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File PDR-1995-159
Date 10/6/99

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, not all entries designated to be scanned, are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been included. **Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file.** **Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.**
X	X	***Summary Sheet – Table of Contents**
X	X	Application form
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map
		Evidence of title, deeds
X	X	***Mailing list**
		Public notice cards
		Record of certified mail
X	X	Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or nonbound reports
		Traffic studies
X		Individual review comments from agencies
X	X	***Consolidated review comments list**
X	X	***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X		City of Grand Junction Bikeway Plan - 1980	X	X	Zoning and Planning Criteria related to St. Mary's Hospital
X	X	Site Plan	X	X	Memo from Bertis Rasco to Tom Dixon – 6/1/95
X	X	Letter from Warren Gardner to whom it may concern-9/29/76	X	X	Memo of Meeting with Tom Dixon and Keith Estridge, Director Facilities Management – 9/19/94
X	X	Landscape Plan	X	X	Memo of Meeting with Jody Kliska, Tom Dixon, Keith Estridge and Bertis Rasco – 11/14/94
X		Letter from Warren Gardner to Planning Commission – 12/3/73	X	X	Memo of Meeting with Tom Dixon and Keith Estridge – 10/18/94
X	X	Map of Parking Lot	X	X	Traffic/ Pedestrian Impact Study Proposed Pkg Lot Add.- 7/92
		Posting of Public Signs	X	X	Drainage Study - Parcel #1- January, 1993
X	X	Aerial Map – Preliminary Plan & Rezone	X	X	Drainage Study - Parcel #2 - June, 1992
X	X	Map – Proposed Rezoning	X		Warranty Deed
X	X	Transmission Report	X	X	Quit Claim Deed
X		Planning Commission Meeting Agenda – 10/3/95	X		Option to Purchase Property
X	X	Traffic Study Requirements Form	X		Letter from Kathy Portner to Erle Reid – 7/24/95
X		Major Site Plan - Draft	X		Letter from Erle Reid to Kathy Portner – 7/24/95
X	X	Memo of Meeting from Bertis Rasco to Ken Tomlon – 8/3/95	X		Abstract of Title
X		Handwritten Notes - undated	X		Letter from Jacquelynn Ballew to Michael Drollinger – 9/11/95
X	X	Master Site Plan - 8/95	X	X	Memorandum of Meeting – 11/1/95
X	X	Meeting Memo - 6/14/95	X	X	Memo - Bertis Rasco to Michael D. re: Dev. of MSP - 7/13/95

SUBMITTAL CHECKLIST

PLANNED DEVELOPMENT

Location: 7th Street & Patterson Road   Project Name: St. Mary's Master Plan

ITEMS | DISTRIBUTION

Date Received ________

Receipt # ________

File # ________

DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	O City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	O City Downtown Dev. Auth.	O County Planning	● County Bldg. Dept.	● Irrigation District - GVID	● Drainage District - GJDD	O Water District	O Sewer District	O U.S. West	O Public Service	O GVRP	O CDOT	O Corps of Engineers	O Walker Field	O Persigo	O TCI Cable								TOTAL REQ'D.
● Application Fee	VII-1	1																														
● Submittal Checklist *	VII-3	1																														
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
● Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
● Evidence of Title	VII-2	1			1			1																								
O Appraisal of Raw Land	VII-1	1			1	1																										
● Names and Addresses*	VII-2	1																														
● Legal Description*	VII-2	1			1																											
O Deeds	VII-1	1			1			1																								
O Easements	VII-2	1	1	1	1			1									1	1	1					1								
O Avigation Easement	VII-1	1			1			1														1										
O ROW	VII-3	1	1	1	1			1									1	1	1					1								
O Improvements Agreement/Guarantee*	VII-2	1	1	1				1																								
O CDOT	VII-3	1	1																													
O Industrial Pretreatment Sign-off	VII-4	1		1																												
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
O Elevation Drawing	IX-13	1	1																													
● Site Plan	IX-29	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
O 11"x17" Reduction of Site Plan	IX-29					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								
O Grading and Drainage Plan	IX-16	1	2											1							1											
O Storm Drainage Plan and Profile	IX-30	1	2											1			1	1	1					1								
O Water and Sewer Plan and Profile	IX-34	1	2	1			1								1	1	1	1	1					1								
O Roadway Plan and Profile	IX-28	1	2											1																		
O Road Cross-Sections	IX-27	1	2																													
O Detail Sheet	IX-12	1	2																													
O Landscape Plan	IX-20	2	1	1					8																							
O Geotechnical Report	X-8	1										1																				
● Final Drainage Rerport	X-5,6	1	2											1																		
O Stormwater Management Plan	X-14	1	2											1							1											
O Phase I and II Environmental Report	X-10,11	1	1																													
● Traffic Impact Study	X-15	1	2																	1												

NOTES: * An asterisk in the item description column indicates that a form is supplied by the City.

DEVELOPMENT APPLICATION

Community Development Department
250 North 5th Street, Grand Junction, CO 81501
(303) 244-1430

Receipt _____
Date _____
Rec'd By _____
File No. PDR-95-159

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
☐ Subdivision Plat/Plan	☐ Minor ☐ Major ☐ Resub				
☐ Rezone				From: To:	
☒ Planned Development	☐ ODP ☒ Prelim ☐ Final				
☐ Conditional Use					
☐ Zone of Annex					
☐ Variance					
☐ Special Use					
☐ Vacation					☐ Right-of Way ☐ Easement
☐ Revocable Permit					

☒ PROPERTY OWNER	☒ DEVELOPER	☒ REPRESENTATIVE
Sisters of Charity of Leaven-	St. Mary's Hospital & Medical Ctr.	Bertis C. Rasco, AIA
Name: worth, Health Services Corp.	Name	Name
4200 S. 4th St.	P.O. Box 1628	215 Columbia
Address	Address	Address
Leavenworth, KS 66048-5054	Grand Junction, CO 81502-1628	Seattle, WA 98104
City/State/Zip	City/State/Zip	City/State/Zip
913-682-1338	970-244-2170	206-682-1133
Business Phone No.	Business Phone No.	Business Phone No.

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application and the review comments. We recognize that we or our representative(s) must be present at all required hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be placed on the agenda.

Jacquelynn Ballew, dept. secretary — 8/31/95
Signature of Person Completing Application — Date

Sister Lynn Casey/MPO — 08-31-95
Signature of Property Owner(s) - attach additional sheets if necessary — Date

2945-024-07-005
1140 Associates
225 N 5th St, Ste 401
Grand Junction, CO 81501-2655

2945-024-07-014
1140 Associates
225 N 5th St, Ste 401
Grand Junction, CO 81501-2655

2945-024-07-019
1140 Associates
225 N 5th St, Ste 401
Grand Junction, CO 81501-2655

2945-024-07-022
Lawrence & Claudia Aubert
211 Country Club Park
Grand Junction, CO 81503-1611

2945-024-07-021
1140 Associates
225 N 5th, Street, Suite 401
Grand Junction, CO 81501-2655

2945-024-07-017
1140 Associates
225 N 5th, Street, Suite 401
Grand Junction, CO 81501-2655

2945-024-07-016
1140 Associates
225 N 5th, Street, Suite 401
Grand Junction, CO 81501-2655

2945-024-07-025
1140 Associates
225 N 5th, Street, Suite 401
Grand Junction, CO 81501-2655

2945-024-08-001
Carol Lovato
804 Jamaica Way
Grand Junction, CO 81506-8635

2945-024-08-014
Flora L Brynjolfsson
936 Northern Way
Grand Junction, CO 81506-8201

2945-024-08-015
Angie Lee Brown
936½ Northern Way
Grand Junction, CO 81506-8201

2945-024-08-016
Lynn B Cary
2405 Palmer Ave.
Glenwood Springs, CO 81601

2945-111-20-007
Western Rockies Investment Group
1000 Wellington Ave.
Grand Junction, CO 81501-8121

2945-111-21-001
Glenn Ross Kempers, et al
1001 Wellington Ave.
Grand Junction, CO 81501-8122

2945-111-21-002
Stella M Shanks & Georgia D Munroe
1001 Wellington Ave
Grand Junction, CO 81501-8122

2945-111-00-946
City of Grand Junction
250 North 5th St.
Grand Junction, CO 81501-2628

2945-111-16-011
Wellington East Investments
2530 N 8th St, Suite 201
Grand Junction, CO 81501-8856

2945-111-16-012
Lichini Joint Venture
2530 North 8th St, Suite 203
Grand Junction, CO 81501-8856

2945-111-16-020
Psychological Associates
2530 N 8th St, Suite 204A
Grand Junction, CO 81501-8856

245-111-16-005
Linda S Tice
752 Centauri Dr
Grand Junction, CO 81506

2945-111-16-018
Dan M & Kimberly R Babbel
2530 N 8th St, Suite 102
Grand Junction, CO 81501-8856

2945-111-20-977
Health Services Program, Inc.
P.O. Box 40
Glenwood Springs, CO 81602-0040

2945-111-20-009
Wellington III Condominium Assoc. Inc.
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-111-27-001
Mesa National Bank
131 N 6th St.
Grand Junction, CO 81501-2725

2945-111-24-006
Village Fair, c/o Real Estate Services
P.O. Box 1082
Grand Junction, CO 81502-1082

2945-111-27-004
Village Fair, c/o Real Estate Services
P.O. Box 1082
Grand Junction, CO 81502-1082

2945-11-27-003
Village Fair, c/o Real Estate Services
P.O. Box 1082
Grand Junction, CO 81502-1082

2945-111-27-005
DJS Foods DBA Quiznos GJ
569 32 Rd
Grand Junction, CO 81504

2945-111-00-009

610 Rico Way
Grand Junction, CO 81506

2945-111-27-005
DJS Foods DBA Quiznos GJ
569 32 Rd
Grand Junction, CO 81504

2945-111-21-001
Glenn Ross Kempers et al
1001 Wellington Ave.
Grand Junction, CO 81501-8122

2945-111-21-002
Stella M Shanks & Georgia D Munroe
1001 Wellington Ave
Grand Junction, CO 81501-8122

2945-111-25-008
Michael J Corbett & David P Noffsinger
1120 Wellington Ave
Grand Junction, CO 81501-6129

2945-111-25-009
Michael J Corbett & David P Noffsinger
1120 Wellington Ave
Grand Junction, CO 81501-6129

2945-111-25-005
Gregg K Omura et al
1120 Wellington Ave
Grand Junction, CO 81501-6129

2945-111-25-018
John M Field
P.O. Box 3025
Grand Junction, CO 81502-3025

2845-111-25-019
Lepisto-Rottman Limited Liability Co
1120 Wellington Ave, Suite 106
Grand Junction, CO 81501-6130

2945-111-25-003
Mestern Colorado Surgery Center Assoc
2550 I Rd.
Grand Junction, CO 815015-9531

2945-111-19-003
Richard G & Annie R O'Connor
P.O. Box 1193
Grand Junction, CO 81502

2945-013-00-955
Bookcliff Baptist Church
2702 Patterson Rd
Grand Junction, CO 81506-4031

2945-013-04-001
Rexell D & Deborah J Clifton
1211 Hermosa Ave.
Grand Junction, CO 81506-4054

2945-111-15-045
Thomas Towner dba Towner Investments
P.O. Box 2026
Grand Junction, CO 81502-2026

2945-111-15-046
Alison L Dean
P.O. Box 2026
Grand Junction, CO 81502-2026

2945-111-15-028
Gilmert Madison, Madison Investments
2525 N 8th St.
Grand Junction, CO 81501-8845

2945-111-15-029
Floy E Young, dba Young Investments
2303 N 1st St.
Grand Junction, CO 81501-2027

2945-111-15-049
Paul & Virginia S Northup
2525 N 8th St, Suite 102
Grand Junction, CO 81501

2945-111-15-032
Barbara Hartshorn
818 26 Road
Grand Junction, CO 81506-8608

2945-111-15-033
Balanced Rock LLC
2136 Baniff Ct.
Grand Junction, CO 81503-1032

2945-111-15-034
HIJM Investments
2525 N 8th St, Suite 202
Grand Junction, CO 81501-8844

2945-111-15-035
Gary Andreoletti & Marcia Forrest
790 Wellington Ave, Suite 10
Grand Junction, CO 81501-6126

2945-111-15-0355
Gary Andreoletti & Marcia Forrest
790 Wellington Ave, Suite 10
Grand Junction, CO 81501-6126

2945-111-15-058
Gregg K Omura
1120 Wellington Ave.
Grand Junction, CO 81501-6129

2945-111-15-057
Maida L Burrow
790 Wellington Ave, Ste 103
Grand Junction, CO 81501-6127

2945-111-15-037
W & R Investments
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-111-15-038
S W P Investments et al
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-111-15-039
Urology Associates Limited
790 Wellington Ave.
Grand Junction, CO 81501-6126

2945-111-15-040
Urology Associates Limited
790 Wellington Ave.
Grand Junction, CO 81501-6126

2945-111-15-051
Wellington Orthopaedic Properties LLC
790 Wellington Ave
Grand Junction, CO 81501-6126

2945-111-15-052
Wellington Orthopaedic Properties LLC
790 Wellington Ave
Grand Junction, CO 81501-6126

2945-111-15-042
Alpha Investments
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-111-02-004
Wm A Cohan & Marilyn B Calabrese
1410 Santa Fe Dr.
Encinitas, CA 92024

2945-111-02-007
Minrec Inc
773 Valley Ct.
Grand Junction, CO 81505-9714

2945-111-02-008
Minrec Inc
773 Valley Ct.
Grand Junction, CO 81505-9714

2945-111-02-009
Minrec Inc
773 Valley Ct.
Grand Junction, CO 81505-9714

2945-111-02-010
Thomas G & Carol L Tadvick
2352 N 7th St., #4
Grand Junction, CO 81501-8133

2945-111-02-011
Minrec Inc
773 Valley Ct.
Grand Junction, CO 81505-9714

2945-111-02-012
Richard Hurd
2352 N. 7th St. #6
Grand Junction, CO 81501-8133

2945-111-02-951
Bishop of Bueblo, c/o Diocese of Pueblo
1001 N. Grand Ave.
Pueblo, CO 81003-2915

2945-023-00-041
Mildred Vandover
604 Meander Dr.
Grand Junction, CO 81505-1414

2945-112-11-024
Helen M Benton
3098 I-70 Bus Loop
Grand Junction, CO 81504-4406

2945-112-11-025
Jay Dee, Barbara & Christie Nitzel
346 Belaire Dr.
Grand Junction, CO 81501-2050

2945-112-12-001
Phillip S & Doris E Lanham
2557 Mira Vista Dr.
Grand Junction, CO 81501-2056

2945-112-12-002
William B Rosenthal
2547 Mira Vista Dr.
Grand Junction, CO 81501-2056

2945-112-12-005
Shirley E Arney, Trustee
2547 Mira Vista Dr.
Grand Junction, CO 81501-2056

2945-112-12-006
John R & C Jane Knipe
2527 Mira Vista Dr.
Grand Junction, CO 81501-2056

2945-112-12-009
Wesley A & Lucille M Henderson
328 Mayfair Dr.
Grand Junction, CO 81501-2053

2945-023-15-001
Robert B Christensen, Trustee
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-023-15-002
Cheryl Lane Duree
605 26½ Rd.
Grand Junction, CO 81506-1904

2945-023-15-003
Cheryl Lane Duree
605 26½ Rd.
Grand Junction, CO 81506-1904

2945-023-14-010
Edith Sisac
440 N. 13th St.
Grand Junction, CO 81501-81501-4406

2945-023-14-007
Sisters of Charity, Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-023-14-006
Wm R Patterson
662 26 Rd.
Grand Junction, CO 81506-1405

2945-023-14-009
Robert L Orr
500 Patterson Rd.
Grand Junction, CO 81506-1938

2945-023-14-008
Richard F Gilmore
698 Crestridge Dr.
Grand Junction, CO 81506-8310

2945-023-00-037
Angela R Boyer
324 patterson Rd.
Grand Junction, CO 81506-1954

2945-023-00-038
William O & Joyce D Campbell
2648 Patterson Rd.
Grand Junction, CO 81506-1941

2945-023-00-039
Jacquelyn A Moran
515 Rado Dr.
Grand Junction, CO 81503-9738

2945-023-00-040
Joseph J Palermo
P.O. Box 60263
Grand Junction, CO 81506-8758

2945-023-00-042
F M & I M Rasmussen
2634 Patterson Rd.
Grand Junction, CO 81506-1941

2945-111-00-034
Sisters of Charity Health Services Corp
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-111-00-970
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-111-00-976
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-111-00-037
Sisters of Charity Health Services Corp
2536 N. 7th St.
Grand Junction, CO 81502-1628

2945-111-00-956
Sisters of Charity
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-111-00-959
Sisters of Charity Health Services Corp
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-111-00-971
Lincoln Park Osteopathic Hospital Assoc.
P.O. Box 220
Grand Junction, CO 81502-0220

2945-111-00-972
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-111-00-974
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-111-00-977
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-111-00-998
Sisters of Charity Health Services Corp
4200 S. 4th St. Traffic Way
Leavenworth, KS 66048

2945-112-10-010
Mary C Douglass
301 Bookcliff Ct.
Grand Junction, CO 81501-2021

2945-112-10-015
Scott A & Susan G Hall
308 Bookcliff Ct.
Grand Junction, CO 81501-2022

2945-112-10-016
Guy D Cherp & Martha Hart
448 Bookcliff Dr
Grand Junction, CO 81501-2039

2945-111-00-979
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-112-10-023
Larue Olson Marital Trust, c/o Norwest
P.O. Box 4010
Grand Junction, CO 81502-4010

2945-112-10-024
Larue Olson Marital Trust, c/o Norwest
P.O. Box 4010
Grand Junction, CO 81502-4010

2945-112-10-975
Sisters of Charity Health Services
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-112-10-998
Sisters of Charity Health Services
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-112-11-008
Gordon S & Judith L Harbert
2512 Mira Vista Dr.
Grand Junction, CO 81501-2057

2945-112-11-009
Stephen D & Susan Fante
353 Mayfair Dr.
Grand Junction, CO 81501-2052

2945-112-11-010
Elizabeth H Miles
343 Mayfair Dr.
Grand Junction, CO 81501-2052

2945-112-11-026
Harold B & Ruth Summons
333 Mayfair Dr.
Grand Junction, CO 81501-2052

2945-112-00-045
Sisters of Charity Health Services Corp
4200 S. 4th St.
Leavenworth, KS 66048-5054

2945-112-00-066
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-112-00-978
Sisters of Charity Health Services Corp
P.O. Box 1628
Grand Junction, CO 81502-1628

2945-024-09-010
James C Burke
636 26 Rd.
Grand Junction, CO 81506-1969

2945-024-09-011
Moorgate
11999 San Vicente Blvd.
Los Angeles, CA 90049-5042

2945-024-09-012
Moorgate
11999 San Vicente Blvd.
Los Angeles, CA 90049-5042

2945-024-08-013
Stanley Siligman & Eugene Haskin Trust
3032 I-70 Bus Loop
Grand Junction, CO 81504-5722

2945-024-07-023
1140 Associates
225 N 5th St, Ste 401
Grand Junction, CO 81501-2655

2945-111-15-053
Donald P Aust
P.O. Box 3025
Grand Junction, CO 81502-3025

2945-111-15-054
Wellington Orthopaedic Properties LLC
790 Wellington Ave
Grand Junction, CO 81501-6126

2945-111-15-044
Paul B Jones & Robert D Hackett
2525 N 8th St
Grand Junction, CO 81501-8845

2945-112-01-003
James R Dunn & P D Wubben
601 Center Ave.
Grand Junction, CO 81501-2041

2945-112-00-043
Richard L Schnell
2305 N 7th St
Grand Junction, CO 81501-8117

2945-112-02-001
Dale Schwarz
2211 N 6th St.
Grand Junction, CO 81501-7415

2945-012-02-002
William D Merkel
2525 N 8th St.
Grand Junction, CO 81501-8845

2945-112-02-004
Lynn W Hamilton
560 Cedar Ave
Grand Junction, CO 81501-7428

2945-112-02-005
Robin L & Sandra L Cherp
550 Cedar Ave.
Grand Junction, CO 81501-7428

2945-112-02-007
Donald R & Carolyn E Burkholder
540 Cedar Ave
Grand Junction, CO 81501-7428

2945-112-02-008
David E & L P Flatt
536 Cedar Ave
Grand Junction, CO 81501-7428

2945-112-10-008
Robert Traylor & Karen Hayashi
535 Bookcliff Dr.
Grand Junction, CO 81501-2037

2945-112-10-007
Arthur W Arney
402 Bookcliff Dr.
Grand Junction, CO 81501-2036

2945-112-10-009
Virginia C Raso
507 Bookcliff Dr
Grand Junction, CO 81501-2037

2945-112-10-017
Leland A Schmidt
536 Bookcliff Dr.
Grand Junction, CO 81501-2038

2945-112-10-023
Larue Olson Marital Trust Norwest
P.O. Box 4010
Grand Junction, CO 81502-4010

2945-112-10-024
Larue Olson Marital Trust c/o Norwest
P.O. Box 4010
Grand Junction, CO 81502-4010

2945-112-10-016
Guy D Cherp & Martha Hart
448 Bookcliff Dr.
Grand Junction, CO 81501-2039

2945-112-10-015
Scott A & Susan G Hall
308 Bookcliff Ct.
Grand Junction, CO 81501-2022

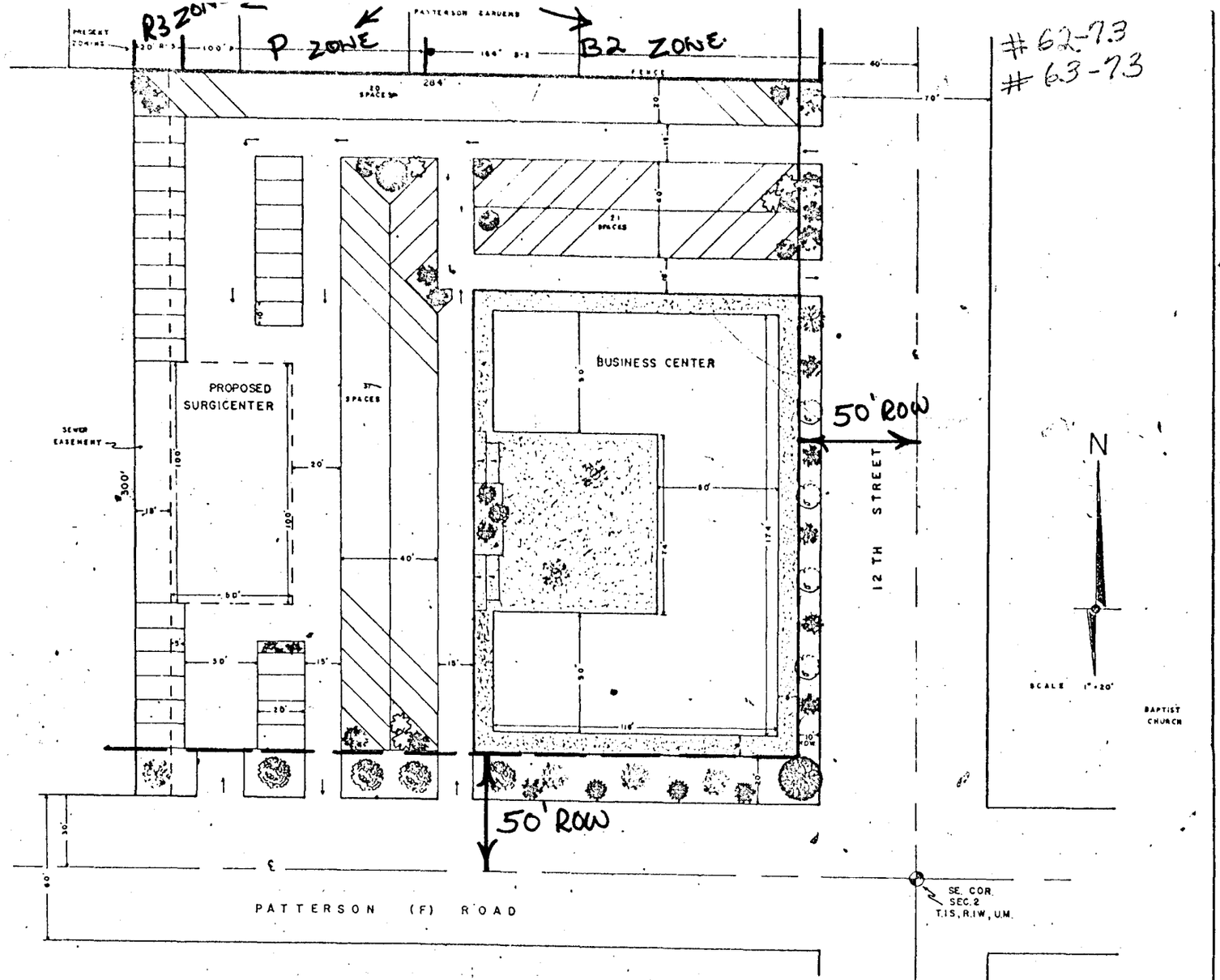
Sisters of Charity of
Leavenworth
4200 S. 4th Street
Leavenworth, KS 66048

St. Mary's Hospital
ATTN: Keith Estridge
P.O. Box 1628
Grand Junction, CO 81502

Bertis C. Rasco, AIA
215 Columbia
Seattle, WA 98104

City of Grand Junction
Community Development Dept.
250 N 5th Street
Grand Junction, CO 81501

#62-73
#63-73



SITE PLAN

12 TH & PATTERSON ROAD

12-6-73

CBW BUILDERS
BOX 2163 GRAND JCT., COLO

ST. MARY'S HOSPITAL

The Regional Medical Center

Grand Junction, CO

Master Site Plan

August 1995

St. Mary's Hospital and Medical Center

Grand Junction, CO

Master Site Plan

Introduction

Existing Property

St. Mary's Hospital and Medical Center located at the corner of North 7th Street & Patterson Avenue in Grand Junction, Colorado currently owns approximately 35.67 acres of land in seven parcels separated by streets or other lots and has an understanding regarding an eighth parcel.

Parcel #1 is the central portion of the main campus, a 19.86 acre plot when including the 2.08 acre park St. Mary's Park.

Parcel #2 is 9.11 acres East of N. 7th Street used for hospital employee parking, three separate residence for Sisters and four other properties (T. Carr residence, G. V. P. T., Seniors, & E. M. S.) owned by the Medical Center.

Parcel #3 is .69acres immediately North across Patterson Road, formerly the Oncology Clinic of Dr. Matchett.

Parcel #4 is a one acre vacant lot approximately 980 feet East of parcel #2 that fronts on Wellington Avenue.

Parcel #5 is St. Mary's Rehabilitation Center formerly Hilltop Rehabilitation Hospital 1100 Patterson Road.

Parcel #6 is the Employee Parking Lot at the corner of Patterson and 26 3/4 Road.
Parcel #7 is St. Mary's Family Practice Residency the former Centennial Plaza Property 2721 North 12th Avenue.

Parcel #8 is owned by Bookcliff Baptist Church and is located across North 12th Street from St. Mary's Family Practice Residency. During the recent property acquisiton from Hilltop it was understood St. Mary's would continue to use the Church's parking lot under the current agreement with the Church provided additional parking was required for the buildings new use.

Planning Objectives

This Master Site Plan (MSP) develops Parcels #1 and #2 in three phases which bring the properties up to the City's current Zoning and Development Code, dated: October 1, 1994.

To remain B-1

Parcel #3 is small, isolated from the Medical Center by Patterson Avenue and Zoned B-1
It is vacant and for sale.

Parcel #4 is 980 feet to the East of Parcel #2. The maximum distance permitted by City Code for off site, off street parking is 200' (may be 500' for employee use). It is recommended Parcel #4 be used for Employee Parking for Parcel #5 or for Periodic Employee Parking with shuttle bus service should the Main Campus, Parcel #1 and #2 have a major construction activity that limit on site parking . As permanent development occurs, Parcel #4 may be developed as related medical offices, research, a child development center, retail outlet, engineering services or general administrative offices.

Parcel #5 St. Mary's Rehabilitation Center formerly Hilltop Rehabilitation Hospital is on a 2.93 acre site zoned RMF-64, contains 53,276 square feet of space with a building site foot print of 39,200 square feet, 113 parking stalls ( )for the handicapped) , has 22 Skilled Nursing Home beds, 28 Rehabilitation beds and an Outpatient Rehabilitation Service that provides the region with (11,340) OPV annually .

Parcel #6 Employee Parking formerly Hilltop Rehabilitation Hospital Employee Parking is on a ( )acre site has 48 parking stalls ( )for the handicapped) and ( )square feet of site landscape.

Parcel #7 St. Mary's Family Practice Residency formerly Centennial Plaza is on a 2.08 acre site (29,260 square feet) zoned P-B, contains 29,700 square feet of space with a building site foot print of 21,900 square feet, 130 parking stalls ( )for the handicapped)..

Parcel #8 Bookcliff Baptist Church Parking lot located on the East side of 12th Street,a (????) square foot lot zoned (???) contains 95 to 125 unimproved parking stalls.

This Master Site Plan does not describe the expected on going internal remodeling and upgrades for the existing buildings.

St. Mary's Hospital and Health Center
Grand Junction, CO

Master Site Plan Goals

1. Parcel #1 Building Expansion

Phase #1

high priority – **Family Practice Residency** 25,000
Out patient Rehabilitation 10,000-12,000
Occupational Health 5,000
Bldg. support areas 1,200
Parking and Landscaping

Phase #2

Entry Chapel
Saccomanno Center Expansion
Pedestrian Bridges between Parcel #1 Buildings
Parking and Landscaping

Phase #3

Ambulatory Services/Medical Offices
Pedestrian Bridge across N 7th Street
Parking and Landscaping

Including:

Improve on-site circulation
Zoning of all St. Mary's properties to P-B
Parking, Landscaping, Site Lighting etc.
Razing of temporary buildings
Bridge across North 7th Street
Internal remodeling all buildings
Bridge GVIC canal
Razing temporary buildings, #1 to 7; 12 to 18;Engineering; Laundry
Remodel interior of buildings as required to accommodate depts

2. Parcel #2 Expansion of Surface Parking and Phase #3 Building & Bridge

3. Parcel #3 Medical Related Use Building current vacant and for sale

4. Parcel #4 Staff Parking or Flexible Support Services Building

5. Parcel #5 St. Mary's Rehabilitation Center (former Hilltop Rehabilition Hospital)

Rehabilitation Out Patients	11,340	annual OPV
Rehabilitation Inpatients		28 Beds
Skilled Nursing Inpatients		22 Beds

Staffing
- a.m.
- p.m.
- night

off site

6. Parcel #6 St. Mary's Family Practice Residency (former Centennial Plaza)
All existing tenants to vacate premise --Notice served to each Aug 1, 1995
29,260 gsf estimate 26 physicians at 4parking stalls each (code)=104stalls

7. Parcel #7 Staff Parking at Patterson & North 26 3/4

Improvement *verify*
Parcel size *verify*

8. Parcel #8 Bookcliff Baptist Church Parking East side of N. 12th St.
(across 12th from Centennial Plaza)

96 to 125 stalls *verify*
Lot size *verify*
Status with City *verify*
Understanding 3 year agreement

Property For Rezoning

	Description	Current Zone	New Zone
1.	T. Carr	RMF-64	P-B
2.	G V P T	RMF-64	P-B
3.	Seniors	RMF-64	P-B
4.	E M S	RMF-64	P-B
5.	~~Hilltop~~ Reh Hosp St. Mary's Reh Center	RMF-64	P-B
6.	St. Mary's Park	RSF-4	P-B

Potential for Medical Corridor Zone

St. Mary's Hospital and Medical Center
St. Mary's Rehabilitation Center
St. Mary's Family Practice Residency
Wellington I, II, III & IV
Western Rockies Eye Center
La Villa Grande Care Center
Pharmacies

TRAFFIC STUDY REQUIREMENTS FORM

Date: 8-10-95

PROJECT NAME ST. MARY'S MASTERPLAN LOCATION 7TH & PATTERSON

DEVELOPER	TRAFFIC CONSULTANT	CITY	APPROVAL PROCESS
Company	Company	Project Engineer	City ☒
Contact	Project Engineer	Project Planner	CDOH ☐
Phone	Phone	Phone	Other ☐

TRAFFIC STUDY FOR:		CONTENT OF REPORT TO INCLUDE			METHOD
			Site Impacts	Study Area Impacts	
Zoning		Land Use Description	X	X	
Platting		Trip Generation (+ Reduction Factors)	X		ITE
Building Permit		Trip Distribution/Trip Assignment	X		
Access Permit		Parking Analysis (+ Shared Parking)	X		
Annexation		Accident Analysis	X		CITY TO PROVIDE DATA
		Traffic Signal Progression		X	PATTERSON RD, 7TH ST.

PEDESTRIAN FLOW ANALYSIS – IDENTIFY DEFICIENCIES
INTERNAL CIRCULATION – IDENTIFY DEFICIENCIES, RECOMMEND IMPROVEMENTS

INTERSECTION CAPACITIES TO BE ANALYZED *	PEAK PERIODS				STREET A.D.T.S. TO BE PROVIDED	PROJECTION		
	A.M.	Noon	P.M.	Other		Existing	Build Out ST. MARY'S	20 Yr.
7TH & PATTERSON	X	X	X		7TH	X	X	X
7TH & WELLINGTON	X	X	X		PATTERSON	X	X	X
DRIVEWAYS ON PATTERSON	X	X	X		WELLINGTON	X	X	X
WELLINGTON & LITTLE BOOKCLIFF	X	X	X					
11TH & WELLINGTON (PARKING LOT)	X	X	X					

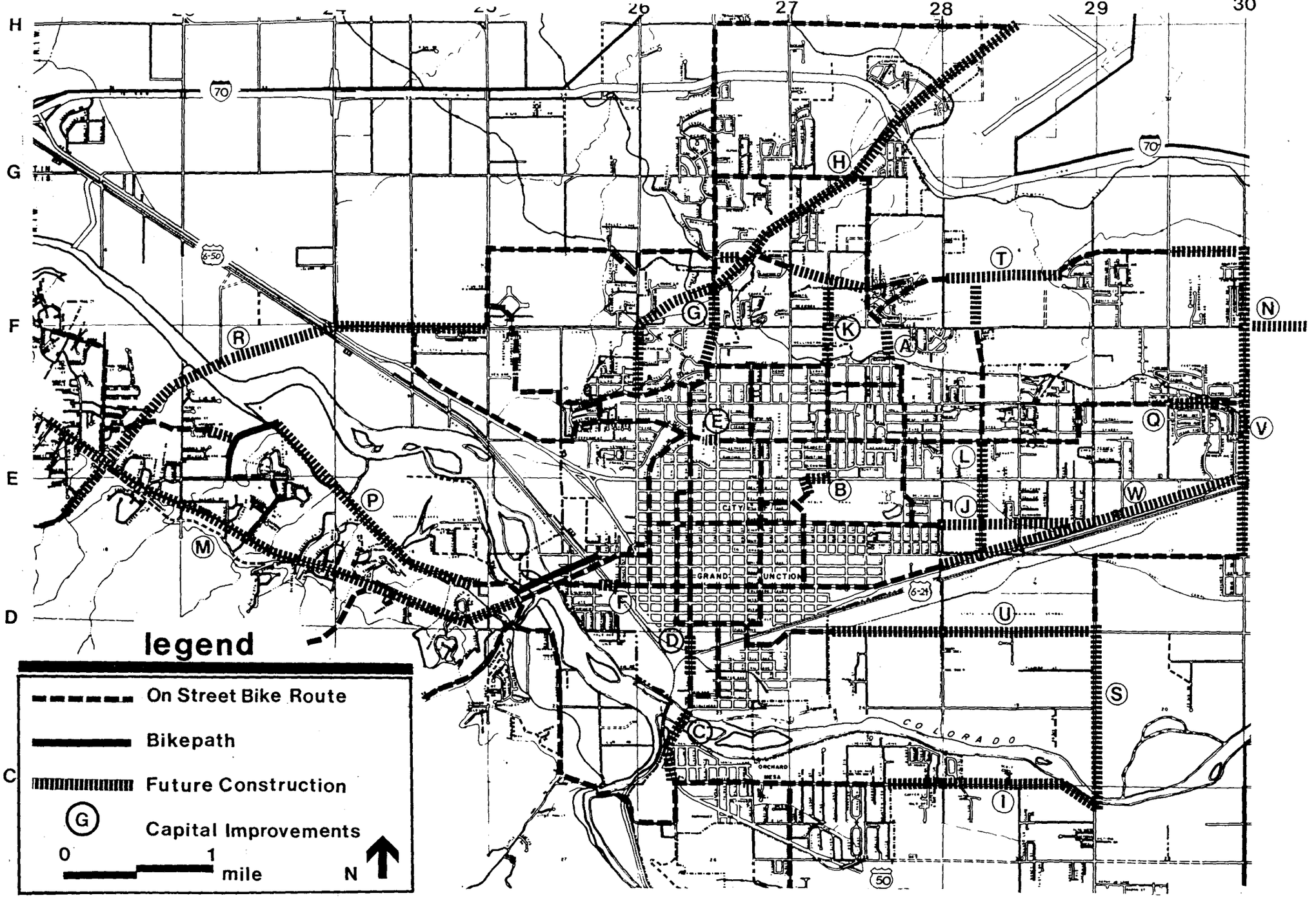
For Existing and Build Out Conditions.

Traffic Consultants must meet with City staff to complete form. Traffic studies submitted without form being completed prior to study may not be accepted. All studies must conform to City Ordinance.

Study Area Definition (see map if attached): _____

North: _____ South: _____

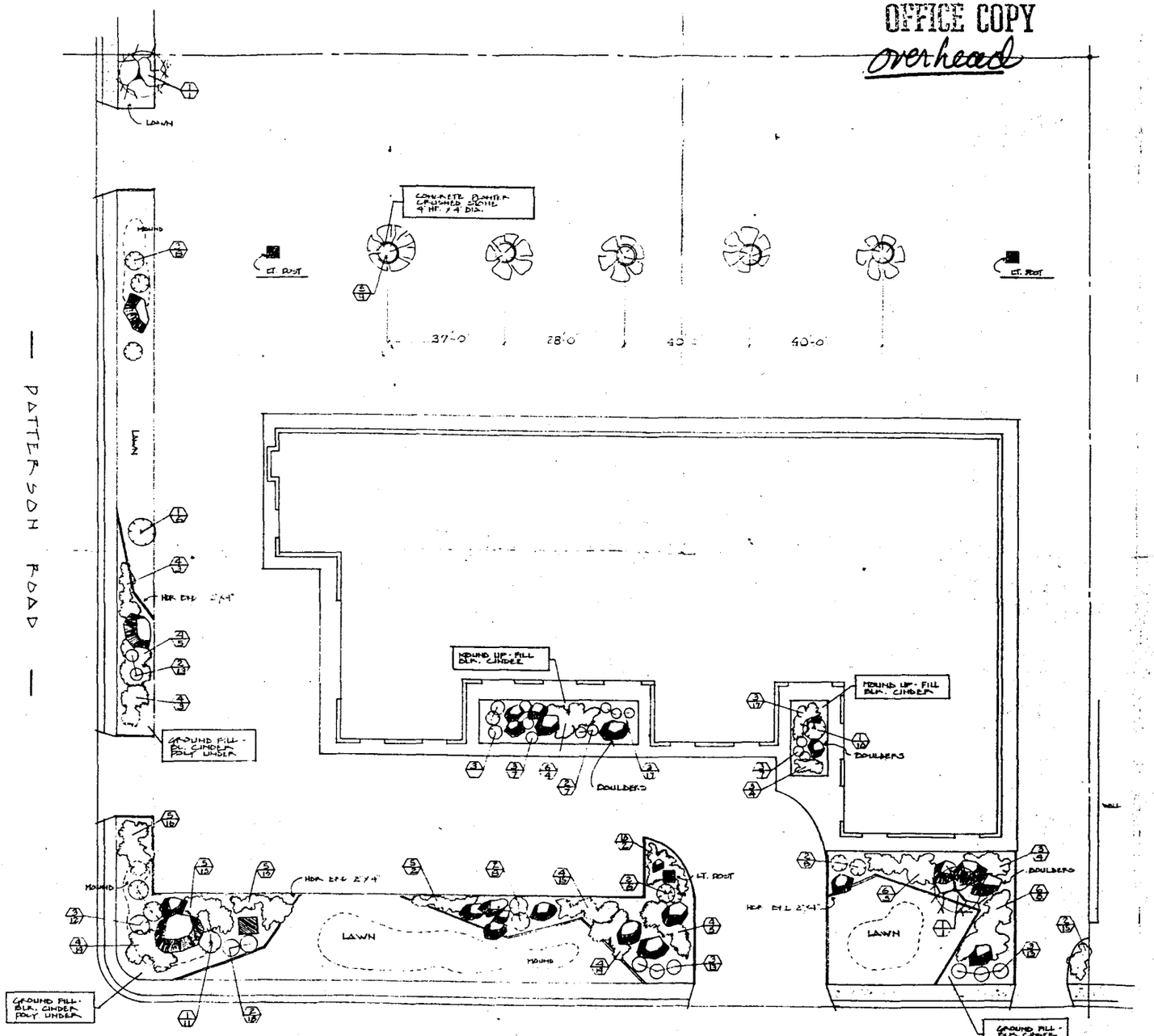
East: _____ West: _____



Grand Junction Bikeway Plan · 1980

OFFICE COPY

overhead



PLANT LIST

KEY	PLANT NAME	SIZE	QUAN.
1	BIRCH, WHITE, CLUMP	1¼"	2
2	BANDI NAY SNAKE	5 GAL.	15
3	JUNIPER, BUFFALO	" "	12
4	JUNIPER, SCANDIA	" "	20
5	JUNIPER, SEA GREEN	" "	3
6	JUNIPER, TAMIROSA	7 GAL	8
7	MAHONIA, AQUIFOLIA	5 GAL.	7
8	MUGHO PINE	" "	5
9	SYCAMORE	1¼"	1
10	DWARF ALBERTA SPRUCE	5 GAL.	1
11	YUCCA, FILEMENTOSA	" "	8
12	YUCCA, GLAUCA	" "	8
13	BANDERA, STD.	" "	11
14	JUNIPER, WEEPING	" "	10
15	JUNIPER, SARGENT	" "	62
16	JUNIPER, TAMARIX	" "	
17	SPREADING YEW	" "	
18	NORWAY SPRUCE GLOBE	" "	5
	PLANTERS: CIRCULAR 4' DIA. BY 4' HT. CRUSHED STONE		
	HEADER BOARD: 2"x9"	290	LIN. FT.
	POLY VINYL	3,000	SQ. FT.
	BLACK CINDER	3,000	SQ. FT.

