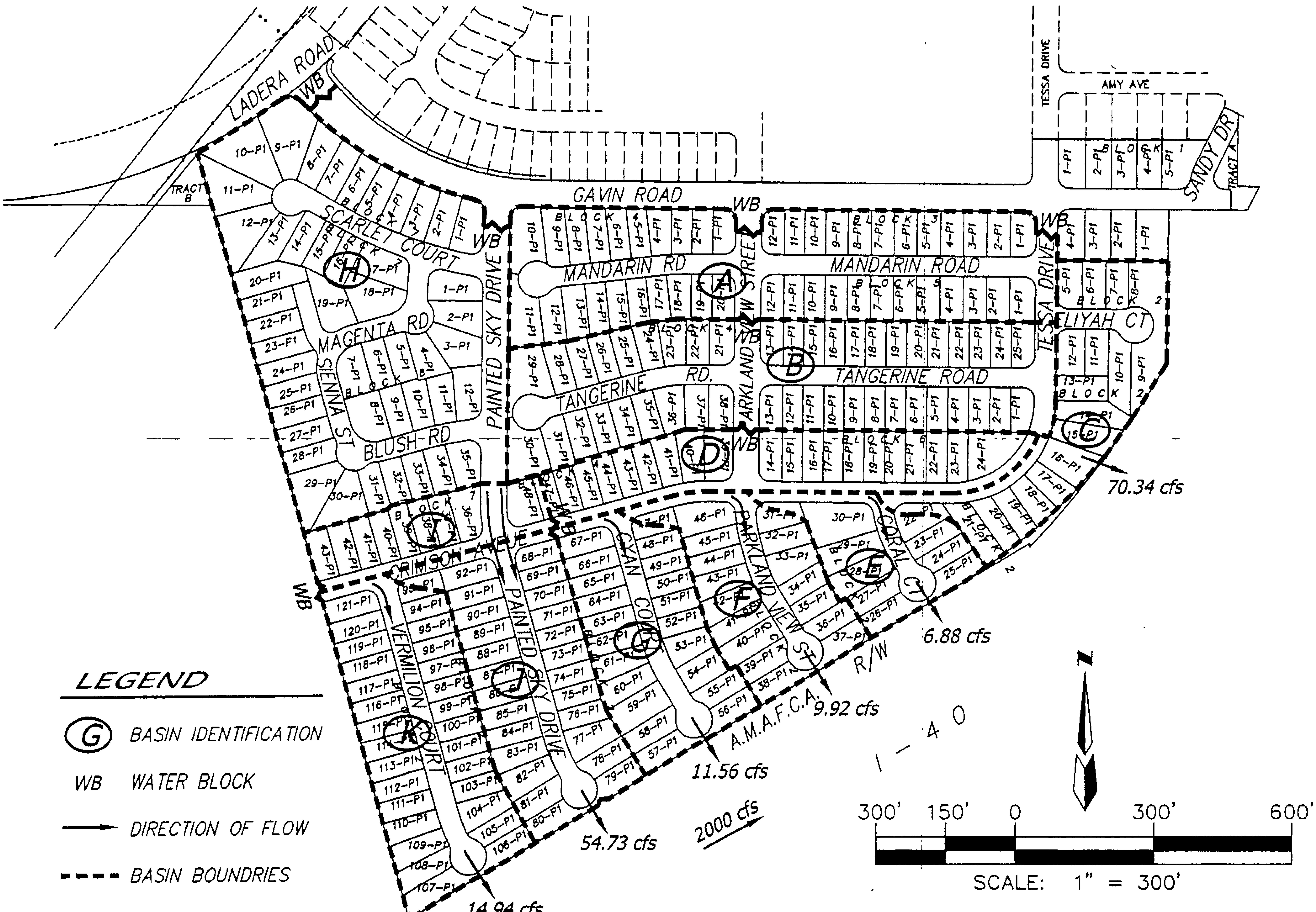
GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



ONSITE BASIN MAP
(AREA #101)



LEGEND

- G — BASIN IDENTIFICATION
- WB — WATER BLOCK
- → DIRECTION OF FLOW
- - - - BASIN BOUNDRIES

OFFSITE BASIN MAP

NOTES:

1. BASINS 104 AND 105 ARE SUMMARIZED HERE AS SHOWN IN "DRAINAGE REPORT FOR PARKWAY UNITS 8 AND 9". SEE SEPERATE REPORT FOR MORE DETAIL.

2. BASIN 101.A IS THE ONSITE PORTION OF THIS DEVELOPMENT WEST OF THE TEMPORARY DIVERSION DIKE THAT IS TO BE CONSTRUCTED WITH UNITS 1, 2, AND 3. IT WILL DIVERT UNDEVELOPED DRAINAGE FROM THE WESTERLY HALF (Area=28.3 ac., Q100=31.68 fs, [illegible]=1.051 ac, ft) OF THIS SITE TOGETHER WITH THE [illegible]ORITY OF OFFSITE UNDEVELOPED BASIN #102 AROUND UNITS 1, 2, AND 3 TO A 2.6 ac. ft. TEMPORARY POND IN THE A.M.A.F.C.A. RIGHT OF WAY.