QUANTITY
KEY NUMBER

NORTH
3/16" = 1'-0"

REVISIONS			
NO	DATE	BY	
1	9-5-76	JS	
2	9-27-76	JS	
3			
4			
5			
6			

CENTENNIAL PLAZA
15TH STREET & PATTERSON

JOHN M. TUPEK
LANDSCAPE ARCHITECT

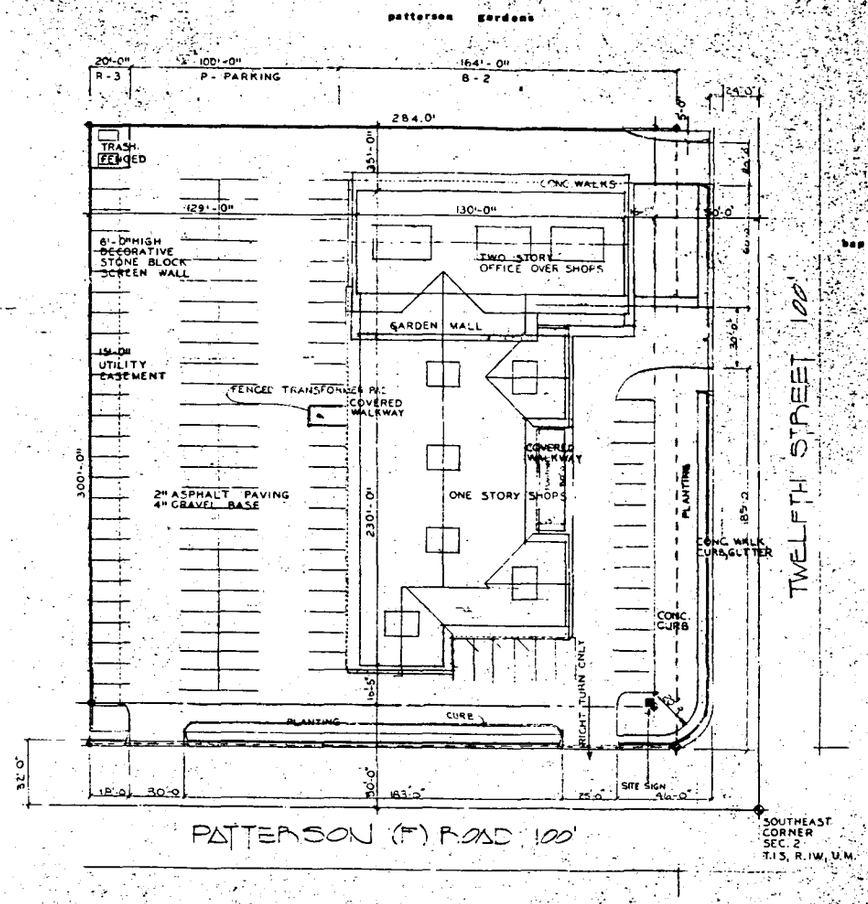
DRAWN BY
CHK'D
TRACED

SCALE 1/16"-1'-0"
DATE JULY 15
SHEET 1 OF 2

a shopping · office complex by :

C.B.W. BUILDERS

grand junction, colorado



SCALE: 1" = 30'-0"
DEC. 18, 75

NOTES

SHOPPING & OFFICE
GROUP F-2
FIRE ZONE 2
TYPE 3 CONST. 1 HR.
29534 SQ.FT.
121 PARKING SPACES [98 REQ.]

architects :
baldry associates, arch.

planners :
home designers, inc.

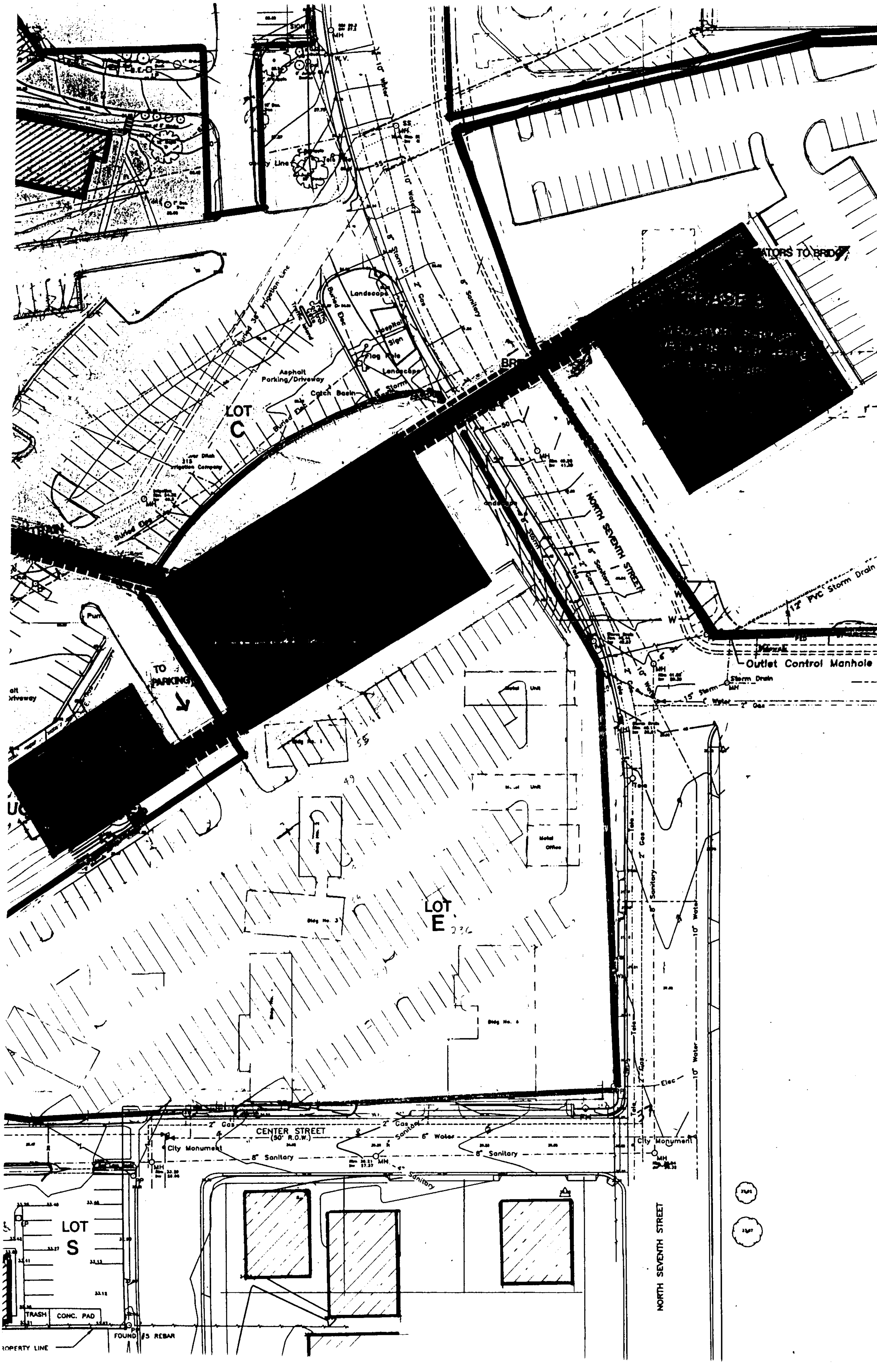
structural :
mickey and fox, inc.,
consulting engineers

mechanical :
g. r. mueller, eng.

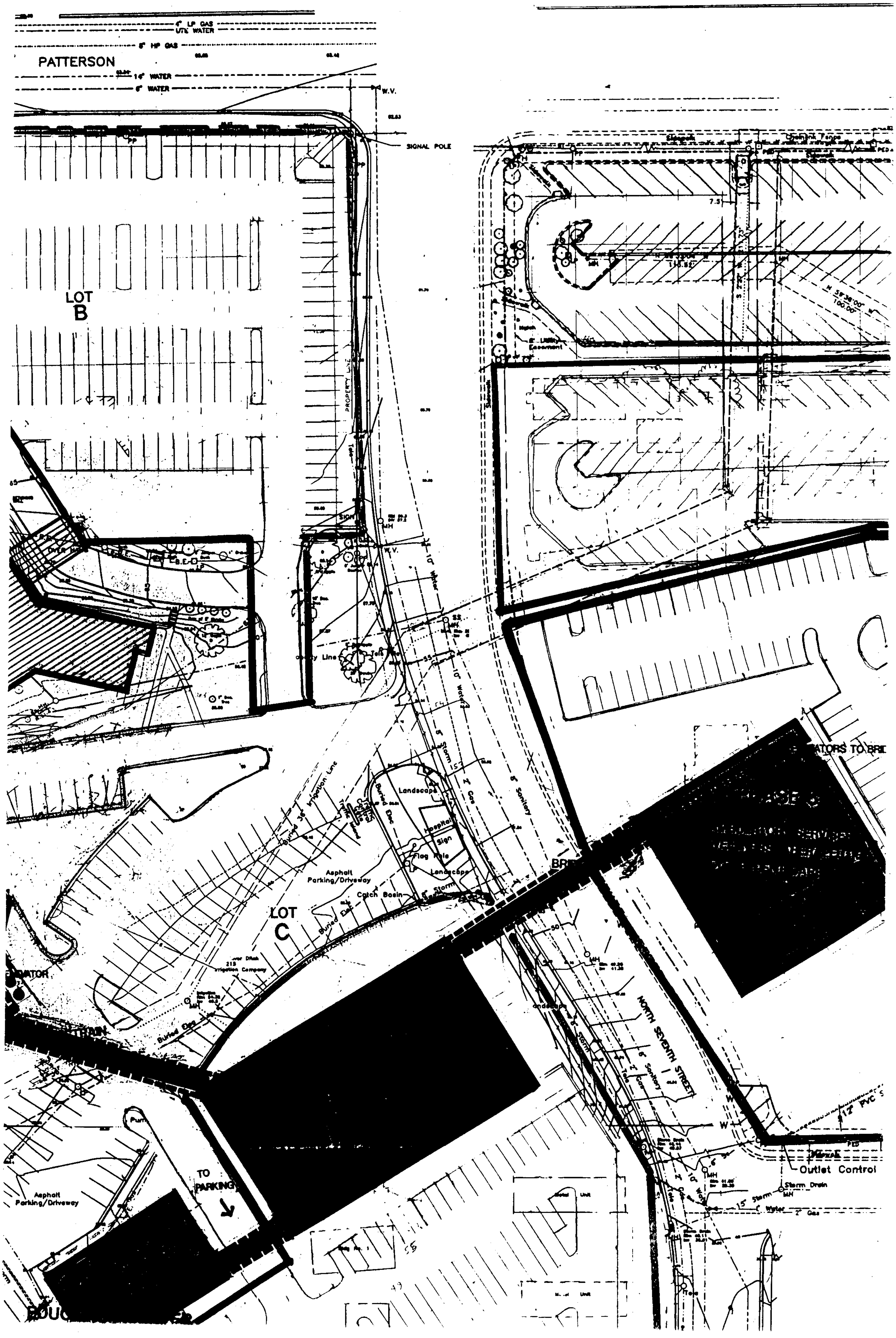
INDEX

DRAWING OF site plan

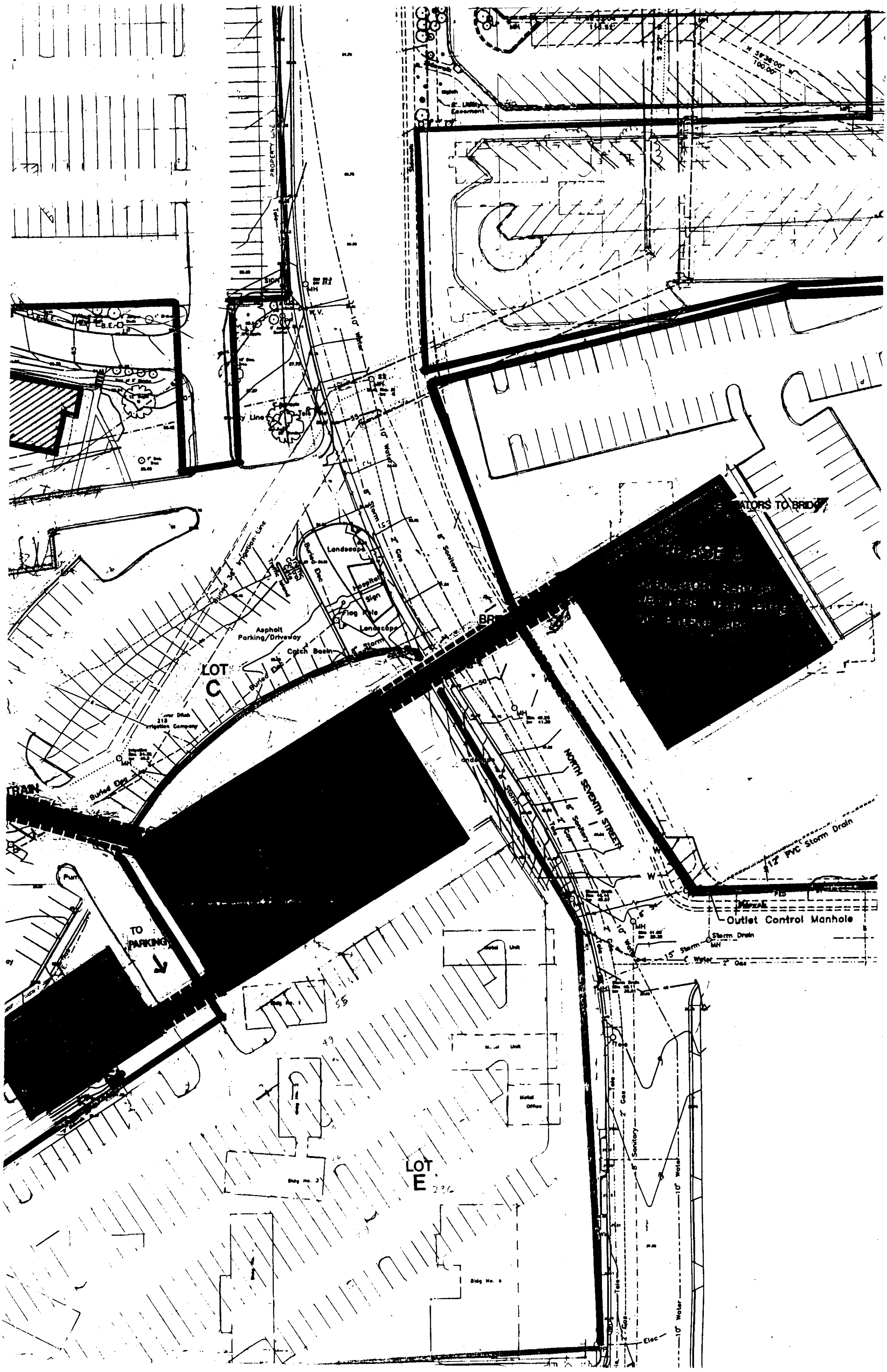
1



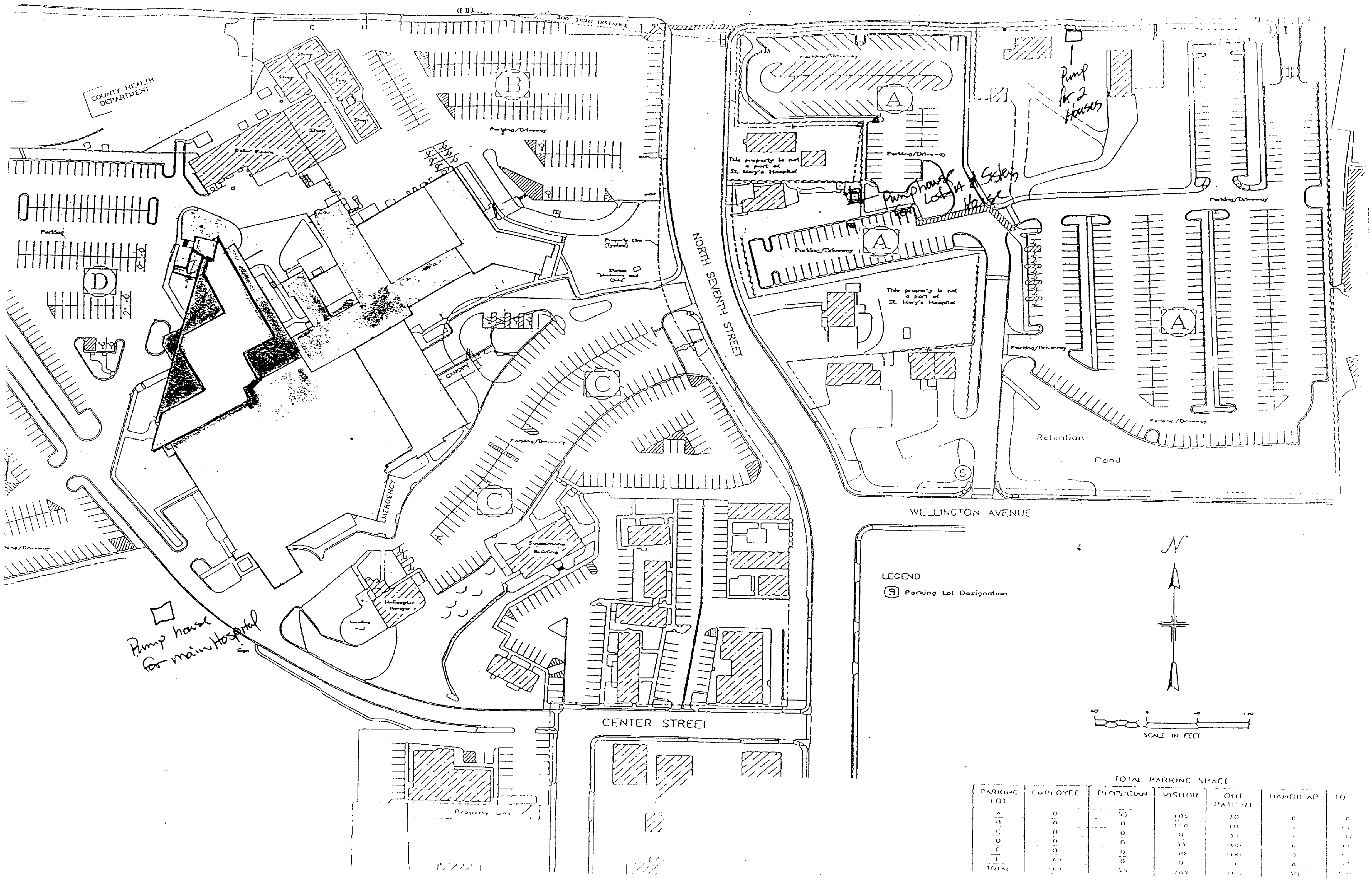
LOT
C
Asphalt
Parking/Driveway
Catch Basin
Landscape
Hospital
Sign
Flag Pole
Buried Elec
8" Storm
2" Gas
8" Sanitary
10" Water
TO
PARKING
NORTH SEVENTH STREET
12" PVC Storm Drain
Outlet Control Manhole
Storm Drain
MH
15" Storm
Motel Unit
Motel
Office
LOT
E
Bldg No. 3
Bldg No. 4
CENTER STREET
(50' R.O.W.)
2" Gas
6" Water
8" Sanitary
City Monument
MH
Elec
Tele
LOT
S
TRASH
CONC. PAD
FOUND #5 REBAR
ROPERTY LINE
NORTH SEVENTH STREET



PATTERSON
4" LP GAS
UTIL WATER
8" HP GAS
14" WATER
8" WATER
W.V.
SIGNAL POLE
LOT
B
PROPERTY LINE
SIGN
MH
B.E.
10" Water
Utility Line
Telephone
8" Storm
2" Gas
8" Sanitary
Landscape
Hospital
Sign
Flag Pole
Asphalt
Parking/Driveway
Catch Basin
Storm
Buried Elec.
LOT
C
Buried 36" Irrigation Line
Irrigation Company
Buried Gas
Buried Elec.
6" Utility Easement
Sidewalk
Chainlink Fence
N 58°38'00" E
100.00'
7.5'
NORTH SEVENTH STREET
6" Sanitary
Storm
Landscape
TO
PARKING
Asphalt
Parking/Driveway
Outlet Control
Storm Drain
MH
15" Storm
Water
2" Gas
12" PVC
Buried Unit



PROPERTY LINE
Utility Easement
10" Water
8" Storm
2" Gas
8" Sanitary
Landscape
Hospital Sign
Flag Pole
Landscape
Storm
Catch Basin
Asphalt Parking/Driveway
LOT C
Buried Elec
Irrigation Line
Irrigation Company
NORTH SEVENTH STREET
12" PVC Storm Drain
Outlet Control Manhole
Storm Drain
15" Storm
Water
2" Gas
TO PARKING
Motel Unit
Motel Office
LOT E
Bldg No. 3
Bldg No. 4
10" Water
Elec



TOTAL PARKING SPACE

PARKING LOT	EMPLOYEE	PHYSICIAN	VISITOR	OUT PATIENT	HANDICAP	TOT[illegible]
A	0	55	106	20	0	10[illegible]
B	0	0	110	10	[illegible]	[illegible]
C	0	0	0	55	[illegible]	[illegible]
D	0	0	55	100	6	[illegible]
E	0	0	30	100	0	[illegible]
F	63	0	0	0	0	[illegible]
TOTAL	63	55	209	205	10	[illegible]

ST. MARY'S HOSPITAL

The Regional Medical Center

Grand Junction, CO

Master Site Plan

1995

St. Mary's Hospital and Medical Center

Engineering

Addendum 1

St. Mary's Hospital & Medical Center Master Site Plan

September 8, 1995

The following addendum is submitted to the St. Mary's Hospital & Medical Center Master Site Plan:

General Project Report (3-ring binder)

Page 4-8:	¶ 3	Line 2	Reference to Parking Lot A should read Parking Lot B.
		Line 3	Reference to Parking Lot A should read Parking Lot B.
		Line 5	Reference to Parking Lot A should read Parking Lot B.
		Line 6	Reference to Parking Lot A should read Parking Lot B.
Page 4-8:	¶ 4	Line 2	Reference to Parking Lot A should read Parking Lot B.

Saint Mary's Hospital and Medical Center

Grand Junction, CO

MASTER SITE PLAN

Index

Saint Mary's Hospital and Medical Center
Grand Junction, CO

MASTER SITE PLAN

St. Mary's Hospital and Medical Center
Grand Junction, CO

Master Site Plan

Introduction

Background And Purpose

St. Mary's Hospital and Medical Center (St. Mary's) is a 294 bed Regional Tertiary Medical and Trauma Center. It provides the residents of western Colorado and eastern Utah with high quality health care services. It is the largest medical center between Denver and Salt Lake City. St. Mary's is a teaching affiliate of the University of Colorado Health Sciences Center Family Practice Residency program.

St. Mary's has a rich history of providing health care. As reflected in its mission and day to day operation, St. Mary's is dedicated to promoting health care access for those in need and provides a significant amount of charity care for those individuals without personal resources. The spirit of charity care is also supported through the development of health services for which reimbursement is inadequate but which are needed by the community. St. Mary's consciously and deliberately establishes systems to identify and assist those in financial need. Beyond these commitments, there is a concerted effort not only to meet the health needs of the poor and elderly, but to increase the awareness of others regarding these needs. The mission of the Sisters of Charity of Leavenworth continues to be the main focus of St. Mary's efforts and future direction.

The purpose of this Master Site Plan (MSP) is to obtain City of Grand Junction approval to upgrade, improve, and expand St. Mary's facilities within its property boundaries in order to continue to be responsive to health care demands. St. Mary's seeks approval of its master site plan concept and phased projects over the next 10 year period following master site plan approval.

The improvement projects included in the master site plan are intended to better serve the community by improving functionality, responding to changing technologies and medical practices, and reducing cost. The improvement projects under the proposed master site plan will result in the additional area needed to alleviate crowed conditions, expand cramped and outdated space and facilities, provide space necessary to accommodate the latest medical technologies and services, and to up grade and enhance campus grounds and open spaces to improve the aesthetic appearance of the medical center.

This Master Site Plan is for St. Mary's entire campus. The west end of the campus is anchored by the hospital located at the intersection of Patterson Road and North 7th Street and the East by St. Mary's Rehabilitation Center and Family Practice Residency building on the corner of Patterson Road and North 12th Street. Figure 1 shows the neighbor hood context. The plan has been developed to reflect the Zoning and Development Code last printing October 1994.

The stated goal of the Zoning and Development Code is to respond to the demands of change while promoting the health, safety and general welfare of the residents of the City of Grand Junction. This Master Site Plan (MSP) seeks to meet that goal and assure that the Master Site Plan improvements are appropriate within the community.

Process

While a great majority of code issues fall easily identifiable, St. Mary's with it's long term presence in Grand Junction and extensive facility assets at the present locations falls outside of the normal code process and requirements.

Through staff discussion the following process has been established for St. Mary's MSP:

- St. Mary's prepares "Preliminary" Master Site Plan in compliance with agreed outline and files it with the City Community Development Department (CCDD) targeted for September 1st.

- A public Hearing by the Planning Commission is held with in 30 days.
  Normally the 1st Tuesday of following month (assume October 3rd)
  This is followed by a 3 day window for Appeals

- St. Mary's must then satisfy items from the hearing and staff reviews
  or
  If no agreement is reached or if an Appeal is filed a City Council decision will be required

- If no appeal is filed and the staff comments are satisfied the MSP will go to the City council with the Planning Commissions recommendation to approve. Assuming the City Council approves the MSP becomes officially adopted and may be implemented the first month after the City Council's approval.

Mission

In 1895, Sisters Balbina Farrel and Lousia Madden embarked on their mission from Leavenworth, Kansas, to bring a hospital to the relatively new town of Grand Junction. By 1896, their dream became reality with the opening of a ten bed wooden frame hospital.

As the community grew so did St. Mary's Hospital. In response to the commitment and perseverance of the Sisters, the community graciously donated the funding for expansion in 1923 and 1940. By 1950 continued growth demanded additional facilities and again the community supported St. Mary's need. This time with landed donated by Mesa College St. Mary's moved to the current Rose Hill site. Progress over the years has brought about the much needed expansion in 1978, 1985 and 1995.

As those early Sisters began their work for the good of others, they reached out to those in need, never turning away anyone who could not pay for care. Their door was always open.

Through times changed, need has not. The Sisters continue to be concerned that people in need are cared for. St. Mary's Medical Center maintains an open door policy, never turning a patient in need of care away.

St. Mary's is a non-profit institution. Any income in excess of expenses for personnel, payment of debt, and operations is reinvested in facilities, community and medical education, charity care and other services to the community.

St. Mary's has provided far more to the Grand Junction community than dollars can attest. St. Mary's offers a wide range of community services, education, research and special programs for the elderly. Each is made of people who are givers of care with a deep concern for others.

The proposed development will enable St. Mary's to continue to be responsive to the Sisters of Charity of Leavenworth public purpose mission to provide the highest quality for all members of the public , and will enable this to occur in a more efficient manner. The benefits to the community are reflected in St. Mary's Hospital & Medical Center vision statement:

We will provide compassionate health care
And make it affordable for all
by being passionate about our work and our relationship.
We shall be here for life.

Sister Lynn Casey

In addition to meeting these fundamental aspirations, responding to changing health care needs and improving the efficiency of the institutions, benefits will include better accessibility of services and improvement of facility appearance. Some public services will be expanded as they are relocated to larger, more efficient space.

Existing Property

St. Mary's Hospital and Medical Center located at the corner of North 7th Street & Patterson Avenue in Grand Junction, Colorado currently owns approximately 35.67 acres of land in seven parcels separated by streets or other lots and has an understanding regarding an eighth parcel.

Parcel #1 is the central portion of the main campus, a 19.86 acre plot when including the 2.08 acre park St. Mary's Park.

Parcel #2 is 9.11 acres East of N. 7th Street used for hospital employee parking, three separate residence for Sisters and four other properties (T. Carr residence, G. V. P. T., Seniors, & E. M. S.) all owned by St. Mary's.

Parcel #3 is .69 acres immediately North across Patterson Road, formerly the Oncology Clinic of Dr. Matchett.

Parcel #4 is 1002 Wellington Avenue a one acre vacant lot approximately 980 feet East of Parcel #2.

Parcel #5 is St. Mary's Rehabilitation Center the former Hilltop Rehabilitation Hospital 1100 Patterson Road.

Parcel #6 is the Employee Parking Lot at the corner of Patterson and 26 3/4 Road.

Parcel #7 is St. Mary's Family Practice Residency the former Centennial Plaza Property 2721 North 12th Avenue.

Parcel #8 is a parking lot owned by Bookcliff Baptist Church across North 12th Street from St. Mary's Family Practice Residency. During the recent property acquisition from Centennial Plaza it was understood St. Mary's could continue to use the Church's parking lot under the current agreement.

Saint Mary's Hospital and Medical Center
Grand Junction, CO

AERIAL PHOTO

Planning Objectives

This Master Site Plan (MSP) develops Parcels #1 and #2 in three phases which bring the properties up to the City's current Zoning and Development Code, dated: October 1, 1994. Major planning elements for Parcel # 1 include landscaped setbacks along Patterson Road; additional on site landscaping; on site traffic circulation changes that result in reduction of curb cuts along N.7th Street; razing of temporary buildings; construction of permanent buildings; structured parking at N.7th Street and Center Drive; and pedestrian bridge across N. 7th Street to Parcel #2 for access to additional surface parking and planned outpatient facilities.

Parcel #3 is a .69 acre lot with a 5,000sf Doctor's Office building isolated from the Medical Center by Patterson Avenue. It is in Zoned B-1. It is vacant and for sale.

Parcel #4 is a 1 acre vacant lot 980 feet to the East of Parcel #2 and approximately 450' due south of Parcel #5. It is initially planned to developed as surface parking for St. Mary's Rehabilitation Center Employees (serving Parcel #5) and/or for Periodic Employee Parking (serving Parcel #1 and /or Parcel #2). When permanent development occurs, Parcel #4 is planned to be developed as medical office, research, a child development center, retail outlet, engineering service or general administrative office use. In order to enhance the relationship between Parcel #4 and Parcel # 5 it is planned to upgrade the existing pedestrian bridge now over the Grand Valley Irrigation Canal at the North extension of Little Bookcliff Avenue R.O. W..

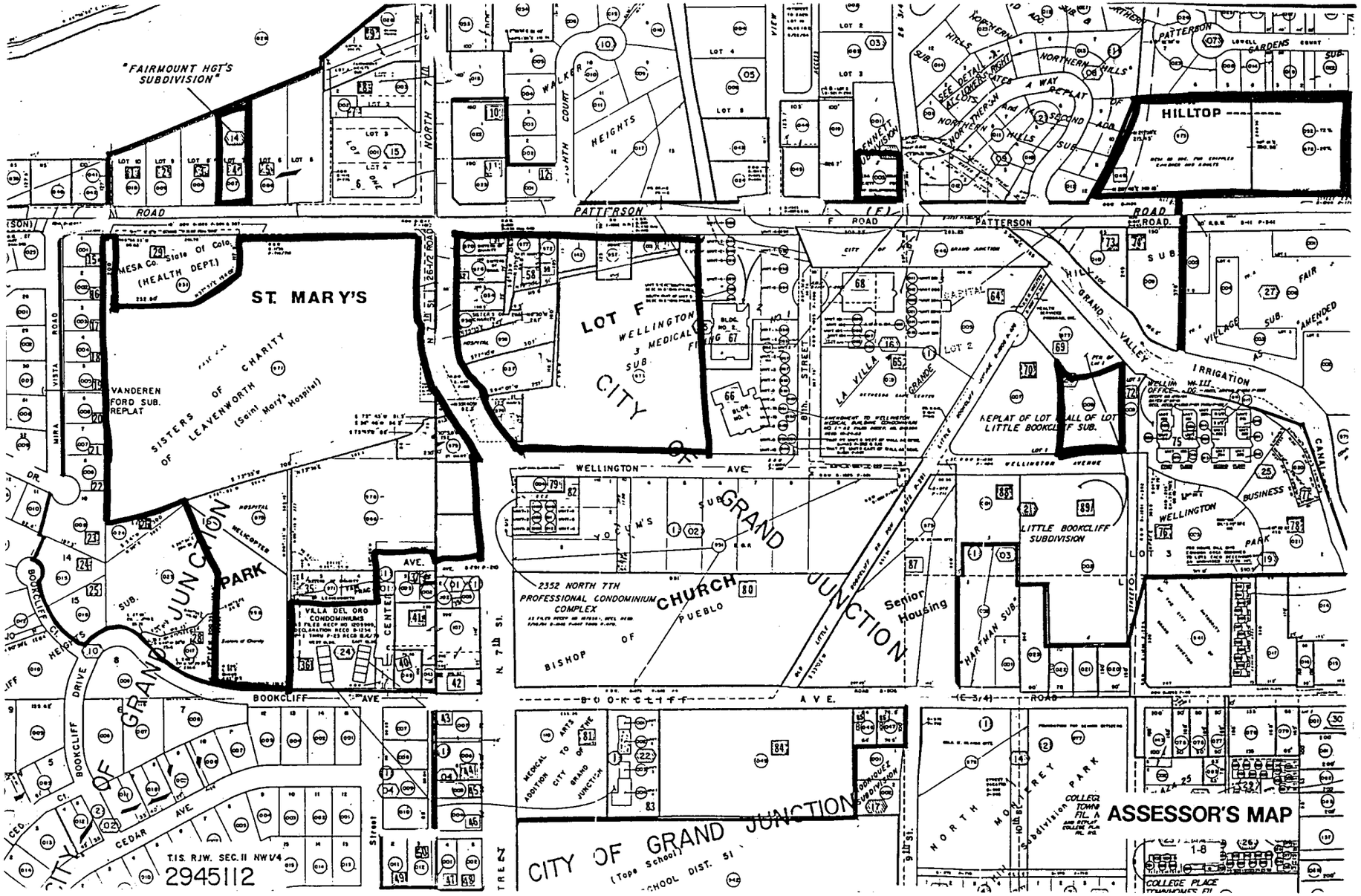
Parcel #5 St. Mary's Rehabilitation Center formerly Hilltop Rehabilitation Hospital is on a 2.93 acre site zoned RMF-64, contains 53,276 square feet of space with a building site foot print of 39,200 square feet, 103 parking stalls (11 for the handicapped) , has 22 Skilled Nursing Home beds, 28 Rehabilitation beds and an Outpatient Rehabilitation Service that provides the region with approximately 11,500 OPV annually .

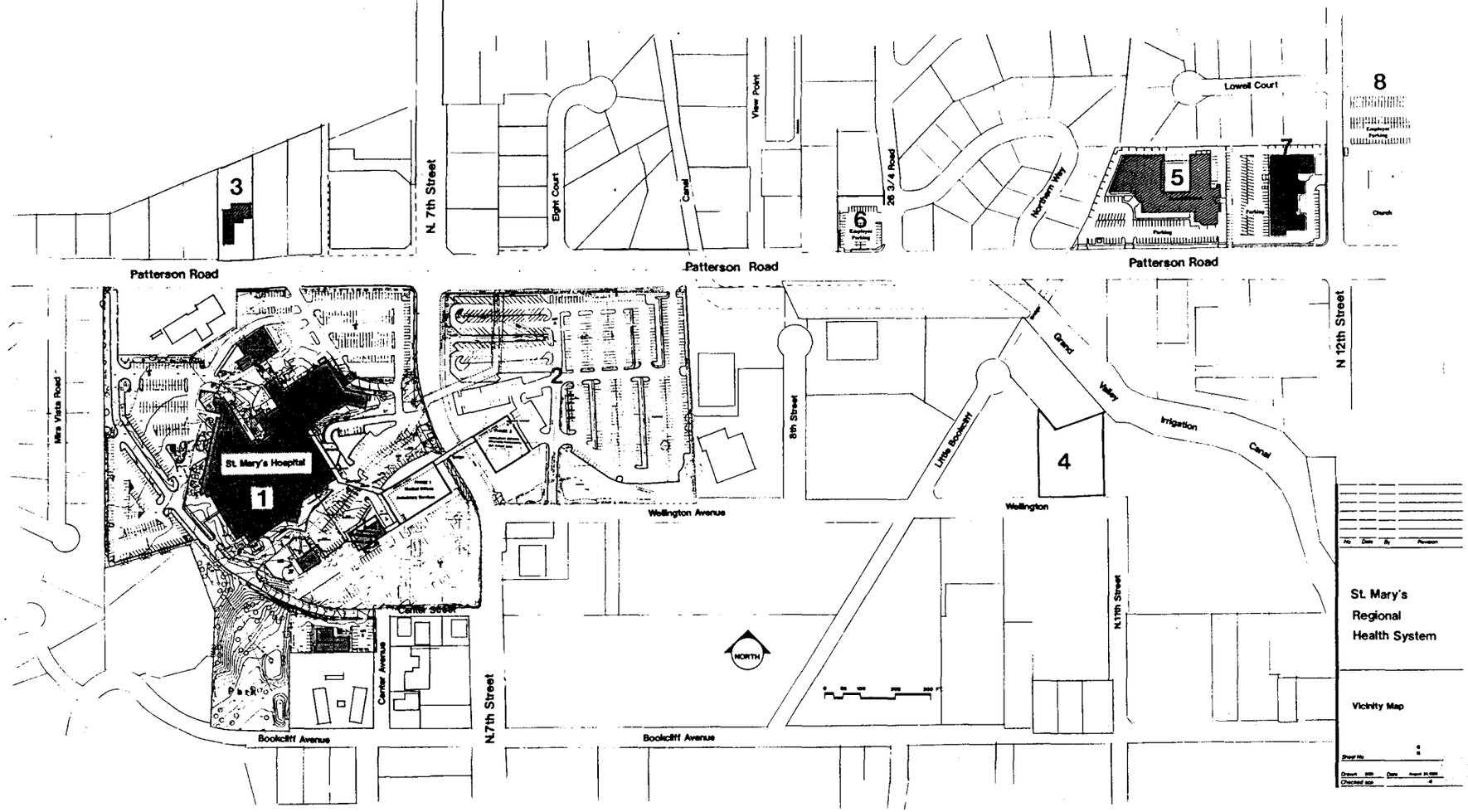
Parcel #6 is St. Mary's Rehabilitation Center Employee Parking Lot, formerly Hilltop Rehabilitation Hospital Employee Parking, a .36 acre site, with 48 surface parking stalls (2 for the handicapped) and 1,539 square feet (9.5%) of the site landscaped.

Parcel #7 St. Mary's Family Practice Residency formerly Centennial Plaza is on a 2.08 acre site (29,260 square feet) zoned P-B, contains 29,700 square feet of space with a building site foot print of 21,900 square feet, 130 parking stalls (7 for the handicapped).

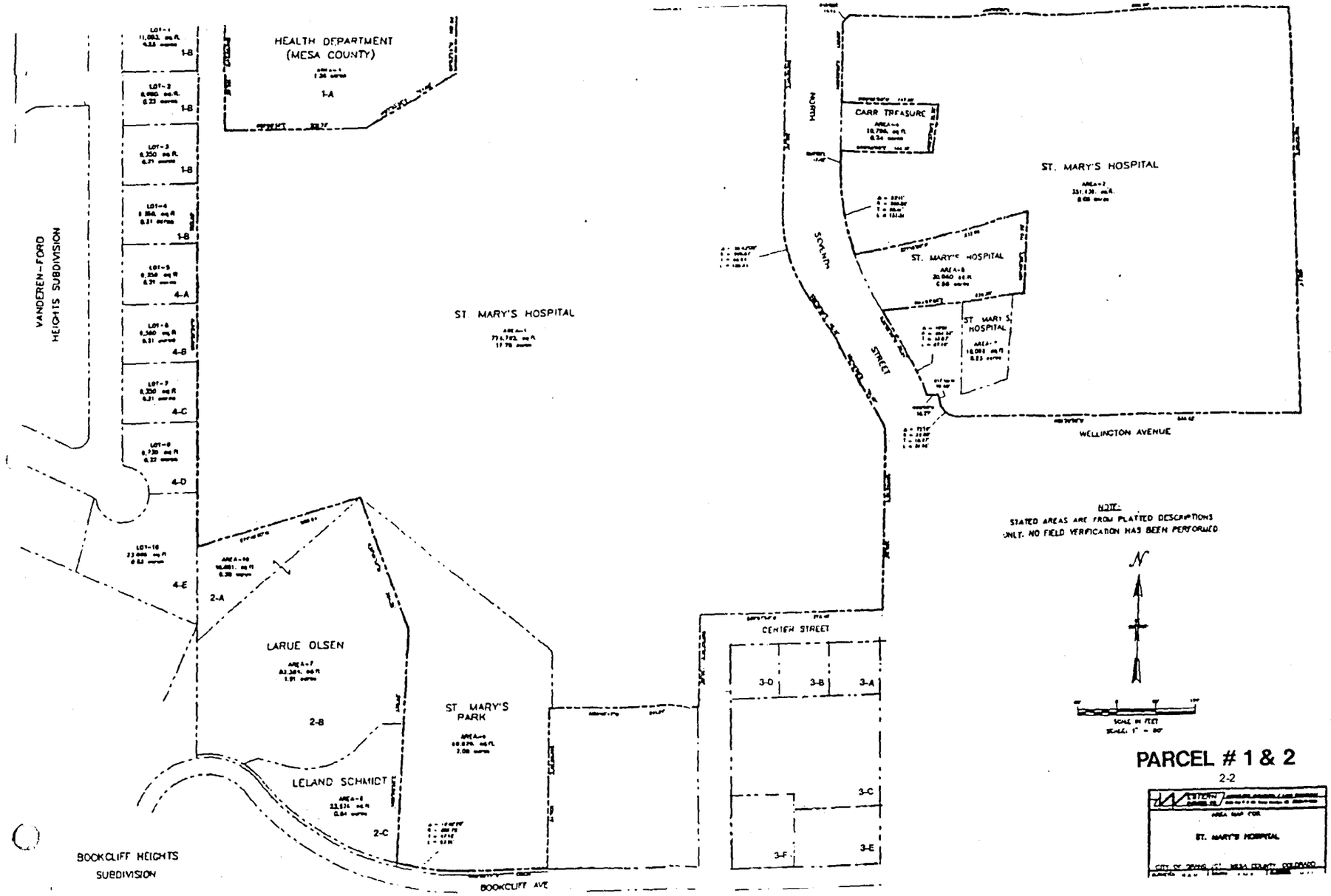
Parcel #8 Bookcliff Baptist Church Parking lot is located on the East side of 12th Street. It can park 95 to 125 cars on gravel surface. This area has been used by the past owner of Centennial Plaza under an verbal agreement with the Church. There are 3 years remaining under the agreement. It has been passed on to the St. Mary's. It's future use has not been defined at this time.

Numerous on going internal remodeling, tenant improvement and upgrade projects are expected over the life of this plan. This is a Master Site Plan and as such it does not address on going internal remodeling, tenant improvement and upgrade projects in side of the buildings.


"FAIRMOUNT HGT'S SUBDIVISION"
PATTERSON ROAD
F ROAD
HILLTOP
ST. MARY'S
SISTERS OF CHARITY OF LEAVENWORTH (Saint Mary's Hospital)
State Of Colo. (HEALTH DEPT.) MESA Co.
VANDEREN FORD SUB. REPLAT
LOT F WELLINGTON MEDICAL SUB
CITY OF GRAND JUNCTION
WELLINGTON AVE.
GRAND JUNCTION
2352 NORTH 7TH PROFESSIONAL CONDOMINIUM COMPLEX
CHURCH OF BISHOP PUEBLO
Senior Housing
LITTLE BOOKCLIFF SUBDIVISION
REPLAT OF LOT 1 ALL OF LOT 2 LITTLE BOOKCLIFF SUB.
GRAND VALLEY IRRIGATION
BOOKCLIFF AVE.
BOOKCLIFF DRIVE
CEDAR AVE
VILLA DEL ORO CONDOMINIUMS
CITY OF GRAND JUNCTION
T.1S. R.1W. SEC.11 NW1/4
2945112
ASSESSOR'S MAP
1-8

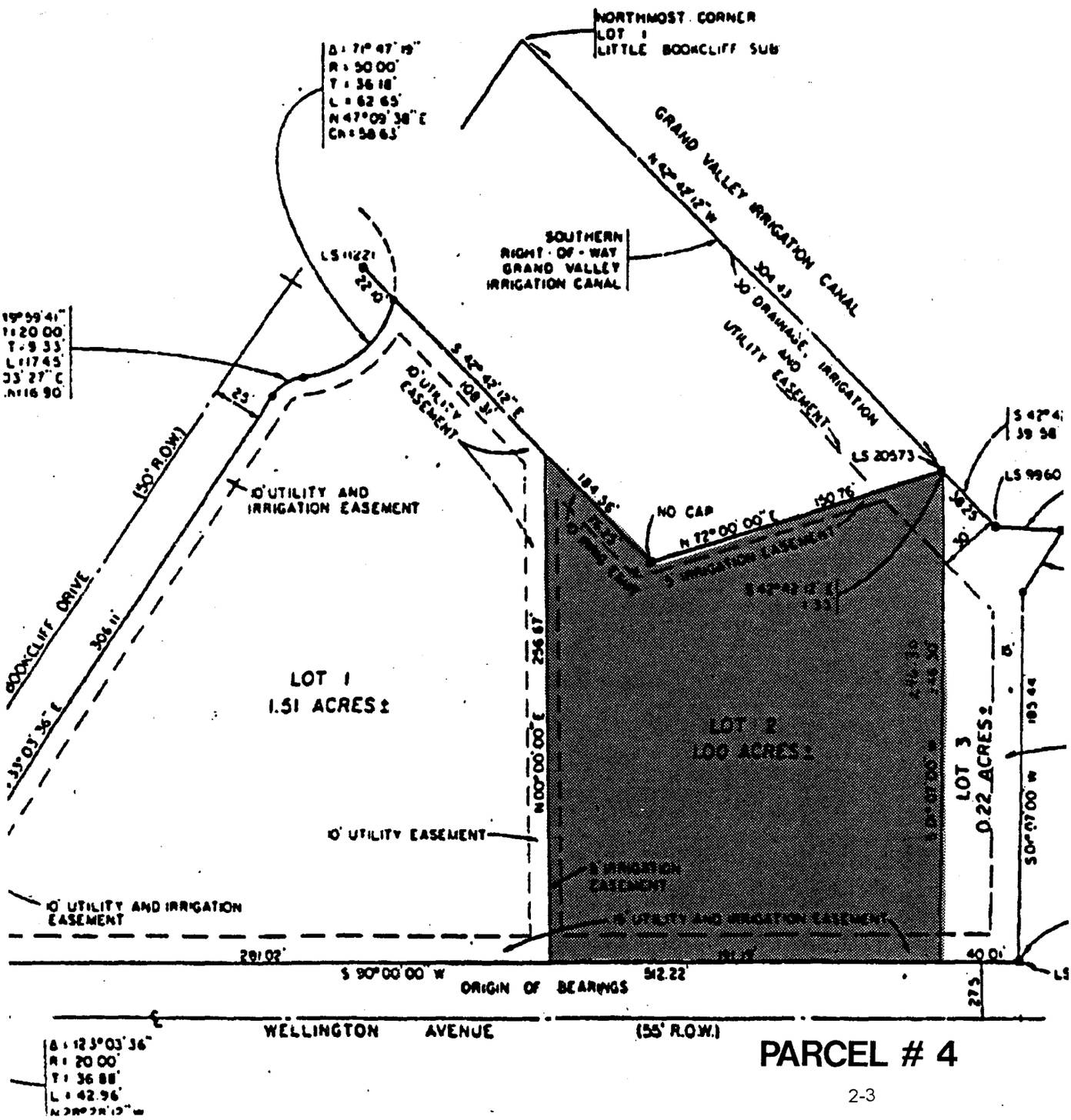


VICINITY MAP

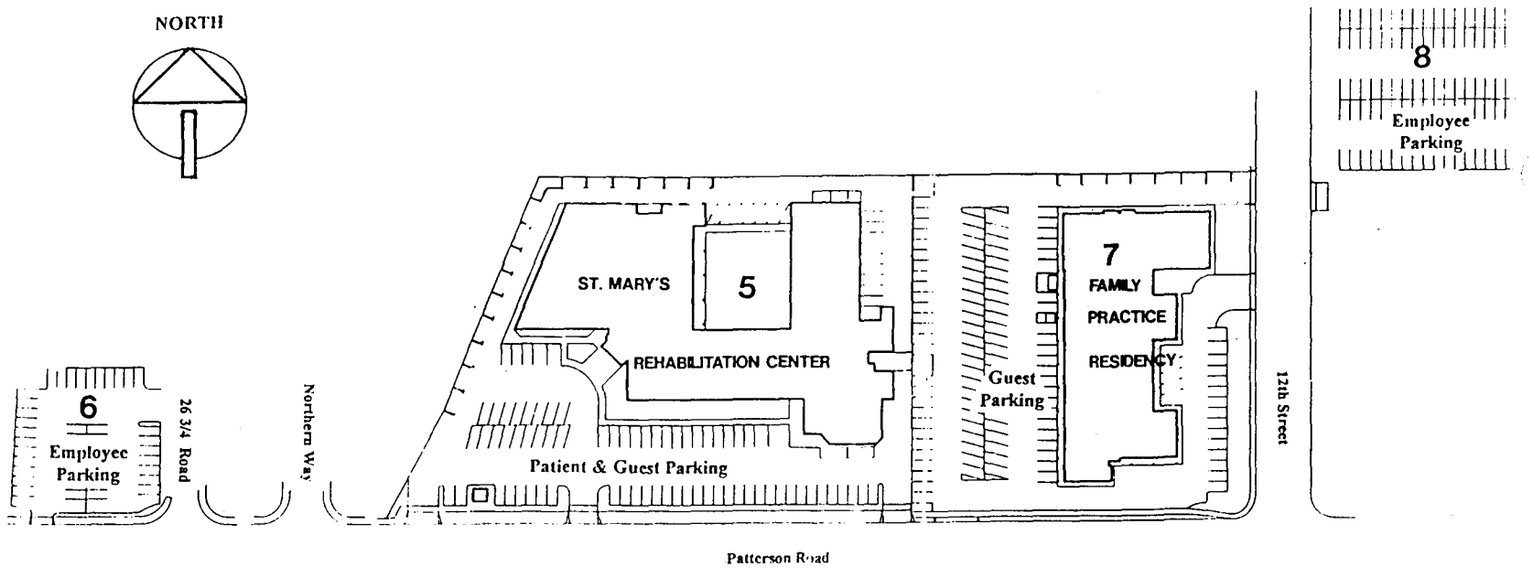

HEALTH DEPARTMENT
(MESA COUNTY)
1-A
1-B
1-B
1-B
1-B
4-A
4-B
4-C
4-D
4-E
VANDEREN-FORD
HEIGHTS SUBDIVISION
ST. MARY'S HOSPITAL
CARR TREASURE
ST. MARY'S HOSPITAL
ST. MARY'S HOSPITAL
ST. MARY'S HOSPITAL
NORTH
SOUTH
STREET
WELLINGTON AVENUE
CENTER STREET
2-A
LARUE OLSEN
2-B
ST. MARY'S
PARK
LELAND SCHMIDT
2-C
BOOKCLIFF HEIGHTS
SUBDIVISION
BOOKCLIFF AVE
3-D
3-B
3-A
3-C
3-F
3-E
NOTE:
STATED AREAS ARE FROM PLATTED DESCRIPTIONS
ONLY. NO FIELD VERIFICATION HAS BEEN PERFORMED
N
SCALE IN FEET
PARCEL # 1 & 2
2-2
ST. MARY'S HOSPITAL

PARCEL # 3

520 Patterson



PARCEL # 4


NORTH
8
Employee
Parking
ST. MARY'S
5
REHABILITATION CENTER
7
FAMILY
PRACTICE
RESIDENCY
Guest
Parking
6
Employee
Parking
26 3/4 Road
Northern Way
Patient & Guest Parking
12th Street
Patterson Road

PARCEL # 5,6,7,8

County of Mesa } ss. Reception No. 1140211 Earl Sawyer Recorder

Patterson Gardens, Inc.

a corporation duly organized and existing under and by virtue of the laws of the State of Colorado whose address is 1100 Patterson Road, Grand Junction County of Mesa, and State of Colorado, for the consideration of Ten dollars and other good and valuable consideration dollars in hand paid, hereby sell(s) and convey(s) to

State Documentary Fee
Date AUG 24 1977
$ 37.40

The Mesa County Society for Crippled Children and Adults, A Colorado Non-profit Organization whose address is 515 Patterson Road, Grand Junction, County of Mesa, and State of Colorado, the following real property in the County of Mesa, and State of Colorado, to-wit:

Commencing on the South line of Section 2, Township 1 South, Range 1 West of the Ute Meridian at a point 324.67 feet West of the Southeast Corner thereof; thence North 0°01' East 330.56 feet; thence West 324.95 feet; thence South 21°58' West 215.43 feet; thence South 28°46' West 149.18 feet; thence East 477.23 feet to the point of beginning

also known as street and number 1100 Patterson Road

With all its appurtenances, and warrant(s) the title to the same, subject to the lien of that certain Deed of Trust dated July 18, 1968, and recorded July 19, 1968, in Book 924, Page 916 of the Mesa County records given to secure a promissory note, which note and deed of trust Grantee hereby assumes and agrees to pay. Also subject to 1977 real property taxes due and payable in 1978, and all subsequent taxes and all easements, restrictions and rights of way of records.

Signed this 1st day of August, 19 77.

Patterson Gardens, Inc.

J. R. Caglo
Secretary.

By Robert F. Ball
President

STATE OF COLORADO,
County of Mesa } ss.

The foregoing instrument was acknowledged before me this 1st day of August, 19 77, by Robert F. Ball as the President and Jack R. Caglo as the Secretary of Patterson Gardens, Inc., a corporation.

My commission expires Feb 9, 1980
Witness my hand and official seal.

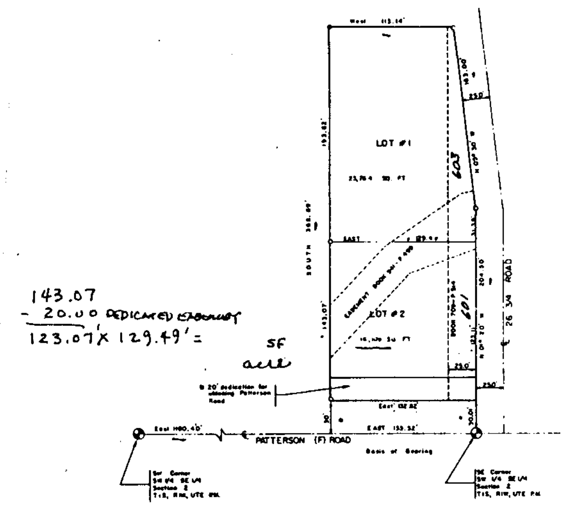
NOTARY PUBLIC

Parcel #5

2-5

044
RSF-4

BENNETT SUBDIVISION [redacted]



KNOW ALL MEN BY THESE PRESENTS

That the undesigned, Dorothy and Claude Bennett are the owners of that real property situated in the County of Mesa, State of Colorado, and lying in a part of the SE 1/4 of Section 2, T1S,R1W, UTE Principal Meridian, as shown on the accompanying plat thereof. Said plat being specifically described as follows: Beginning at a point 1180.40 feet East of the South 1/4 Corner of Section 2, T1S, R1W, UTE P.M.; Thence East 133.52 feet to the East line of the SW 1/4 SE 1/4 of said Section 2; Thence N 01° 20' W 204.50 feet, Thence N 05° 30' W 163.00 feet; Thence West 113.14 feet; Thence South 366.39 feet to the point of beginning; EXCEPT the South 30 feet for road right of way, and EXCEPT Easement as described in documents recorded in Book 709 Page 514 and in Book 941 Page 499 of the MESA COUNTY CLERK and RECORDERS records. Said subdivision contains 0.91 acres, more or less.

That the said owners have caused the said property to be laid out and surveyed as BENNETT SUBDIVISION, a subdivision of a part of the County of Mesa, City of Grand Junction.

That the owner does hereby dedicate and set apart all streets as shown on the accompanying plat to the use of the public forever, and hereby dedicate those portions of said real property which are labeled as utility easements as a perpetual easement for the installation and maintenance of utilities and drainage facilities including but not limited to electric lines, gas lines, and telephone lines together with the right to trim interfering trees and brush, together with the perpetual right of ingress and egress for installation, maintenance and replacement of such lines. Said easements and rights shall be utilized in a reasonable and prudent manner.

That all expenses for installation of utilities refer to above for grading, landscaping, and for street improvements shall be financed by the seller or purchaser — not the City of Grand Junction.

In WITNESS WHEREOF, said owners, Claude and Dorothy Bennett have subscribed their names this ________ day of __________ A.D. 1976.

Claude Bennett — Dorothy Bennett

STATE OF COLORADO)
) ss
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this ______ of ________ A.D. 1976 by Claude and Dorothy Bennett.

My commission expires: ________

Witness my hand and official seals. ________
Notary Public

CLERK AND RECORDERS CERTIFICATE

State of Colorado)
County of Mesa) ss

I hereby certify that this instrument was filed in my office at 0:45 o'clock A.M. Sep 17 1976 A.D. 1976, and is duly recorded in plat Book No. 11 Page 218 Reception No. 1116879

Earl Sawyer — Clerk and Recorder
________ Deputy
$10.00 Fees

CITY APPROVAL

[illegible] of Bennett Subdivision, located in the [illegible] Grand Junction, County of Mesa and State of [illegible] was approved and accepted this 18 day of [illegible] A.D. 1976.

K. G. Calvin — [illegible] Committee
[illegible] — President of Council
[illegible] — City Planner
[illegible] — Grand Junction City Planning Commission
Donald E. [illegible] — Grand Junction City Engineer
[illegible] — Grand Junction City Manager
[illegible] — Mesa County [illegible]

LEGEND

- Mesa County Brass Cap
- Set Pin Mk'd Armstrong P.E.&L.S. 11441
- Found Rebar

SURVEYOR'S CERTIFICATE

I, Wayne H. Lizer, a registered land surveyor in the State of Colorado, do hereby certify that this survey was made under my direct supervision and that this plat represents said survey.

WAYNE H. LIZER L.S. No. 14113

2-6

ARMSTRONG ENGINEERS
ENGINEERING - SURVEYING
CONCRETE & SOILS TESTING

BENNETT SUBDIVISION
JUNE 1976
SHEET of

Zoning Shown on Map

Parcel # 1. PB

Parcel # 2. PB

Parcel # 3. B-1

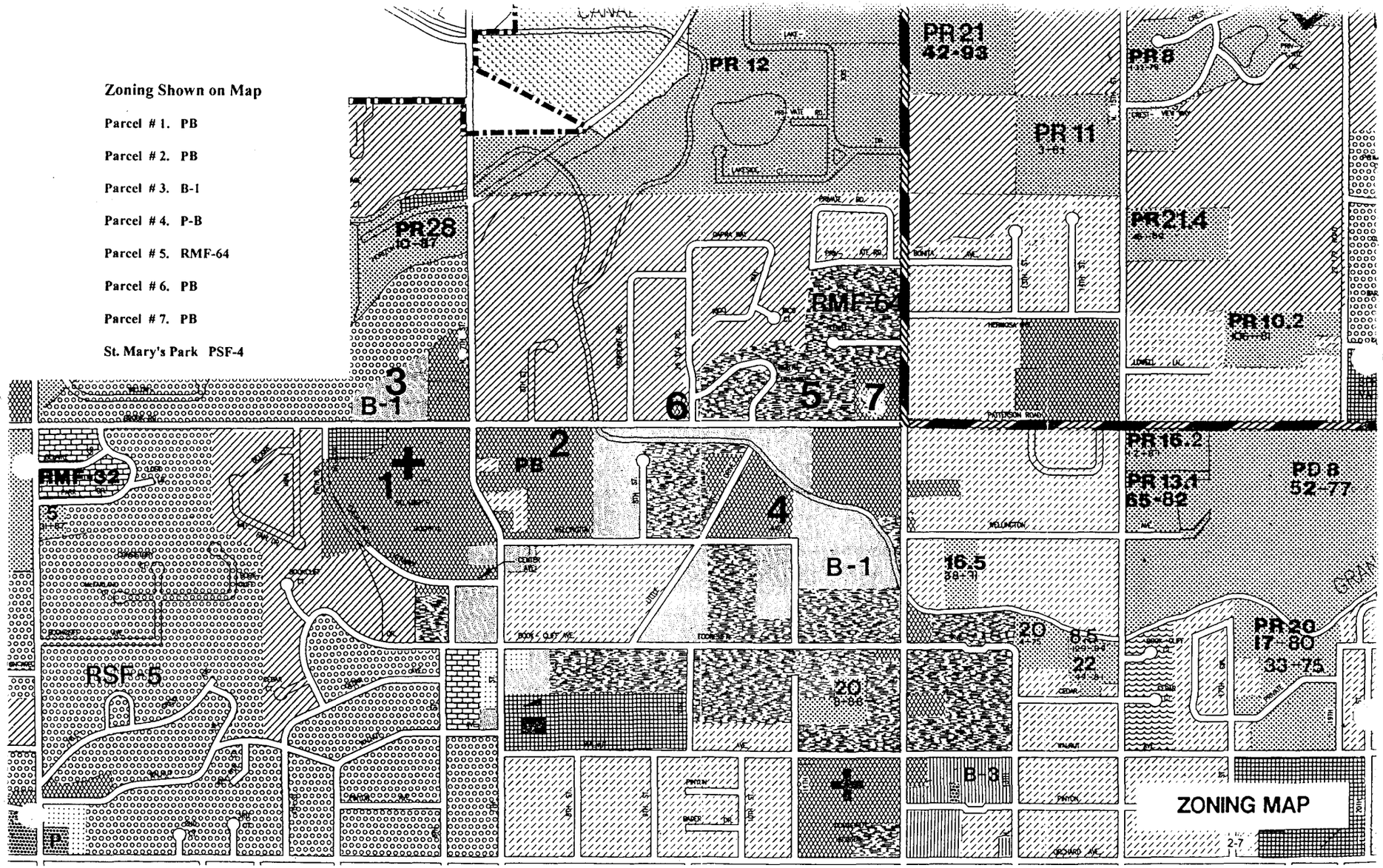
Parcel # 4. P-B

Parcel # 5. RMF-64

Parcel # 6. PB

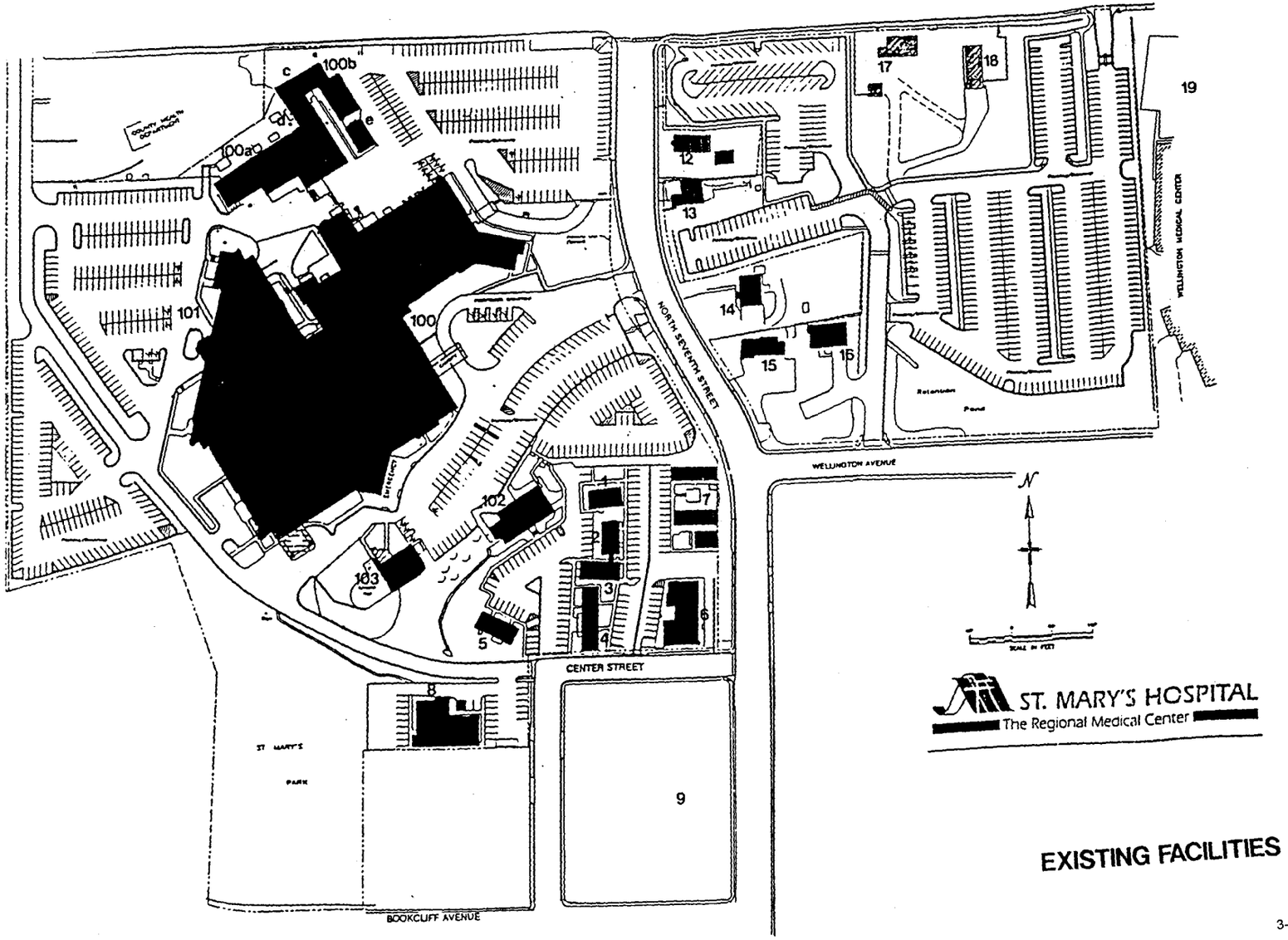
Parcel # 7. PB

St. Mary's Park PSF-4



ST. MARY'S PROPERTY #1,2,3,4,5,6,7

Existing Conditions 3



EXISTING FACILITIES PARCEL # 1 & 2

Development of Existing Facilities

	Description	Remarks	Proposed Location
Permanent Buildings			
100	Hospital		To Remain
	Boiler Plant		To Remain
	Laundry		Analyze Move
	Eng Offices		To Hospital
	Maintenance Shops		To Hospital
	Parts Warehouse		To Hospital
	Bio-med Shop		To Hospital
	Print Shop		To Hospital
	Medical Office Building # 1		To Remain
	Saccomanno Center	*1	To Expand
	Helistop / Maintenance Hanger	*2	To Remain
201	Rehabilitation Center		To 1100 Patterson Road
301	Family Practice Residency Prog.		To 12th & Patterson
Temporary Buildings			
	Nutrition Clinic	*3	Move/Demolish
	Marillac Dental	*3	Move/ Demolish
	Marillac Clinic	*3	Move/Demolish
	Family Practice Annex	*4	Move/Demolish
	Mesa Midwives	*5	Move/ Demolish
	Occupational Health	*6	Move/Demolish
	Credit Union	*6	Move/ Demolish
	Blood Bank	*6	Move to Hospital
	Guest House Motel 2425 N7th	*7	Demolish
	Family Practice Residency Bldg	*4	Move/Reuse Bldg
	Rehab Clinic 2323 N.7th	*8	Move at end of lease
	Matchett Clinic 520 Patterson		For Sale
	Wellness Clinic 666 Patterson	*8	Move at end of lease
	T. Carr 2604 N.7th		Move/Demolish
	Sister's 2556 N.7th	*9	Move to New Home/D.
	G.V.P.T. 2536 N.7th	*10	Vacant/Demilosh
	Senior Life Center 2515 N.7th	*11	Move/Demolish
	Foster Grandparents	*11	Move/demolish
	Senior Companions (Partners)	*11	Move/Demolish
	E.M.S. Outreach 710 Patterson	*12	Move/Demolish
	Sister's 2655 Patterson	*9	Move to New Home/D.
	Sister's 2657 Patterson	*9	Move to New Home/D.
	Wellington II 2525 N.8th		Condo . to Remain
	Wellington IV 2530 N.8th 104,106		Condo . to Remain
	1002 Wellington Ave LOT	*13	Develop 43,560sf Site

Remark See notes next page.

Remarks
(continued)

Notes:

*1 Saccomanno Center
Additional Growth
Combine with Health Education
H. Educ etc. 12,818sf
Maintain idenity of Saccomanno

*2 Heliport/Maintenance Hanger
Maintain at existing location

*3 Marillac Clinics
Combine Clinics, Dental & Nutrit
Near F.P.Residency Clinics
or to Ex F.P.R. Bldg
Existing 3,915 sf
Growth to 6,414 sf

*4 Family Practice Residency
Existing 13,634+2,295sf
Growth forecasted
25,000 sf Phase 1

*5 Mesa Midwives
Private program
move to rental area

*6 Occupational Health
Existing
Strong Outpatient Function
Combine with H.Ed.& OP Rehab
5,000sf Phase 1

*6 Blood Bank
Existing
To area in Hospital near Lab
2,783sf

*6 Credit Union
Existing
move to rental area

*7 Guest House Motel
Existing 24 units
To be discontinued

*8 Rehabilation Clinic
Existing 1,200sf
Move to 1100 Patterson

*9 520 Patterson (Matchett Clinic)
Possible Temporary Use:
Child Development Center
Marillac Clinic
Mesa Midwives
Credit Unioin
Seniors
Foster Grandparents
Senior Companions-Partners

*10 G.V.P.T. 2536 N.7th
Vacant Building
Demolish/ use for Parking

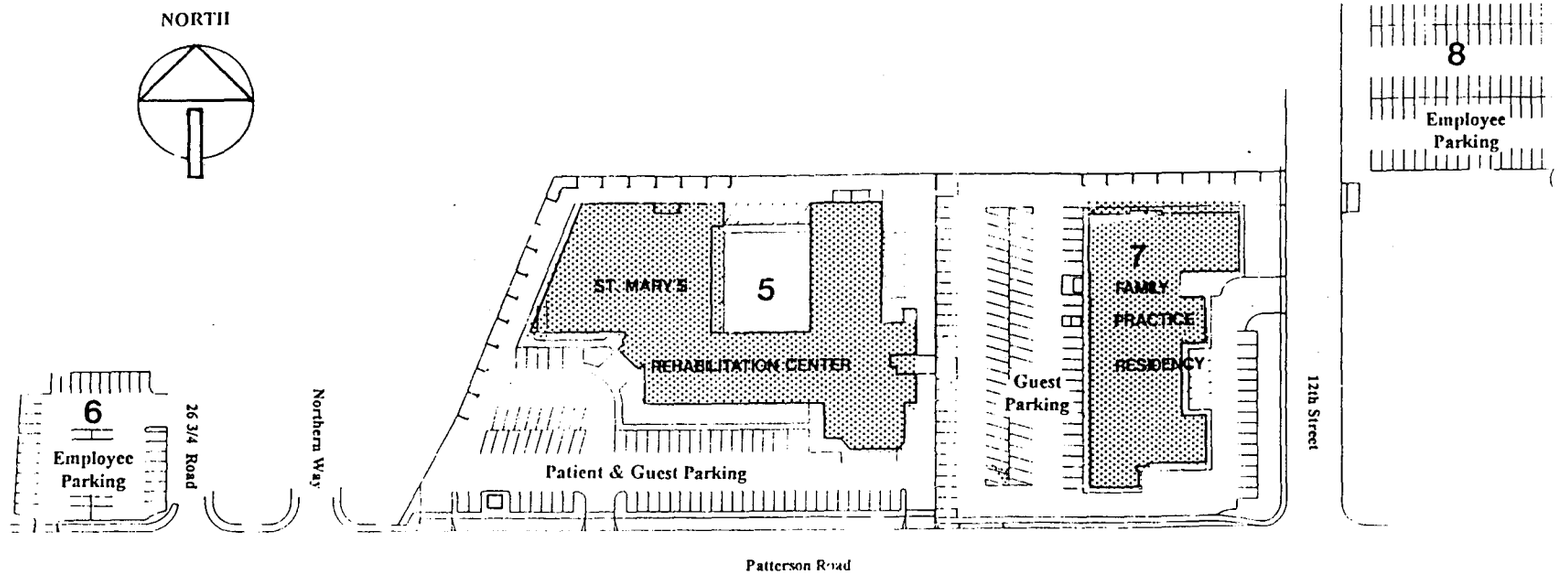
*11 Seniors 2515 N.7th
Demolish
Use for surface Parking

*12 E.M.S. 710 Patterson
Periodic Classes
To Health Education

*13 1002 Wellington
18,000sf Footprint Flex-space
1 or 2 story frame structure
For Health RelatedActivities
and/ or Surface Parking

*14 Employee Residences
Move Off Site
For Surface Parking

*15 Employee Day Care Center
locate as space becomes
available


NORTH
8
Employee
Parking
ST. MARY'S
5
REHABILITATION CENTER
7
FAMILY
PRACTICE
RESIDENCY
Guest
Parking
12th Street
6
Employee
Parking
26 3/4 Road
Northern Way
Patient & Guest Parking
Patterson Road

PARCEL # 5,6,7,8

Proposed Development 4

St. Mary's Hospital and Health Center

Grand Junction, CO

Major Master Site Plan Goals

- Provide required facilities for Family Practice Residency Program.
- Consolidate existing departments now found in several locations on and off site.
- Develop medical office building on Parcel # 1 for patients access to the hospital's sophisticated costly equipment and to house physicians adjacent to the hospital in order to extent their time for patients.
- Connect major on-site buildings with enclosed pedestrian bridges.
- Expand existing educational facilities to accommodate the need of the medical staff, hospital in-service training, patients and health related activities.
- Bridge from Parcel # 1 across North 7th Street to permit easier access to parking on Parcel # 2.
- Move Engineering Services; raze the vacated buildings and provide a landscaped view from Patterson Road.
- Investigate the possibility of a central regional hospital laundry off site.
- Move all services into permanent quarters and raze the vacated temporary buildings
- Maximize the existing land for surface parking before building structured parking.
- Obtain permission of the Community Development Department and the Planning Commission to proceed with the elements in the Master Site Plan without further Zoning and Development Code submission(s) and review(s).

Master Site Plan

Phase 1

General Description

The Family Practice Residency (FPR) Program is in critical need of additional space. The current buildings are not fully accessible to the handicapped. Space is required for patient waiting, clinical lab area, record storage, exiting circulation, nurse charting areas, supplies, etc.. Access is also needed in the FPR for diagnostic and therapeutic services. As a part of continuing health care reform, Family Practice Educational Programs such as this must grow to provide Primary Care Providers . Adequate space for the Family Practice Residency Program is St. Mary's #1 Facility goal.

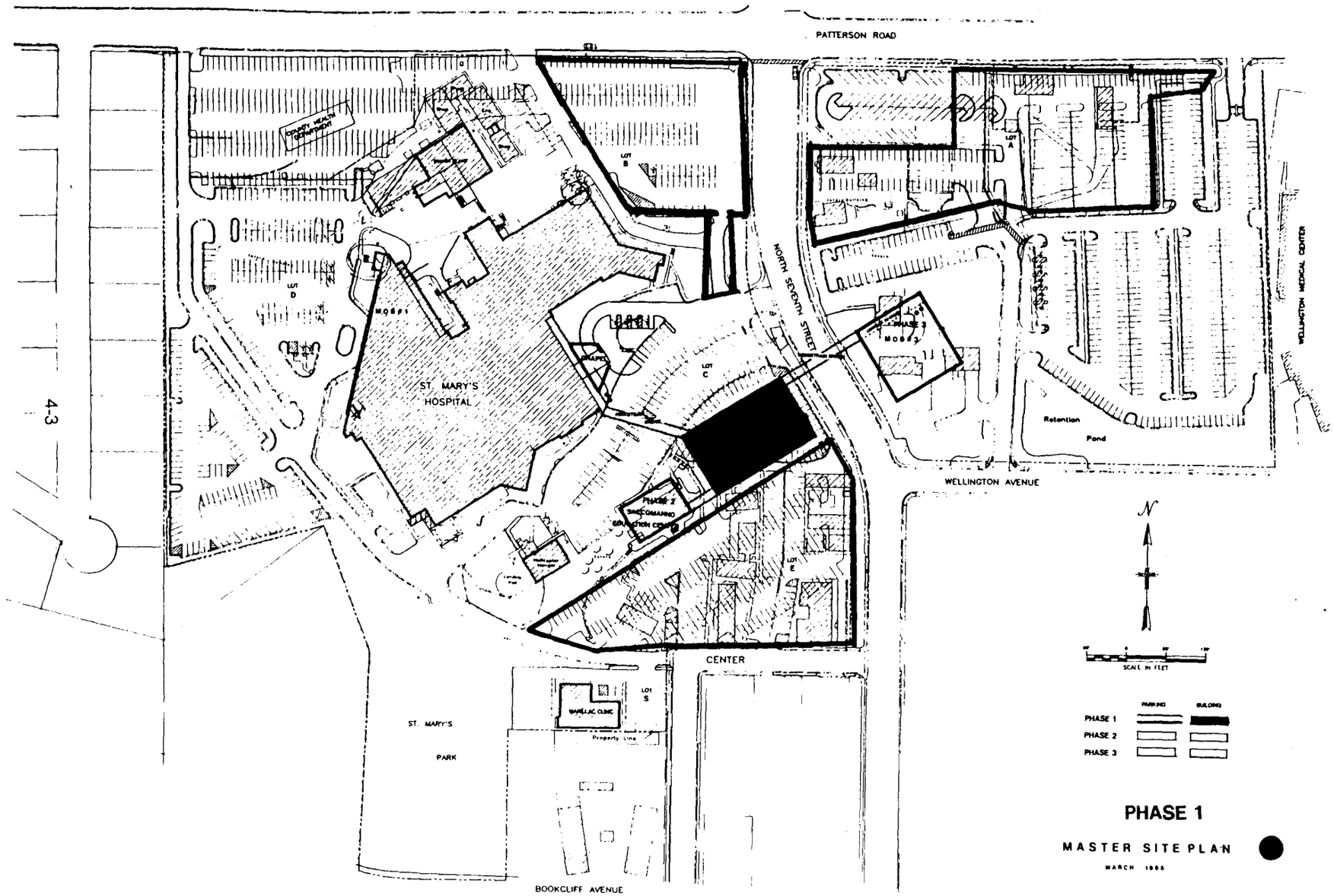
In addition to space for the Family Practice Residency Program, the demand for Out Patient Services have brought about over crowding conditions and a requirement for more space in (1) Occupational Health; (2) Outpatient Rehabilitation (physical therapy, occupational therapy, and speech therapy); and (3) the building's facility support areas. The first phase of construction will provide space for these services.

PHASE 1 Areas:

Occupants	*area sf*
Family Practice Residency	25,000 sf
Occupational Health	5,000 sf
Out Patient Rehabilitation	10,000 sf
Building Facility Support Areas	1,200 sf
Medical Office Building #2	41,000 sf

Phase 1 Notes:

1. MOB #2 will be designed to receive a future circulation corridor for Pedestrian Bridges. Bridge 1 will be to the First Floor of the Main Hospital; and bridge2 will be to the Saccomanno Education Center, both in Phase 2. A pedestrian bridge from MOB #2 crossing N.7th Street will be in Phase 3.
2. MOB #2 will also designed to expand vertically by two future floors.
3. Phase 1 includes refurbishing the existing Family Practice Residency building after it is vacated for occupancy by Marillac Clinics, Mesa Midwives, Nutrition Clinic and Dental Clinic.
4. Phase 1 includes the razing temporary Buildings #1 through #6, Buildings #12 through # 18 and the existing Guest House Motel; improving on site automobile circulation;


PATTERSON ROAD
ST. MARY'S HOSPITAL
NORTH SEVENTH STREET
WELLINGTON AVENUE
Retention Pond
CENTER
ST. MARY'S PARK
BOOKCLIFF AVENUE
PHASE 1
PHASE 2
PHASE 3
PARKING
BUILDING
SCALE IN FEET
PHASE 1
MASTER SITE PLAN
MARCH 1986

landscaping Lot B, and adding approximate 216 additional on site parking stalls on Parcel #2 (refer to Section 3 Parking).

Master Site Plan

PHASE 2

General Description:

Expansion of Saccomanno Education Center

Connect major on site buildings with Pedestrian Bridges
Hospital to M O B #2
M O B #2 to Saccomanno

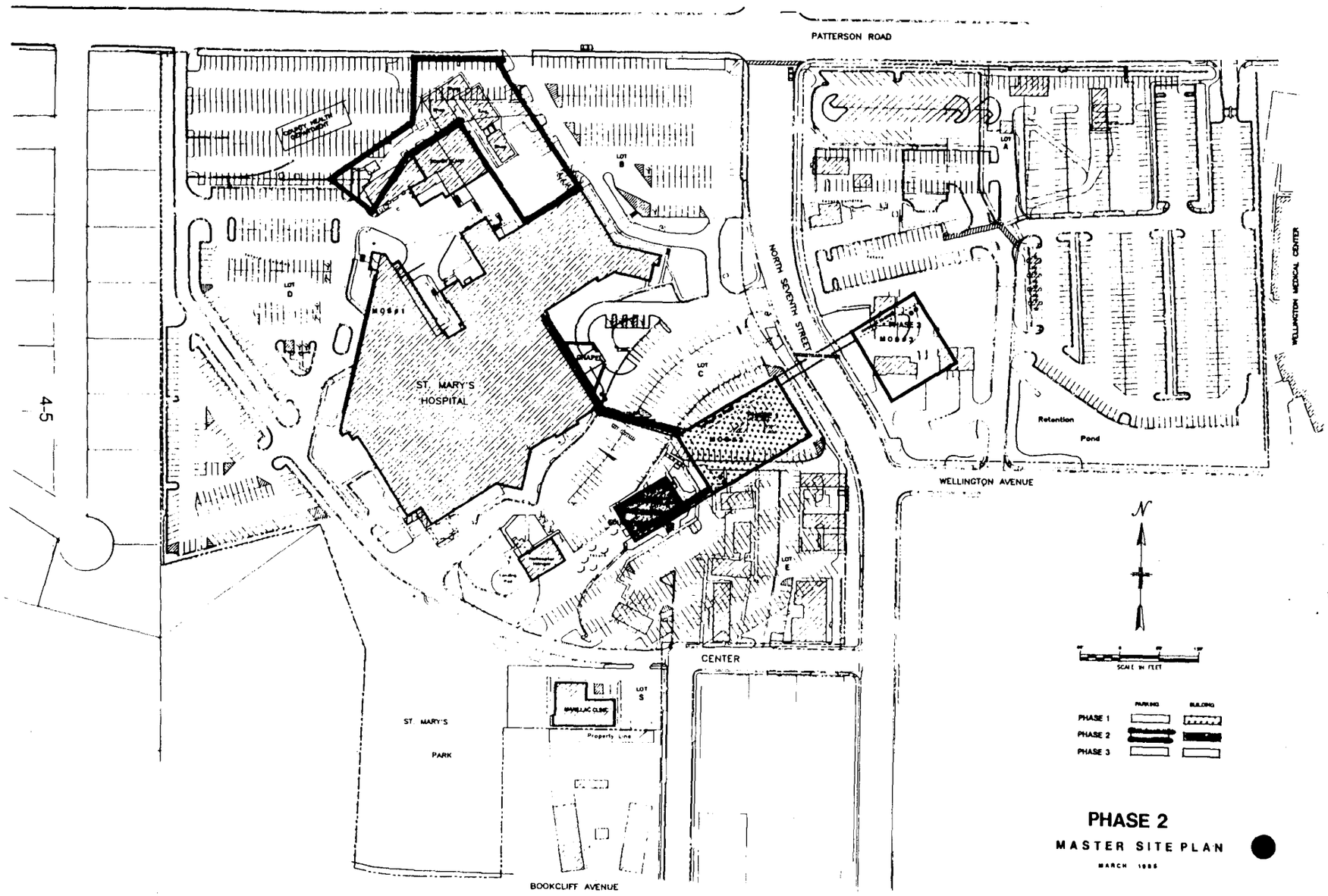
Strengthen idenity of Main Hospital; Add Chapel above Entry

Analysis potential of off site laundry

Move Engineering into permanent quarters

Raze vacated buildings and increase surface parking

Continue internal remodeling and tenant improvements for Out Patient access to the Medical Center's sophisticated Diagnostic & Therapeutic equipment and services.



PHASE 2

MASTER SITE PLAN

MARCH 1986

PHASE 3

General Description

Bridge acrosss North 7th Street

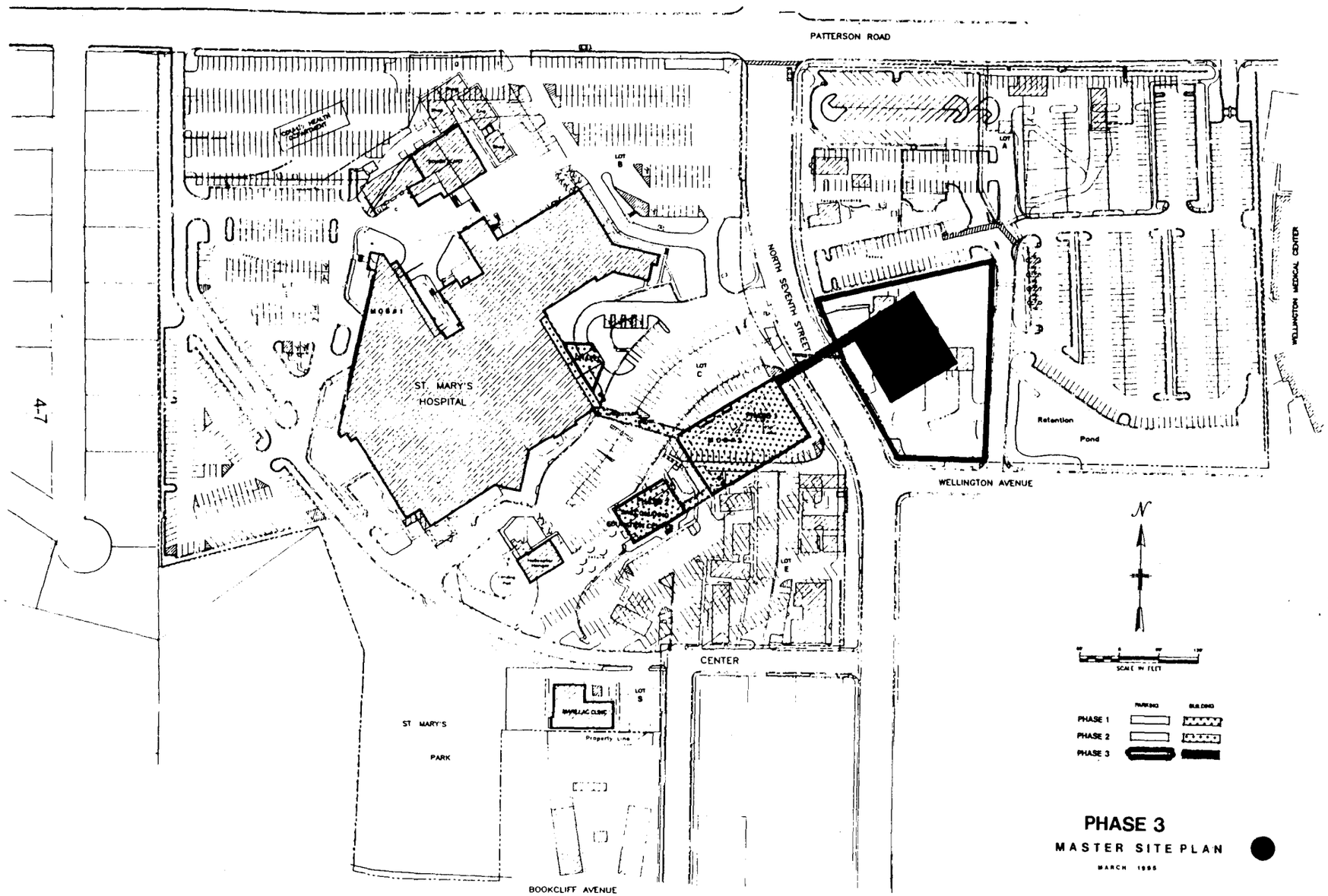
Add bridge across Street connecting the Hospital, Medical Office Buildig # 2 and the Saccomanno Education Center on Parcel #1 with Ambulatory Services Building #3 and the maximum surface parking on Parcel #2

Ambulatory Services Building

Develop Ambulatory Services Building #3 on the East side of North 7th Street for high volume services requiring quick patient access, short turn around time and easy access to parking. Wellness Programs, Rehabilitation Services, Patient Screening, Preadmission activities, Eye Care, Pharmacy, Medical Equipment sales, Primary Care Physicians are anticipated to be the principal tenants.

Miscellanous Items:

1. The Guest House Motel will not be replaced.
2. There will be no overnight RV parking provisions.
3. Parcel #3 currently Zoned B-1 may be used for temporary relocation housing for Seniors, Emergency Medical Service Outreach Programs or other hospital services temporary dislocated during construction activities.



PHASE 3

MASTER SITE PLAN

MARCH 1995

Circulation

The development in this MSP will provide modifications to the existing site access and internal circulation systems. The majority of the differences are primarily related to additional parking areas and revisions to the existing parking areas to add landscaping.