TABLE 1

FULLY DEVELOPED CONDITIONS

PARKWAY UNITS 8 & 9

Basin I.D.	Area (Sq.Mi.)	Contr. Basin	Sum Area (Sq.Mi.)	Tc (Min.)	LAND TREATMENT A	B	C	D	INCREMENTAL Q100 (cfs)	Q10 (cfs)	TOTALS Q100 (cfs)	Q10 (cfs)
100.1	0.01270			12	0	30	15	55	27.95	16.44	27.91	16.44
100.2	0.00380			12	"	"	"	"	8.37	4.92	8.37	4.92
100.3	0.00590			12	"	"	"	"	13.00	7.64	13.00	7.64
120.1		100.1,2	0.01650								36.32	21.36
120.2		120.1,100.3	0.02240								49.31	29.00
100.4	0.00620			12	0	10	0	90	16.42	10.65	16.42	10.65
120.3		120.2,100.4	0.02860								65.73	39.63
100.5	0.00470			12	0	30	15	55	10.35	6.09	10.35	6.09
100.6	0.00330			12	"	"	"	"	7.27	4.28	7.27	4.28
100.7	0.00490			12	0	93	0	7	6.86	2.84	6.86	2.84
100.7A	0.00102			12	0	30	15	55	2.25	1.32	2.25	1.32
130.1		100.5,6	0.00960								17.63	10.37
130.2		130.1,100.7									24.49	13.16
130.2A		130.2,100.7A	0.01062								26.74	14.49
100.8	0.00590			12	0	30	15	55	13.00	7.64	13.00	7.64
100.9	0.00550			12	"	"	"	"	12.11	7.12	12.11	7.12
100.10	0.00530			12	"	"	"	"	11.67	6.86	11.67	6.86
100.11	0.00480			12	"	"	"	"	10.57	6.22	10.57	6.22
100.12	0.01910			12	0	35	15	50	40.58	23.39	40.58	23.39
140.1		100.8,100.9	0.01140								25.10	14.76
140.2		140.1,100.10	0.01670								36.77	21.63
140.3		140.2,100.11	0.02150								47.35	27.85
130.3		130.2A,100.12	0.02972								67.31	37.87
150.1		130.3,120.3	0.05832								133.00	77.50
150.2		150.1,140.3	0.07982								180.39	105.35
300.0	0.00650			12	0	10	0	90	17.21	11.15	17.21	11.15

INTERIM CONDITIONS

PARKWAY UNIT 8 DEVELOPED-WITH OFF-SITE BASINS

102.3*	0.05190			13	100	0	0	0	38.45	7.89	38.45	7.89
102.4*	0.03670			14	100	0	0	0	30.79	6.38	30.79	6.38
101.1	0.05140			12	100	0	0	0	42.65	8.09	42.65	8.09
101.2	0.02190			12	0	35	15	55	47.22	27.47	47.22	27.47

*FROM PARKWAY UNIT 7 DRAINAGE REPORT

PRELIMINARY GRADING AND DRAINAGE PLAN
ONSITE DRAINAGE BASIN MAP
FOR
PARKWAY UNITS 8 AND 9
COMPRISED OF
TRACTS B AND D PARKWAY SUBDIVISION
SITUATE WITHIN
TOWN OF ATRISCO GRANT
PROJECTED SECTION 16, T10N, R3E, NMPM
CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
JULY, 1995
DRB-94-591
SITE LOCATION
NOT A PART
SCALE
VICINITY MAP
J-9-Z
GRAPHIC SCALE
IN FEET
0 25 50 100 200 300
LEGEND
PROPERTY
DRAINAGE BASIN DIVIDE
FLOW ARROW
WATER BLOCK
EXISTING STORM DRAIN MANHOLE
EXISTING INLET
4973 EXISTING CONTOUR W/ INDEX ELEVATION
PROPOSED DRAINAGE BASIN
EXISTING STORM DRAIN LINE
UNIT BOUNDARY
TIERRA OESTE SUBDIVISION
PARKWAY UNIT 7
LADERA DRIVE N.W.
WESTOVER PLACE
SHEFFIELD PLACE N.W.
WOODBRIDGE DRIVE N.W.
VINEMONT PL NW
EXISTING RETENTION POND
ANNEXATION LINE
UNIT 8
UNIT 9
JODIE PLACE
PARKLAND VIEW DRIVE
DARBY COURT
BETTY JO
CLAUDIA PLACE
PARK
CAMILLE AVE
LYNDSI AVE
AMY AVE
SANDY DRIVE
FUTURE
UNSER BLVD
GAVIN ROAD
100 PNM EASEMENT
Q_{100}=10.35cfs 100.5
Q_{100}=7.3cfs 100.6
Q_{100}=6.9cfs 100.7
Q_{100}=2.3cfs 100.7 A
Q_{100}=13.0cfs 100.8
Q_{100}=12 cfs 100.9
Q_{100}=11.76cfs 100.10
Q_{100}=10.6cfs 100.11
Q_{100}=49.6cfs 100.12
Q_{100}=8.4cfs 100.2
Q_{100}=13.0cfs 100.3
Q_{100}=27.95cfs 100.1
Q_{100}=17cfs 100.0
100.4 Q_{100}=16.4cfs
NOTE:
THIS TRACT IS NOT A PART OF THIS DEVELOPMENT, BUT UNIT 8 IS DESIGNED TO RECEIVE DEVELOPED FLOWS FROM THIS TRACT AND UNIT 9 DRAINAGE IS TO BE DIVERTED AROUND IT.
Q_{100}=52.31cfs
Q_{100} = 47.39cfs
Q_{100}=18.6cfs
Q_{100}=34.78cfs
Q_{100} = 180.43cfs
Q_{100}=65.7cfs 42" S.D.
BENCH MARK
ACS MONUMENT "BH-40"
ELEVATION = 5305.43
7-25-95
DATE JULY/95
SCALE 1" = 100
DESIGNED SMB
DRAWN RAC
JOB NO. 189-94-036
community sciences corporation
LAND PLANNING
ENGINEERING

EROSION CONTROL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION, SHALL GOVERN ALL WORK.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS, AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL THIS SHEET, AND WETTING THE SOIL TO KEEP IT FROM BLOWING. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
5. THE EARTHWORK CONTACTOR SHALL STOCKPILE ENOUGH MATERIAL ADJACENT TO RETAINING WALL LOCATIONS TO BE UTILIZED FOR WALL BACKFILL.
6. ALL STREET ELEVATIONS SHOWN ARE FINISHED FLOWLINE ELEVATIONS.