The primary Parcel #1 entry/exit locations remain along Patterson for East bound traffic and along North 7th Street for North/South bound traffic.

To enhance internal (on-site) circulation the MSP proposes closing the North most curb cut on the West side of N. 7th Street and opening on site drives between parking Lot A & parking Lot C and also between Lot A & Lot D. This internal circulation drive system provides access between all Parcel #1 parking. It eliminates the need to return to a public street in order to go to another on site parking space. Today, when lot A is full, one must leave Parcel #1 lot A; go back into the street traffic; proceed to another Parcel #1 entry/exit and continue to search for a parking space.

The location for the drive shown in the MSP on the North side of the Power Plant, connecting Lot A & Lot D is subject to an economically viable outcome of a Central Hospital Laundry Study involving a new facility on a new site.

After Temporary Buildings #1 through #7 are vacated and razed, Lot E will become surface parking. Later, Lot E provides an excellent location for a two level parking deck with the upper deck located near the Hospital's Main Entrance Level. The upper deck is proposed to be entered via a new road between the existing Saccomanno Education Center and the Phase 1 Medical Office Building.

Traffic

The development of the MSP is not anticipated to significantly affect the traffic volumes of the recent Traffic/Pedestrian Impact Study by Western Engineers Grand Junction, CO dated July 1992 other than to reduce the pedestrian traffic now crossing at the corner of Patterson and N.7th. A bridge across N. 7th will provide a more direct weather enclosed rout to the hospital and the medical office buildings. Copies of the Traffic Report are included in the Appendices for easy reference.

Parking

A summary of the minimum code parking requirements, the existing stalls and the proposed parking stall count is shown on the following chart:

Code/Existing/Proposed Parking by Parcel

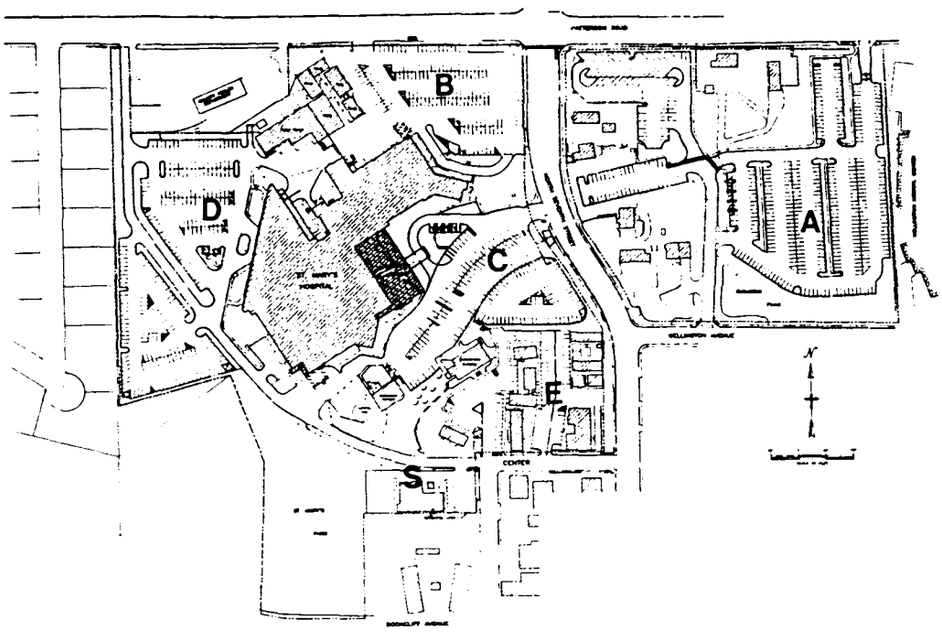
Parcel	*Min. Code*	*Existing*			*Proposed*
		ADA	*St'd*	*Total*	*Total*
# 1& #2	958	37	1166	1203	1453
#3		To be Sold			
#4	8/60	Vacant Lot			8/60
#5& #6	149	11	140	151	151
#7	104	8	114	122	122
#8		Not Required to meet Code Minimum			
	1219/1271			1476	1734/1786

Detail calculations for each parcel's parking follows.

In purchasing Parcels # 5, #6 & #7, the seller passed on to St. Mary's a verbal agreement for the use of the Brookcliff Baptist Parking Lot (referenced in this report as Parcel #8) for employee parking as needed. The proposed parking summary above indicates use of Parcel # 8 is not required.

St. Mary's Hospital and Medical Center
Grand Junction, CO

Existing Parking Stall Count



Lot	Standard Stalls	Handicapped Stalls	Lot Totals
A East	478	0	478
B North	164	9	173
C Main	141	13	154
D West	260	7	267
E Southeast	95	6	101
S South	28	2	30
	1166	37	1203

Count conducted by Ron Greenhow and Bertis Rasco on January 17,1995

St. Mary's Hospital and Medical Center
Grand Junction, CO

City Minimum Code Required Parking Phase 1

A. HOSPITAL - One space per each two beds (excluding bassinets), plus one space per employee on the largest shift, plus one space per hospital vehicle.
214beds/2 + 500 + 12 = 619 spaces

B. MEDICAL OFFICES - Four spaces for each doctor on duty during the busiest shift
M O B #1 = 42,000 rentable sf divided by 1,000 sf per doctor = 42
42 doctors x 4 spaces per doctor = 168 spaces
M O B #2 = 31,500 rentable sf divided by 1,000 sf per doctor = 32
32 doctors x 4 spaces per doctor = 128 spaces
296 spaces for MOB #1&#2

C. MOTEL - To be Razed
0 units x 1 = 0 spaces

D. EDUCATION CENTER -
7,200 sf Operates only for Hospital personnel who are on site during normal working hours. Others who use the facility do so during off hours when existing parking exceeds the demand.
No Additional Parking Required

E. CLINICS (Marillac, Dental, Nutrition/Diabetes)
10,225 of usable sf divided by 1,000 sf per doctor = 10 doctors
10 doctors x 4 spaces = 40 spaces

F. OFFICES (Blood Bank)
Note: Credit Union and Midwives will rent off campus.
One space per 300 square feet of gross floor area,plus one space for each office-owned/leased vehicle
630sf divided by 300sf per unit =2+ 1 Blood Bank vehicle = 3 spaces

G. Helicopter Hanger
No requirements

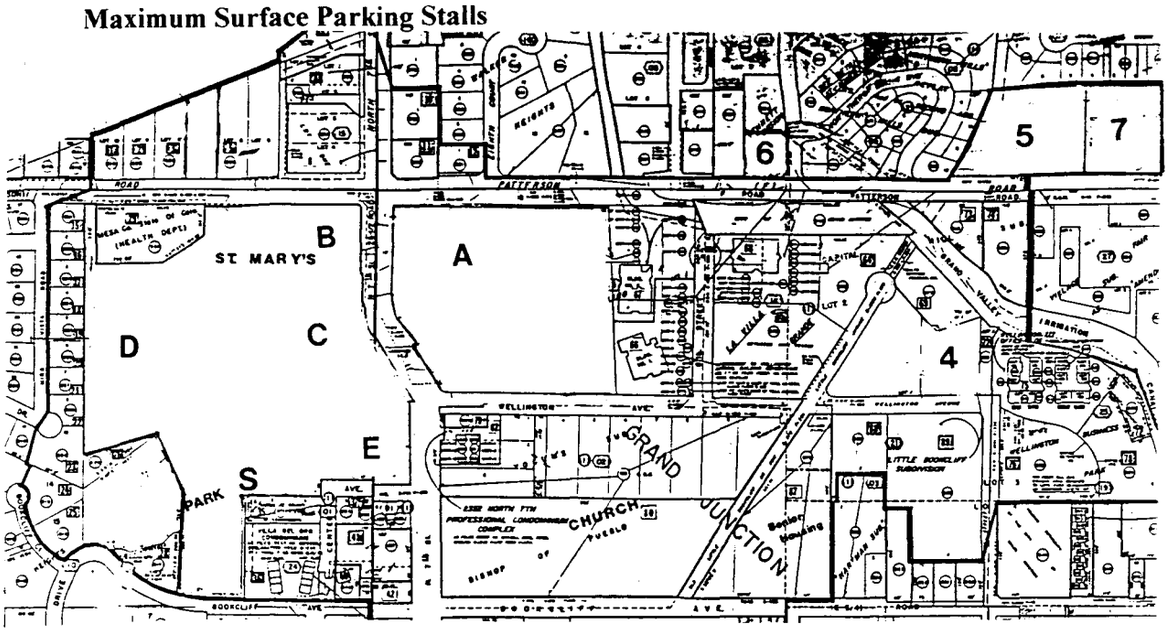
H. Rehabilitation Center (SNF)
One space per Employee on the largest shift + one per 4 beds
136 employees + (50 beds/4=12.5) = 149 spaces

I. Family Practice Residency Program
Four spaces per Doctor
4 X 26 = 104 spaces

Total Parking Spaces Required by Grand Junction Code:
A + B + C + D + E + F + G + H + I = Required Parking Spaces
619 + 296 + 0 + 0 + 40 + 3 + 0 + 149 + 104 = 1211 Spaces

St. Mary's Hospital and Medical Center
Grand Junction, CO

Maximum Surface Parking Stalls



Lot	Number in Existing Lots	+ Added Surface Parking			= Total
A East	478	+180	+43	+34	735
B North	173	-32			141
C Main	154	-74			80
D West	267				267
E Southeast	101	+99			200
S South	30				30
Parcel # 4	0	+60			60
Parcel # 5	103				103
Parcel # 6	48				48
Parcel # 7	122				122
	1536				1726

Landscaping

The existing landscaped areas were estimated using a Computer digitized (see Pervious Area list below) and are also shown in Table 1. These areas include lawns, ground cover, patio/court yards, detention ponds and tree plantings. It does not include sidewalks, roadways and parking lots.

The landscaping concept envisioned by the MSP uses xeriscape with the plant materials published in the City's C D D Approved Plantings List. Landscaping is proposed throughout the campus and within setbacks. Street trees will be provided. Trees, shrubs, ground cover, grass and flowers will reinforce a uniform campus concept and enhance the existing vegetation.

Landscape plans are to be prepared with each development phase illustrating that portion of the landscape plan included in each phase (ref: Phase 1, Phase 2 & Phase 3 diagrams). The plans for each phase will specify the specific landscape elements including a sprinkler system as appropriate.

A summary list of the pervious areas of each parcel are as follow:

Pervious Areas

Location	Existing	Proposed	Remarks
	%	%	
Parcel #1	13.2	15.1	
Parcel #2	42.5	33.8	
Parcel #3	N/A		
Parcel #4	100.0	15.0	Existing
Parcel #5	8.4	8.4	Existing
Parcel #6	1.6	1.6	Existing
Parcel #7	1.5	1.5	Existing

Note: The Average percent Pervious Coverage for all the properties is 18.4%.
This exceeds the goal of 15% for Landscaped Areas

St. Mary's Hospital and Health Center **Table 1**
Grand Junction, CO

Summary of Existing and Proposed Pervious Areas

Parcel	*Existing Site Area*	*Existing Pervious Area*	*Existing Site Percent*	*Proposed Site Area*	*Proposed Pervious Area*	*Proposed Site Percent*	*Remarks*
#1	865,102 sf 19.86 acre	114,067sf	13.2%	865,102 sf	129,868sf	15.1%	
#2	396,832 sf 9.11 acre	168,410sf	42.5%	396,832 sf	134,414sf	33.8%	
#3	30,056 sf .69 acre	21,956sf	73.1%	0	0		To Be Sold
#4	43,560 sf 1.00 acre	43,560sf	100.0%	43,560 sf	6,534 sf	15.0%	
#5	129,808 sf 2.98 acre	10,860sf	8.4%	129,808 sf	10,860sf	8.4%	No Change Existing
#6	15,936 sf .36 acre	250sf	1.6%	15,936 sf	250 sf est.	1.6%	No Change Existing
#7	90,795 sf 2.08 acre	1,387sf	1.5%	90,795 sf	1,387sf	1.5%	No Change Existing
	1,572,089sf	360,490sf		1,542,033sf	283,313sf		
		Pervious	22.9%		Pervious	18.4%	
					Proposed Pervious Area	**15.0%**	
Total	Property this Tabulation		36.12acre	Proposed Property area		35.43acre	

Surface Drainage

The existing surface water drains through the parcel's pervious areas or directly to the drainage system, except for Parcel # 1 and # 2. Parcel #1 and Parcel # 2 each have a detention pond that temporary stores excessive surface drainage water until it can be released into the Buthorn drain system.

Additional impervious surface is added by buildings, parking and drives in the MSP. This increase in impervious surface area is proposed to be accommodated by (1) an additional detention pond at the corner of N.7th Street and Center Avenue and (2) an additional detention pond at the corner of N. 7th Street and Wellington (west of the existing detention pond). Both areas are envisioned to be landscaped similar to the existing detention pond at St. Mary's Park and/or the detention pond at Wellington Avenue. The additional detention ponds are to be designed to accommodate the 100 year flood requirements for the MSP build out.

Copies of earlier Drainage Studies for St. Mary's Parcel #1 dated January 1993 and #2 dated June 1992 both by Western Engineers Grand Junction, CO are submitted for your reference.

Bridges

Bridges are an important linkage to the future development for convenience and safety. They will enable the necessary 24 hours a day movement of people, wheelchairs, food carts, equipment and beds between the hospital buildings in a safe and secure manner.

There are three types of bridges proposed in the MSP (1) on site elevated pedestrian bridges, (2) R.O.W. enclosed cross street bridge and (3) pedestrian/bike cross canal bridge.

On Site Elevated Pedestrian Bridges are proposed to connect the major buildings on Parcel #1 and extend to the Cross Street bridge which connects the building and expanded parking on Parcel #2. These all weather enclosed bridges will connect the buildings above street level permitting foot traffic to move easily between buildings and land parcels with out concern for automobile traffic or weather conditions. To minimumize cost, the MSP envisions the bridge's circulation route and structural provisions to be designed into the corridor system of each new building. The continuous floor level elevation of the bridge is set at the existing hospital's 1st floor level (one floor above the new ground floor main entry).

For the Cross Street Bridge above N. 7th Street an air rights street vacation/street use permit is requested. This Elevated Pedestrian Bridge connects Parcel #1 from it's new Medical Office Building to Parcel #2's Ambulatory Services Building and expanded parking areas. Conceptually the bridge will be 14' in over all width with a clear inside dimension of 12'; clear span 80' across the street R.O. W. with structural columns immediately inside the property lines; then span each side to the receiving buildings which have a 20'set back from the property line. The clearance at the center of the street is proposed to be 14' 6".

To improve neighborhood circulation for foot traffic and bicycles it is requested that the City improve the existing Pedestrian/Bike Bridge at the North end of Little Bookcliff Avenue R.O.W. that crosses over the Grand Valley Irrigation Canal. This improvement will benefit the apartment complex, the biking community, the retail mall, the rehabilitation center, the physician offices in the area and the general neighborhood.

Proposed Development Standards

The MSP proposes the following standards for St. Mary's P-B Zone Master Site Plan:

Setbacks

These set backs are intended to provide efficient and functional facility siting, an achievement of aesthetic design values and continue compatibility with surrounding activities.

Proposed for Parcel #1 on the corner of Patterson & N. 7th Street (1) a low triangular landscaped area; on the South side of Patterson Road, (2) a 10' landscaped setback; between N. 7th Street and the Parcel's Patterson entry/exit; between the Patterson entry/exit and the Mesa County Public Health property,(3) a 5' landscape setback; from the corner of Patterson & 7th Street South to the Main Hospital entry/exit, (4) a 10' landscape setback; at the N. 7th Street property line to the face of the new Medical Office Building #2, (5) a 20' setback.

Proposed for the South side of Parcel #1 at the corner of N. 7th Street and Center Avenue, (6) triangular setback with a landscaped detention pond; from the north point of the triangle extending North, (7) a 5' setback extending northward parallel with N. 7th Street to the center line extension of Wellington Avenue.

Proposed for East property line of Parcel #2, (8) a 20' setback for the building line and the existing setbacks to remain as they are from the property line fro the remainder of the parcel except for the detention pond at the corner of N 7th & Wellington which is to be determined by engineering hydrology studies.

Other than the above mentioned setbacks, all other existing setback are to remain as they exist.

Height

The maximum height of existing permanent structures and those proposed follow:

Structure	*Existing Height*	*Proposed Height*	*Remarks*
Hospital			
Main Roof	60'	72'	One Patient Floor
Stair Roof	72'	84'	Fireman's Access
Elevator Penthouse	85'	85'	Built to Serve Fut.
Medical Office Bldg	0	38'	+ Mech Penthouses Fut. + 2 Floors
Ambulatory Services Bldg	0	38'	+ Mech Penthouses Fut. + 2 Floors

Customary code exceptions for roof top features are proposed to apply.

Site Coverage

Site coverage is that portion of the parcel occupied by the principal structure and its accessory structures, expressed as a percentage of the total parcel area.

The existing site coverage and the proposed site coverage are as follows:

Location	*Existing % Site Coverage*	*Proposed % Site Coverage*	*Remarks*
Parcel # 1	20.1	18.7	
Parcel # 2	3.9	3.4	
Parcel # 3			To Be Sold
Parcel # 4	0	5.7/20.1	
Parcel # 5	30.2	30.2	Existing/No Change
Parcel # 6	0	0	Existing/No Change
Parcel # 7	20.4	20.4	Existing/No Change

The proposed site coverage goal for the sum total average for all properties is 20%. The existing parcel that individually exceed 20% was built with out parcel coverage limitations.

See Table 2 for Detail Site Coverage calculations.

St. Mary's Hospital and Health Center

Grand Junction, CO

Table 2

Summary of Existing and Proposed Site Coverage

Parcel	*Existing Site Area*	*Existing Site Coverage*	*Existing Site Coverage Percent*	*Proposed Site Area*	Proposed Site Coverage	*Proposed Site Coverage Percent*	*Remarks*
#1	865,102 sf 19.86 acre	173,515sf	20.1%	865,102 sf	162,128sf	18.7%	
#2	396,832 sf 9.11 acre	15,648 sf	3.9%	396,832 sf	13,200sf	3.4%	
#3	30,056 sf .69 acre	5,000 sf est.	16.6%	0	0		To Be Sold
#4	43,560 sf 1.00 acre	0	0.0%	43,560 sf	2,500/9,000sf	5.7/20.1%	Future 2 level 18,000gsf Bldg
#5	129,808 sf 2.98 acre	39,200sf	30.2%	129,808 sf	39,200sf	30.2%	No Change Existing
#6	15,936 sf .36 acre	0 sf	0.0%	15,936 sf	0sf	0.0%	No Change Existing
#7	90,795 sf 2.08 acre	18,500sf	20.4%	90,795 sf	18,500sf	20.4%	No Change Existing
	1,572,089sf	251,863sf		1,542,033sf	235,528sf	15.7%	

Existing Overall Average % coverage= 16% **Proposed Overall Average % coverage= 20%**

Total Property this Tabulation 36.12acre Proposed 35.43acre

Notes:

1 Site Coverage Area is area at grade.

2 Pedestrian bridges are above grade and not included in the site coverage.

Density

The Floor Area Ratio (FAR) is used her to express density. FAR is a ratio between building area and site area. Table 3 summarizes the existing and proposed densities.

Both existing and proposed are approximate. Note that for FAR calculation purposes, parking is excluded. Parking is an accessory use serving the buildings functions and is typically excluded from density calculations.

The proposed building areas will likely change as the projects are architecturally programmed and designed. Since flexibility is required by St. Mary's, a density standard is proposed some what higher than calculated. A proposed maximum density development standard of FAR 0.75 is proposed. This amounts to +0.104 FAR over the concepts forcasted requirement for Parcel #1. The basis for density calculations is shown for each parcel and also for the average when all parcels combined. See Table 3.

St. Mary's Hospital and Health Center
Grand Junction, CO

Table 3

Comparison of Existing and Proposed Density Floor Area Ratio
F A R for Buildings Excluding Surface Parking

Parcel	Existing Site Area	Existing Area b.g.= f.a.= Bl'dg Gross F A R area	Existing F A R	Proposed Site Area	Proposed Site Sequence	Proposed b.g.= f.a.= Building Gross F A R area	Proposed FAR	Remarks
#1	865,102 sf	b.g. 513,720 sf		865,102 sf	1-A	b.g. 539,602sf		Phase 1 :
	19.86 acre	f.a. 491,161 sf	0.567		1-A	f.a. 512,543sf	0.592	34,218sf Razed
								58,569sf New C.
					1-B	b.g. 543,771sf		Phase 2 :
					1-B	f.a. 516,551sf	0.597	Chapel,Bridge & Ed Fac
								Future :
					1-C	b.g. 586,196sf		1 floor add'n Patient Tower
					1-C	f.a. 558,976sf	0.646	2 floor add'n Med. Offices
#2	396,832 sf	b.g. 15,648 sf		396,832 sf	2-A	b.g. 44,580sf		Phase 3 :
	9.11 acre	f.a. 15,648 sf	0.039		2-A	f.a. 41,280sf	0.104	15,648sf Razed
								41,280sf New C.
					2-B	b.g. 70,980sf		Future :
					2-B	f.a. 67,680sf	0.171	2 Add'n Floors
#3	30,056 sf	b.g. 5,000 sf est.		0	3-A	b.g. 0		As Possible :
	.69 acre	f.a. 4,000 sf est.	0.133		3-A	f.a. 0	0	To Be Sold
								Phase 1 :
#4	43,560 sf	b.g. 0 sf		43,560 sf	4-A	b.g. 2,500sf		Initial Const.
	1.00 acre	f.a. 0 sf	0		4-A	f.a. 2,500sf	0.057	
								Future :
					4-B	b.g. 18,000sf		Built Out
					4-B	f.a. 18,000sf	0.413	

Parcel	Existing Site Area	Existing Area 1 Bl'dg Gross 2 F A R area	Existing F A R	Proposed Site Area	Proposed Building Area	Proposed F A R	Remarks
#5	129,808sf 2.98 acre	b.g. 52,000sf f.a. 52,000sf	0.401	129,808sf	b.g. 52,000sf f.a. 52,000sf	0.401	Existing
#6	15,936sf .36 acre	b.g. 0 sf f.a. 0sf	0	15,936sf	b.g. 0 f.a. 0	0	Existing
#7	90,795 sf 2.08 acre	b.g. 26,300sf f.a. 26,300sf	0.289	90,795 sf	b.g. 26,300sf f.a. 26,300sf	0.289	Existing
#8	Shared	b.g. 0 sf f.a. 0 sf	0	Shared	b.g. 0 f.a. 0	0 0	0 0
Total Total	1,572,089sf 36.08 acre	site		1,542,033sf 35.39 acre	proposed site	is 30,056sf less	
Total Total	Bl'dg Gross FAR Area	612,668 sf 598,109 sf	0.375		bl'dg gross 753,476sf FAR area 722,956sf		**Proposed F A R 0.75**

Notes:

1 The most common device for regulating bulk is the "Floor Area Ratio". This ratio is computed by adding the area above grade and dividing the total by the lot (parcel) area. T. William Patterson, Land Use Planning: Techniques of Implementation.

2 Building Gross Area includes roof area, area above grade, area on grade, and area below grade.

3 F A R Area is floor area at grade and floor area above grade. It excludes area below grade and roof areas.

4 Site Coverage Area is area at grade.

5 Pedestrian bridges are included in building gross and FAR. They are not included in site coverage.

clear (below bridge) at the centerline of the street.

Open Space

The existing landscaped open space area of St. Mary's was estimated. It was defined to include lawns, groung cover, park, and tree plantings. Impervious surfaces such as paved areas that are open, such as parking lots, private streets, service areas, and sidewalks were not included. Currently this includes 4 residential lots and 2 vacant lots. Existing is approximately 8.7 acres or 378,972 sf (24.2 % of the properties). The MSP proposes a higher utilization for the land and improvements in the landscaped open space resulting in approximate 18 % of the total area as open space.

Since the landscaped open space plan is conceptual, the actual designed landscaped open space will likely differ in detail, but be consistent with the overall concept. The Plan envisions places to eat lunch outdoors, flowering plants, overlooks, and xeriscape with native plant materials.

Rezoning

The MSP proposed rezoning for the existing lots owned by St. Mary's that are not currently zoned P-B. They are s follow:

Proposed for Rezoning

Description	*Existing Zone*	*Proposed Use*	*Proposed Zone*
Former T. Carr Residence	RMF-64	Surface Parking	P-B
Former G V P T	RMF-64	Surface Parking	P-B
Former Seniors Bldg	RMF-64	Ambulatory S Bldg	P-B
Former E.M.S. House	RMF-64	Detention Pond	P-B
St. Mary's Park	RSF-4	Park & Detention Pond	P-B

A single uniform zone will make it simpler to develop and administer these properties.

Infrastructure Improvements

Public services and utilities all exist at the site. The increased development proposed in the Master Site Plan may increase demands on public services and utilities. The condition and capacities of systems is expected to be adequate.

No major changes to the infrastructure are planned. However, St. Mary's does propose to continue to upgrade and maintain it's physical plant to the latest cost-effective environmental and energy efficient standards. Utilities improvements will be completed as required for each project.

Appendix 5

Acknowledgments

Significant amount of time and energy from the President's Administrative Council and their Administrative Assistants have made this report possible in a limited time frame.

Many thanks are due to all who have contributed. Special thanks are due to:

Sister Lynn Casey, President
Kenneth Tomlon, Executive Vice President
Elizabeth Hanckel, Vice President Human Resources
Donna Crouch, RN, MS, Vice President Patient Services
Francis Raley, M.D, Vice President Medical Services
Carolyn Bruce, Director Planning
Keith Estridge, Director Facilities Management
Laurie Fehlberg, Chief Financial Officer
Mary Fran McCarthy, Director Development
Tish Wells, Director of M I S
M.J. Brown, Executive Secretary

For sources of information thanks go to :
Denzel F. Hartshorn, M. D. Medical Staff President
Randall K. Unter, Integrated Medical Campus
Jody Kliska, Director of Planning for the City of Grand Junction
Tom Dixon, A C I P Senior Planner for the City of Grand Junction
Bruce Marvin, P.E. Principal Western Engineers, Inc.
Matt Lohon, P.E. Project Engineer, Western EngineeRs, Inc.
Phil Bertrand, Superintendent, Grand Valley Irrigation Company
Ron Greenhow, General Supervisor, Engineering
Lois Fisher, Controller
Pat Steinkirchner, Financial Analyst
Peter Moberg, Director of Public Relations & Marketing
Chuck Morris , Graphics
Louie Herrera, Facilities Service Coordinator

Plus the many department heads who took time from their busy day to answer the lengthy questionnaire regarding space requirements and parking criteria of their department.

Also enclosed are updated pre-closing checklists for both nsactions.

Set forth below is our reasoning regarding why some of the hanges which you requested were not made.

1. The purchased assets are required to be conveyed free and clear of all liens and encumbrances. Further, neither SMRC nor St. Mary's intends to assume any of the liabilities or obligations of Mesa County or the Foundation, respectively, except for certain contracts and leases which are scheduled. Therefore, many of the knowledge qualifiers which were proposed to be added to the representations and warranties have not been added because we believe that to limit such representations and warranties to knowledge would shift the risk of any unknown liabilities with respect to the matter addressed in the representation to the buyer in each case, which is not the intention of the parties.

2. As we discussed, we understand that most of the occupants of the Centennial Plaza property are on month-to-month tenancies since the leases entered into with such tenants have expired. We understand that there are only two existing leases with respect to the Centennial Plaza property (the liquor store and one physician). St. Mary's intends to assume these two leases. We have revised the Centennial Plaza Agreement to address such leases and the month-to-month tenancies at Centennial Plaza. Please let us know as soon as possible if there are any other leases still in effect with respect to either the rehabilitation Hospital or Centennial Plaza. The Centennial Plaza Agreement does not require the Foundation to deliver estoppel certificates from the lessees under the leases. We need to confirm with St. Mary's whether it will require the delivery of such estoppel certificates in connection with the assumption of the foregoing leases.

3. We have not eliminated the reference to drugs, pharmaceuticals and medicines in the description of the Purchased Assets in the Rehabilitation Hospital Agreement since we understand that there is a drug room at the Hospital and there likely will be a supply of these items on the closing date which would be purchased by SMRC.

4. While we understand that the real property will be transferred subject to zoning and building regulations, we believe that it is appropriate for the seller in each transaction to make a representation to the buyer in each transaction with respect to the proper zoning of the real estate which is being acquired, as well as compliance with applicable subdivision laws and access to

the premises. Therefore, the representations and warranties with respect to these matters have not been eliminated.

5. We have not eliminated the reference to the Medicare and Medicaid certification surveys in Section 2.8(b) because while the Medicare and Medicaid programs often rely on the JCAHO surveys and do not independently survey a facility, if deficiencies are revealed on the JCAHO survey, Medicare and Medicaid may elect to conduct an independent survey. Therefore, we only request pursuant to Section 2.8(b) that to the extent there are Medicare and Medicaid surveys, such surveys be included in the representation. Section 2.8(b) has been revised to clarify this.

6. While St. Mary's has agreed to eliminate HHSC as a party to the Centennial Plaza Agreement, St. Mary's will still require that HHSC stand behind all of the representations and warranties and covenants of Mesa County in the Rehabilitation Hospital Agreement. Therefore, we have not eliminated any references to HHSC in the representations and warranties included in the Rehabilitation Hospital Agreement.

7. We have not eliminated the requested language in the insurance representation in each agreement because we feel it is appropriate for Mesa County and the Foundation to represent that they have maintained insurance that is customarily maintained with respect to the Hospital and Centennial Plaza, respectively, prior to Closing.

8. We have not made the change requested to Section 2.15 of the Rehabilitation Hospital Agreement with respect to inventory and supplies because we feel that if the supplies and inventory which are purchased are obsolete or unusable, this should be disclosed. Otherwise, Mesa County should represent that the inventories and supplies are of good quality and not obsolete.

9. The representation included in Section 2.18 of the Rehabilitation Hospital Agreement is intended to address transfers of the assets out of the ordinary course of business. St. Mary's would need to know that such transfers have not occurred during a reasonable period of time prior to the closing date. Therefore, we have inserted January 1, 1995 rather than the effective date.

10. We do not believe that a one year survival on the representations and warranties will give the purchaser in each agreement adequate protection with respect to any post-closing problems which may appear and result in liability which was not intended to be assumed by either purchaser. Therefore, we have

2.6 Title to and Condition of Premises.

(a) Seller is the sole and exclusive legal and equitable owner of all right, title and interest in and has good, clear, indefeasible, insurable and marketable title in fee simple to the Premises which, as of the Closing Date, will be free and clear of any and all mortgages, deeds of trust, mechanics or other liens or encumbrances of any kind or character, direct or indirect, whether accrued, absolute, contingent or otherwise and are subject only to the "Permitted Exceptions" listed on Exhibit 9.1 attached hereto. ~~There~~ Except as set forth in Exhibit 2.6(a) attached hereto, there are no purchase contracts, leases, options or other agreements of any kind, oral or written, formal or informal, choate or inchoate, recorded or unrecorded, whereby any person or entity other than Seller will have acquired or will have any basis to assert any right, title or interest in, or right to the possession, use, enjoyment or proceeds of, any part or all of the Premises.

(b) Except as set forth in Exhibit 2.6(b) attached hereto, the Real Estate is zoned to permit the uses for which is it presently used and/or intended to be used, including, without limitation, use as a rehabilitation hospital, skilled nursing facility and home health agency without variances or conditional use permits.

(c) The Real Estate constitutes a valid subdivided parcel in accordance with all applicable subdivision laws, statutes, ordinances and codes presently in effect, and the sale of the Real Estate to Buyer as contemplated herein will not violate any subdivision statute, ordinance, law, code or plat presently in existence. Seller has all easements and rights-of-way necessary for access to the Premises.

(d) Neither the whole nor any portion of the Premises owned, occupied or used by Seller has been condemned, requisitioned or otherwise taken by any public authority (a "Public Taking"), and no notice of any Public Taking has been received by Seller with regard to the Premises. To the best knowledge of Seller and HHSC, no such Public Taking is threatened or contemplated. Neither Seller nor HHSC has any knowledge of any public improvements which have been ordered to be made and/or which have not heretofore been assessed, and there are no special, general or other assessments pending, threatened against or affecting the Premises. All installments of any assessments pending on or before the Closing will be paid by Seller.

(e) There are no facts that would adversely affect the ownership, possession, use or occupancy of the Premises ("Adverse Facts") relating to the physical condition of the Premises or any portion thereof, including, without limitation, Adverse Facts relating to soil conditions, sinkholes or geologic faults, or

Adverse Facts contained in architectural drawings, building or construction plans, inspection reports and related documents.

(f) Seller has previously complied, and Seller is currently complying, in all material respects with all federal, state and local environmental statutes, laws, ordinances, orders, rules, regulations and moratoria relating to the operation of the Hospital or occupancy of the Premises, including, without limitation, the Clean Air Act, as amended; the Federal Water Pollution Control Act, as amended; the Safe Drinking Water Act, as amended; the Resource Conservation and Recovery Act, as amended ("RCRA"); the Hazardous Material Transportation Act, as amended; the Occupational Safety and Health Act of 1970, as amended ("OSHA"); and the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986, as amended ("CERCLA"). Seller has not received any notice alleging any noncompliance with or potential liability pursuant to any of such statutes, or any other laws, ordinances, orders, rules, regulations or moratoria.

Except as identified in Exhibit 2.6(f) attached hereto, no hazardous wastes, as defined in Subtitle C of RCRA or under applicable state law, and no hazardous substances, as defined in CERCLA or under applicable state law, or any other toxic or noxious substances and/or any waste or recycled products thereof (as such substances are defined by applicable state and federal statutes and regulations) have ever been generated, treated, used, stored, spilled, leaked, or disposed of by Seller or, to the best knowledge of Seller and HHSC, any prior owners of the Premises, on the Premises or at any location in the immediate area of the Premises. There has not been during the time Seller owned the Premises, and is not occurring, at the Hospital, any release or threatened release, as those terms are defined in CERCLA, of any hazardous substance or petroleum, including crude oil or any fraction thereof, nor has Seller any reason to believe such a release is occurring or has occurred at any time in the past. Further, there are no polychlorinated biphenyls ("PCBs"), asbestos~~, hazardous wastes, substances, chemicals, or other conditions or uses of the Premises or property in its vicinity, whether natural or man made, which pose a~~ or hazardous wastes, which pose a material present or potential ~~threat of damage~~ risk or hazard to the health of persons, to property, to natural resources or to the environment. No underground storage tanks, as defined in RCRA or under applicable Colorado statutes or regulations, are present on the Premises, and, to the best knowledge of Seller and HHSC after due investigation, no such tanks were previously abandoned or removed on or from the Premises.

To the best knowledge of Seller, Seller has no liability, responsibility or obligation, whether fixed, unliquidated, absolute, contingent or otherwise, under any

REVIEW COMMENTS

FILE #PDR-95-159 **TITLE HEADING:** Planned Development Review - St. Mary's Hospital & Medical Center

LOCATION: 2635 N 7th Street

PETITIONER: St. Mary's Hospital & Medical Center

PETITIONER'S ADDRESS/TELEPHONE: P.O. Box 1628
Grand Junction, CO 81502
244-2170

PETITIONER'S REPRESENTATIVE: Bertis A. Rasco, AIA

STAFF REPRESENTATIVE: Michael Drollinger

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., SEPTEMBER 25, 1995.

MESA COUNTY BUILDING DEPARTMENT **9/7/95**
Bob Lee **244-1656**
No comments at this time.

GRAND JUNCTION IRRIGATION **9/13/95**
Phil Bertrand **242-2762**
The GVIC has a large 36" irrigation pipe line and large canal that abuts or cuts across St. Mary's property and/or is affected by the St. Mary's master site plan proposal. Every effort is needed to avoid causing undo hardship and impacting our right to manage, operate, replace or repair those irrigation structures in a reasonable and beneficial manner. No encroachment of the rights-of-way that causes undo financial burden will be allowed. No restriction of our right of ingress or egress for the regular and frequent inspection of our irrigation delivery system. No permanent structures will be allowed, over the pipeline or canal, unless a detailed design and working knowledge of how those proposed structures will be installed, operated, managed and maintained. There may be a need to sign a bridge crossing agreement that addresses these proposed crossings. Reconfirming present delivery points or establishing new delivery point of the irrigation water for the new proposed landscaping would be most helpful.

CITY PROPERTY AGENT **9/15/95**
Tim Woodmansee **244-1565**
The proposal contemplates "an air rights street vacation/street use permit" for the cross street bridge above North 7th Street. The mechanism to allow this encroachment, pursuant to City Charter, is a Revocable Permit. The application for a Revocable Permit needs to include a metes and bounds description of the permit area.

GRAND JUNCTION FIRE DEPARTMENT **9/18/95**
Hank Masterson **244-1414**

The Fire Department has no comments at this time.

GRAND JUNCTION DRAINAGE DISTRICT **9/18/95**
John L. Ballagh **242-4343**

The tracts near 7th and Patterson are within the Grand Junction Drainage District. The Hilltop site and the tract at 26 3/4 and Patterson are not within the District. **HOWEVER**, all the site drain into the Buthorn Drain, correctly stated on page 4-15 of the Master Site Plan.

That Buthorn Drain is at capacity for storms much more frequent than 100 year events. The Western Engineer's report of June 1992 should be followed.

Detention facilities should be required as building and paving proceed. All reasonable efforts to reduce inadvertent contamination of surface runoff should be exercised.

CITY UTILITY ENGINEER **9/18/95**
Trent Prall **244-1590**

SEWER & WATER - CITY
Sewer and water concerns will be evaluated at each phase.

CITY DEVELOPMENT ENGINEER **9/19/95**
Jody Kliska **244-1591**

1. The multi-modal plan calls for a bicycle facility which connects from Patterson Road south along 7th Street and cuts over to 6th Street in the vicinity of this property. This may require either right-of-way or an easement on St. Mary's property. Further discussion between staff and the petitioner is needed to determine the best alternative.
2. Additional right-of-way along Patterson may be desirable to straighten out the offset in Patterson Road at the 7th Street intersection. The signal timing was recently changed due to the increase in left turn accidents most likely due to this offset.
3. Pedestrian circulation in the parking areas east of 7th Street should be reevaluated to provide an easy and direct path to the pedestrian bridge.
4. AASHTO requirements for overhead clearances is 16 feet. Since 7th Street is envisioned to be the future connection from I-70 to downtown, it is necessary to maintain overhead clearances for large vehicles.
5. Please clarify the statement in the drainage study for parcel 1 the sentence on page 2, under #2 - "Any future construction of these facilities will be performed by the City." Is there a written agreement somewhere and if so, please provide a copy.

COMMUNITY DEVELOPMENT DEPARTMENT **5/19/95**
Michael Drollinger **244-1439**

See attached comments.

TO DATE, NO COMMENTS HAVE BEEN RECEIVED FROM:
City Attorney

Review Comments Response

File: #PDR-95-159

Title Heading: Planned Development Review-St. Mary's Hospital & Medical Center

Location: 2635 N 7th Street

Petitioner: St. Mary's Hospital & Medical Center

Petitioner's Address/Telephone: P.O. Box 1628
Grand Junction, CO 81502
244-2170

Petitioner's Representative: Bertis C. Rasco, AIA

Staff Representative: Michael Drollinger

Note: Comments by various City Agencies appear first followed by the Petitioner's response in italic text.

Four (4) copies of written response and revised drawings addressing all review comments are transmitted here with.

MESA COUNTY BUILDING DEPARTMENT — 9/7/95
Bob Lee — 244-1656

No comments at this time.

Request for a building permit will be filed for each construction project as the contract documents for that phase are developed.

GRAND JUNCTION IRRIGATION — 9/13/95
Phil Bertrand — 242-2762

The GVIC has a large 36" irrigation pipe line and large canal that abuts or cuts across St. Mary's property and/or is affected by the St. Mary's master site plan proposal. Every effort is needed to avoid causing undo hardship and impacting our right to manage, operate, replace or repair those irrigation structures in a reasonable and beneficial manner. No encroachment of the rights-of-way that causes undo financial burden will be allowed. No restriction of our right of ingress or egress for the regular and frequent inspection of our irrigation delivery system. No permanent structures will be allowed, over the pipeline or canal, unless a detailed design and working knowledge of how those proposed structures will be installed, operated, managed and maintained. There may be a need to sign a bridge crossing agreement that addresses these proposed crossings. Reconfirming present delivery points or establishing new delivery point of the irrigation water for the new proposed landscaping would be most helpful.

Present delivery points are shown on the attached site diagram. New delivery points may be necessary to serve the Landscape Plans which will be developed with each phase of construction. Prior to filing for a building permit it is our intent to review the practicality of any desired new delivery points with the GVIC Superintendent.

CITY PROPERTY AGENT 9/15/95

Tim Woodmansee 244-1565

The proposal contemplates "an air rights street vacation/street use permit" for the cross street bridge above North 7th Street. The mechanism to allow this encroachment, pursuant to City Charter, is a Revocable Permit. The application for a Revocable Permit needs to include a metes and bounds description of the permit area.

St. Mary's will apply for "an air rights street vacation/street use permit" with the City Property Agent during the initial part of the schematic design development for the N 7th Street pedestrian bridge.

GRAND JUNCTION FIRE DEPARTMENT 9/18/95

Hank Masterson 244-1414

The Fire Department has no comments at this time.

We anticipate reviewing preliminary plans with the Fire Marshal as soon as the owner has given approval of the building form and conceptual plan. We will request a final review and approval by the Fire Marshal regarding the Life Safety elements during the building permit process mentioned above with Mesa County Building Department.

GRAND JUNCTION DRAINAGE DISTRICT 9/18/95

John L. Ballagh 242-4343

The tracts near 7th and Patterson are within the Grand Junction Drainage District. The Hilltop site and the tract at 26 3/4 and Patterson are not within the District. HOWEVER, all the site drain into the Buthorn Drain, correctly stated on page 4-15 of the Master Site Plan.

That Buthorn Drain is at capacity for storms much more frequent than 100 year events. The Western Engineer's report of June 1992 should be followed.

Detention facilities should be required as building and paving proceed. All reasonable efforts to reduce inadvertent contamination of surface runoff should be exercised.

As recommend, we proposed to follow Western Engineer's report of June 1992 .

Additional Detention Facilities are proposed for construction as required to accommodate new impervious site areas. As each phase is designed the resulting need for surface water detention areas will be established, designed and integrated into the construction documents which will be submitted for final review and approval during the building permit process.

CITY UTILITY ENGINEER 9/18/95
Trent Prall 244-1590

SEWER & WATER - CITY

Sewer and water concerns will be evaluated at each phase.

Cursory review of the area utilities reveled no major unresolable problem in accommodating the requirements of the preliminary Master Site Plan.

Precise utility requirements will be established as each project proceeds into the Contract Document development. Any increase in demand will be reviewed at that time with the City Utility Engineer and the Private Utilities

CITY DEVELOPMENT ENGINEER 9/19/95
Jody Kliska 244-1591

1. The multi-modal plan calls for a bicycle facility which connects from Patterson Road south along 7th Street and cuts over to 6th Street in the vicinity of this property. This may require either right-of-way or an easement on St. Mary's property. Further discussion between staff and the petitioner is needed to determine the best alternative.

   1. We are not aware of the City's proposed multi-modal plan for a potential bicycle facility connecting 7th Street to Patterson Road.

   In the vicinity of this property, the Preliminary Master Site Plan suggested the City improve the existing pedestrian bridge across the GVIC at the end of Little Bookcliff for foot traffic and bicycles.

2. Additional right-of-way along Patterson may be desirable to straighten out the offset in Patterson Road at the 7th Street intersection. The signal timing was recently changed due to the increase in left turn accidents most likely due to this offset.

   2. Recently St. Mary's was unwilling compensated for land taken by the City to widen Patterson. This resulted in surface parking loss to one of the most convenient parking areas of the hospital; extensive loss of landscaping; and on site circulation difficulties. The preliminary Master Site Plan addresses these problems but cannot replace the number of desirable parking spaces lost by the forced land sale.

   What is the actual increase in traffic accidents at Patterson and 7th?

   Provided the increase is out of proportion to the increase in traffic volume, it is recommended that consideration be given to additional signal lights along Patterson; reduction of the speed limit; rigid enforcement of the speed limit; traffic diverted to other roads; improvement of signal light timing; etc. or other steps taken prior to claiming more densely used valuable private owned property.

3. Pedestrian circulation in the parking areas east of 7th Street should be reevaluated to provide an easy and direct path to the pedestrian bridge.

3. Pedestrian circulation in the parking areas east of 7th Street will be evaluated to assure easy access to the 7th Street bridge during the design of the bridge.

4. AASHTO requirements for overhead clearances is 16 feet. Since 7th Street is envisioned to be the future connection from I-70 to downtown, it is necessary to maintain overnead clearances for large vehicles.

4. In discussions regarding the City Traffic Plan we are told that 12th Street will remain as the major connection with I-70. From our understanding 12th Street is straight; has less schools; less residental neighborhoods; better sight lines and is favored with more traffic than 7thStreet. We can not envision a great volume of overheight interstate vehicles attempting to use 7th Street. The Maximum allowable vehicle height in the State of Colorado is 14' 6' and length is 105'. The average height for double semitrailers, semitrailers and straight body trucks is 13' 6'.

The proposed 14'-6" under side clearance for the 7th Street pedestrian bridge is derived by the existing first floor elevation of the hospital extended with out ramps or steps to the opposite side of the street. It is desirable to eliminate stairs and ramps to accommodate the volume of wheelchairs, stretchers, hospital carts. and handicapped persons who will use the bridge.

5. Please clarify the statement in the drainage study for parcel 1 the sentence on page 2, under #2 - "Any future construction of these facilities will be performed by the City." Is there a written agreement somewhere and if so, please provide a copy.

5. In the process of developing the Western Engineering Study dated January 1992, it was concluded with the City Utility Engineer that the existing contours of St. Mary's land presented 3 drainage basins (shown on Figure 1 of the report). It was agreed that basins 1 and 3 would drain into the St. Mary Park detention pond; basin 2 located at the corner of Patterson & 7th would drain into 7th Street; then in 7th & Center; then west in 6th & Center where it turns south and continues to the Buthorn Drain.

There was discussion regarding the potential for a future tie between a 6th and Center main and St. Mary's Park Detention Pond. The tie was not needed to satisfy St. Mary's requirements, so it was agreed that if it was desirable or practical in the future the construction of these facilities would be by the City.

COMMUNITY DEVELOPMENT DEPARTMENT **5/19/95**
Michael Drollinger **244-1439**
See attached comments.

TO DATE, NO COMMENTS HAVE BEEN RECEIVED FROM:
City Attorney

STAFF REVIEW

FILE: #PDR- 95-159
DATE: September 19, 1995
STAFF: Michael Drollinger
REQUEST: Preliminary Plan & Rezone - St. Mary's Hospital
LOCATION: Patterson Road & 7th Street
ZONING: Various at present

STAFF COMMENTS:

1. As per early discussions with the petitioner's consultant, the 12th and Patterson sites ARE NOT PART OF THIS PRELIMINARY PLAN AND REZONE REQUEST and reference shall be made in the project narrative to that effect. The sites which are part of this request are limited to those on the "Master Site Plan" map dated August 1995 (revised). The 12th and Patterson site will be processed with a later application when the petitioner has completed the formulation of future plans for this site.

1. As per conversations with the planning staff the entire submittal will be heard at the October 3,1995 meeting.

2. The correct terminology for this project should be "Preliminary Plan" not "Master Site Plan" and it should be referenced this way on future submittals (including maps) to avoid confusion.

2. At the staff request, future reference to the Master Site Plan will be "Preliminary Plan" until accepted by the Planning Commission and/or City Council.

STAFF REVIEW

FILE: #PDR-95-159

DATE: September 27, 1995

STAFF: Michael T. Drollinger

REQUEST: Rezone RMF-64, RSF-8 & RSF-4 to PB and Preliminary Plan

LOCATION: E & W side of 7th Street S of Patterson Road and NW Corner of Patterson Road and 12th Street

APPLICANT: Sisters of Charity of Leavenworth, Health Services Corp.
4200 S. 4th Street
Leavenworth, Kansas

EXECUTIVE SUMMARY:

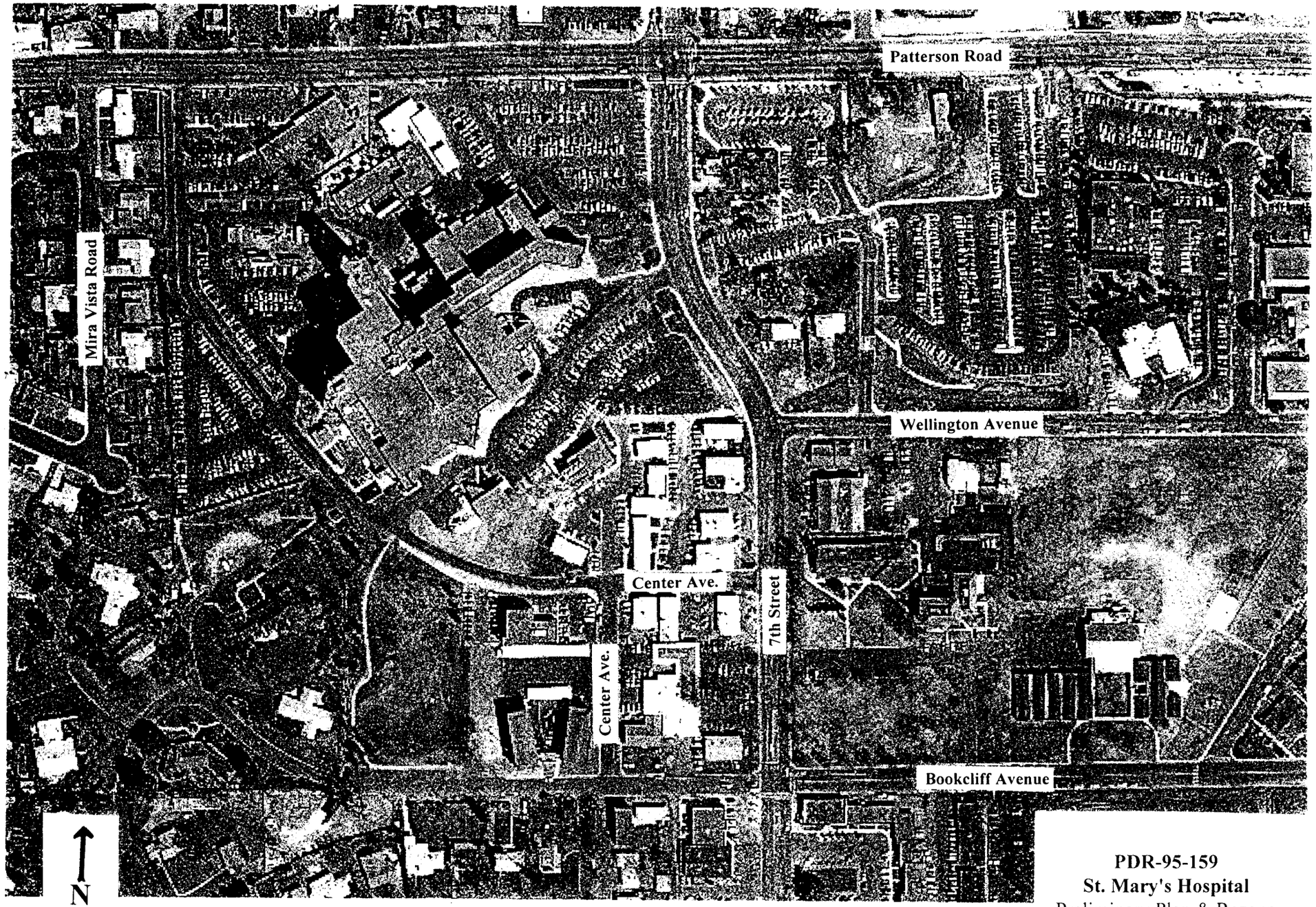
The preliminary plan (also referred to as Master Site Plan) for St. Mary's Hospital has been prepared at the direction of the Planning Commission. The purpose of the plan is to set forth the plans for upgrade, improvement and expansion of St. Mary's facilities over a ten (10) year planning horizon. The preliminary plan includes proposed phasing, density of development, setbacks, height and involves rezoning parts of St. Mary's property to PB (Planned Business) to be consistent with the remaining lands. Staff recommends approval of the preliminary plan and rezone.

EXISTING ZONING: PB (Planned Business); RMF-64 & RSF-4 (see attached map)

PROPOSED ZONING: PB (Planned Business)

STAFF ANALYSIS:

The property descriptions, details of existing conditions and proposed development phasing are all covered in the "Master Site Plan" document and will not be repeated in this report. Particular attention should be paid to Chapter 4 which details the scope and phasing of improvements. Parking and circulation are proposed to be improved and meet Code requirements. Landscaping improvements to parking lot areas are also part of the proposed improvements. The proposed rezonings are beneficial because the entire St. Mary's complex will fall under a consist zone with development occurring consistent with the preliminary plan.



PDR-95-159
St. Mary's Hospital
Preliminary Plan & Rezone
AERIAL MAP

Zoning Shown on Map

Parcel # 1. PB

Parcel # 2. PB

Parcel # 3. B-1

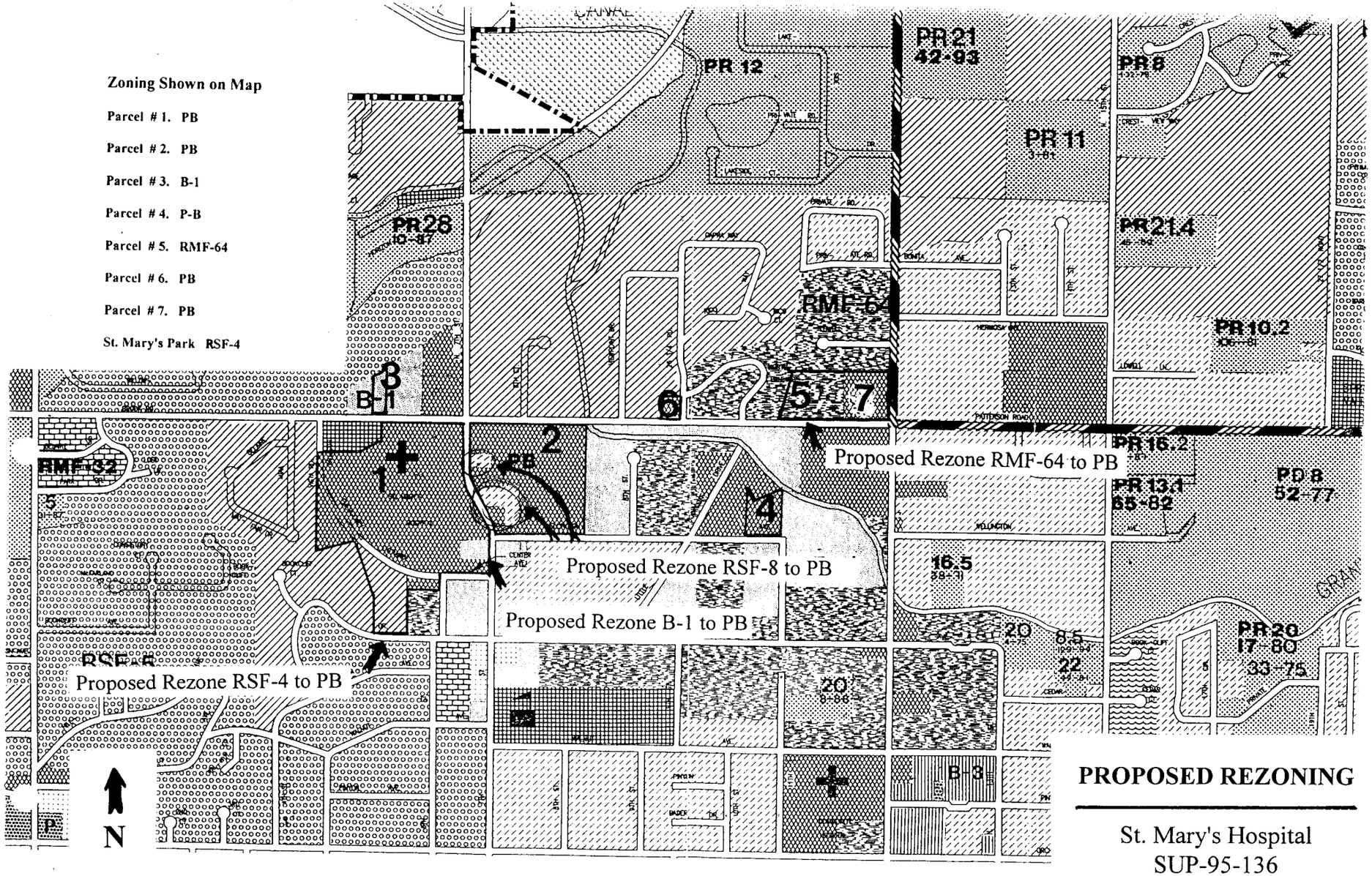
Parcel # 4. P-B

Parcel # 5. RMF-64

Parcel # 6. PB

Parcel # 7. PB

St. Mary's Park RSF-4



PROPOSED REZONING

St. Mary's Hospital
SUP-95-136

Outstanding Issues

The major outstanding issues related to the preliminary plan concern comments from the City Public Works comments. Public Works staff will discuss these issues in more detail at the hearing, however, they are summarized below:

1. Additional right-of-way may be required along Patterson Road to straighten the offset in Patterson Road at the 7th Street intersection.

2. Based on accepted engineering standards, Public Works will require that the clearance for a pedestrian bridge over a City right-of-way such as 7th Street offer a minimum of 16 feet of underside clearance.

Staff recommends that the development standards in Chapter 4 of the "Master Site Plan" document be the adopted standards for the complex. Variation from height and FAR (Floor Area Ratio) standards of up to ~~5~~ 10% should be permitted without requiring an amendment to the preliminary plan. Staff also recommends that the Planning Commission require that the Plan be valid for five (5) years after which it must be readopted (w/ or w/o changes) after a new public hearing process. The Planning Commission also needs to consider whether St. Mary's should be permitted have final plans for each phase (assuming they are consistent with the preliminary plan) approved administratively or if final plans shall require a Planning Commission hearing.

Modified

Conditions of Approval

Should the Planning Commission and/or City Council choose to favorably consider the subject application, staff believes that the conditions listed below should be met:

1. Resolution of the above-issues with the Public Works Department.

2. Adoption of Chapter 4 of the document entitled "Master Site Plan" as the required development standards and permitting up to a ~~5%~~ variation in the standards without requiring an amendment to the preliminary plan. 10%

3. The adopted preliminary plan shall be valid for five (5) years from date of adoption after which the plan must be reconsidered at a Planning Commission hearing for readoption, with or without modifications.

The Planning Commission should also include a condition regarding approval of final plans.

4. PC shall review & approve final plans — PC review of final plans (parking lots & bldgs)

5. The Wellington Street ~~Park~~ lot be not an approved use for parking

Approved 6-0

STAFF RECOMMENDATION:

Staff recommends approval of the rezoning request and preliminary plan subject to conditions #1-#3 in this staff report.

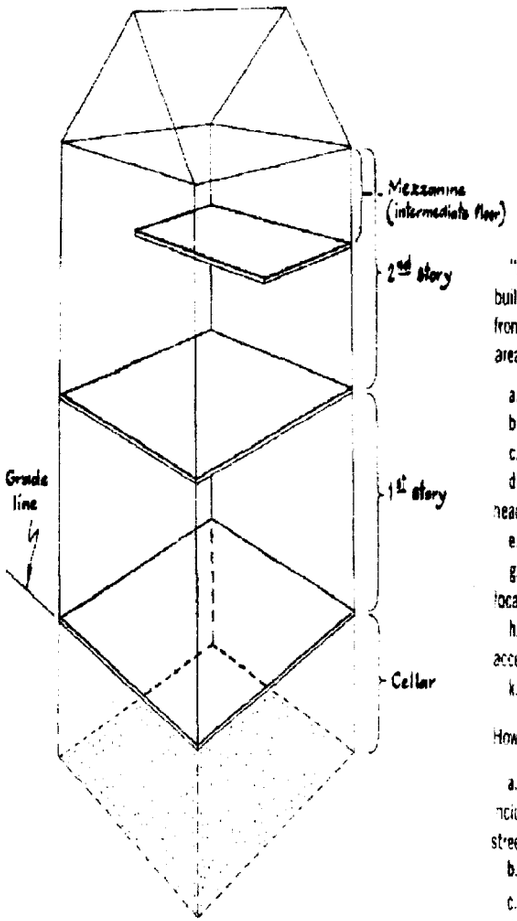
RECOMMENDED PLANNING COMMISSION MOTION:

Mr. Chairman, on item PDR-95-159, a request for rezone and preliminary plan approval, I move that approve the preliminary plan with conditions #1-#3 in the staff report dated September 27, 1995 and that we forward the rezone to City Council with a recommendation for approval.

h:\cityfil\1995\95-1594.wpd

17-18 FLOOR AREA

We need to establish the "FAR" Floor Area Ratio for the City.



Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To RON GREENHALL	From BERTIS RASCO
Co. SMHMC	Co. BCR/AIA
Dept. ENGINEERING	Phone # 206-682-1133
Fax # 970-244-2893	Fax # 206-621-8782

"Floor area" is the sum of the gross areas of the several floors of a building or buildings, measured from the exterior faces of exterior walls or from the center lines of walls separating two buildings. In particular, floor area generally includes:

a. Basement space except as specifically excluded
b. Elevator shafts or stairwells at each floor
c. Floor space in penthouses
d. Attic space (whether or not a floor has been laid) providing structural headroom of eight feet or more
e. Floor space in interior balconies or mezzanines
g. Any other floor space used, [redacted] no matter where located within a building
h. Floor space in accessory buildings, except for floor space used for accessory off-street parking
k. Any other floor space not specifically excluded

However, the floor area of a building shall not include:

a. Cellar space, except that cellar space used for retailing shall be included for the purpose of calculating requirements for accessory off-street parking spaces and accessory off-street loading berths
b. Elevator or stair bulkheads, accessory water tanks, or cooling towers
c. Uncovered steps
d. Attic space (whether or not a floor actually has been laid) providing structural headroom of less than eight feet
h. Floor space used for mechanical equipment

Floor area included

Floor area excluded

Ron, an accurate determination of the gross floor area is needed for the MSP (master Site Plan). Here is the definition. Do you have this? Please call. Bertis

Copy: Kurt Estridge
Ken Tomlow

TRANSMISSION REPORT

THIS DOCUMENT WAS CONFIRMED
(REDUCED SAMPLE ABOVE - SEE DETAILS BELOW)

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G2 : G2 COMMUNICATION
RS : RELAY STATION
RM : RECEIVE TO MEMORY

BERTIS CRAWFORD RASCO A.I.A.

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 3
To TOM DIXON	From BERTIS RASCO
Co. CITY GRAND JUNCTION	Co. BCR/AIA
Dept. PLANNING	Phone # 206-682-1133
Fax # 970-244-1599	Fax # 206-621-8782

June 1, 1995

TOM, Please read this letter and if you find any corrections necessary - mark it up with your comments and FAX it back to me. I would like this to be a letter of our understanding Should you want to discuss this I would appreciate your phone call.
Sincerely, Bertis

In our last telephone conversation you requested an outline of the tasks remaining to complete the Master Site Plan. To define this, I have worked closely with Tom Dixon, the City's Senior Planner assigned to the St. Mary's Master Site Plan project. This letter describes two major remaining tasks and their major sub-tasks. Task One is to prepare the final material necessary to obtain the hospital's commitment to the 'draft" Master Site Plan. Task Two is to file the 'draft' as required for the City's approval.

This outline is based on the October 1994 City of Grand Junction Zoning and Development Code along with phone conversations and meetings at City Hall that Keith Estridge and I have had with Tom and Kathy Portner the City's Supervisor for Planning.

Task One Prior to submitting the 'draft' Master Site Plan to the City:

Collect comments, review them and revise the materials (plans, slides, 3 ring binders etc. sent to the hospital earlier) as required per the President's Council, the Hospital Board and the various committees that have reviewed the circulated materials.

A. Focus the Plan on the property currently owned.

B. Formalize the parking stall count-considering the City's Landscaping Area requirements

C. Develop Landscape Plan with plant & materials list 5-4-15

D. Develop a Parking Lot lighting layout (iso-candle diagram) as per the Zoning and Development Code - Section 5-5-1-F-2-i.

E. Upgrade Estimate of Probable Cost

2553 W. MONTLAKE PLACE EAST SEATTLE . WASHINGTON 98112-2253 206-682-1133 FAX 206-621-8782

F. Obtain commitment from the hospital to a 'draft" Master Site Plan for submittal to the City.

Summary of Major Sub-tasks:

1. Complete In-house Hospital Committee reviews.
   - Phasing
   - Parking
   - Landscaping
2. Finalize Parking Layout and Stall Count
3. Develop Landscaping Plan
4. Prepare iso-candle diagram.
5. Integrate light diagram with Parking Plan
6. Estimate of Probable cost
7. Obtain Hospital's Commitment to Plan

Task Two Submit 'draft" Master Site Plan to the City

Process for Obtaining Master Site Plan Approval

In lieu of starting from scratch and going through the full Planned Development Administrative Procedures and Requirements for PB (Planned Business) Zone as outlined in Chapter 7-5-1, St. Mary's as an existing Institution with large amount of fixed assets on an existing site is permitted to file a request for approval of the above outlined 'draft' Master Site Plan as follows:

A. City reviews 'draft' Master Site Plan (60 day period)
   1. Planning Department receives the 'draft" and reviews the submittal with the appropriate agencies.
   2. Planning Staff collects the various agency reviews and then meets with the owner to present recommendations. Owner and the Planning Staff then meet to agree to the extent of modifications appropriate (if any) for the 'draft".
   3 During the 60 day process neighboring property owners are properly notified by the Planning Staff of St. Mary's submittal and the Planning Commission Public Hearing.
   4. Planning Commission holds a public hearing
   5. If no objections are received the Plan is 'Approved'

   Should any Appeals be filed they require a final action by the City Council. Any Appeal to City Council requires additional time beyond the 60 day period.

B. Submittals to the City made by the 1st day of the month fit into the City's hearing cycle and normally are heard during the following month i.e., a submittal the first of August would be heard in September and if appealed would go to the City Council for a hearing in mid October. Any hearing by the City Council requires time beyond the previously mentioned 60 day period. An appeal to the City council is estimated to required an additional 15 days. The Total process time is assumed to be 75 days should an appeal filed.

C. Should additional adjacent land be acquired beyond what is shown on the "Approved" Master Site Plan or the shown buildings significantly change, the Master Plan would need to be amend to reflect the difference brought about by the change(s).

D. Once the Master Site Plan is Approved the Hospital may develop on site projects shown by the Plan with out going to the Planning Department, the Planning Commission or the City Council as long as the Plan is followed. A Master Plan can save time for every one involved and also save the Hospital cost.

In documenting this process with the City, I have been informed that Tom Dixon is leaving the City and that Michael Drollinger will take Tom place as the City's Planner for this Master Site Planning Project. Tom has gone over the project and this process with Michael. After Tom leaves, Michael will be our contact and will help guide the Plan through the City Agencies. Tom has set up a meeting on June 14th at 3pm for me to meet Michael and to review the project status. I would appreciate it if Keith (or some one you choose from the hospital) can be available to attend the meeting with me.

I will call you next week to confirm plans for the meeting on the 14th with the City and to obtain any update regarding the Board meeting on the 15th.

If you have any questions about the above process or the meetings, please do not hesitate to call.

Sincerely,

Bertis C. Rasco

Bertis C. Rasco, AIA

Tom,
GOOD LUCK
and
Best Wishes on your
new job. Bertis

Meeting Memorandum
June 14, 1995
City Planning Department
Grand Junction, CO

# of pages ▸ 2	
To MICHAEL DROLLINGER	From BERTIS RASCO
Co. CITY OF GRAND J.	Co. BCR / AIA
Dept. COMM. DEVEL. DEPT	Phone # 206-682-1133
Fax # 970-244-1599	Fax # 206-621-8782

Present: Michael T. Drollinger, AICP
Senior Planner
City of Grand Junction, CO

Bertis C. Rasco, AIA
BCR/AIA
representing St. Mary's Hospital
Grand Junction, CO

RECEIVED GRAND JUNCTION PLANNING DEPARTMENT
JUN 21 RECD

Subject: Zoning & Planning Criteria related to St. Mary's Hospital

1. Michael Drollinger has replaced Tom Dixon as the City's Senior Planner for the hospital's Master Site Plan (MSP). Michael will help guide the hospital's M S P through the City's Review and Approval Process.

2. All property now owned by the hospital and planned for medical center use should be included in the MSP submittal. Re zoning should be requested for all the property not currently zoned PB Zone.

Examples:

Parcel # 1 St. Mary's Park Rezone from PSF-4 to PB Zone
Parcel # 2 2604 N 7th; 2556 N 7th; 2536 N 7th; 2515 N 7th and 710 Patterson to PB Zone
Parcel # 3 520 Patterson to remain Zoned B-1
Parcel # 4 1002 Wellington is currently Zoned PB

3. The location and size of all planned buildings, parking, pedestrian bridges and street overpasses should be described in the MSP. As long as there is no significant change from what is shown on an Approved MSP, the hospital will be able to go through the City's Site Plan Review Process (which is an administrative review only) without resubmitting each time for a Planning Commission Review.

4. If there are alternate locations for a helistop in order to accommodate horizontal expansion of the Saccomanno, the alternate locations should be included.

5. The minimum number of street trees to be provided is determined by the street frontage divided by 40 (5-4-15). Street Frontage Landscaping shall include one (1) tree for every 50 linear feet of frontage or fraction thereof (5-5-1 F.2 a).

6. The code list the distance to Parking from principal property to be 500 feet maximum. Parcel # 3 (1002 Wellington) is approximately 980 feet to the East of Parcel # 2. The City is willing to work with hospital to allow use of Parcel # 3 for Employee Parking during construction periods if the Hospital has not committed the property to other Medical related use.

7. Parking developed now above the code requirements can be credited to satisfying the parking code requirements of future buildings when they are built. The number of parking stalls required by the code for the various phases should be tabulated in the MSP.

8. The circulated time and procedures Outline of City Requirements for Submission, Review and Approval for St. Mary's MSP that was drawn up by Tom Dixon and Bertis (see Fax and letter dated) was reviewed and confirmed as correct. Michael felt it might be possible to reduce the assumed early approval time by 30 days. Both agreed to do every thing possible to reduce the overall time.

9. The next step is to up collect all the various review comments regarding the proposed MSP that has been circulated to various committees, etc., revised the plan as required and then gain authorization from St. Mary's to submit the MSP to City Planning.

Distribution:

Michael Drollinger
Sister Lynn Casey, President St. Mary's
Ken Tomlon, Exec. Vice Pres.
Keith Estridge, Director of Facilities Mgt.

Michael,
Thanks for your prompt attention
Bertis

☐ Memorandum
☐ Telephone Record
☐ Note to the File
☐ To be Typed
☐ Minutes of Mtg
☐ FAX 2 pages

Project ST. MARY'S MASTER SITE PLAN

Subject DEVELOPMENT OF MSP

Project No 09406 Date JULY 13, 1995 By BCR

To MICHAEL DROLLINGER	From BERTIS RASCO
Co. CITY OF G. JUNCTION	Co. BCR/AIA
Dept. PLANNING	Phone # 206-682-1133
Fax # 970-244-1599	Fax # 206-621-8782

RECEIVED GRAND JUNCTION PLANNING [illegible]

JUL 13 RECD

1. ST. MARY'S IS IN PROCESS OF ACQUIRING HILLTOP REHAB HOSPITAL, SKILLED NURSING FACILITY AND CENTENNIAL PLAZA LOCATED AT 1100 PATTERSON ROAD.

WE PLAN TO FILE THE MSP ON AUG 31, 1995 AND EXPECT THE ABOVE ACQUISITION TO BE COMPLETE. TO KEEP THE MSP FROM BECOMING OBSOLETE SHOULD WE EXTEND THE (TO BE FILED) MSP TO INCLUDE THE NEWLY ACQUIRED PROPERTIES ?

@ HILLTOP REHAB HOSPITAL AND SKILLED NURSING HOME NOW APPEARS ON THE CITY ZONING MAP AS RMF-64. WILL THIS REQUIRE REZONING.? WHAT SPECIAL USE OR CONDITIONAL USE DO THESE FACILITIES HAVE WITH THE CITY ?

@ WILL THE NEW OWNERS BE REQUIRED TO DEVOTE 15% OF THE GROSS LAND AREA TO LAND SCAPE (CODE 4-2-9) ?

@ WHAT ARE THE PARKING REQUIREMENTS FOR THE:
1 REHAB HOSPITAL
2 SKILLED NURSING FACILITY
3 THE P-B ZONED CENTENNIAL PLAZA. office/retail

@ CAN THE PROPERTY THE HOSPITAL OWNS (ZONE P-B) AT 1002 WELLINGTON BE USED FOR PARKING FOR HILLTOP.? *if they meet Code requirements

@ WHAT IS THE CITY'S UNDERSTANDING OF THE PARKING ARRANGEMENT BETWEEN THE HILL TOP PROPERTIES AND THE CHURCH PARKING LOT USE WEST ACROSS 12TH ?

*have not started CUP process *parts presently illegal.

2. IS IT LOGICAL TO ZONE ALL THE HILLTOP PROPERTY P-B AT THE SAME TIME WE FILE THE MSP? WE ASSUME THIS IS THE TIME TO ASK FOR REZONING OF ALL ST. MARY'S PROPERTY INTO THE P-B ZONE.

3. HOW MANY COPIES OF THE MSP ARE REQUIRED WHEN WE FILE?

4. WHAT IS THE FILING FEE?

Michael,

Please call me so we can discuss these and any other elements you may chose regarding St. Mary's MSP.

Thanks in advance.

Bert;

Memo Of Meeting

To: Ken Tomlon, Executive V.P.
St. Mary's Hospital and Medical Center

From: Bertis Rasco

# of pages ▸ 3 7

To KEN TOMLON	From BERTIS RASCO
Co. ST. MARY'S	Co. BCR/AIA
Dept. ADM'N	Phone # 206-682-9133
Fax # 970-244-7510	Fax # 206-621-8782

Meeting of August 3,1995

City of Grand Junction, CO
City Hall

Present:
Michael T. Drollinger. AICP City of Grand Junction
Keith Estridge, Engineering St. Mary's Hospital
Bertis Rasco, Consultant Planner for St. Mary's

Subject: St. Mary's Master Site Plan (MSP)

1. The following was in Response to Questions Faxed to City earlier:
   A. St. Mary' has acquired the Hilltop Rehab Hospital (HRH) and the adjacent Centennial Building. It is still St. Mary's goal to file a MSP by August 31,1995.
      The City feel strong about the date of August 31,1995. They do not feel it absolutely necessary to file a MSP for the newly acquired property at this time.

      It is the hospital's decision when to file zoning modifications. A plat of each property to be re-zoned is required. Plat is defined as a drawing used to legally identify boundaries and easements, performed in accordance with Colorado Revised Statutes Title 38, Article 51. (see attached Plat of Parcel #6 HRH employee parking lot)

   B. HRH is in Zone RMF-64. A hospital is not permitted in this Zone with out a Conditional Use permit. HRH does not have a Conditional Use permit that includes on site parking by others.

   C. The amount of landscaping required is established during the review process consider the applicant file and the review agencies comment. Each P-B Zone request is reviewed individually.

RECEIVED GRAND JUNCTION
PLANNING DEPARTMENT
AUG 10 RECD

D. Parking requirements:

Current	
1. Offices	1 space per 300sf of gross floor area plus 1 for each office vehicle
2. General Retail (Centennial Plaza)	1 space for 200gsf sales area
Proposed use	
3. Medical /Dental Offices (Family Practice Residency Bldg)	4 spaces for each doctor on duty during busiest shift
4. Hospital (Rehab Hospital)	1 space per 2 beds + 1 per employee on largest shift + 1 per hospital vehicle
5. Care Facilities (S N F)	1 space per 4 beds + 1 per employee on the largest shift

E. The St. Mary's property (1002 Wellington zoned P-B) may be used for Hilltop employee parking

F. The Bookcliff Baptist Church property is in a Conditional Use zone. The Church does not have any formalized arrangement with the City that allows parking from Centennial Plaza. This is technically in violation of current codes since the Church needs the City's permission. The City already has their Code enforcement arm looking into this. To be legal the lot will need to get a permit, pave, landscape, provide surface drainage, stripe the stalls and light the lot.

2. Zoning all Hospital property into one Zone is reasonable and would simplify the understanding and enforcement of the zone requirements.

3. Michael Drollinger will verify the number of copies of the MSP to be filed, identify who is to receive each and establish the filing fee cost.

4. The hospital needs to identify the existing Surface Drainage plans and their design capacities (water retention provided for and the amount of impervious area) for Parcel #1 (includes St. Mary's Park) and Parcel #2. It is thought that this work has been done by Western Engineers--Bruce Marvin 242-5202.

5. Traffic Generation should be a topic included in the MSP. Driveways, intersections and curb cuts should be included. Also, note the existing curb cuts and specify any that are to be closed and any that are new.

6. Pedestrian & bike bridges were discussed and felt to be desirable across N. 7th Street between Parcels #1 & #2 and the one across the GVI Canal at the North end of Little Bookcliff Avenue can be improved.

7. It was agreed that the hospital could develop parking in large economical lots that exceed the code requirements and later the hospital can apply parking developed in excess of the code to future parking requirements.

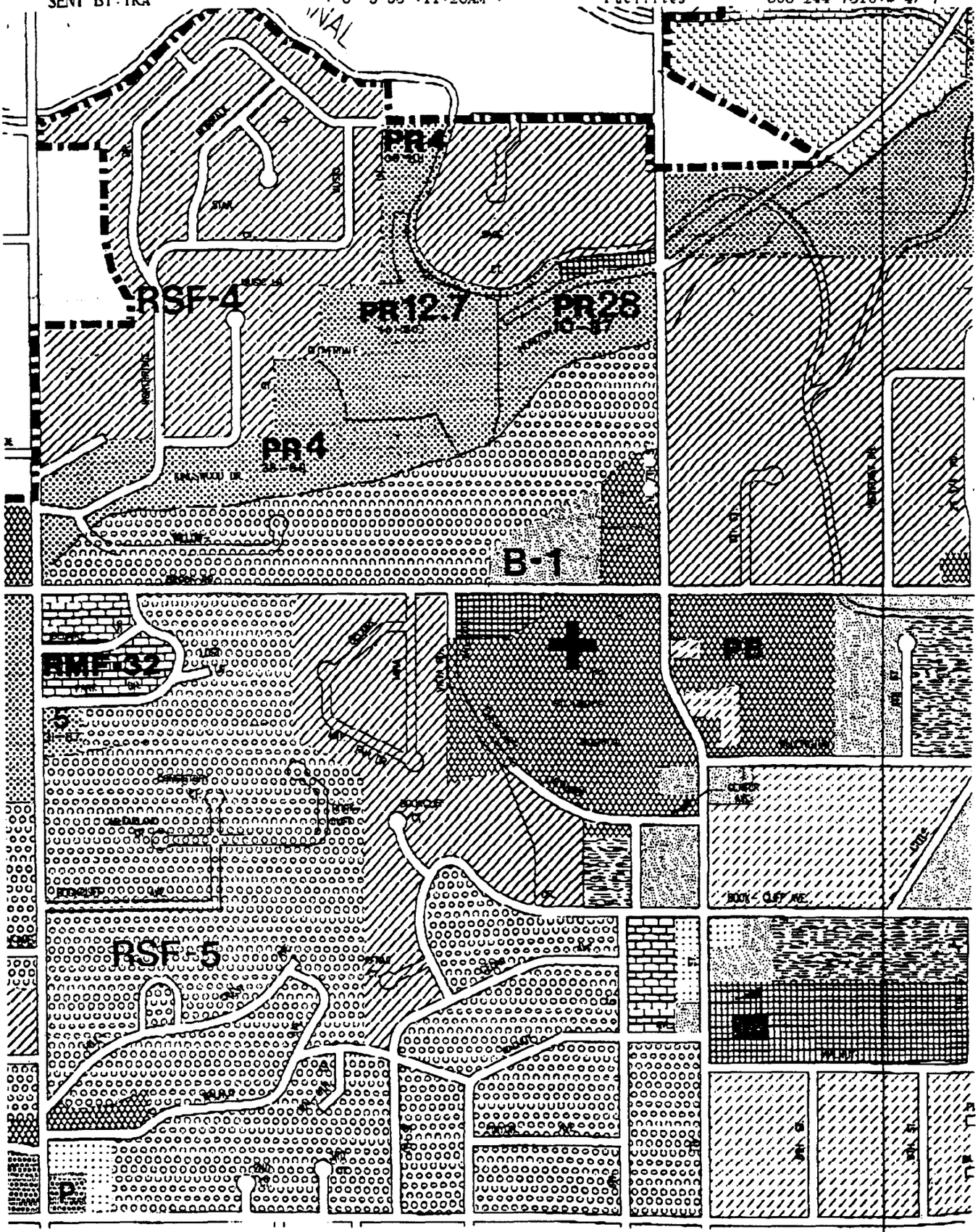
8. City manual dated May 1995 titled "Submittal Standards for Improvements and Development" (SSID) Section 5-6 of the Zoning and Development Code was purchased from the City $10.00.

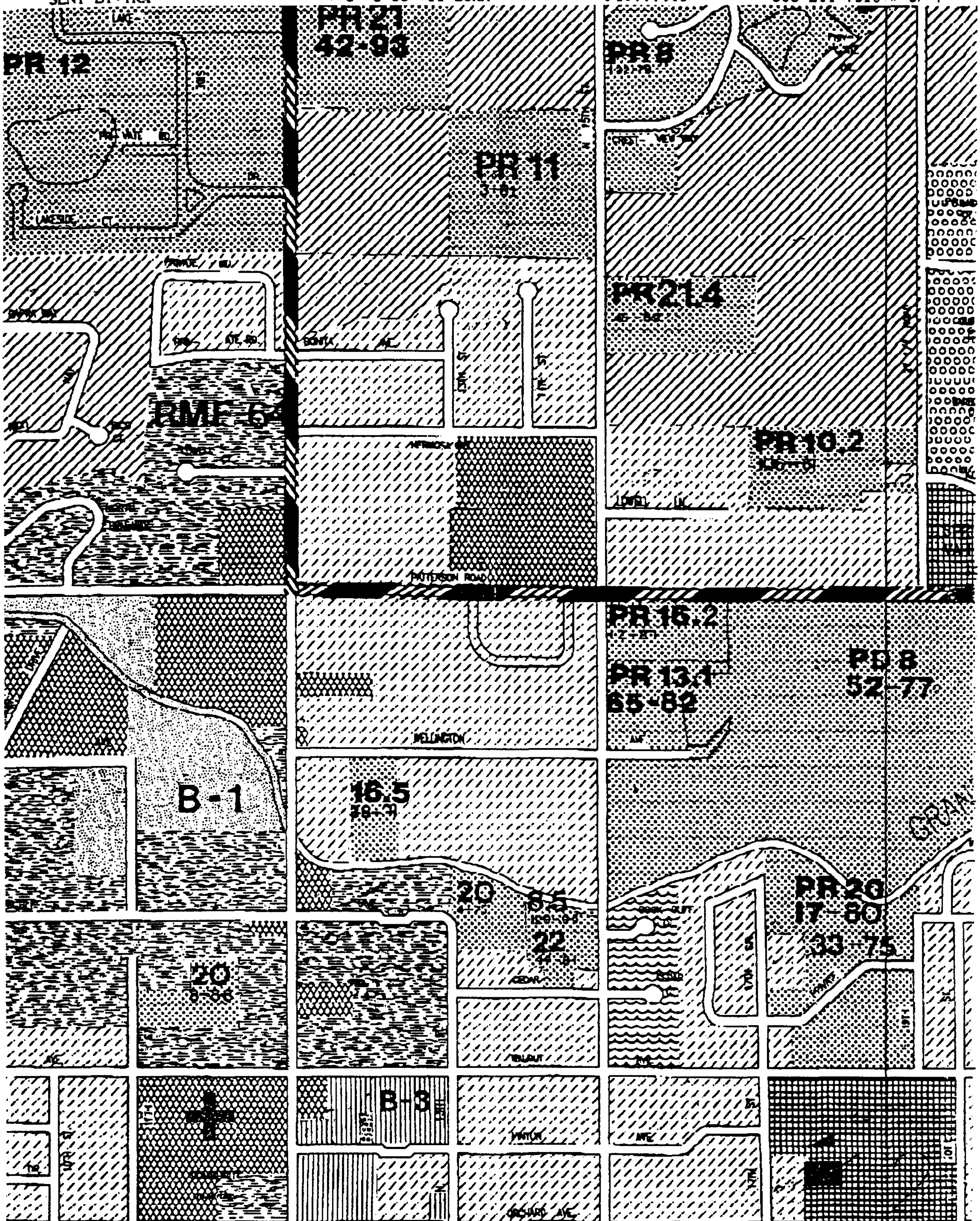
9. Michael supplied and upgraded copy of the City Zoning map for the area around St. Mary's property. It was noted that the Motel property on Parcel #1 and one (or two ?) properties on Parcel #2 are not indicated in the P-B Zone on the newly published zoning
map. Michael will verify the zoning of all the St Mary's property.

10. Michael also drew from the files and copied for us the Plat map of the HRH Employee Parking Lot Parcel #6.

Distribution:

Sister Lynn Casey
Ken Tomlon
Keith Estridge
Michael Drollinger


PR4
RSF-4
PR12.7
PR28
PR4
B-1
RMF-32
5
PB
RSF-5
P


PR 12
LAKE
PRIVATE RD.
LAKESIDE CT.
PR 21
42-93
PR 8
CREST VIEW
PR 11
PR 21.4
RMF 64
BONITA AVE.
PATTERSON ROAD
PR 10.2
PR 16.2
PR 13.1
55-82
PD 8
52-77
WELLINGTON
B-1
16.5
20
8.5
22
CEDAR
PR 20
17-80
33-75
20
8-36
B-3
WALNUT
TEXAS
ORCHARD AVE.

04V

RSF-4

BENNETT SUBDIVISION [redacted]

KNOW ALL MEN BY THESE PRESENTS

That the undersigned, Dorothy and Claude Bennett are the owners of that real property situated in the County of Mesa, State of Colorado, and lying in a part of the SE 1/4 of Section 2, T1S, R1W, UTE Principal Meridian, as shown on the accompanying plat thereof. Said plat being specifically described as follows: Beginning at a point 1180.40 feet East of the South 1/4 Corner of Section 2, T1S, R1W, UTE P.M.; Thence East 133.52 feet to the East line of the SW 1/4 SE 1/4 of said Section 2; Thence N 01° 20' W 204.50 feet, Thence N 88° 30' W 183.00 feet; Thence West 113.14 feet; Thence South 300.35 feet to the point of beginning; EXCEPT the South 30 feet for road right of way, and EXCEPT Easement as described in documents recorded in Book 708 Page 514 and in Book 941 Page 493 of the MESA COUNTY CLERK and RECORDERS records. Said subdivision contains 0.97 acres, more or less.

That the said owners have caused the said property to be laid out and surveyed as BENNETT SUBDIVISION, a subdivision of a part of the County of Mesa, City of Grand Junction.

That the owner does hereby dedicate and set apart all streets as shown on the accompanying plat to the use of the public forever, and hereby dedicate those portions of said real property which are labeled as utility easements as a perpetual easement for the installation and maintenance of utilities and drainage facilities including but not limited to electric lines, gas lines, and telephone lines together with the right to trim interfering trees and brush, together with the perpetual right of ingress and egress for installation, maintenance and replacement of such lines. Said easements and rights shall be utilized in a reasonable and prudent manner.

That all expenses for installation of utilities referred to above for grading, landscaping, and for street improvements shall be financed by the seller or purchaser — not the City of Grand Junction.

In WITNESS WHEREOF, said owners, Claude and Dorothy Bennett have subscribed their names this ________ day of ________ A.D. 1976.