BENCH MARKS

ACS MONUMENT "REWARD"
N.M. STATE PLANE COORDINATES
(CENTRAL ZONE) NAD 27
X = 350944.85 Y = 1487301.42
DELTA ALPHA = -0°17'11"
G-G = 0.99967114
ELEVATION = 5316.951

AS BUILT INFORMATION

CONTRACTOR
WORK STAKED BY / INSPECTOR'S ACCEPTANCE BY / FIELD VERIFICATION BY / DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY

SURVEY INFORMATION
FIELD NOTES

HYDROLOGY SECTION
JUL 02 2001

ENGINEER'S SEAL

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

NO.	DATE	REMARKS	BY

		DATE
DESIGNED BY	JDH	09/00
DRAWN BY	KJS, ACH	09/00
CHECKED BY	DMG	09/00

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE:

PAINTED SKY SUBDIVISION GRADING AND DRAINAGE PLAN

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

CITY PROJECT NO.	ZONE MAP NO. J-9	SHEET 1 OF 7

F:\DATA\DWGS\95JOBS\9049PS\9049gd501.dwg Mon Nov 27 11:56:05 2000 PLOTTED BY NHM

LEGEND

	NEW RETAINING WALL	– 5135 –	EXISTING CONTOUR
	NEW GARDEN		TRACT/LOT BOUNDARY
21.01 TW 18.31 BW	TOP OF WALL BOTTOM OF WALL		RIGHT OF WAY
			EASEMENTS
FP= 30.38	FINISHED PAD ELEVATION	— W —	PROPOSED WATERLINE
	MOUNTABLE CURB & GUTTER		PROPOSED STORM DRAIN LINE
	STANDARD 8" CURB & GUTTER	— SAS —	PROPOSED SANITARY SEWER
28.53 •	PROPOSED SPOT ELEVATION		CENTERLINE OF ROAD
	3:1 SLOPE		4' DEFERRED SIDEWALK
	PROPOSED DRAINAGE BASIN		PROPOSED SWALE
	NEW FIRE HYDRANT	28.53± x 5256.45	EXISTING SPOT ELEVATIONS
	NEW MH		POINT OF DISCHARGE FOR PRIVATE LOTS
20	LOT 20	40' STREET @ 1.0% Q_{100}= 41.84cfs V_{100}= 3.7fps	CAPACITY CALCS.
	GATE VALVE	LOT 6 MASTER PLAN AREA= 5.31 AC. Q Allowable= 8.85cfs	BASIN FLOW CALCS.
	TEE		
	BEND		
	NEW 2:1 SLOPE WITH GRAVEL		
	SIDEWALK TO BE CONSTRUCTED 0.33' ABOVE TOP OF CURB. ASBUILT CERTIFICATION REQUIRED FOR RELEASE OF FINANCIAL GUARANTEES.		

SCALE: 1" = 50'

9049PS/9049GD502/12-07-00 ACH NHM

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

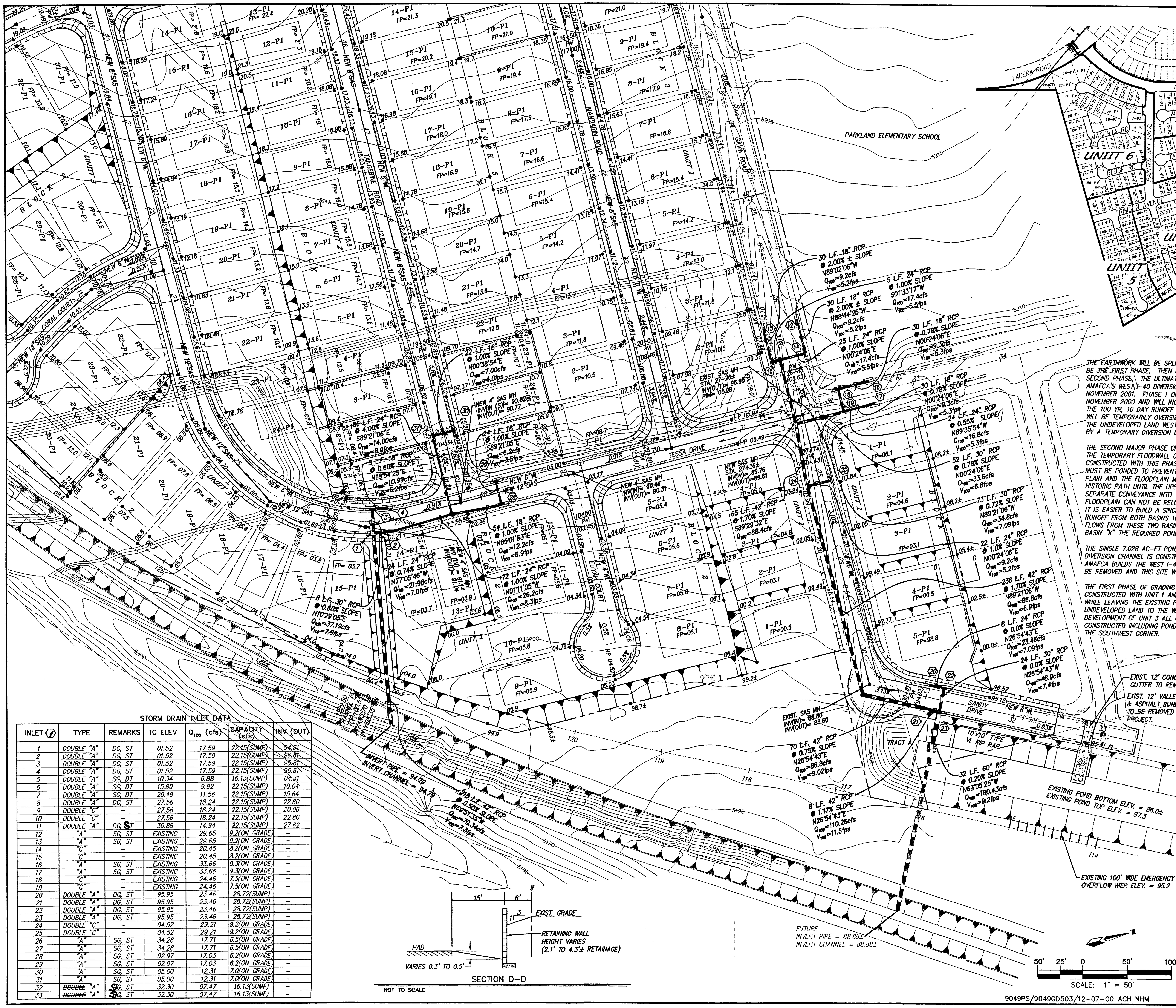
TITLE:

PAINTED SKY SUBDIVISION GRADING AND DRAINAGE PLAN

DESIGNED BY	JDH	DATE	09/00
DRAWN BY	KJS, ACH	DATE	09/00
CHECKED BY	DMG	DATE	09/00

DESIGN REVIEW COMMITTEE | CITY ENGINEER APPROVAL | LAST DESIGN UPDATE | MO./DAY/YR. | MO./DAY/YR.