________________________ Claude Bennett

________________________ Dorothy Bennett

STATE OF COLORADO)
) ss
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this ________ of ________ A.D. 1976 by Claude and Dorothy Bennett.

My commission expires: ________

Witness my hand and official seal. ________________________ Notary Public

N

CLERK AND RECORDERS CERTIFICATE

State of Colorado)
County of Mesa) ss

I hereby certify that this instrument was filed in my office at 10:45 o'clock A. M. Sep 17 1976 A.D., 1976, and is duly recorded in plat Book No. 11 Page 218, Reception No. 1116877.

Earl Sawyer — Clerk and Recorder | ________ Deputy | $ 10.00 Fees

CITY APPROVAL

This plat of Bennett Subdivision, located in the [illegible] of Grand Junction, County of Mesa, and State of Colorado was approved and accepted this 15 [illegible] [illegible]

K. G. [illegible] — [illegible] | [illegible]

[illegible] — City Manager | [illegible] Planning [illegible]

Ronald [illegible] — Grand Junction City Engineer | [illegible]

[illegible]

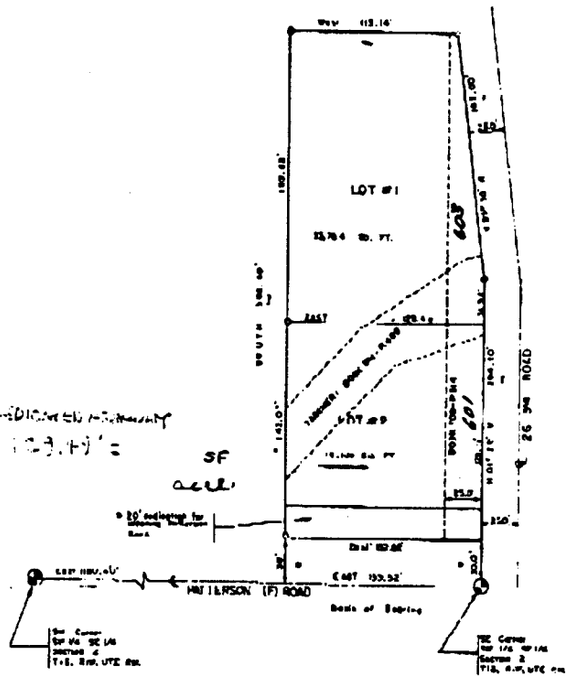
SURVEYOR'S CERTIFICATE

I, Wayne H. Lizer, a registered land Surveyor in the State of Colorado, do hereby certify that this survey was made under my direct supervision and that this plat represents said survey.

Wayne H. Lizer — WAYNE H. LIZER L.S. No. 4113

ARMSTRONG ENGINEERS
ENGINEERING, SURVEYING
CONCRETE & SOILS TESTING

BENNETT SUBDIVISION
[illegible]



LEGEND

STAFF REVIEW (**City Council**)

FILE: #PDR-95-159

DATE: October 12, 1995

STAFF: Michael T. Drollinger

REQUEST: Rezone RMF-64, RSF-8 & RSF-4 to PB

LOCATION: E & W side of 7th Street S of Patterson Road and NW Corner of Patterson Road and 12th Street

APPLICANT: Sisters of Charity of Leavenworth, Health Services Corp.
4200 S. 4th Street
Leavenworth, Kansas

EXECUTIVE SUMMARY:

The preliminary plan (also referred to as Master Site Plan) for St. Mary's Hospital has been prepared by the hospital at the direction of the Planning Commission. The purpose of the plan is to set forth the plans for upgrade, improvement and expansion of St. Mary's facilities over a ten (10) year planning horizon. The preliminary plan includes proposed phasing, density of development, setbacks, height and involves rezoning parts of St. Mary's property to PB (Planned Business) to be consistent with the remaining lands. Planning Commission approved the preliminary plan at their October 3, 1995 meeting. Staff recommends approval of the rezone request .

EXISTING ZONING: PB (Planned Business); RMF-64, RSF-8 & RSF-4 (see attached map)

PROPOSED ZONING: PB (Planned Business)

STAFF ANALYSIS:

The property descriptions, details of existing conditions and proposed development phasing are all covered in the "Master Site Plan" document and will not be repeated in this report. Particular attention should be paid to Chapter 4 which details the scope and phasing of improvements. Parking and circulation are proposed to be improved and meet Code requirements. Landscaping improvements to parking lot areas are also part of the proposed improvements. The proposed rezonings are beneficial because the entire St. Mary's complex will fall under a consist zone with

Legal Description for Parcel 3 shall be substituted with the following:

Beginning 363.1 feet S and S26°19'E60.8 feet from N4 corner SEC1 1S W N77°10' 307 feet S2°55'W 118.2 feet S84°07' W257feet N26°19'W85 feet to beginning excluding road ROW as per Mesa County Records.

F. A favorable vote of five members of the City Council shall be required to overturn a recommendation of the Planning Commission that an application for rezoning be denied.

G. In all rezoning actions by either the Planning Commission or the City Council, the reasons for the action shall be stated in the minutes or resolution of that body.

4-4-3 SUBMITTAL REQUIREMENTS - The applicant shall submit to the Administrator those materials as listed in the SSID Manual (only complete submittals shall be accepted).

4-4-4 CRITERIA - The following questions shall be answered in reviewing rezone applications and shall be considered in the decisions made by the Planning Commission and City Council.

A. Was the existing zone an error at the time of adoption? no

B. Has there been a change of character in the area due to installation of public facilities, other zone changes, new growth trends, deterioration, development transitions, etc.?
- change in character with expansion of St. Mary's over time

C. Is there an area of community need for the proposed rezone?
- the zone changes ~~the assist~~ address a community need by providing for the expansion of the hospital, which is a community asset

D. Is the proposed rezone compatible with the surrounding area or will there be adverse impacts?
- the rezone is compatible with surrounding uses and a uniform planning zone will assist in addressing compatibility issues

E. Will there be benefits derived by the community, or area, by granting the proposed rezone?
- rezone will assist in the coordinated planning of the hospital in the long-term

F. Is the proposal in conformance with the policies, intents and requirements of this Code, with the City Master Plan (Comprehensive Plan), and other adopted plans and policies?
- rezone to PB will allow planning of the complex as a whole with the benefits of a PUD to be achieved

G. Are adequate facilities available to serve development for the type and scope suggested by the proposed zone? If utilities are not available, could they be reasonably extended?
- Adequate ~~would~~ infrastructure is either available or based on Staff's evaluation of petitioner's proposal.

4-5 SPECIAL USES (see Definitions)

4-5-1 SPECIAL USE PERMIT - A special use shall require a special use permit prior to the issuance of a building permit and/or commencement of the use. This permit shall be issued by the Administrator upon approving the application. A special use is not a use by right.

4-5-2 SPECIAL USE PERMIT PROCEDURE

A. The applicant shall submit the required materials to the Administrator (see Section 4-7). Only complete applications shall be accepted.

development occurring consistent with the preliminary plan.

Outstanding Issues

The major outstanding issues related to the preliminary plan concern comments from the City Public Works comments. Public Works staff will discuss these issues in more detail at the hearing, however, they are summarized below:

1. Additional right-of-way may be required along Patterson Road to straighten the offset in Patterson Road at the 7th Street intersection.

2. Based on accepted engineering standards, Public Works will require that the clearance for a pedestrian bridge over a City right-of-way such as 7th Street offer a minimum of 16 feet of underside clearance. additional ROW may be required

3. 7th Street subject to 7th Street between Patt & Center Street to reduce the curvature of the road. Staff recommends that the development standards in Chapter 4 of the "Master Site Plan" document be the adopted standards for the complex. Variation from height and FAR (Floor Area Ratio) standards of up to 10% should be permitted without requiring an amendment to the preliminary plan by Planning Commission.

Conditions of Preliminary Plan Approval

Planning Commission adopted the Master Site Plan document as the Preliminary Plan for the development with the following conditions:

1. Resolution of the above-issues with the Public Works Department. (*STAFF NOTE*: the issues will be addressed as more detailed plans for phases are developed. The issues were identified during this phase of the process to inform St. Mary's of staff's concerns and allow them to incorporate these concerns into their long-term planning).

2. Adoption of Chapter 4 of the document entitled *Master Site Plan* as the required development standards and permitting up to a 10% variation in the standards without requiring an amendment to the preliminary plan.

3. The adopted preliminary plan shall be valid for five (5) years from date of adoption after which the plan must be reconsidered at a Planning Commission hearing for readoption, with or without modifications.

4. The Planning Commission shall review and approve the final plans.

5. The Wellington lot is not approved for parking (*STAFF NOTE*: the Wellington lot is referenced as Parcel #4 in the *Master Site Plan*).

STAFF RECOMMENDATION:

Staff recommends approval of the rezoning request to make the zoning of the St. Mary's properties consistent and recommends adoption of the *Master Site Plan* document with the development standards contained therein.

PLANNING COMMISSION RECOMMENDATION:

At their October 3, 1995 meeting the Planning Commission approved the Preliminary Plan with the conditions in the staff report (as amended) and recommended approval of the rezone request.

h:\cityfil\1995\95-1595.wpd

Zoning Shown on Map

Parcel # 1. PB

Parcel # 2. PB

Parcel # 3. B-1

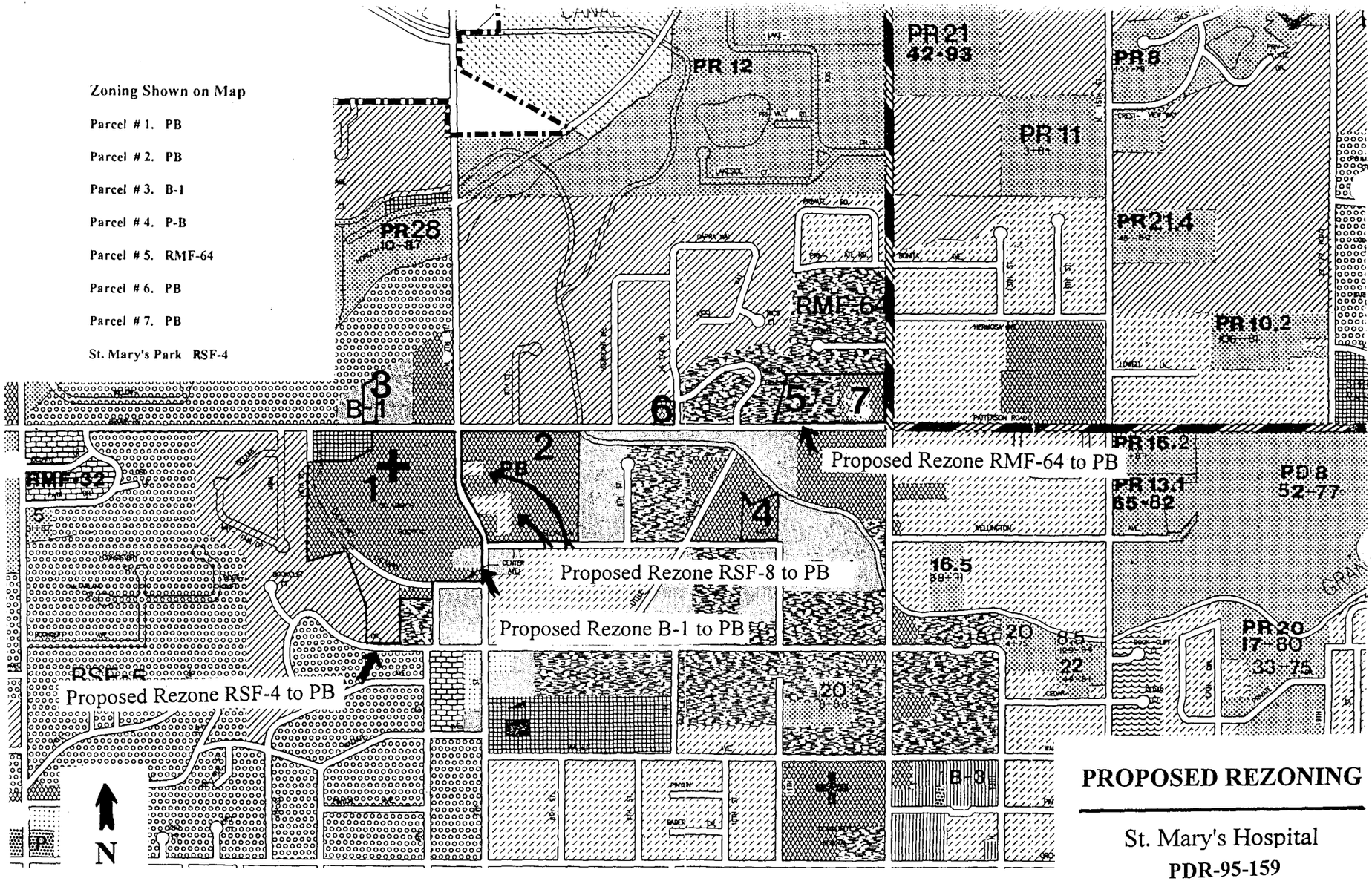
Parcel # 4. P-B

Parcel # 5. RMF-64

Parcel # 6. PB

Parcel # 7. PB

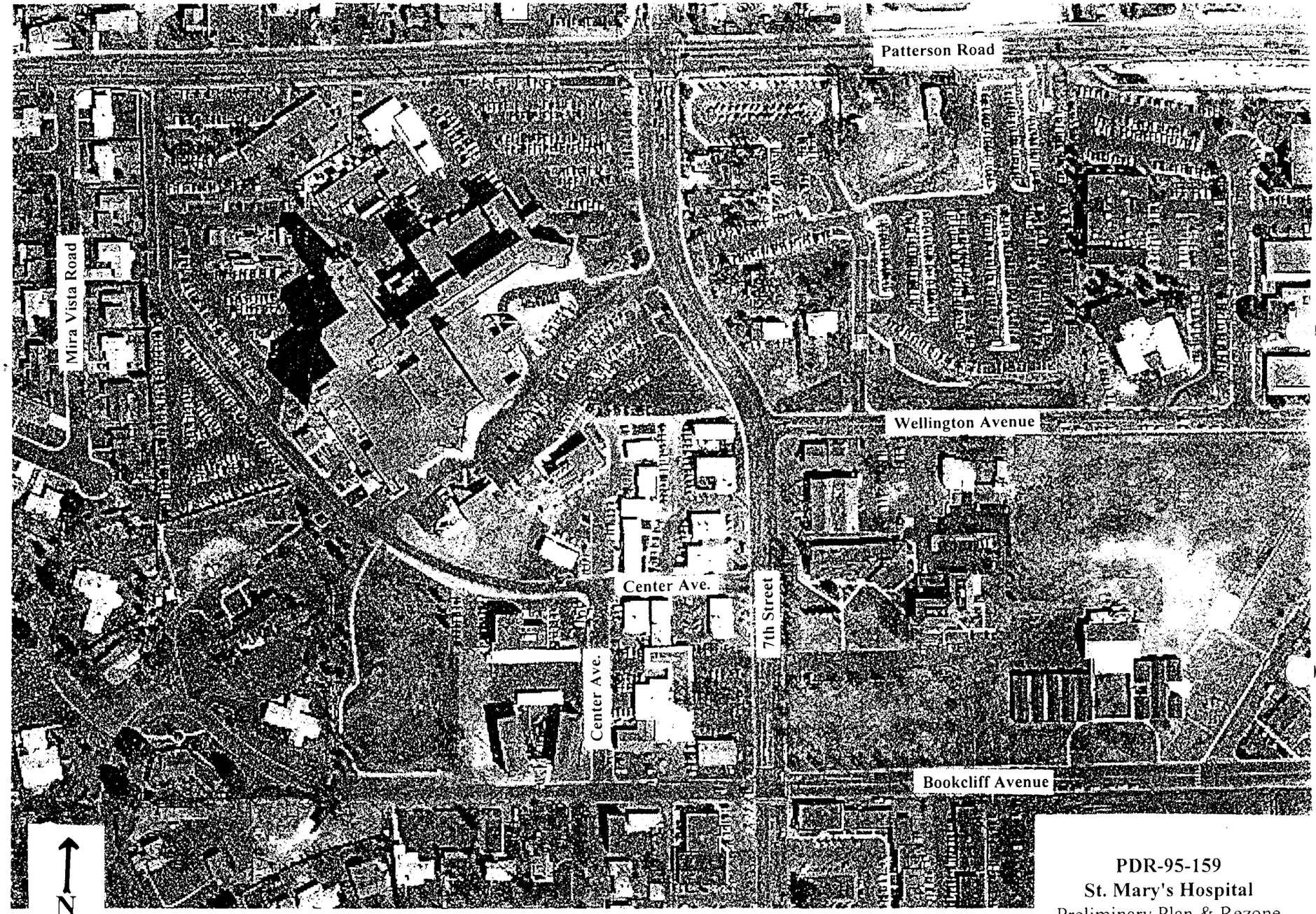
St. Mary's Park RSF-4



PROPOSED REZONING

St. Mary's Hospital

PDR-95-159



PDR-95-159
St. Mary's Hospital
Preliminary Plan & Rezone
AERIAL MAP

beginning 180' S of N1/4 cor Sec 11 1S 1W S 75' E 190.3' N 75' W 190.3' to beginning 50' for road as described in B-1501, P-438 through 440 Mesa County Records.
[located on the east side of 7th Street south of Patterson Road]

Parcel 3

That the land described below is hereby rezoned from RSF-8 (Residential Single Family - not to exceed 8 units per acre) to PB (Planned Business):

beginning 180' S of N1/4 cor Sec 11 1S 1W S 75' E 190.3' N 75' W 190.3' to beg 50' for road as described in B-1501, P-438 through 440 Mesa County Records.
[located on the east side of 7th Street south of Patterson Road]

Parcel 4

That the land described below is hereby rezoned from RSF-8 (Residential Single Family - 8 units per acre) to PB (Planned Business):

BEG 499.3FT S AND 240FT E OF N4 COR SEC 11 1S 1W S115FT E76FT N02°55' E149.3FT TO SE COR OLIVER REED TR S84°07' W TO PT 20FT N OF BEG S TO BEG
[located on the east side of 7th Street south of Patterson Road]

Parcel 5

That the land described below is hereby rezoned from RMF-64 (Residential Multifamily - not to exceed 64 units per acre) to PB (Planned Business):

BEGINNING 324.67 FEET FROM W OF SE CORNER SECTION 2 1S 1W N330.56FT W324.95FT S21°58'W215.43FEET S28°46'W149.18FEET E477.23FEET TO BEGINNING EXCLUDING ROW AS PER BOOK-1424 PAGE-729 MESA COUNTY RECORDS
[commonly known as Hilltop (now St. Mary's) Rehabilitation Center]

Parcel 6

That the land described below is hereby rezoned from B-1 (Limited Business) to PB (Planned Business):

FROM SW COR S2NE4NW4 SEC11 1S 1W E1050.5FT N388.5FT S89°55' E386.3FT N114FT to BEG W90.1FT N154.85FT E120.1FT TO W LI 7TH ST S TO A PT 30 FT E OF BEG W TO BEG
[commonly known as the Guest House Motel]

SECTION 2

That the development standards as detailed in the *Master Site Plan,* and in particular the development standards in Section 4 of said document, be incorporated as the development standards

for the Planned Business zone for the St. Mary's complex by reference. The *Master Site Plan* document is on file at the City Clerk's Office, City Hall , 250 N. 5th Street, City of Grand Junction for public review during normal business hours. The development standards shall be applicable to the properties zoned as Planned Business (PB) and described as follows:

A parcel of land beginning at a point 346.0' S of the N1/4 cor os Section 11, T1S, R1W Ute Meridian; thence N75°15'E 247.0'; thence N08°30'W 28.7'; thence W 29.6'; thence N15°12'E 46.3'; thence N79°59'E 119.8'; thence S02°55'W 160.0'; thence S77°10'W 307.0'; thence N26°19'W 60.8'; thence N 17.1' to the POB, except road right-of-way on the W thereof, City of Grand Junction; subject to right-of-way for covered pipeline and water tap on westerly boundary of subject property as described in deed recorded October 13, 1951, in B-555, P-250. ALSO beg at a point which is 363.1' S and N63°50'E 215' from the N1/4 cor of Section 11, T1S, R1W, Ute Meridian; thence N63°50'E 10'; thence N15°12'E 55.8'; thence N79°50'E 119.9'; thence N 34' more or less; thence S79°19'W 143'; thence S5°35'W 84.3' more or less to the POB. ALSO beg 215' E of the N1/4 cor of Section 11, T1S, R1W, Ute Meridian; thence S5°33'W 212.1'; thence northeasterly 143' to a point 185' S of N line of said Section 11; thence N 185'; thence W 121' to POB; except the S 30.1' thereof. ALSO a tract of land in the NW1/4 NW1/4 NE1/4 of Section 11, T1S, R1W, Ute Meridian described as follows: beg at a point 215' E of the N1/4 cor of said Section 11; thence S5°33'W 256.3' to a point; thence northerly to a point 205' E of said N1/4 cor of said Section 11; thence E 10' to beg; subject to rights-of-way of record, and also subject to Trust Deed to Mesa Federal Savings and Loan Association of Grand Junction in the original principal amount of $16,800, recorded in B-955, P-844 of the Mesa County Records. ALSO a part of the N1/2 of Section 11, T1S, R1W, Ute Meridian, described as follows: beg at a point on the N right-of-way line of Center Ave 390' N and 1163.4' E of the SW cor of the S 1/2 NE1/4 NW1/4 of Section 11, T1S, R1W, Ute Meridian; thence S00°05'W 50' to the N line of Mesa Park Center Sub; thence N89°55'W along said N line to a point that is 972.27' E and 340' N of the SW cor of the NE1/4 NW1/4 of said Section; thence northwesterly along the arc of a curve to the left having a radius of 50' a distance of 78.83', the chord of which bears N45°05'W 70.92'; thence N00°15'W 273' to a point on the S line of a tract conveyed to the State of Colorado by deed recorded in B-306, P-498; thence N73°35'E 303.8', more or less, along said line to the W line of a parcel of property described in B-710, P-119; thence S 56'; thence E 259.35' to the W right-of-way line of N 7th Street; thence S along said right-of-way 268.85' to the N line of Center Avenue; thence W 308.35' to the POB. ALSO beg at a point 546' S of the NE cor of the NW1/4 of Section 11 T1S, R1W, Ute Meridian; thence S73°35'W 31.3'; thence S 7.3'; thence along the arc if a curve to the right with a 32' radius, the chord of which bears S36°48'W 36.3' to a point on the S line of the Princeton University tract as recorded in B-306, P-498, Mesa County, Colorado, which point os S73°35'W 54' from the SE cor of said tract; thence S73°35'W 55' along the southerly line of said tract; thence S 56'; thence E 230' to the W line of 7th Street in City of Grand Junction; thence N30°38'W 152' along the W line of 7th Street; thence S73°35'W 50' to the POB. ALSO a tract of land in the NW1/4 NW1/4 NE1/4 of Section 11, T1S, R1W, Ute Meridian, described as follows: beg at the N1/4 cor of said Section 11, thence E 190'; thence S 105'; thence W 190'; thence N 105' to the POB, in the City of Grand Junction; subject to rights-of-way for County roads as described in documents recorded in B-428, P-342 and in B-433, P-57, Mesa County. ALSO a tract of land in the NW1/4 NW1/4 NE1/4 of Section 11, T1S, R1W, Ute Meridian, described as follows: beg at a point 105' S of the N1/4 cor of said Section 11; thence S 75'; thence E 190'; thence N 75'; thence W 190' to the POB; subject to a right-of-way for a County Road as described in document recorded in

B-428, P-404, records of Mesa County Clerk and Recorder. ALSO beg at a point 346' S of the N1/4 cor of Section 11, T1S, R1W, Ute Meridian; thence N75°15'E 247'; thence N8°30'W 28.7'; thence W 29.6'; thence S15°12'W 9.5'; thence S63°50'W 10'; thence N5°33'E 13.7'; thence W 194.3'; thence S 91' to the POB; subject to rights-of-way of record, including but not limited to a right-of-way recorded in B-900, P-9 of the records of the Mesa County Clerk and Recorder. ALSO a tract of land in the N1/2 NW1/4 NE1/4 of Section 11, T1S, R1W, Ute Meridian, described as follows: beg 215' E of the N1/4 cor of Section 11; thence S5°33'W 182'; thence northeasterly 490', more or less, to a point 90' S and 470' E of the POB; thence N 90'; thence W 470' to the POB, except the following described tract, to wit: beg at a point 215' E of the N1/4 cor of said Section 11, thence S5°33'W 182'; thence northeasterly 143'; thence N 155'; thence W 121' to the POB; subject to road as described in B-05, P-99; subject to easement for ditch as described in Quitclaim Deed recorded in B-370, P-339; and subject to easement to the Grand Valley Irrigation Company as described in B-453, P-209, Mesa County records. ALSO beg 420' S of the NE cor of the N1/2 NW1/4 NE1/4 of Section 11, T1S, R1W, Ute Meridian; thence W 150'; thence S 75'; thence W 75'; thence S 185' more or less to the S line of S.A. Reece tract of land; thence E 225' to the SE cor of S.A. Reece tract; thence N 260' more or less to the POB. ALSO beg at a point 685' E of the NW cor of the NE1/4 of Section 11, T1S, R1W, Ute Meridian; thence S 105'; thence S79°00'W 345.0'; thence S01°45'W 415.1'; thence S73°02'W 98.0' to a point 614.3' S and 240' E of the NW cor of the NE1/4 of said Section 11, thence W 56.11; to the E line of N 7th Street; thence along the arc of 353.3' radius curve to the right (the chord of which bears S17°10'E 65.05') 65.14'; thence S89°29'E 886.57' along the N line of Yocum Sub as recorded in Plat B-5, P-14; thence N 75.0'; thence N21°31'W 452.21' to the N line of the NW1/4 NE1/4 of said Section 11; thence W along said N line of said NW1/4 NE1/4 of said Section 11, 313.69' to the POB. ALSO beg at a point on the E line of Lot 16, Bookcliff Heights Sub in the City of Grand Junction, N00°15'W 310.88' from the SE cor of said Lot 16, running thence N00°15'W 303.12'; thence S75°02'W 294.6'; thence southeasterly to the POB. ALSO beg 180' S of N1/4 cor Sec 11 1S 1W S 75' E 190.3' N 75' W 190.3' to beg 50' for road as described in B-1501, P-438 through 440 Mesa County Records. ALSO beg 363.1' S + S26°19'E 60.8' from N1/4 cor Sec 11 1S 1W N77°10'E 307', S2°55'W 118.2', S84°07'W 257', N26°. ALSO a parcel of land located in the NE4NW4 sec 11 1S 1W bound by Vanderen Ford Sub on the W & Bookcliff Heights Sub on the S and by a line also on the S that is N73°35'E and extending nearly to 7th St and by Patterson on the N with 7th St on the E excepting Mesa Co, State of Colorado Health Dept. parcel on the N and W thereof and beg S 30' and W 888.88' from N1/4 cor said sec 11 W 39.90' S 200' E 39.90' N 200' to beg and inc vac ROW desc in B-1324, P-84 exc ROW on N and E as desc in B-1247 P-101, B-1332 P-62, B-1501 P438/440, B-1626 P-306/307, B-1736 P-716/718 Mesa County Records. ALSO par in NE1/4 NW1/4 sec 11 1S 1W bound Vanderen Ford Sub on W and Bookcliff Heights Sub on S and by line also on S N73°35'E and ext nely to 7th St and by Patterson on N 7th St on E exc Mesa Co State of CO Health Dept parcel on N & W thereof and also exc beg N89°25'W 40' and S 30' fr N1/4 cor sd sec 11 S 11.5' N45°W 16.26' S89°25'E 11.5' to POB and beg S 30' and W 888.88' fr N1/4 cor sd sec 11 W 39.9' W 200' to POB and vac r/w desc in B-1324 P-84 and exc r/w des in B-1332 P-62 Mesa County Records. ALSO commencing at the N1/4 cor of section 11, T1S, R1W, Ute Meridian; and considering the N line of the NW1/4 of said Section 11 to bear N89°58'W and all other bearings contained herein to be relative thereto; thence N89°58'W 40.00'; thence S0°02'W 41.50' to the true POB; thence S0°02'W 302.70'; thence along the arc of a 206.94' radius curve to the left 128.94', the chord of which bears S17°49'E 126.86'; thence S35°40'E 82.30'; thence S30°38'E 152.00'; thence N89°58'W 90.10'; thence S0°02'W 154.85'; thence S89°58'E 90.10';

thence S0°02'W 113.70'; thence N89°55'W 278.20'; thence S0°05'W 135.00'; thence N89°55'W 241.13'; thence S0°05'W 230.20'; thence N89°55'W 130.32'; thence along the arc of a 390.0' radius curve to the right 93.93', the chord of which bears N83°01'W 93.70'; thence N2°16'E 335.35'; thence N20°34'W 204.25'; thence S74°53'W 250.64'; thence N0°36'W 793.67'; thence S89°58'E 39.90'; thence S0°36'E 200.48'; thence S89°58'E 209.73'; thence N57°37'E 154.02'; thence N 117.9'; thence S89°58'E 494.70'; thence S45°00'E 16.26' to the POB. ALSO, (including right-of-way), a tract of land situate in the NW1/4 NE1/4 of said Section 11, T1S, R1W, Ute Meridian, the perimeter of which is described as follows: beg at the N1/4 cor of said Section 11, thence along the following twenty courses: N90°00'00"E along the N line of said Section 11 738.05'; S02°33'00"E 50.05'; S02°33'00"E 602.14' to the N line of Wellington Avenue; N89°29'00"W along Wellington Avenue 533.43' to the beg of a 25' radius curve to the right with a central angle of 72°19' (the chord of which bears N53°19'30"W 29.50'); 31.55' along the arc of said curve; N17°10'00"W along the E line of 7th Street 15.49'; N90°00'00"W 89.42'; N23°04'54"W 131.01'; N84°07'00"E 176.29'; S00°00'00"E 138.59'; N90°00'00"E 0.61'; N73°02'00"E 98.00'; N01°45'00"E 239.92'; S77°10'00"W 322.78'; N26°19'00"W 60.80' to the W line of said NW1/4 NE1/4 Section 11; N00°00'00"E 108.10'; N90°00'00"E 190.30'; N05°33'00"E 75.35'; S90°00'00"W 197.59' to said W line NE1/4 Section 11; N00°00'00"E 180.00'; except road right-of-way described elsewhere. ALSO beg at the SE cor of Section 2, T1S, R1W, Ute Meridian; thence W along the S line of said Section 2 324.67' to the E boundary line of the tract of ground deeded to Patterson Gardens, Inc., a Colorado Corp. in deed recorded in B-901 P-830, Mesa County Records; thence N00°01'E 330.56' along the E boundary of said tract recorded in B-901, P-830; thence E along the S boundary line of Patterson Gardens Sub as recorded in Plat B-11, P-24, Mesa County Records to the E boundary of said Section 2; thence S along the said E boundary of said Section 2 to the POB; EXCEPT the E 50' and S 50' thereof for roads. ALSO beg on the S line of Section 2, T1S, R1W, Ute Meridian, at a point 324.67' W of the SE cor thereof; thence N0°01'E 330.56'; thence W 324.95'; thence S21°58'W 215.43'; thence S28°46'W 149.18'; thence E 477.23' to the POB; EXCEPT the S 50' for road and utility purposes, as conveyed to the City of Grand Junction by instrument recorded in B-1424, P-729, Mesa County Records. ALSO Lot 2 of Bennett Sub, together with ROW vacated by Ord #2314, City of Grand Junction recorded December 12, 1986 in B-1617, P-787, and utility easement vacated by Ord. #2145, City of Grand Junction recorded in B-1459, P-850, all in Mesa County Records.

INTRODUCED for FIRST READING and PUBLICATION this ____ day of October, 1995.

PASSED on SECOND READING this _____ day of _____, 1995.

ATTEST:

_____ _____

City Clerk President of City Council

h:\cityfil\1995\95-1596.wpd

Memorandum of Meeting

September 19, 1994

St. Mary's Hospital

The Regional Medical Center
Grand Junction, CO

Meeting with :
Tom Dixon, AICP
Senior Planner
City of Grand Junction
Community Development Department
250 North 5th Street
Grand Junction, CO 81501

Present for St. Mary's:
Keith Estridge, Director Facilities Management
St. Mary's Hospital

Bertis Rasco, Planner

1. St. Mary's Hospital is in zone PB, Planned Business. Attached are plates #6 & #7 dated 01/28/91 of the City zoning map.

2. PB zone and the adjacent zones in Grand Junction can be rezoned upon request and hearings reasonability easy when compared to other cities where zones are fixed and only are modified by conditional use permits. At this time, the neighborhoods in Grand Junction are not highly active about zoning when compared to many other locations.

3. Affected neighbors who are required to be notified in Grand Junction are those within 200' of the property under consideration. The distance measure excludes any public right of way.

4. Patterson is a commercial street and main bypass for I-70. It would be difficult if not impossible to move. It connects cross city traffic from East I-70 to Highway 50 and the Mesa Mall and West I-70.

12th Street is the major North-South airport route. 7th Street has much less traffic. The curve in the street South of Patterson is a draw back.

There is no City criteria governing pedestrian bridges over streets in Grand Junction.

There are no special seismic codes. Grand Junction has adopted the Uniform Building Code.

5. The new Zoning Code is now at the printers and should be back for distribution by the first part of October. It defines set-backs, density, parking, etc. requirements for most zones. PB is a zone that must be planned by the land owner then proposed to the city for their acceptance. PB Zone has limited mandatory criteria published as the use of each PB zoned parcel can be so diverse. All PB zones must be individually reviewed. Each must also have a public hearing after the owner submits his proposed plan to the city.

The property adjacent to St. Mary's include zones PZ, public zone; B-2, Business 2000 sf; B-1; RMF-64, Residential Multi-Family Sixty Four residences per Acre; RSF-8, Residential Single Family eight residences per acre;RSF-4; which must be respected. Any of these zones can be changed to PB should St. Mary's acquire the land. (see attached Zoning plates #6 & #7)

6. For information on Utilities Contacts:
   Sanitary Sewer Bill Chaney City Hall
   Streets and other Right of Ways Jody Kliska City Hall
   Gas Public Service
   Power Public Service

7. In General the Process for PB Zone in Grand Junction, CO is as follows:
   Step #1 Draw up Master Site Plan as desired, label it "Preliminary" and file it with the City on the first working day of the month. Include: proposed set backs, parking stalls, green area ratios, percentage of site covered by building, routing of irrigation canal, retention ponds (or other appropriate methods of handling the 100 year flood), utilities, boundaries, etc.

   Step #2 A Public Hearing will be scheduled for the 1st Tuesday of the first month following the plan's filing (Step #1 above)

   Step #3 Is the Planning Commission's Approval. This comes after all items have been satisfactorily addressed that have been brought up by the Planning Commission staff and in the Public Hearings. Following the Public Hearing there is a 3 day Appeal period. If appealed the plan must go to the City Council for an Appeal Hearing

   Step #4 If not Appealed, the Plan will go to a City Council for their Hearing with the Planning Commission's recommendation to Approve. It usually passes the City Council when it is recommended by the Planning Commission Staff.. The first of the month after the City Council's Approval the Plan is Officially Adopted and then may be implemented.

8. While developing the Master Site Plan should a smaller projects surface that needs to be implemented immediately, it is possible to implement the smaller project provided the

smaller project conform to the concepts set for the Master Site Plan and the Master Site Planning work is proceeding without delay.

9. A copy of the Portland, Or Planning and Zoning Code was circulated (see attached) as a listing of items which may be considered in the planning process. The current Grand Junction Planning and Zoning Code is now being printed and should be available for public purchase around the first part of October.

10. A copy of City of Grand Junction Code requirements for Sight Triangle for corners, Fence and vegetation growth was also received.

Attachments (1) City Zoning Map plate #6 & #7
(2) Portland Conditional Use Zone Criteria
(3) Sight Triangle for the city of Grand Junction

STM03.wps

Memorandum of Meeting

October 18,1994

St. Mary's Hospital

The Regional Medical Center
Grand Junction, CO

Meeting with :
Tom Dixon, AICP.
Senior Planner
City of Grand Junction
Community Development Department
250 North 5th Street
Grand Junction, CO 81501

Present for St. Mary's:
Keith Estridge, Director Facilities Management
St. Mary's Hospital

Bertis Rasco, Planner

1. Lots #5 through #7 of the KEY for PROPERTY MAP updated 9/1/93 (shown the assessor's map as lots #5 through #10) North across Patterson from St. Mary's(including the Medical Office Building "Oncology" now owned by the Hospital) is zoned B-1 Limited Business (see attached Page 25 of the Zoning Code for general description).

2. St. Mary's Park is zoned RMF 64 (see attached Page 24 of the Zoning Code for general description).

3. Storm Detention Areas are acceptable in lieu of Retention Ponds, provided they are engineered. Storm Detention Area design criteria should be reviewed with Jody Kliska prior to submittal of Site Plan to the City.

4. The hospital lot #71 on the KEY for PROPERTY MAP (shown as Replat of lot I, all of lot 2 Little Brookcliff sub lot 008)is Zoned PB.

5. Any structure built on or above Right of Way property must obtain a "Revocable Permit" from the City. A "revocable permit" is common in Grand Junction and would be required for any bridge across a City street. The applicant will need to make a proposal based on their specific needs (height , width, clearance, etc.).

BLDG DEPT = MESA COUNTY FOR PLAN CHECKS & BLDG PERMITS

FILE; CITY

6. For the classification rating of intersections and the traffic volumes around St. Mary's property see Jody Kliska. ITE (Institute of Traffic Engineer) terms and standards are use in Grand Junction.

7. In preparing for rezoning any property to a PB zone for the Hospital's Master Site Plan the current code requirements will be a base line, with the area of buildings, the frequency of their use, their multiple use, etc. establishing the criteria for the Planning Commission Staff recommendation that will go to the City Council for a final decision.

The Planning Commission's staff has the authority to review and approve submittals of property already zoned PB. A Preliminary Plan review, revisions as necessary and then a final plan must be filed before the staff can give approval.

8. For definition of the Health Department Building ownership call the Tax Assessor's Office. The property is described as 2945-112-01-931 515 Patterson Road.

9. A copy of the City of Grand Junction Zoning and Development Code, printed October 1,1994 was purchased.

10. Lot #57 on the KEY for PROPERTY MAP, the hospital owned property on the N.E. corner of Wellington and 7th is in a B-1 zone.

STM04.WPS

Anyone Call
Tax Assessor's
OFFICE
regarding Health Dept.

Michael
Please review these two memos and call or FAX me back with any comments.
Bertis

St. Mary's Hospital and Medical Center
Grand Junction, CO

Meeting Memorandum

Wednesday, November 1, 1995, 7:30pm

Grand Junction City Council
City/County Auditorium, 520 Rood Avenue
Grand Junction, CO

Public Hearing - Ordinance No. 2871
Regarding St. Mary's Land Rezoning and Master Site Plan

City Council Members:

Linda ___?___ Afman
Jim ~~Halverson~~ Baughman
R.T. ~~Menlow~~ Mantlow
Mark Achen
Ron Maupin
Dan Wilson
Janet Terry
Refort ~~Theabolt~~ Theobold
Daven ~~Dave~~ Graham
Stephanie ~~Stefany~~ Nye

Michael, I need your help with the spelling of these names Thanks Bertis

Community Development Dept : Michael Drollinger, Senior Planner

Representatives for St. Mary's:

Ken Tomlon, Executive Vice President
Keith Estridge, Director, Facilities Management
Bertis Rasco, Consultant

Rezoning for 6 lots owned by St. Mary's and the Proposed Master Site Plan with Conditions as recommended by the Planning Commission and the C.D.D. staff was presented by Michael Drollinger, then discussed and passed by a unanimous vote.

In addition to the Planning Commisssion and the C.D.D. Staff's comments, discussion included the City Council concern regarding the curve existing in 7th Street just South of Patterson. It was requested that the City Department of Public Works investigate the cost to straighten the curve.

2+1=3

Post-it® Fax Note 7671	Date NOV 3,95	# of pages ▶ 3
To MICHAEL DROLLINGER	From BERTIS RASCO	
Co./Dept. C.D.D.	Co. BCR/AIA	
Phone # 970-244-1439	Phone # 206-682-1133	
Fax # 970-244-1599	Fax # 206-621-8282	

Memorandum of Meeting

Date: November 1, 1995 4:00pm

Present: Michael Drollinger, Senior Planner City of Grand Junction, CO
Bertis Rasco, Representing St. Mary's

Subject: **St. Mary's Master Site Plan and Rezoning Request**

1. Lots Proposed for Rezoning to P-B Zone were identified as:

1) St. Mary's Park	RSF-4 to P-B
2) Former T. Carr Property	RSF-8 to P-B
3) Former G. V. P. T. Property	RSF-8 to P-B
4) Property used by E.M.S.	RSF-8 to P-B
5) St. Mary's Rehabilitation Center	RMF-64 to P-B
6) Guest House Motel Property	B-1 to P-B

2.Outstanding Issue #1-Right of Way along Patterson

St. Mary's needs to know more about what the City is thinking when they refer to Additional Right Of Way along Patterson. Explaining what would be done and what results are expected along with the resulting dimension into St Mary's property would help the hospital to understand what is implied here.

If it is a matter of 2 to 4 feet in width, the hospital might be able to accommocate a landscaped reserve when designing the MSP Landscape/Parking Lot B (site setbacks, drainage, paving, lighting, stripping, landscaping etc.). This could be a one time cost rather than have happen were the hospital loses all their perimeter landscaping along Patterson again and must revise the contigous parking again due to another loss of property for street ROW.

Michael will define "maybe"and inform the Hospital so due consideration can be given to this item before the new design for Landscaping/ Parking Lot B goes further. A variance from the current City Parking Standards for aisle widths etc. may be necessary to accommocate the parking required in lot B.

3.Clearance Height above 7th Street North to Underside of Bridge

Floor elevation studies (by the hospital's selected building(s) designer) will be necessary to determine if 16' clearance is possible while meeting the ADA Law that requires the building(s) to be accessable to the handicapped. If undue hardships (cost and slopes) are encountered the hospital will file a request for a code variance at the time elevations of the connecting bridges and buildings are formalized.

4. Future Development of Parcel # 4 (the vacant Wellington lot)

The Wellington Lot was not recommended by the Planning Commission~~ed~~ for remote Rehabilitation Center or Family Practice Residency Program Parking due to the potential conflict between the Patterson Road vehiclar traffic and the expected pedestrain cross traffic.

5. Significant Changes to the Master Site Plan (MSP)

In the future any significant change in the MSP will require filing a request with the Planning Commission via the Community Development Department and if appropiate review by the City Council.

Significant Change was defined by the Planning Commission as a change of 10% from the MSP's Proposed Development Standards:

	section-page
1 Setbacks	4-17
2. Heights	4-17
3. Site Coverage	4-18/19
4. Density (FAR)	4-20/21/22
5. Open Space	4-23

6. Bike Paths

Grand Junction does not have any bike path criteria. The Public Works Department has been ask to prepare some. Michael will ask for copies to be sent to the hospital when they are adopted.

BCR/SMD11195

Grand Junction has not yet developed a preferred bike path section for 7th Street near the section of St. Mary's. The Public Works Department has been asked to prepare ~~[illegible]~~ the desired standard; copies will be provided to the hospital when complete.

Memorandum of Meeting

November 14, 1994

Saint Mary's Hospital and Medical Center
Grand Junction, CO

Meeting at City Hall

Jody Kliska
Tom Dixon
Keith Estridge
Bertis Rasco

Subject : City of Grand Junction Criteria for Master Site Planning

1. The City is responsible for establishing and the administration of Zoning. The County is responsible for Building Permits and Plan Checking as per the Uniform Building Code. Prior to any construction the County will need to be contacted to determine the current Edition and any local amendment to the Uniform Building Codes.

2. The City files on Zoning at Saint Mary's are available and may be reviewed to determine past commitments and requirements. Contact Tom for appointment inorder for him to have the opportunity to collect the material.