CITY PROJECT NO. | ZONE MAP NO. J-9 | SHEET 2 OF 7



PHASING PLAN

THE EARTHWORK WILL BE SPLIT INTO TWO MAJOR PHASES. UNITS 1, 2, AND 3 WILL BE THE FIRST PHASE. THEN UNITS 4, 5, AND 6 WILL ALL BE GRADED AS THE SECOND PHASE. THE ULTIMATE DRAINAGE OUTFALL FOR ALL ON-SITE DRAINAGE WILL BE AMAFCA'S WEST I-40 DIVERSION CHANNEL WHICH MAY BEGIN CONSTRUCTION AS EARLY AS NOVEMBER 2001. PHASE 1 OF PAINTED SKY IS EXPECTED TO BEGIN A YEAR EARLIER IN NOVEMBER 2000 AND WILL INCLUDE TEMPORARY RETENTION PONDS SIZED FOR THE 100 YR, 10 DAY RUNOFF FROM THE DEVELOPED PORTIONS OF THE SITE, AND POND G WILL BE TEMPORARILY OVERSIZED TO RECEIVE THE 100 YR, 10 DAY RUNOFF (2.6 AC-FT) FROM THE UNDEVELOPED LAND WEST OF UNITS 1, 2 AND 3 WHICH WILL BE DIVERTED INTO THE POND BY A TEMPORARY DIVERSION DIKE ALSO TO BE CONSTRUCTED WITH THE FIRST PHASE OF GRADING.

THE SECOND MAJOR PHASE OF GRADING WILL INCLUDE ALL OF UNITS 4, 5 AND 6. THE TEMPORARY FLOODWALL ON THE WEST SIDE OF THIS SITE WILL ALSO BE CONSTRUCTED WITH THIS PHASE. THE WATER DIVERTED BY THE FLOODWALL (1.597 AC-FT) MUST BE PONDED TO PREVENT INCREASED FLOWS FROM ENTERING THE DOWNSTREAM FLOOD-PLAIN AND THE FLOODPLAIN MAY NOT BE PREVENTED FROM ENTERING THIS SITE IN ITS HISTORIC PATH UNTIL THE UPSTREAM ADJOINING PROPERTY IS DEVELOPED AND CREATES ITS OWN SEPARATE CONVEYANCE INTO THE WEST I-40 DIVERSION CHANNEL. SINCE THE NATURAL FLOODPLAIN CAN NOT BE RELOCATED AND BASIN #102 MUST BE PONDED IN THAT SAME VICINITY, IT IS EASIER TO BUILD A SINGLE POND SIZED FOR TEMPORARY RETENTION OF 100 YR, 10 DAY RUNOFF FROM BOTH BASINS 102 AND 103 (6.2 AC-FT TOTAL) RATHER THAN TRYING TO KEEP THE FLOWS FROM THESE TWO BASINS SEPARATED. INCLUDING FLOWS FROM ON-SITE DEVELOPED BASIN "K" THE REQUIRED POND VOLUME IS 7.029 AC-FT.

THE SINGLE 7.028 AC-FT POND ALSO PROVIDES TEMPORARY PUBLIC BENEFIT UNTIL THE WEST I-40 DIVERSION CHANNEL IS CONSTRUCTED BY ELIMINATING FLOWS TO THE DOWNSTREAM FLOODPLAIN. WHEN AMAFCA BUILDS THE WEST I-40 DIVERSION ALL OF THE OTHER TEMPORARY RETENTION PONDS WILL BE REMOVED AND THIS SITE WILL BE ALLOWED FREE DISCHARGE OF THE 100 YR DEVELOPED FLOWS.

THE FIRST PHASE OF GRADING MAY BE DONE INCREMENTALLY SUCH THAT POND D IS CONSTRUCTED WITH UNIT 1 AND MAY RECEIVE DEVELOPED FLOWS FROM BOTH UNITS 1 AND 2 WHILE LEAVING THE EXISTING POND IN UNIT 3 IN PLACE TO RECEIVE INTERIM FLOWS FROM UNDEVELOPED LAND TO THE WEST BOTH ON-SITE AND OFF-SITE. THEN WITH THE DEVELOPMENT OF UNIT 3 ALL OF THE PONDS IN THE AMAFCA RIGHT-OF-WAY MUST BE CONSTRUCTED INCLUDING POND #102, 103 AND K WHICH WILL CUT OFF THE FLOODPLAIN IN THE SOUTHWEST CORNER.

STORM DRAIN INLET DATA

INLET #	TYPE	REMARKS	TC ELEV	Q_{100} (cfs)	CAPACITY (cfs)	INV (OUT)
1	DOUBLE "A"	DG, ST	01.52	17.59	22.15(SUMP)	94.81
2	DOUBLE "A"	DG, ST	01.52	17.59	22.15(SUMP)	96.81
3	DOUBLE "A"	DG, ST	01.52	17.59	22.15(SUMP)	95.81
4	DOUBLE "A"	DG, ST	01.52	17.59	22.15(SUMP)	96.81
5	DOUBLE "A"	SG, DT	10.34	6.88	16.13(SUMP)	04.31
6	DOUBLE "A"	SG, DT	15.80	9.92	22.15(SUMP)	10.04
7	DOUBLE "A"	SG, DT	20.49	11.56	22.15(SUMP)	15.64
8	DOUBLE "A"	DG, ST	27.56	18.24	22.15(SUMP)	22.80
9	DOUBLE "C"	–	27.56	18.24	22.15(SUMP)	20.06
10	DOUBLE "C"	–	27.56	18.24	22.15(SUMP)	22.80
11	DOUBLE "A"	DG, ST	30.88	14.94	22.15(SUMP)	27.62
12	"A"	SG, ST	EXISTING	29.65	9.2(ON GRADE)	–
13	"A"	SG, ST	EXISTING	29.65	9.2(ON GRADE)	–
14	"C"	–	EXISTING	20.45	8.2(ON GRADE)	–
15	"C"	–	EXISTING	20.45	8.2(ON GRADE)	–
16	"A"	SG, ST	EXISTING	33.66	9.3(ON GRADE)	–
17	"A"	SG, ST	EXISTING	33.66	9.3(ON GRADE)	–
18	"C"	–	EXISTING	24.46	7.5(ON GRADE)	–
19	"C"	–	EXISTING	24.46	7.5(ON GRADE)	–
20	DOUBLE "A"	DG, ST	95.95	23.46	28.72(SUMP)	–
21	DOUBLE "A"	DG, ST	95.95	23.46	28.72(SUMP)	–
22	DOUBLE "A"	DG, ST	95.95	23.46	28.72(SUMP)	–
23	DOUBLE "A"	DG, ST	95.95	23.46	28.72(SUMP)	–
24	DOUBLE "C"	–	04.52	29.21	9.2(ON GRADE)	–
25	DOUBLE "C"	–	04.52	29.21	9.2(ON GRADE)	–
26	"A"	SG, ST	34.28	17.71	6.5(ON GRADE)	–
27	"A"	SG, ST	34.28	17.71	6.5(ON GRADE)	–
28	"A"	SG, ST	02.97	17.03	6.2(ON GRADE)	–
29	"A"	SG, ST	02.97	17.03	6.2(ON GRADE)	–
30	"A"	SG, ST	05.00	12.31	7.0(ON GRADE)	–
31	"A"	SG, ST	05.00	12.31	7.0(ON GRADE)	–
32	~~DOUBLE~~ "A"	SG, ST	32.30	07.47	16.13(SUMP)	–
33	~~DOUBLE~~ "A"	SG, ST	32.30	07.47	16.13(SUMP)	–