3. The City's Flood Insurance Rating Map (FIRM) was reviewed. Panels 3 and 4 indicate Saint Mary's property outside of AE zone (the 500 year flood level) Elevation 4620 was indicated as the maximum water height.

4. Western Engineering has the files on the Retention Pond (or detention) capacities of the existing Site.

5. When referring to the Zoning Code use Paragraph identification (not page number) as the various edition of the code do not carry uniform page numbers.

Paragraph 5-5-1. D. 1. Distance to Off-site Parking is defined as closest part of property to closest part of property.

Paragraph 5-5-1. F. 2. Section 5-4-15G(1)&(2) referred to in this paragraph do not exist.

Paragraph 5-5-1. F. 2. a. Third sentence, "Feet" in regard to landscape barrier refers to height.

Paragraph 5-5-1.F. i. (4) A lighting plan will be required complete with isofootcandle diagram.

Paragraph 5-5-1.G. Section 5-2-5 does not exist.

Paragraph 5-5-1.H. The number of bicycle rack will be determined at a later date.

6. The City has very little invested in Saint Mary's Park. It has a low use. It is an area of high park density. There are no Play areas. The City would consider the hospital's request to change the park to hospital use.

7. All hospital property in Grand Junction, except Federal, is classified as P B (Planned Business) refer to Section 7-2-3 A 1.

Miscellaneous:

1. During next trip a copy of the following would be appreciated:

(1) list of approved plants provided by the Department as referred to in 5-4-15 C.

(2) copy of Section 15-4-15B refereed to in 5-5-1 F. 2. h. Submittal Requirements

2. We would like to use 60' between rows of 9' wide 90 degree angle parking Stalls be 60'.

parcel # 1

DRAINAGE STUDY
ST MARY'S HOSPITAL ADDITION
Grand Junction, Colorado
January, 1993

Prepared by:
WESTERN ENGINEERS, INC
2150 HIGHWAY 6 & 50
GRAND JUNCTION, COLO

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ST MARY'S HOSPITAL
Grand Junction, Colorado
January, 1992

SCOPE

St Mary's hospital currently proposes to construct an addition to the existing hospital building at 7th street and Patterson Road in Grand Junction. The total developed area used by the hospital encompasses approximately 20 acres. Current stormwater discharges from the site occur overland or by means of dedicated conveyance facilities. Presently, there are no provisions for detention or retention of stormwater runoff. The runoff water from the entire site eventually flows to the Buthorn Drain which is at maximum capacity during frequent storm events and does not have adequate capacity for the less frequent events. The runoff from the St Mary's site has a significant impact on the flows draining to the Buthorn drain. As a result, an agreement was reached between the City of Grand Junction and St Mary's Hospital to provide some detention for the hospital runoff. The site for the detention pond is the existing St Mary's Hospital Park located in the southwestern portion of the property. As will be discussed in subsequent paragraphs, the developed site can be divided into generally three drainage basins. The runoff from two of the basins (basins 1 and 3) can relatively easily be diverted into the detention pond site, while the third (basin 2) would require installation of storm drains to collect runoff and convey it to the pond. Based on these considerations and discussions with the City Engineering Department, the design requirements for the collection and detention facilities were determined as follows:

1. Facilities will be constructed to provide for collection of all basin 1 and 3 runoff and conveyance to the detention pond.

2. Provisions will be made in the current designs to allow for the future construction of facilities necessary for the collection of basin 2 runoff and drainage into the detention pond. Any future construction of these facilities will be performed by the City.

3. The detention pond will be sized to store the 100 year runoff from basins 1 and 3 while restricting the basin outflow. The pond will also be sized to store at least the 40 to 50 year runoff from all three basins while restricting the basin outflow. The outflow from the detention pond due to runoff from basins 1 and 3 will be limited to less than the prehistoric runoff from the entire site during the 2 and 100 year events. The outflow from the detention pond due to runoff from all three basins will be limited as much as practical.

SURFACE DRAINAGE CHARACTERISTICS

As was mentioned above, the drainage area can generally be divided into three basins. The basin divisions are shown on Figure 1 in the Appendix.

Drainage basin 1 encompasses nearly 70 percent of the site and drains southeastward to the low point on Center Street at the intersection with 6th Street. Runoff from basin 1 occurs by a combination of overland flow, gutter flow and flow through storm drains. Basin 1 can be further subdivided into 4 subbasins determined by the route which the runoff water takes to reach the concentration point at Center and 6th. The flow from two of these subbasins originates in the west and southwest parking areas and follows the north and south gutters along Center Street respectively running southeasterly. Runoff from a third subbasin which encompasses the northwest parking area is captured by catch basins and is conveyed through an 18 inch diameter storm drain to a concrete ditch located just west of the intersection of Center and 6th Street. Flows in this concrete ditch cross Center Street in a culvert and discharge into the street gutter on the northwest corner of

Center and 6th Street. The fourth subbasin includes the hospital building, the Saccomano Building, and the parking area to the south of the hospital. Runoff from this subbasin is captured by a combination of building gutters and catch basins and flows through a series of storm drains to the concrete ditch mentioned above.

Drainage basin 2 consists of the northeast and east parking areas. Runoff from this basin travels overland until it either reaches the west gutter along 7th Street or is intercepted by the catch basin in the southeast corner of the upper parking lot. The flow in both the 7th Street west gutter and the southeast catch basin are captured by the underground storm drainage system which runs southward along 7th Street.

Drainage basin 3 includes the buildings, landscape and parking areas located on the lower level of the southeastern portion of the site. Surface water from basin 3 travels overland and through gutters to the north side of Center Street where it flows west to the low point on Center Street.

As can be seen from the above description of the site drainage, the concentration point for basins 1 and 3 is the low point at the intersection of Center Street and 6th Street.

Tables 1 and 2 show the percentages of various ground covers for each of the three basins under both original and final conditions.

DRAINAGE EVALUATION METHODOLOGY

The drainage basin was evaluated for 2 storm recurrence intervals consisting of the 2 and 100 year storms. In order to provide a comparison, the runoff characteristics were evaluated using 2 methods. These consisted of the rational method and the SCS tabular method with a type II unit hydrograph. The SCS tabular method was chosen because it provides a method for obtaining runoff hydrograph data. Hydrograph values were obtained from the appropriate Tables published in "Urban

Hydrology for Small Watersheds, Technical Release No. 55, Soil Conservation Service" (SCS-TR-55) depending on the storm distribution type, initial abstraction value, storm precipitation depth and time of concentration. The Modified Rational Method was used to provide comparison hydrograph data. Design storm values were obtained from two sources -- "Interim Outline of Grading and Drainage Criteria, City of Grand Junction, July, 1992" and "Mesa County Storm Drainage Criteria Manual". The determination of the runoff coefficients in the rational method as well as the curve number values used in the SCS tabular method are presented in Tables 1 and 2 in the Appendix. The soil group number required for the SCS tabular method was evaluated based on information compiled by the Soil Conservation Service and presented in a report entitled "Soil Survey, Grand Junction Area, Colorado." Times of Concentration were determined using the rational runoff coefficients and the following methods:

1. For sheet flow the following SCS-TR-55 formulas were used:

$$TO_2 = \frac{0.42(NL)^{0.8}}{S^{0.4}}$$

$$TO_{100} = \frac{0.26(NL)^{0.8}}{S^{0.4}}$$

2. For overland flow beyond 300 feet and shallow concentrated flow, the table entitled "Average Velocities for Overland Flow" from the SCS TR-55 was used to determine flow velocities.

3. For gutter flow, the Manning equation modified by Izzard was used as follows:

$$Q = \frac{0.56(Z)(D^{8/3})(S^{1/2})}{n}$$

For cases where lag times were determined to be less than 5 minutes a minimum value of 5 minutes was used for the time of concentration. The calculations of the times of concentration are summarized on Table 3 in the Appendix.

Tables 4 and 5 in the Appendix present a summary of the resulting peak flow values and volumes. The surface flow hydrographs are presented on Figure 2 in the Appendix for the original undeveloped conditions and Figures 3 through 10 for the final conditions.

The detention pond volume and discharge capacity were sized to accommodate the design storms derived by both the SCS Method and the Modified Rational Method while satisfying the previously mentioned criteria as much as possible. The storm hydrographs were routed through the proposed detention pond and discharge pipe system using a Western Engineers routing spreadsheet which uses the storage routing methods. Tabulations of the routing calculations including inflow and outflow hydrographs are presented in the Appendix on Tables 16-23.

The capacity and flow rating curves for the proposed detention pond are shown on Figures 11 and 12. The discharge from the proposed detention pond will be by means of a two level outlet system including two standard catch basins. The purpose of the two level outlet is to restrict outflows during the frequent storms while allowing the discharge from the less frequent storms to be controlled through the outlet system without overtopping the detention pond. The lower level catch basin will discharge through a 4 inch diameter orifice in the side of the basin into a horizontal 6 inch diameter pipe. The upper level catch basin will discharge by means of a vertical 12 inch diameter drop outlet connecting to the discharge pipe from the lower level catch basin. The outlet pipe downstream from the 12 inch diameter drop outlet will be 12 inch diameter to accommodate the total flow. This downstream discharge pipe will connect directly to the Buthorn drain system which runs along the south side of Bookcliff Avenue. The pipe entrance for

OR FOR ALL BUT THE SHALLOWEST [redacted], BUT IS APPLICABLE OVER MOST OF THE RANGE.

the lower level catch basin was treated as an orifice using the following formula with an orifice coefficient of 0.62:

$$Q = CA(2gH)^{0.5}$$

The pipe entrance to the upper level catch basin could be controlled either by orifice or weir conditions depending on the head. The orifice capacity was evaluated by the formula shown above. However, because the outlet includes a tube extension the same size as the orifice, the an orifice coefficient of 0.8 was used. The capacity of the catch basin grates for both the lower and upper level inlets in the detention pond were also calculated for ponding conditions using the above formula with an orifice coefficient of .62 and an area of 2.2 sq ft per grate for the standard City of Grand Junction catch basin. A 50 percent clogging factor was applied to the grates as required by the City of Grand Junction Criteria.

The weir capacity for the upper level catch basin was calculated by use of the following formula with a weir coefficient of 3.3 for a sharp crested weir with the vertical pipe protruding up into the bottom of the catch basin:

$$Q = CLH^{1.5}$$

THIS MAY COMPARE WITH HAZEN-WILLIAMS "C" VALUES, BUT TYPICALLY MANNING VALUES FOR PVC ARE LISTED THEORETICALLY TO BE .009 to 0.011. HOWEVER, VALUES COMMONLY USED ARE:

1) 0.009 - 0.011 for potable water, which does not coat the pipe, nor have sediment nor solids which tend to "affect" "n" values;
2) 0.011 - 0.013 for stormwater, which has sediment which increases flow friction; and
3) 0.012 - 0.013 for sanitary sewer, which coats and has solids. Please use these ranges in the future.

Pipe flow characteristics were evaluated using the Manning Formula with a coefficient of .008 for PVC pipe. The total outlet system capacity was determined including both inlet flow and pipe flow characteristics for each of the catch basins. Since it is impractical to determine the hydraulic grade line elevation at the connection to the Buthorn drain during the full range of detention pond discharges, it was assumed that, any time during which discharges from the detention pond are occurring, the hydraulic grade line elevation at the connection to the drain will be at the top of the Buthorn drain pipe. The detention pond discharge capacity was evaluated using a trial and error method in which the hydraulic grade elevation at the tee connection for the upper

level catch basin drop outlet was varied until a maximum possible flow rate from the combined catch basins was identified. Tabulations of the calculations for the detention pond discharge capacity which were made by use of a spreadsheet program are included on Table 6 in the Appendix. A plot of the hydraulic grade levels during the peak discharge for all three drainage basins combined is shown on Figure 13 in the Appendix for both the 2 and 100 year storm events.

The capacity of the catch basins to be installed at the concentration points in the street gutters was determined in two different ways depending on the catchment condition. For catch basins and curb boxes placed in a depression for ponding conditions, the orifice formula previously presented was used with an orifice coefficient of 0.62. For catch basins and curb boxes placed along the gutter flow line without ponding conditions, the Manning equation modified by Izzard and simplified to include a grate capacity coefficient was used as follows:

NOT AT STREET DEPTHS

$$Q = KD^{1.67}$$

NOT A VERY RELIABLE SOURCE. THESE USUALLY OVERSTATE INTERCEPTION. PLEASE USE HEC-12 IN THE FUTURE.

The grate capacity coefficients used in the above formula were obtained from the Neenah manual for inlet grate capacities. In accordance with the City of Grand Junction Criteria the grate capacity in these situations did not include a clogging factor, but the capacity of the curb box was ignored.

In conjunction with the Modified Rational method, it was necessary to vary the storm duration to determine the storm event that will most severely impact the detention facilities. Tabulations of the resulting Modified Rational hydrographs for the two storm events and for a range of storm durations are shown on Tables 12 and 13 in the Appendix for combined flows from basins 1 and 3 and Tables 14 and 15 for combined flows from basins 1, 2 and 3.

As was previously mentioned, the stormwater collection and conveyance facilities planned as part of this project will divert runoff from basins 1 and 3 into the detention pond. Therefore, the inflow\outflow hydrographs shown on Figures 3 through 6 in the Appendix are for combined flows from these two basins. However, since consideration needs to be made for the possible future diversion of basin 2 runoff into the detention pond, the impact of the runoff from all three basins on the detention pond performance was evaluated and is shown on Figures 7 through 10 in the Appendix.

The following table summarizes the results of the hydrologic evaluations:

BASIN I.D.	SITE CONDITION	CRITICAL STORM DURATION (MIN)	STORM RECURRENCE INTERVAL (YEAR)	SITE RUNOFF (CFS)	PEAK POND OUTFLOW (CFS)	PEAK POND DEPTH (FT)	PEAK POND STORAGE (CU FT)
ALL	PREDEV	1440 (SCS)	2	0.70	N/A	N/A	N/A
ALL	PREDEV	1440 (SCS)	100	12.57	N/A	N/A	N/A
ALL	PREDEV	70 (RATION)	2	1.00	N/A	N/A	N/A
ALL	PREDEV	50 (RATION)	100	8.65	N/A	N/A	N/A
1	FINAL	1440 (SCS)	2	5.49	N/A	N/A	N/A
1	FINAL	1440 (SCS)	100	39.86	N/A	N/A	N/A
1	FINAL	90 (RATION)	2	4.02	N/A	N/A	N/A
1	FINAL	70 (RATION)	100	13.85	N/A	N/A	N/A
2	FINAL	1440 (SCS)	2	1.00	N/A	N/A	N/A
2	FINAL	1440 (SCS)	100	6.19	N/A	N/A	N/A
2	FINAL	90 (RATION)	2	1.20	N/A	N/A	N/A
2	FINAL	70 (RATION)	100	4.11	N/A	N/A	N/A
3	FINAL	1440 (SCS)	2	0.97	N/A	N/A	N/A
3	FINAL	1440 (SCS)	100	6.23	N/A	N/A	N/A
3	FINAL	90 (RATION)	2	0.65	N/A	N/A	N/A
3	FINAL	70 (RATION)	100	2.23	N/A	N/A	N/A
1&3	FINAL	1440 (SCS)	2	6.47	0.70	1.80	5,595
1&3	FINAL	1440 (SCS)	100	46.09	7.39	4.72	48,857
1&3	FINAL	90 (RATION)	2	4.67	0.87	3.19	21,132
1&3	FINAL	70 (RATION)	100	16.08	7.76	4.91	52,552
1,2&3	FINAL	1440 (SCS)	2	6.70	0.74	2.05	7,755
1,2&3	FINAL	1440 (SCS)	100	47.19	8.12	5.09	56,045
1,2&3	FINAL	90 (RATION)	2	5.87	0.91	3.57	26,685
1,2&3	FINAL	70 (RATION)	100	20.19	8.92	5.50	63,995

PROPOSED DRAINAGE FACILITIES

Site conveyance facilities will be installed as part of this project which will include a combination of catch basins and pipes to capture all of the runoff from drainage basins 1 and 3 and transport to a proposed detention pond. Additionally, provisions will be made to allow for future installation of facilities to intercept the flow from basin 2 and divert it into the proposed detention pond. It must be recognized that, if the basin 2 flows are captured by means of intercepting all of the water currently flowing in the piped storm drain system running along Seventh Street, more water will flow into the detention pond than anticipated in this analysis. This is because the Seventh Street line carries runoff water from a significantly larger drainage area than just basin 2, although the exact extent of the tributary area is not known. The result is that, if the Seventh Street line is intercepted, the detention pond may spill over the overflow section and out the Sixth Street catch basin during events with recurrence intervals less than 100 years.

The majority of the site runoff from basins 1 and 3 is currently directed into a piped storm drain system which runs along the North side of Center Avenue and discharges on the surface at the intersection of Center Avenue and Sixth Street. The proposed plan includes intercepting the flow in this existing piped system before it reaches its discharge point and diverting the water into the detention pond. In addition, the water which currently flows along the Center Avenue gutters and ends up at the intersection of Center Avenue and Sixth Street will be captured by a double catch basin on the north side of this intersection combined with a single catch basin to be constructed on the southwest side of the intersection. The flows into these catch basins will be piped westward to the proposed detention pond. Calculation of the required capacity for the catch basins was based on a storm duration of 5 minutes since only water from drainage basins 1 and 3 will be captured by the proposed catch basins and since calculated concentration times for these two

basins were less than 5 minutes. Catch basin capacity was based on the 100 year storm event. Table 7 in the Appendix presents a summary of the calculations for the catch basin capacities. The calculations indicated a need for a double catch basin on the north side of the intersection of Center Avenue and Sixth Street and a single basin on the south side of the intersection. The single catch basin on the south side has an indicated capacity of about 6.9 cfs while the estimated 100 year flow was 7.4 cfs. Even though the apparent catch basin capacity is slightly less than the calculations indicated will occur, it was concluded that this undercapacity was not significant considering the facts that the curb box was not taken into account in the calculations, the excess flows will only occur during the most infrequent storm events and any excess water not captured by the catch basin can continue south along Sixth Street.

Following are area and capacity tables for the proposed detention pond. Since the influent lines into the pond are relatively flat and of significant size, it was important to include their volume as part of the total for the pond. The volumes were calculated using the conical method:

FINAL DETENTION VOLUME

ELEVATION	POND AREA(SQ FT)	POND VOLUME(CU FT)	PIPE VOLUME(CU FT)	TOTAL VOLUME(CU FT)
27.50	0	0	0	0
28.00	375	63	47	100
29.00	4,558	2,143	889	3,032
30.00	10,443	9,443	2,192	11,635
31.00	16,106	22,616	2,757	25,373
32.00	19,392	40,340	2,757	43,097
33.00	22,297	61,167	2,757	63,924

FINAL DETENTION DISCHARGE

ELEVATION	FLOW (CFS)
27.50	0
28.50	0.70
29.50	0.92
30.50	0.85
31.50	7.13
32.50	9.02

The elevation of the overflow crest for the detention pond was set at the elevation of the catch basin grate on the southwest corner of the intersection of Center Avenue and Sixth Street at about elevation 33.0. This was because a higher water surface elevation in the detention pond would result in uncontrolled backflow out of the pond through this catch basin into the gutter on the west side of Sixth Street.

The discharge system capacity calculations made indicated that a double grate catch basin will be needed for the upper level detention pond outlet in order to accommodate the 100 year storm flows without the catch basin grate controlling the flow, considering the design requirement of a 50 percent clogging factor for the grate. The calculations summarized on Table 6 in the Appendix include this double installation. In addition to the considerations previously discussed, the above discharge capacities are based on the assumption that the hydraulic grade line elevation at the connection to the Buthorn drain pipe will not be higher than the top of the Buthorn drain pipe. As was previously mentioned, there was not sufficient information available to determine the hydraulic grade elevation in the Buthorn drain pipe during the two storm events. If significantly higher back pressure develops at this connection than was assumed in the calculations, the discharge capacity of the detention pond outlet might be lower than the values shown above or it might even be possible for backflow to occur from the drain into the detention pond since the ground elevation at the Buthorn

drain manhole on the south side of Bookcliff Avenue is nearly 2 feet higher than the bottom of the detention pond. No provisions were made in the design to prevent such backflow from occurring.

The analyses indicated that the proposed pond and outlet system will be capable of accommodating storms up to the 100 year recurrence level without overtopping the pond. However, a pond overflow section will be provided to allow for flows in excess of those analyzed. This overflow section will consist of a length of dike crest along Bookcliff Avenue approximately 150 feet long. The overflow section will be depressed about 0.5 foot below the remaining top of pond elevation to allow for controlled crest spills as much as .05 foot deep along the overflow section. To protect the overflow section from erosion during spills, a concrete sidewalk with an upstream cutoff will be provided along the spillway.

It can be seen from the above summary data that, within reasonable limits, for all storm events and with all calculation methods used, the off-site discharge under the final proposed conditions will be about the same or less than that which would have occurred during the same storms under the predevelopment conditions. The events during which the detention pond outflow was found to exceed the predevelopment conditions are listed below:

STORM EVENT	DRAINAGE BASINS	ANALYSIS METHOD	PREDEVELOPMENT RUNOFF (CFS)	FINAL DETENTION POND DISCHARGE (CFS)	PERCENT INCREASE
2 Year	1, 2 & 3	SCS	0.70	0.74	6
100 Year	1, 2 & 3	Rational	8.65	8.92	3

In view of the facts that the amounts of increase shown above are small and that detention pond/discharge system is capable of handling

the 100 year event from all three drainage basins rather than just the 40 to 50 year event as initially targeted, the proposed system was considered adequate.

The maximum water depth in the pond for any of the routed storm hydrographs considered was 5.50 feet. The detention pond and outlet control will be maintained by personnel from St Mary's Hospital.

APPENDIX

Parcel #2

DRAINAGE STUDY
ST MARY'S HOSPITAL ADDITION
Grand Junction, Colorado

Prepared by:
WESTERN ENGINEERS, INC
2150 HIGHWAY 6 & 50
GRAND JUNCTION, COLO

DRAINAGE STUDY
FOR ST. MARY'S HOSPITAL PARKING AREA
Grand Junction, Colorado
June, 1992
Revised June 23, 1992

SCOPE

The site proposed for additional parking for St. Mary's Hospital is located southeast of the intersection of 7th Street and Paterson Road in Grand Junction. The site is bounded on the north by Paterson Road, on the west by 7th Street, on the south by Wellington Avenue, and on the east by an existing medical office complex. This site is not entirely under the ownership of St. Mary's Hospital, however, nearly all of the drainage within this area drains to a common point; therefore, this drainage study encompasses the entire area. During the summer of 1991, a paved parking area was constructed in the northwest portion of the site. The storm drainage features for that project were designed to retain all runoff without discharge from the site. Storm water considerations for the 1991 improvements were presented in a report dated April 1, 1991.

SURFACE DRAINAGE CHARACTERISTICS

The surface generally slopes toward the middle of the site in an east/west direction and then down toward the southwest corner of the property. Prior to the 1991 improvements, surface water from 84 percent of the area drained to a low spot in the south of the property which acted as a retention basin draining into a 10 inch PVC pipe. The PVC pipe drained from there into an open channel running to the southeast corner of the property. At that time, the surface water ponded in the ditch and the retention basin and had no active way of getting off the property because a 12 inch concrete pipe culvert located at the southwest corner of the

property had been buried and intentionally plugged. It appeared that it was originally the intent that this culvert carry storm water away from the site but was later plugged because of overall storm water capacity considerations in the area. The culvert drains into a manhole in Wellington Avenue which is part of the City's storm water system. From there the storm water system drains to approximately the intersection of 7th Street and Bookcliff Avenue where it discharges into the Buthorn Drainage System. The Buthorn System is currently at maximum capacity. Therefore, the storm water control facilities for the final conditions must be designed to assure that the impact on the existing off-site system is not significant. The original on-site capacity for storm water retention without discharge for the features described above was about 31,500 cu ft. As can be seen from the attached calculation summaries, this provided for full storage of all storm runoff events including the 100 year event. In order to assure that the final conditions satisfy the requirements discussed above for minimizing impact, specific storm drainage design criteria for this project were determined based on discussions with representatives of both the City of Grand Junction and the Grand Junction Drainage District. The resulting criteria were as follows:

1. The discharges into the dedicated storm water conveyance facilities will not exceed that allowed by the original conditions existing before the 1991 parking lot construction for all storm events with recurrence intervals up to 10 years.
2. The discharges into the dedicated storm water conveyance facilities will be restricted as much as practical for storm events with recurrence intervals between 10 and 100 years.
3. Overland storm water discharges into the streets will not be allowed for storms with recurrence intervals of 2 years or less and will be limited to 5 cfs or less for storms with recurrence intervals between 2 and 100 years.

Approximately 14 percent of the original area drained onto Wellington, all of which belongs to St. Mary's. The runoff from the area which originally drained onto Wellington will be intercepted and diverted into the proposed detention basin. Therefore, for the purposes of comparing the final conditions with the original conditions, the original conditions will be considered to have resulted in off-site discharges due to the runoff from the area which originally drained directly onto Wellington. All surface area which will be affected by the paved parking will be drained into the proposed detention pond.

For the purposes of the drainage analysis, the site was divided into two basins for the original conditions but was treated as a single basin for the final conditions. This was done to distinguish the area draining onto Wellington from the remainder of the property. Figure 1 shows the general plan for site improvement as well as the division between the two drainage basins.

Tables 1 and 2 show the percentages of various ground covers for each of the two basins under both original and final conditions.

DRAINAGE EVALUATION METHODOLOGY

The drainage basin was evaluated for 3 storm recurrence intervals consisting of the 2, 10 and 100 year storms. In order to provide a comparison, the runoff characteristics were evaluated using 2 methods. These consisted of the rational method and the SCS tabular method. The SCS tabular method was chosen because it provides a method for obtaining runoff hydrograph data. The Modified Rational Method was used to provide comparison hydrograph data. Design storm values were obtained from two sources -- the storm values were obtained from "Mesa County Storm Drainage Criteria Manual". The determination of the runoff coefficients in the rational method as well as the curve number values used in the SCS tabular method are presented in Tables 1 and 2. The soil group

number required for the SCS tabular method was evaluated based on information compiled by the Soil Conservation Service and presented in a report entitled "Soil Survey, Grand Junction Area, Colorado." Lag times were determined to be less than 10 minutes; therefore, a minimum value of 10 minutes was used for the rational method time of concentration. Actual concentration times calculated were used for the SCS tabular method. Tables 3 and 4 present a summary of the resulting peak flow values and volumes. The surface flow hydrographs are presented on Figures 9 through 15 for the original conditions and figures 16 through 24 for the final conditions. The original retention pond capacity is shown on Figure 5, and the flow rating curve for the overflow discharge from the existing retention pond is shown on Figure 6. The contours for the original retention pond are shown on Figure 1a. The discharge from the original retention pond was treated as a broad crested weir using the following formula with a crest coefficient varying from 2.63 to 2.70:

$$Q = CLH^{1.5}$$

Following are the area and capacity tables for the original retention pond:

ORIGINAL RETENTION VOLUME

ELEVATION	AREA (SQ FT)	VOLUME (CU FT)
38.47	0	0
39.00	4,897	1,469
40.00	9,612	8,723
41.00	34,360	30,709
42.00	67,532	81,655

ORIGINAL RETENTION DISCHARGE

ELEVATION	FLOW AREA (SQ FT)	FLOW (CFS)
38.47	0	0
41.14	0	0
41.19	1.05	0.50
41.24	3.80	2.29
41.29	7.78	5.65
41.34	12.96	11.12

It is seen from the above data that there was originally a considerable amount of retention storage available before any off-site discharges would be made. As will be shown in subsequent sections of this report, the storage capacity was sufficient to hold any of the storms considered without allowing discharge.

The capacity and flow rating curves for the final detention pond are shown on Figures 7 and 8. The discharge from the final detention basin will be through a v-notch overflow with an included angle of about 15 degrees. The discharge capacity of the weir was calculated using the following formula:

$$Q = 2.5 \, TAN(THETA/2) \, H^{2.5}$$

Following are the area and capacity tables for the final detention pond:

FINAL DETENTION VOLUME

ELEVATION	AREA (SQ FT)	VOLUME (CU FT)
38.50	0	0
39.00	5,400	1,350
40.00	14,400	11,250
40.50	19,285	19,671
41.00	22,031	30,000

FINAL DETENTION DISCHARGE

ELEVATION	FLOW AREA (SQ FT)	FLOW (CFS)
38.50	0	0
39.00	0.132	0.058
40.00	0.395	0.907
40.50	0.527	1.86
41.00	0.658	3.25

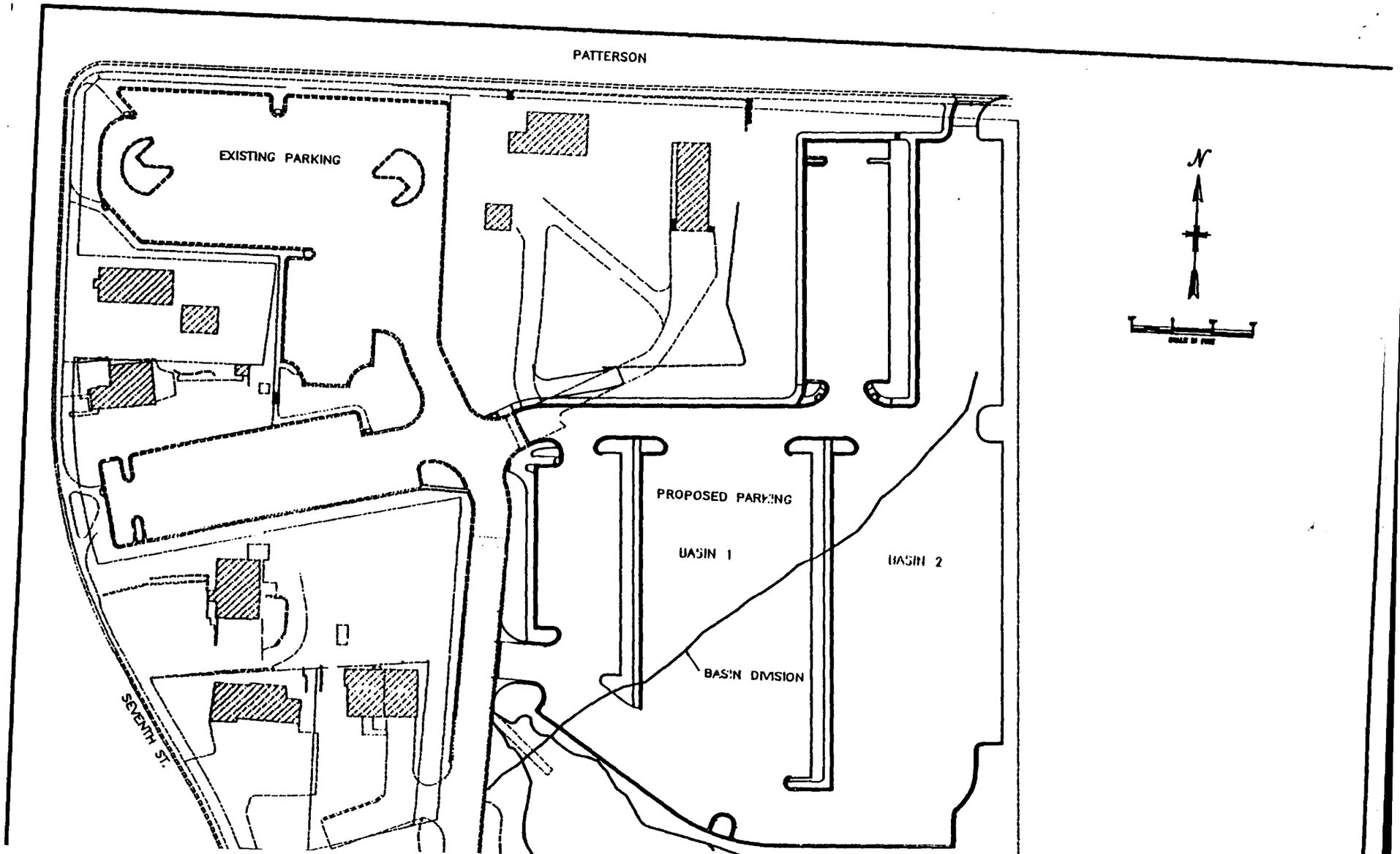
Detailed summaries of the calculations for development of the various storm hydrographs as well as the calculations for routing through the basins are included in the appendix. The values shown for the final conditions include all areas except the 2 percent which will continue to drain to 7th Street. In general, with a few exceptions, both the flow rates and the runoff volumes were greatest for the Rational and Modified Rational method.

PROPOSED DRAINAGE FACILITIES

The plan to control drainage from this site includes intercepting runoff and draining it into a detention basin located in the southern portion of the site. The proposed detention pond is shown on the Drainage Plan and the capacity data is shown on Figure 7, attached. The maximum capacity of the proposed detention pond without overflow into the street is about 25,000 cubic feet. Metered discharge control will be provided by means of a low included angle v-notch overflow located in the manhole at the southwest corner of the property. The v-notch configuration provides for release patterns which approximate those under the original conditions during specific rainfall events.

It can be seen from the attached summary data on Tables 3 and 4 that, with one exception, for all storm events and with all calculation methods used, the off-site discharge under the final proposed conditions will be less than that which would have

occurred during the same storms under the original conditions. The one exception was for the 100 year, 6 hour storm. During this event, the final off-site discharge exceeded that of the original conditions by about .5 cfs. The maximum water depth in the pond for any of the routed storm hydrographs considered was 2.3 feet. Pond discharge into the street will not occur until the depth reaches 2.9 feet. Therefore, discharge into the street is not anticipated for any of the storm events considered. The detention pond and outlet control will be maintained by personnel from St. Mary's Hospital.


PATTERSON
EXISTING PARKING
PROPOSED PARKING
BASIN 1
BASIN 2
BASIN DIVISION
SEVENTH ST.
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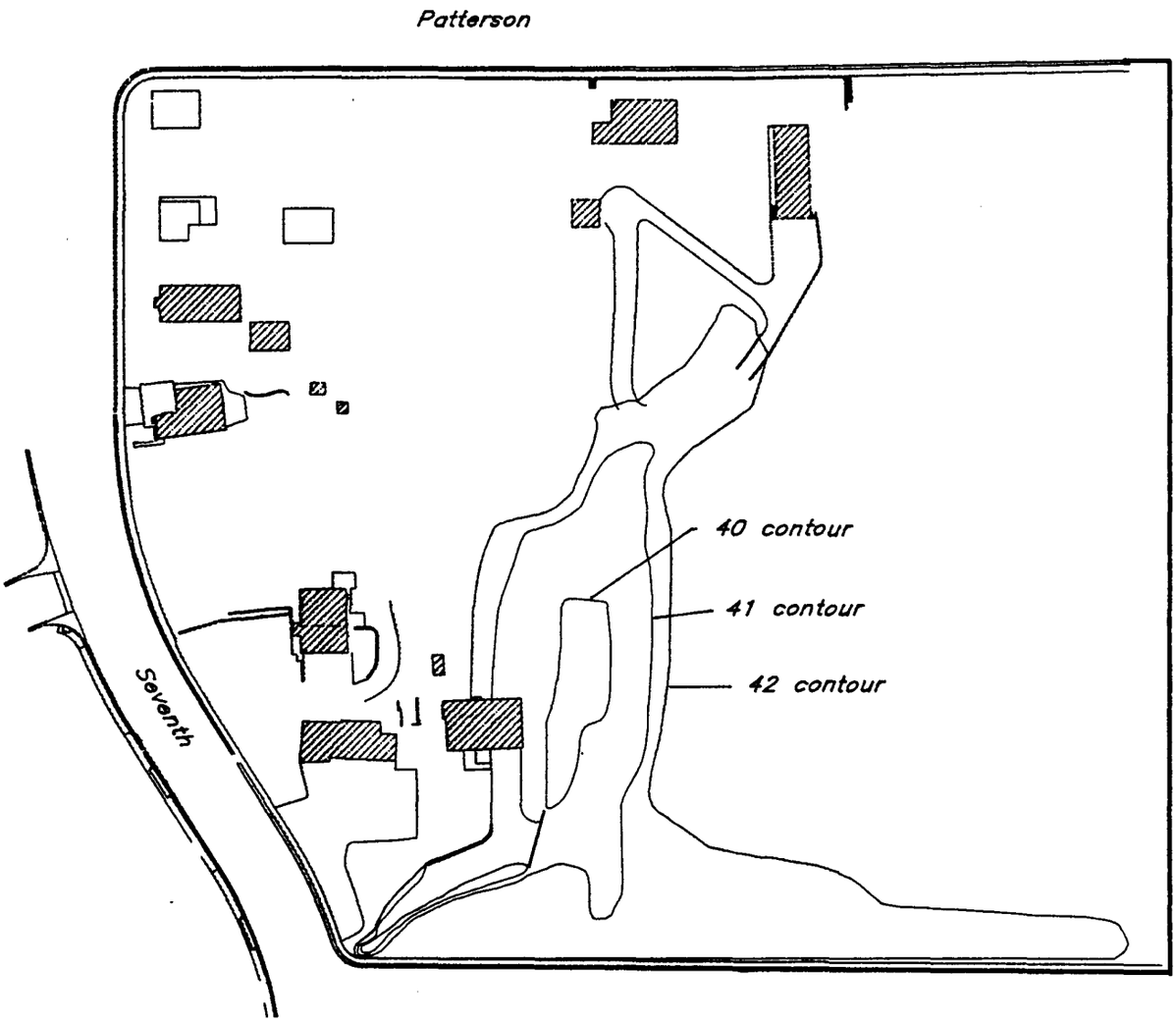

ST. MARY'S HOSPITAL

ORIGINAL RUNOFF DETENTION POND

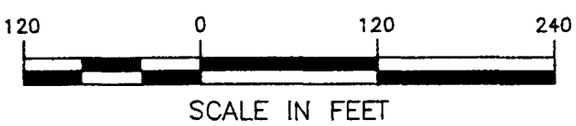

fig. 1A

ST MARYS
ORIGINAL CONDITIONS
RUNOFF SUMMARY

BASIN PARAMETER	BASIN 1	BASIN 2
AREA (ACRES)	7.11	1.80
AREA (SQUARE MILES)	0.0111	0.0028
MAXIMUM ELEVATION	4660.63	4658.68
MINIMUM ELEVATION	4638.38	4640.26
LONGEST WATER COURSE		
LENGTH (FEET)	869.00	540.00
SLOPE	0.0256	0.0341
TIME OF CONCENTRATION (MINUTES)	9.05	4.50
2-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	0.90	0.90
SCS METHOD (INCH/24 HOUR)	0.70	0.70
SCS METHOD (INCH/6 HOUR)	0.55	0.55
10-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	1.68	1.68
SCS METHOD (INCH/24 HOUR)	1.12	1.12
SCS METHOD (INCH/6 HOUR)	0.87	0.87
100-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	3.60	3.60
SCS METHOD (INCH/24 HOUR)	2.01	2.01
SCS METHOD (INCH/6 HOUR)	1.56	1.56
RUNOFF--SCS METHOD (INCH)		
24 HOUR		
2-YEAR	0.052	0.057
10-YEAR	0.222	0.232
100-YEAR	0.782	0.802
RUNOFF--SCS METHOD (INCH)		
6 HOUR		
2-YEAR	0.017	0.098
10 YEAR	0.110	0.282
100-YEAR	0.475	0.807
2-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	1.99	0.49
SCS METHOD (24 HOUR)	0.22	0.09
SCS METHOD (6 HOUR)	0.34	0.09
10-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	3.72	0.91
SCS METHOD (24 HOUR)	1.83	0.61
SCS METHOD (6 HOUR)	1.88	0.48
100-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	12.05	2.92
SCS METHOD (24 HOUR)	7.59	2.27
SCS METHOD (6 HOUR)	5.25	1.22
2-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	5732.00	1468.00
SCS METHOD (24 HOUR)	1366.00	379.00
SCS METHOD (6 HOUR)	2556.00	599.00
10-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	9554.00	2419.00
SCS METHOD (24 HOUR)	5844.00	1569.00
SCS METHOD (6 HOUR)	7451.00	2013.00
100-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	23150.00	5861.00
SCS METHOD (24 HOUR)	20744.00	5419.00
SCS METHOD (6 HOUR)	20823.00	5842.00
2-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	0.49
SCS METHOD (24 HOUR)	0.00	0.09
SCS METHOD (6 HOUR)	0.00	0.09
10-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	0.91
SCS METHOD (24 HOUR)	0.00	0.61
SCS METHOD (6 HOUR)	0.00	0.48
100-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	2.92
SCS METHOD (24 HOUR)	0.00	2.27
SCS METHOD (6 HOUR)	0.00	1.22

table 3

ST MARYS
FINAL CONDITIONS
RUNOFF SUMMARY

BASIN PARAMETER	BASIN 1
AREA (ACRES)	8.91
AREA (SQUARE MILES)	0.0139
MAXIMUM ELEVATION	4660.63
MINIMUM ELEVATION	4638.38
LONGEST WATER COURSE	
LENGTH (FEET)	869.00
SLOPE	0.0256
TIME OF CONCENTRATION (MINUTES)	4.40
2-YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	0.90
SCS METHOD (INCH/24 HOUR)	0.70
SCS METHOD (INCH/6 HOUR)	0.55
10 YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	1.68
SCS METHOD (INCH/24 HOUR)	1.12
SCS METHOD (INCH/6 HOUR)	0.87
100-YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	3.60
SCS METHOD (INCH/24 HOUR)	2.01
SCS METHOD (INCH/6 HOUR)	1.56
RUNOFF--SCS METHOD (INCH)	
24 HOUR	
2-YEAR	0.151
10-YEAR	0.415
100-YEAR	1.124
RUNOFF--SCS METHOD (INCH)	
6 HOUR	
2-YEAR	0.080
10-YEAR	0.249
100 YEAR	0.749
2-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	4.87
SCS METHOD (24 HOUR)	1.97
SCS METHOD (6 HOUR)	1.48
10-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	9.08
SCS METHOD (24 HOUR)	5.82
SCS METHOD (6 HOUR)	3.21
100-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	22.43
SCS METHOD (24 HOUR)	15.78
SCS METHOD (6 HOUR)	8.19
2-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (90 MIN)	8159.00
SCS METHOD (24 HOUR)	5072.00
SCS METHOD (6 HOUR)	6346.00
10-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (70 MIN)	13693.00
SCS METHOD (24 HOUR)	13362.00
SCS METHOD (6 HOUR)	14348.00
100-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (70 MIN)	31440.00
SCS METHOD (24 HOUR)	36241.00
SCS METHOD (6 HOUR)	34432.00
2 YEAR OFF SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (90 MIN)	0.54
SCS METHOD (24 HOUR)	0.12
SCS METHOD (6 HOUR)	0.22
10-YEAR OFF SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (70 MIN)	0.96
SCS METHOD (24 HOUR)	0.50
SCS METHOD (6 HOUR)	0.57
100-YEAR OFF SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (70 MIN)	2.78
SCS METHOD (24 HOUR)	1.78
SCS METHOD (6 HOUR)	1.70

table 4

ST MARY'S
ORIGINAL CONDITIONS (2 AND 10 YEAR STORMS)
HYDROLOGY STUDY

GROUND SURFACE COVER TYPE	RATIONAL RUNOFF COEFFICIENT	SCS RUNOFF CURVE NUMBER (24 HR)	SCS RUNOFF CURVE NUMBER (6 HR)	BASIN 1 AREA (ACRES)	BASIN 1 PERCENT	BASIN 1 RATIONAL WEIGHTING FACTOR	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 1 SCS RUNOF WEIGHTING FACTOR (6 HR)	BASIN 2 AREA (ACRES)	BASIN 2 PERCENT	BASIN 2 RATIONAL WEIGHTING FACTOR	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 2 SCS RUNOF WEIGHTING FACTOR (6 HR)
GRAVEL	0.25	85.00	92.00	1.37	19.32	0.048	16.424	17.776	0.00	0.00	0.000	0.000	0.000
CONCRETE SLAB	0.90	98.00	99.00	0.11	1.49	0.013	1.461	1.476	0.00	0.00	0.000	0.000	0.000
CURB & GUTTER	0.90	98.00	99.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
SIDEWALK	0.90	98.00	99.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
ASPHALT	0.90	98.00	99.00	0.21	2.88	0.026	2.825	2.854	0.00	0.00	0.000	0.000	0.000
ROOF	0.90	98.00	99.00	0.35	4.91	0.044	4.810	4.859	0.00	0.00	0.000	0.000	0.000
MULCH	0.20	61.00	78.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
DIRT	0.30	85.00	91.00	3.30	46.41	0.139	39.446	42.230	1.80	100.00	0.300	85.000	91.000
LAWN 7%	0.20	81.00	90.00	0.01	0.20	0.000	0.159	0.177	0.00	0.00	0.000	0.000	0.000
LAWN 2%	0.15	78.00	88.00	1.41	19.81	0.030	15.455	17.437	0.00	0.00	0.000	0.000	0.000
UNKEMPT LAWN	0.20	81.00	90.00	0.35	4.98	0.010	4.032	4.480	0.00	0.00	0.000	0.000	0.000
TOTAL				7.11	100.00	0.311	84.613	91.290	1.80	100.00	0.300	85.000	91.000