9049PS/9049GD503/12-07-00 ACH NHM

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: PAINTED SKY SUBDIVISION GRADING AND DRAINAGE PLAN

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

CITY PROJECT NO. | ZONE MAP NO. J-9 | SHEET 3 OF 7

DESIGNED BY JDH	DATE 09/00	DESIGN
DRAWN BY KJS, ACH	DATE 09/00	REVISIONS
CHECKED BY DMG	DATE 09/00	REMARKS

HYDROLOGY SECTION — RECEIVED JUL 02 2001

ENGINEER'S SEAL 12-7-00

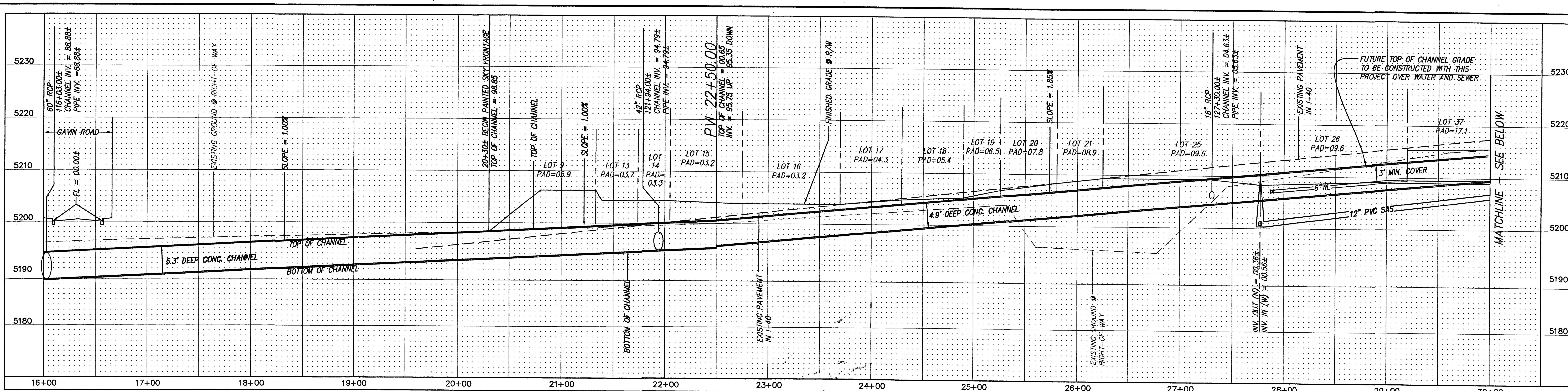
SURVEY INFORMATION — FIELD NOTES — NO. — BY — DATE

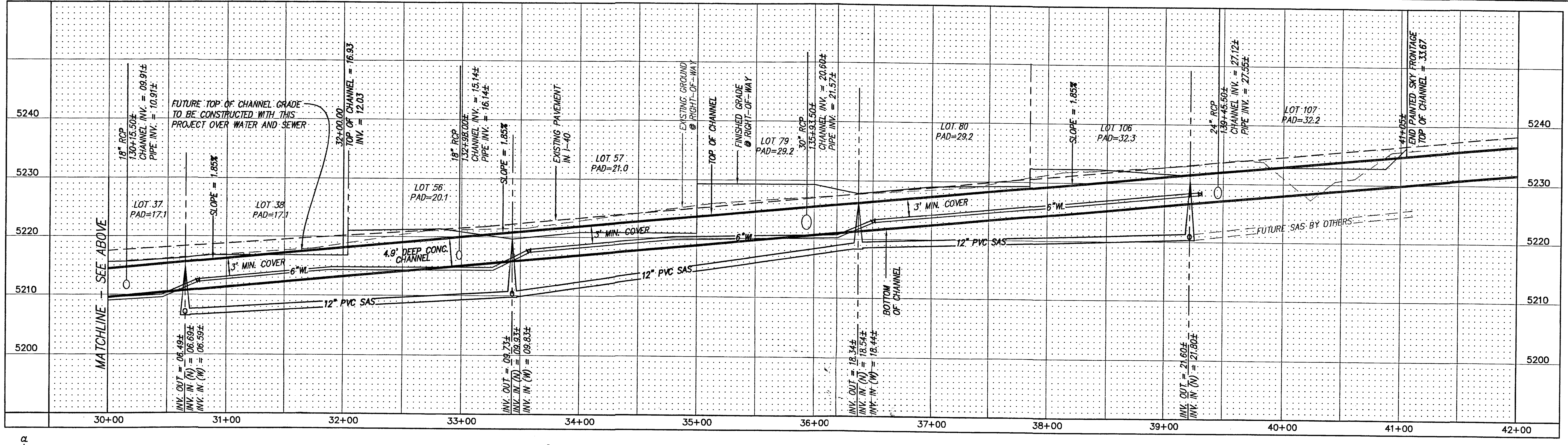
BENCH MARKS: ACS MONUMENT "REWARD"; N.M. STATE PLANE COORDINATES (CENTRAL ZONE) NAD 27; X = 350944.85 Y = 1487301.42; DELTA ALPHA = -01'71"; G-G = 0.99967114; ELEVATION = 5316.951

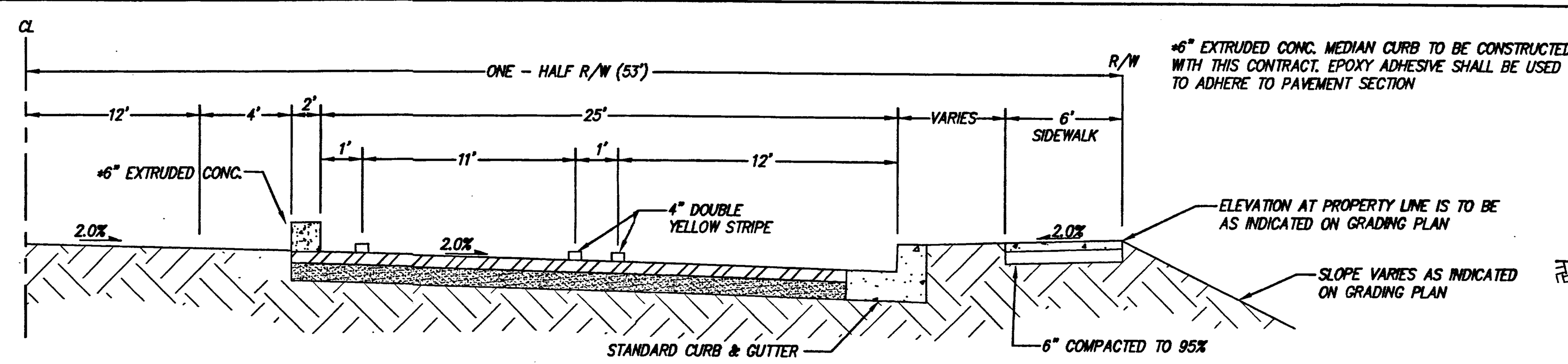
AS BUILT INFORMATION: CONTRACTOR; WORK STAKED BY; INSPECTOR'S ACCEPTANCE BY; FIELD VERIFICATION BY; DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION: RECORDED BY; NO. — DATE

F:\DATA\DWGS\99JOBS\9049PS\9049GD503.dwg Thu Dec 07 13:16:56 2000 PLOTTED BY NHM

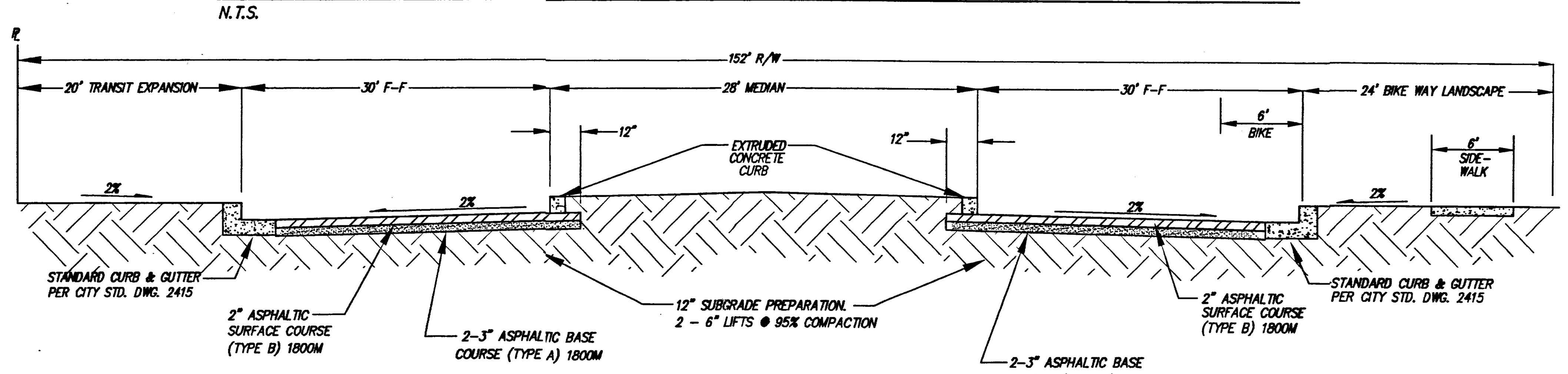






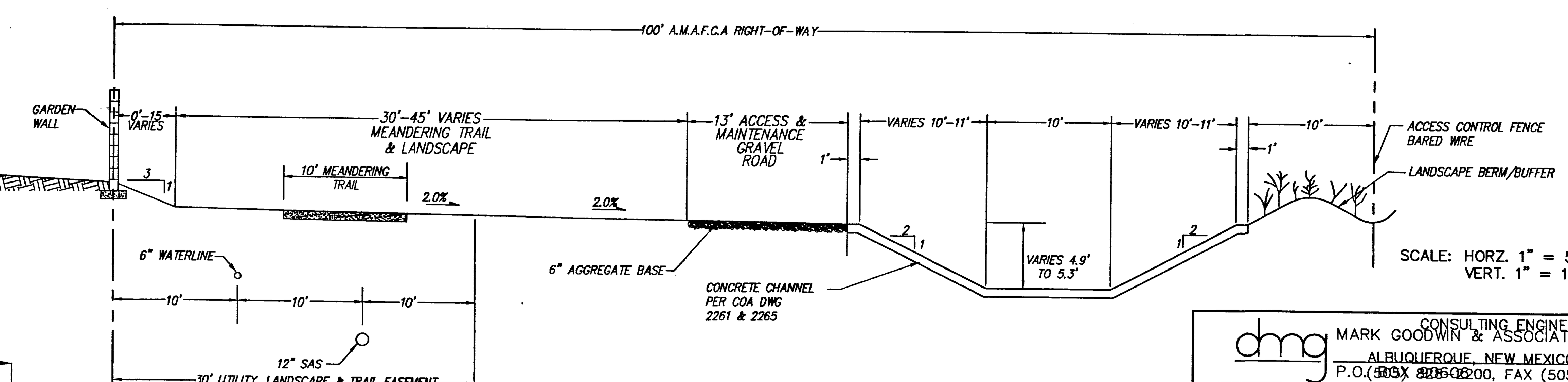
TYPICAL SECTION LADERA DRIVE 1/2 SECTION NORTH OF TRANSITION

N.T.S.



LADERA DRIVE WEST END OF TRANSITION

N.T.S.



SCALE: HORZ. 1" = 50'
VERT. 1" = 10'

TYPICAL SECTION B-B

			EQUATION
SLOPE	1.85%	1.00%	
D	2.87'	3.37'	
V	24.59 FPS	19.69 FPS	
FREEBOARD	2.01'	1.92'	$0.7\ (2.0+0.025\ VD^{1/3})$
RADIUS		1250	
SUPERELEVATION	0.42'	0.23'	$1.3\ \frac{V^2(B+2ZD)}{gR}$
TOTAL	5.30'	5.52'	
Q_{100} =1113cfs			n=0.13

FOR INFORMATION ONLY NOT FOR CONSTRUCTION

9049PS/I-40PPB/11-29-00 ACH KJS NHM

AS BUILT INFORMATION

CONTRACTOR / DATE
WORK STAKED BY / DATE
INSPECTOR'S ACCEPTANCE BY / DATE
FIELD VERIFICATION BY / DATE
DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION

RECORDED BY / DATE
NO.

BENCH MARKS

ACS MONUMENT "REWARD"
N.M. STATE PLANE COORDINATES
(CENTRAL ZONE) NAD 27
X = 350944.85 Y = 1487301.42
DELTA ALPHA = -0°17'11"
G-G = 0.9996714
ELEVATION = 5316.951

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

JUL 02 2001
HYDROLOGY SECTION

11-30-00
Rev. 12-7-00

NO.	DATE	REMARKS	BY
		REVISIONS	

		DESIGN	DATE
DESIGNED BY	JDH	DATE	09/00
DRAWN BY	NHM ACH	DATE	09/00
CHECKED BY	DMG	DATE	09/00

dmg
CONSULTING ENGINEERS
MARK GOODWIN & ASSOCIATES, P.A.
ALBUQUERQUE, NEW MEXICO 87199
P.O. (505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: PAINTED SKY SUBDIVISION
WEST INTERSTATE 40 DIVERSION CHANNEL
PROFILE AND TYPICAL SECTION

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

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
	J-9	6	7

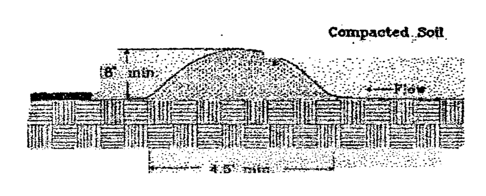
F:\DATA\DWGS\99JOBS\9049PS\I-40PPB.dwg Wed Nov 29 10:56:57 2000 PLOTTED BY NHM

PHASING PLAN

THE EARTHWORK WILL BE SPLIT INTO TWO MAJOR PHASES. UNITS 1, 2 AND 3 WILL ALL BE GRADED AT ONCE AS THE FIRST PHASE. THEN UNITS 4, 5 AND 6 WILL ALL BE GRADED AS THE SECOND PHASE. THE ULTIMATE DRAINAGE OUTFALL FOR ALL ON-SITE DRAINAGE WILL BE AMAFCA'S WEST I-40 DIVERSION CHANNEL WHICH MAY BEGIN CONSTRUCTION AS EARLY AS NOVEMBER 2001. PHASE 1 OF PAINTED SKIES IS EXPECTED TO BEGIN A YEAR EARLIER IN NOVEMBER 2000 AND WILL INCLUDE TEMPORARY RETENTION PONDS #D, E AND F SIZED FOR THE 100 YR., 10 DAY RUNOFF FROM THE DEVELOPED PORTIONS OF THE SITE, AND POND G WILL BE TEMPORARILY OVERSIZED TO RECEIVE THE 100 YR., 10 DAY RUNOFF (2.6 ACFT) FROM THE UNDEVELOPED LAND WEST OF UNITS 1, 2 AND 3 WHICH WILL BE DIVERTED INTO THE POND BY A TEMPORARY DIVERSION DIKE ALSO TO BE CONSTRUCTED WITH THE FIRST PHASE OF GRADING.

TEMPORARY DIVERSION DIKE (DD)

TEMPORARY DIVERSION DIKE



Construction Specifications

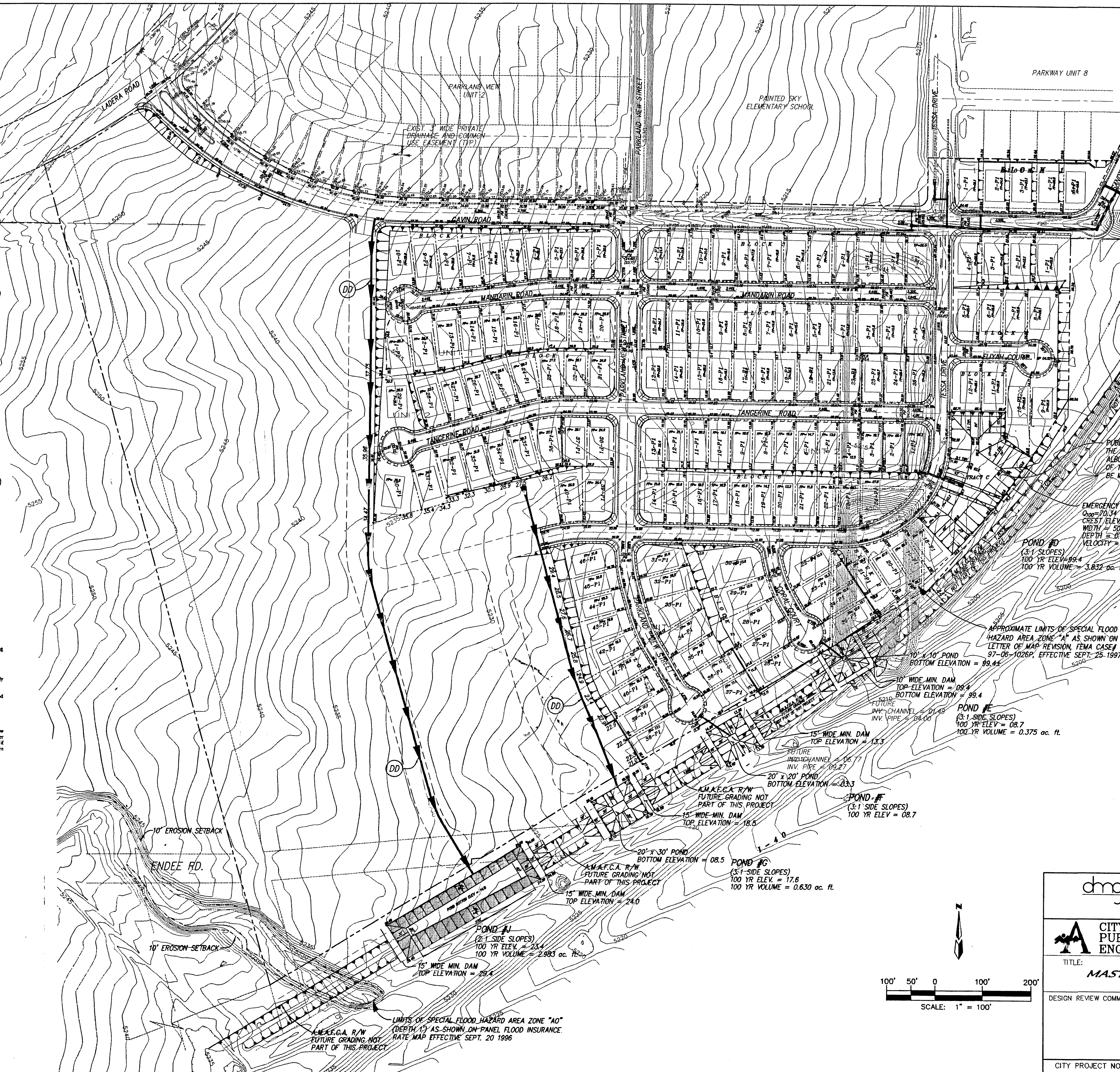
1. Temporary diversion dikes must be installed as a first step in the land-disturbing activity and must be functional prior to upslope land disturbance.
2. The dike should be adequately compacted to prevent failure.
3. Temporary or permanent seeding and mulch shall be applied to the dike immediately following its construction.
4. The dike should be located to minimize damages by construction operations and traffic.

Maintenance

The measure shall be inspected after every storm and repairs made to the dike, flow channel, outlet or sediment trapping facility, as necessary. Once every two weeks, whether a storm event has occurred or not, the measure shall be inspected and repairs made if needed. Damages caused by construction traffic or other activity must be repaired before the end of each working day.

L E G E N D

MOUNTABLE CURB & GUTTER
STANDARD 8" CURB & GUTTER
PROPOSED DRAINAGE BASIN
TRACT/LOT BOUNDARY
RIGHT OF WAY
EASEMENTS
W — PROPOSED WATERLINE
SAS — PROPOSED SANITARY SEWER
CENTERLINE OF ROAD
EXISTING CURB AND GUTTER
EXISTING SANITARY SEWER MANHOLE
EXISTING WATER VALVE
8"W — EXISTING WATERLINE
EXISTING FIRE HYDRANT
EXISTING STORM SEWER MANHOLE
SAS — EXISTING SANITARY SEWER
EXISTING EDGE OF PAVEMENT
4' DEFERRED SIDEWALK
(DD) DIVERSION DIKE
20 LOT 20



99049PS/9049GDALL/09-18-00/ACH

AS BUILT INFORMATION: CONTRACTOR / DATE; WORK STAKED BY / DATE; INSPECTOR'S ACCEPTANCE BY / DATE; FIELD VERIFICATION BY / DATE; DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION: RECORDED BY / DATE; NO.

BENCH MARKS: ACS MONUMENT "REWARD"; N.M. STATE PLANE COORDINATES (CENTRAL ZONE) NAD 27; X = 350944.85 Y = 1487301.42; DELTA ALPHA = -01'71"; G-G = 0.99967114; ELEVATION = 5316.951

ENGINEER'S HYDROLOGY SECTION / SURVEY INFORMATION: FIELD NOTES — NO. / BY / DATE

RECEIVED JUL 02 2001

9-1-00

Rev 11-13-00

NO.	DATE	BY	REMARKS		
			REVISIONS		
			DESIGN	DATE	
DESIGNED BY	JDH			DATE	09/00
DRAWN BY	ACH			DATE	09/00
CHECKED BY	DMG			DATE	09/00

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: **PAINTED SKY SUBDIVISION MASTER GRADING & DRAINAGE PLAN PHASE 1 GRADING**

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

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
	C-20-Z	7	7

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