ST MARY'S
ORIGINAL CONDITIONS (100 YEAR STORM)
HYDROLOGY STUDY

GROUND SURFACE COVER TYPE	RATIONAL RUNOFF COEFFICIENT	SCS RUNOFF CURVE NUMBER (24 HR)	SCS RUNOFF CURVE NUMBER (6 HR)	BASIN 1 AREA (ACRES)	BASIN 1 PERCENT	BASIN 1 RATIONAL WEIGHTING FACTOR	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 1 SCS RUNOF WEIGHTING FACTOR (6 HR)	BASIN 2 AREA (ACRES)	BASIN 2 PERCENT	BASIN 2 RATIONAL WEIGHTING FACTOR	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 2 SCS RUNOF WEIGHTING FACTOR (6 HR)
GRAVEL	0.55	85.00	92.00	1.37	19.32	0.106	16.424	17.776	0.00	0.00	0.000	0.000	0.000
CONCRETE SLAB	0.95	98.00	99.00	0.11	1.49	0.014	1.461	1.476	0.00	0.00	0.000	0.000	0.000
CURB & GUTTER	0.95	98.00	99.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
SIDEWALK	0.95	98.00	99.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
ASPHALT	0.95	98.00	99.00	0.21	2.88	0.027	2.825	2.854	0.00	0.00	0.000	0.000	0.000
ROOF	0.95	98.00	99.00	0.35	4.91	0.047	4.810	4.859	0.00	0.00	0.000	0.000	0.000
MULCH	0.35	61.00	78.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000
DIRT	0.45	85.00	91.00	3.30	46.41	0.209	39.446	42.230	1.80	100.00	0.450	85.000	91.000
LAWN 7%	0.35	81.00	90.00	0.01	0.20	0.001	0.159	0.177	0.00	0.00	0.000	0.000	0.000
LAWN 2%	0.25	78.00	88.00	1.41	19.81	0.050	15.455	17.437	0.00	0.00	0.000	0.000	0.000
UNKEMPT LAWN	0.35	81.00	90.00	0.35	4.98	0.017	4.032	4.480	0.00	0.00	0.000	0.000	0.000
TOTAL				7.11	100.00	0.471	84.613	91.290	1.80	100.00	0.450	85.000	91.000

TABLE 1

ST MARY'S
FINAL CONDITIONS (2 AND 10 YEAR STORMS)
HYDROLOGY STUDY

GROUND SURFACE COVER TYPE	RATIONAL RUNOFF COEFFICIENT	SCS RUNOFF CURVE NUMBER (24 HR)	SCS RUNOFF CURVE NUMBER (6 HR)	BASIN 1 AREA (ACRES)	BASIN 1 PERCENT	BASIN 1 RATIONAL WEIGHTING FACTOR	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (6 HR)	BASIN 2 AREA (ACRES)	BASIN 2 PERCENT	BASIN 2 RATIONAL WEIGHTING FACTOR	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (6 HR)
GRAVEL	0.25	85.00	92.00	0.51	5.63	0.014	4.782	5.176	0.00	ERR	ERR	ERR	ERR
CONCRETE SLAB	0.90	98.00	99.00	0.10	1.09	0.010	1.066	1.077	0.00	ERR	ERR	ERR	ERR
CURB & GUTTER	0.90	98.00	99.00	0.29	3.15	0.028	3.090	3.122	0.00	ERR	ERR	ERR	ERR
SIDEWALK	0.90	98.00	99.00	0.28	3.12	0.029	3.058	3.089	0.00	ERR	ERR	ERR	ERR
ASPHALT	0.90	98.00	99.00	4.31	47.34	0.426	46.389	46.862	0.00	ERR	ERR	0.000	ERR
ROOF	0.90	98.00	99.00	0.29	3.24	0.029	3.177	3.209	0.00	ERR	ERR	ERR	ERR
MULCH	0.20	61.00	78.00	0.25	2.69	0.005	1.642	2.100	0.00	ERR	ERR	ERR	ERR
DIRT	0.30	85.00	91.00	0.61	6.68	0.020	5.678	6.079	0.00	ERR	ERR	ERR	ERR
LAWN 7%	0.20	81.00	90.00	0.63	6.87	0.014	5.563	6.181	0.00	ERR	ERR	ERR	ERR
LAWN 2%	0.15	78.00	88.00	1.48	16.31	0.024	12.719	14.349	0.00	ERR	ERR	ERR	ERR
UNKEMPT LAWN	0.20	81.00	90.00	0.35	3.89	0.008	3.151	3.501	0.00	ERR	ERR	ERR	ERR
TOTAL				9.10	100.00	0.607	90.314	94.745	0.00	ERR	ERR	ERR	ERR

ST MARY'S
FINAL CONDITIONS (100 YEAR STORM)
HYDROLOGY STUDY

GROUND SURFACE COVER TYPE	RATIONAL RUNOFF COEFFICIENT	SCS RUNOFF CURVE NUMBER (24 HR)	SCS RUNOFF CURVE NUMBER (6 HR)	BASIN 1 AREA (ACRES)	BASIN 1 PERCENT	BASIN 1 RATIONAL WEIGHTING FACTOR	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 1 SCS RUNOFF WEIGHTING FACTOR (6 HR)	BASIN 2 AREA (ACRES)	BASIN 2 PERCENT	BASIN 2 RATIONAL WEIGHTING FACTOR	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (24 HR)	BASIN 2 SCS RUNOFF WEIGHTING FACTOR (6 HR)
						0.000							
GRAVEL	0.55	85.00	92.00	0.51	5.63	0.031	4.782	5.176	0.00	ERR	ERR	ERR	ERR
CONCRETE SLAB	0.95	98.00	99.00	0.10	1.09	0.010	1.066	1.077	0.00	ERR	ERR	ERR	ERR
CURB & GUTTER	0.95	98.00	99.00	0.29	3.15	0.030	3.090	3.122	0.00	ERR	ERR	ERR	ERR
SIDEWALK	0.95	98.00	99.00	0.28	3.12	0.030	3.058	3.089	0.00	ERR	ERR	ERR	ERR
ASPHALT	0.95	98.00	99.00	4.31	47.34	0.450	46.389	46.862	0.00	ERR	ERR	ERR	ERR
ROOF	0.95	98.00	99.00	0.29	3.24	0.031	3.177	3.209	0.00	ERR	ERR	ERR	ERR
MULCH	0.35	61.00	78.00	0.25	2.69	0.009	1.642	2.100	0.00	ERR	ERR	ERR	ERR
DIRT	0.45	85.00	91.00	0.61	6.68	0.030	5.678	6.079	0.00	ERR	ERR	ERR	ERR
LAWN 7%	0.35	81.00	90.00	0.63	6.87	0.024	5.563	6.181	0.00	ERR	ERR	ERR	ERR
LAWN 2%	0.25	78.00	88.00	1.48	16.31	0.041	12.719	14.349	0.00	ERR	ERR	ERR	ERR
UNKEMPT LAWN	0.35	81.00	90.00	0.35	3.89	0.014	3.151	3.501	0.00	ERR	ERR	ERR	ERR
TOTAL				9.10	100.00	0.699	90.314	94.745	0.00	ERR	ERR	ERR	ERR

TABLE 2

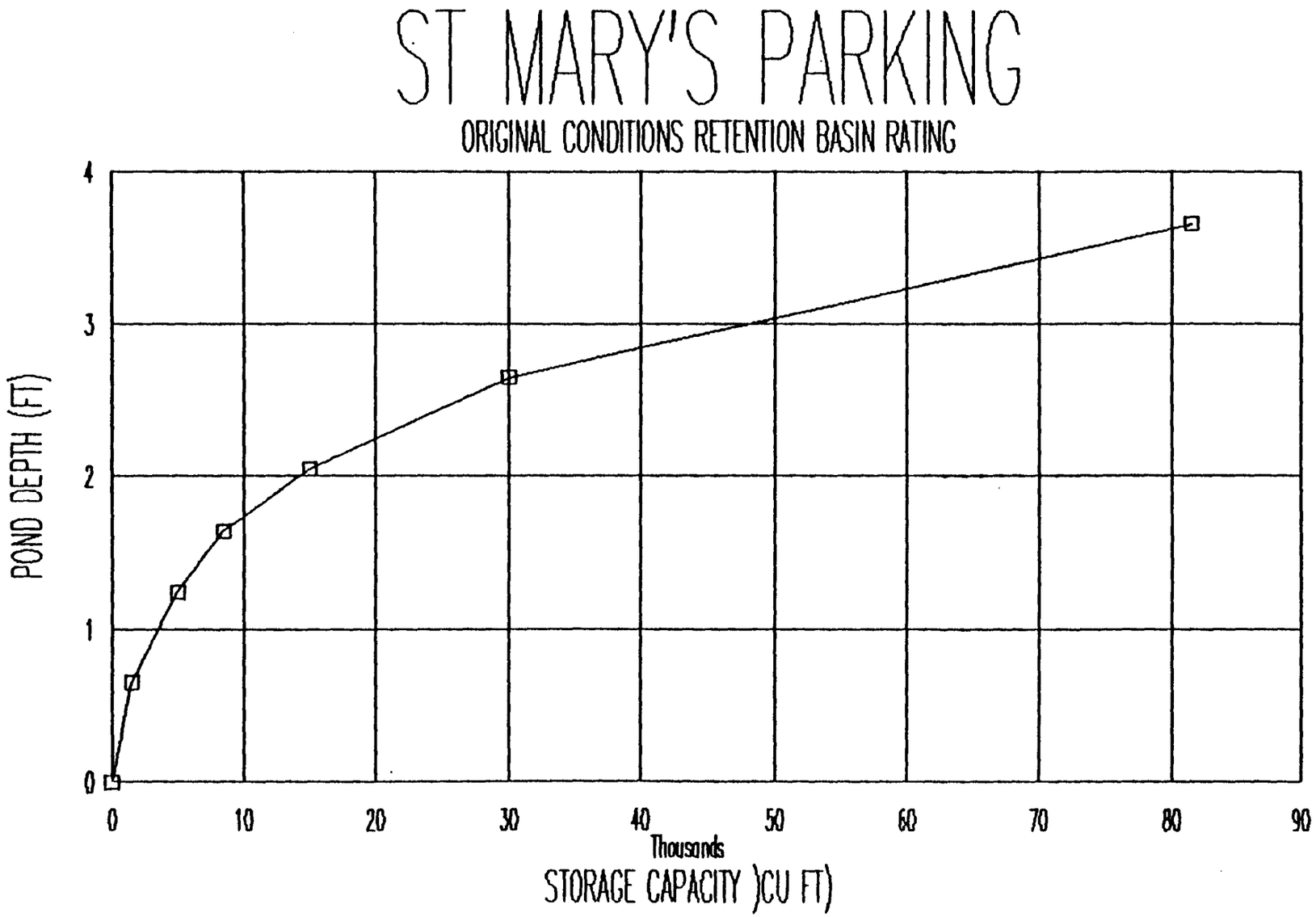
ST MARY'S PARKING
ORIGINAL CONDITIONS RETENTION BASIN RATING
POND DEPTH (FT)
0
1
2
3
4
0
10
20
30
40
50
60
70
80
90
Thousands
STORAGE CAPACITY)CU FT)

FIGURE 5

ST MARY'S PARKING

ORIGINAL CONDITIONS RETENTION DISCHARGE RATING

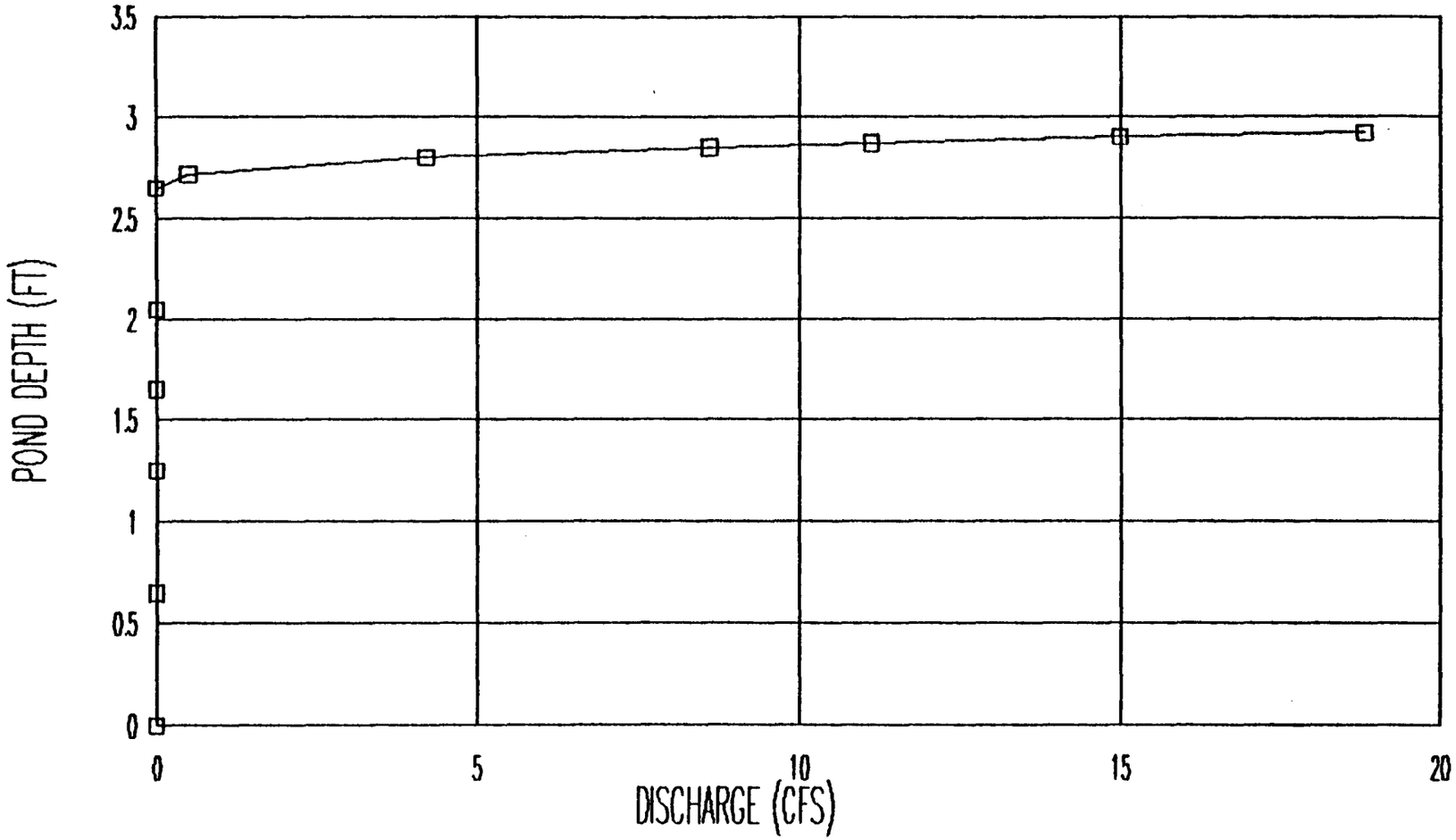

FIGURE 6

ST MARY'S PARKING

FINAL CONDITIONS, DETENTION BASIN RATING

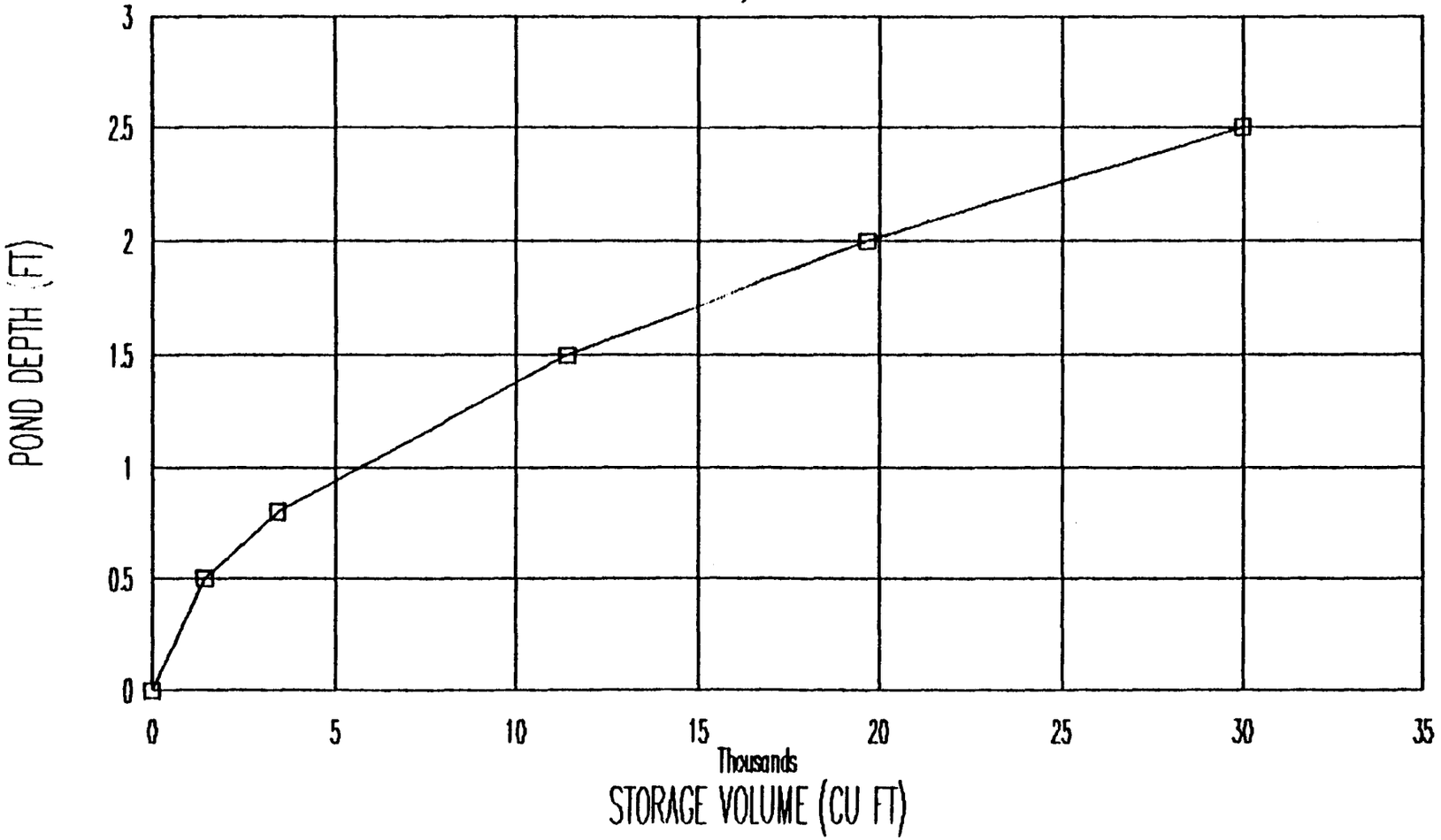

FIGURE 7

ST MARY'S PARKING

FINAL CONDITIONS, DETENTION DISCHARGE RATING

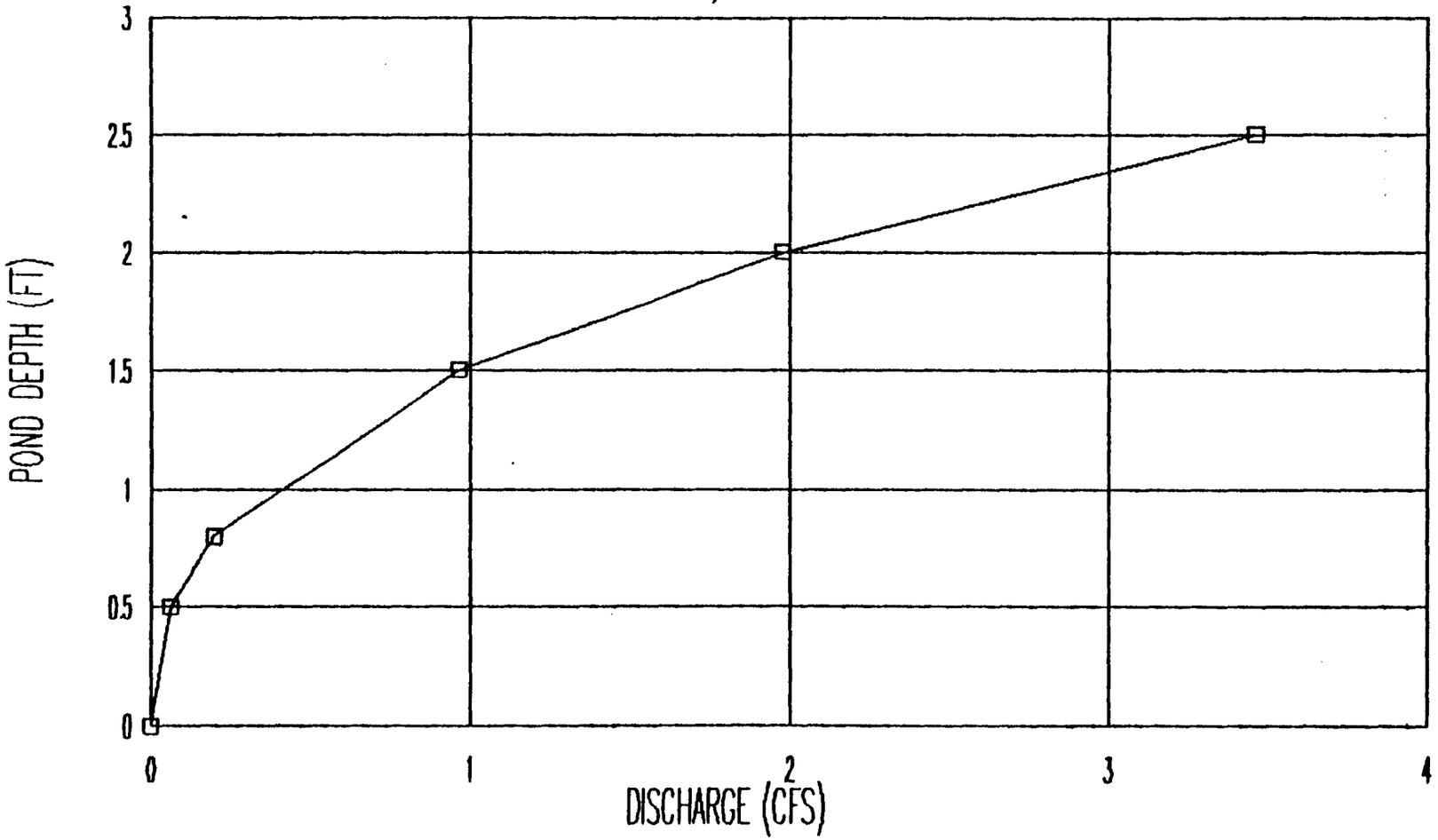

FIGURE 8

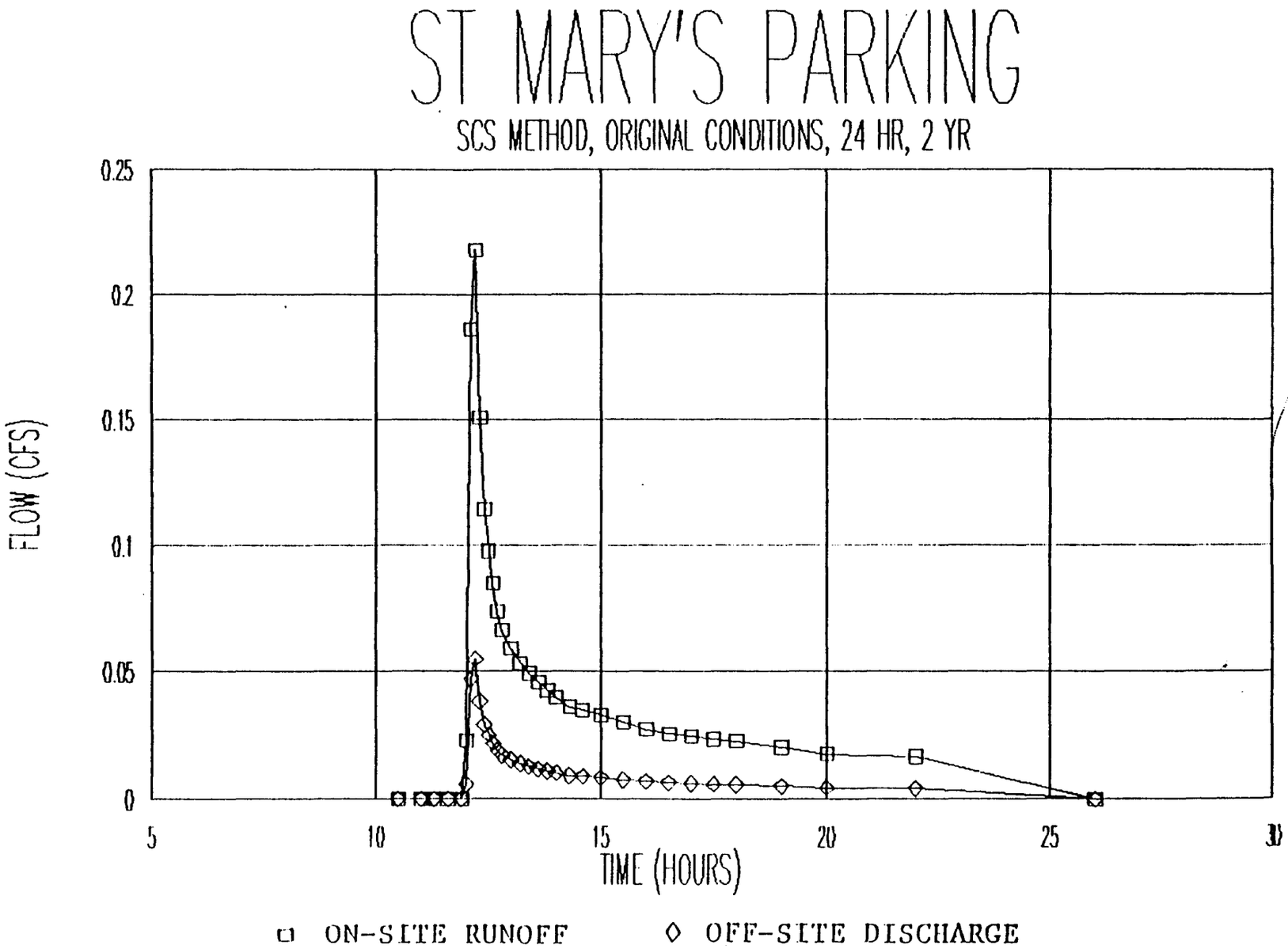
ST MARY'S PARKING
SCS METHOD, ORIGINAL CONDITIONS, 24 HR, 2 YR
FLOW (CFS)
0.25
0.2
0.15
0.1
0.05
0
5
10
15
20
25
TIME (HOURS)
ON-SITE RUNOFF
OFF-SITE DISCHARGE

FIGURE 9

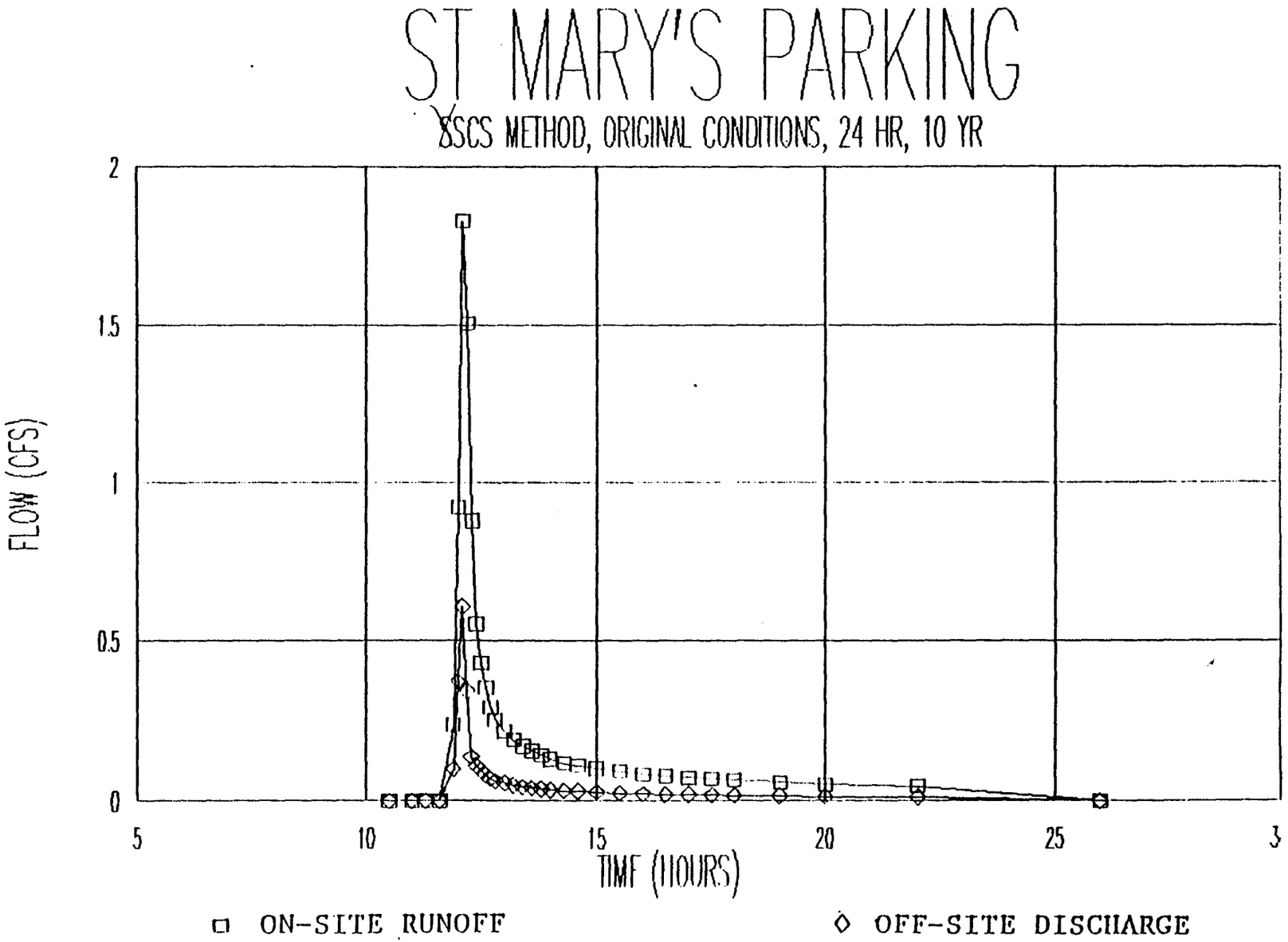
ST MARY'S PARKING
SSCS METHOD, ORIGINAL CONDITIONS, 24 HR, 10 YR
FLOW (CFS)
2
1.5
1
0.5
0
5
10
15
20
25
3
TIME (HOURS)
ON-SITE RUNOFF
OFF-SITE DISCHARGE

FIGURE 10

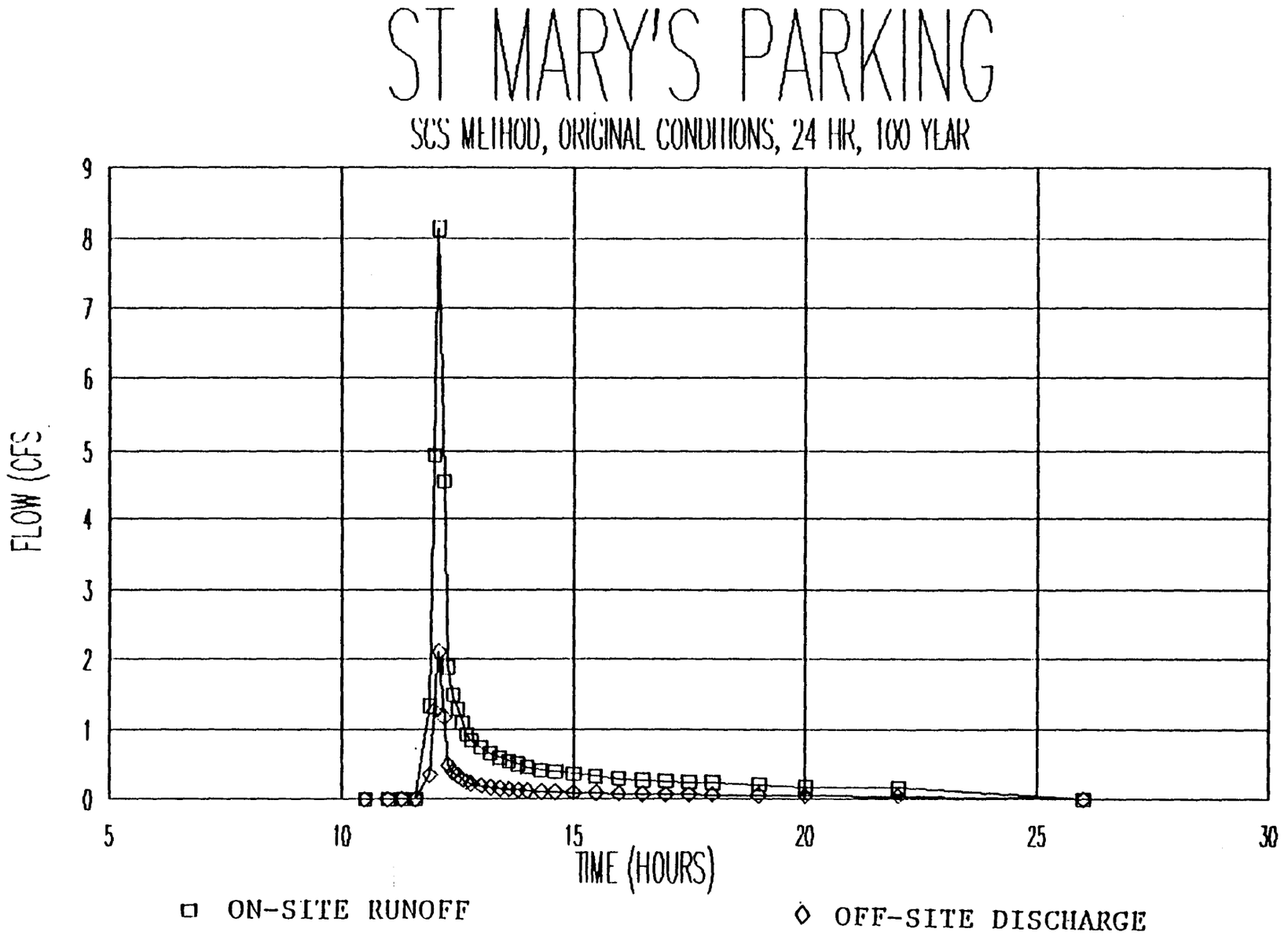
ST MARY'S PARKING
SCS METHOD, ORIGINAL CONDITIONS, 24 HR, 100 YEAR
FLOW (CFS)
0
1
2
3
4
5
6
7
8
9
5
10
15
20
25
30
TIME (HOURS)
ON-SITE RUNOFF
OFF-SITE DISCHARGE

FIGURE 11

ST MARY'S PARKING

SCS METHOD, ORIGINAL CONDITIONS, 6 HR, 2 YR

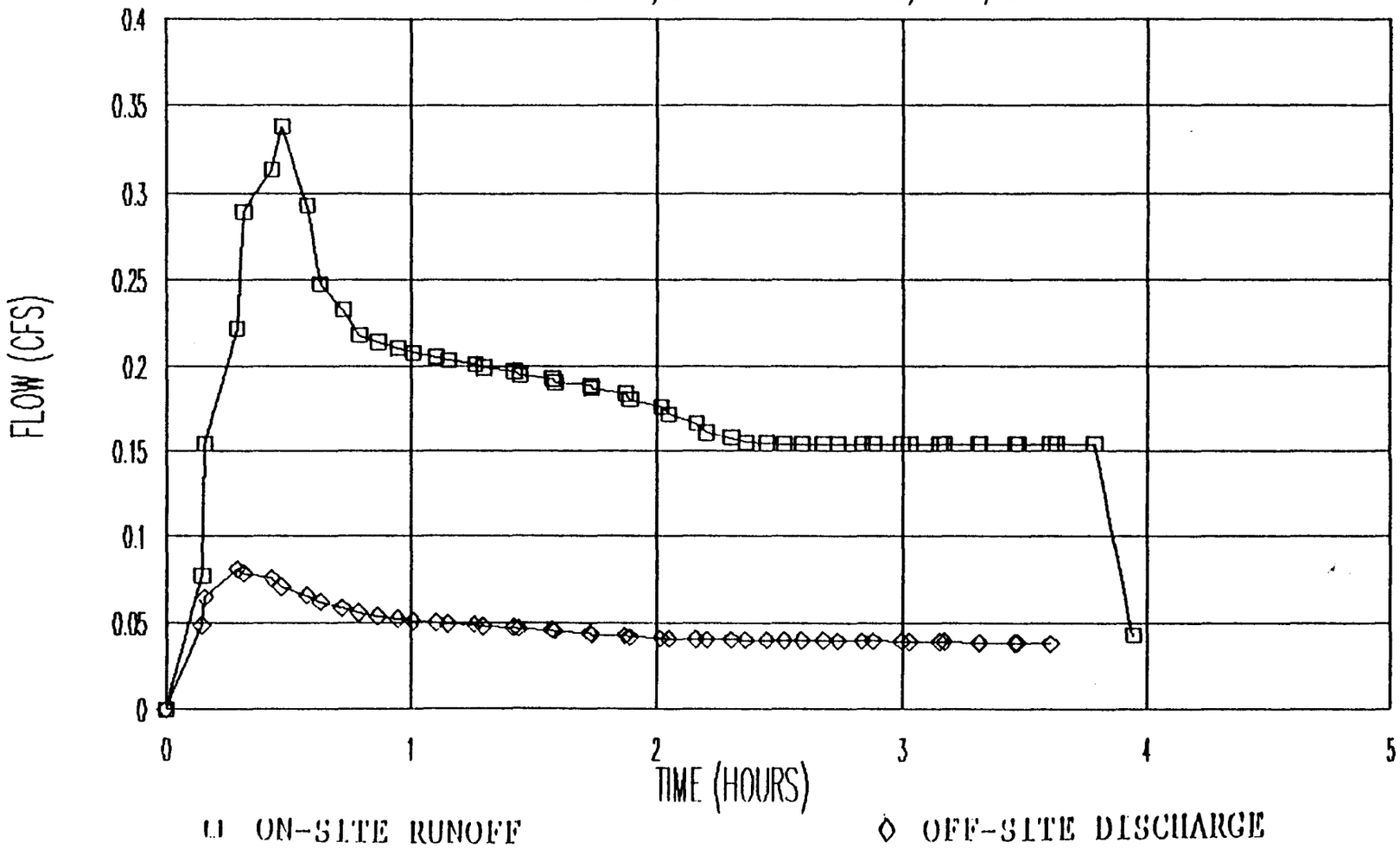

FIGURE 12

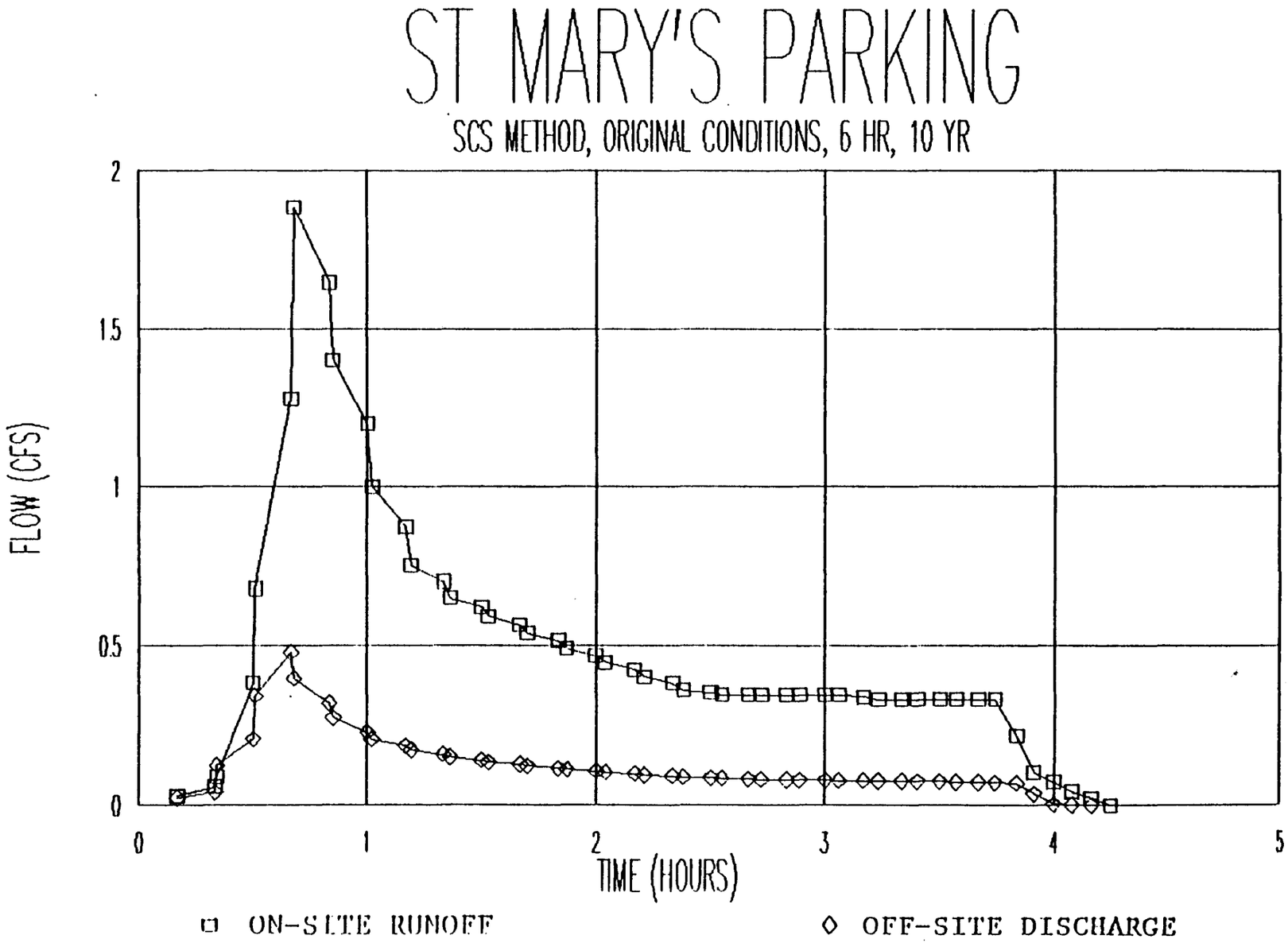
ST MARY'S PARKING
SCS METHOD, ORIGINAL CONDITIONS, 6 HR, 10 YR
FLOW (CFS)
2
1.5
1
0.5
0
0
1
2
3
4
5
TIME (HOURS)
ON-SITE RUNOFF
OFF-SITE DISCHARGE

FIGURE 13

ST MARY'S PARKING

SCS METHOD, ORIGINAL CONDITIONS, 6 HR, 100 YR

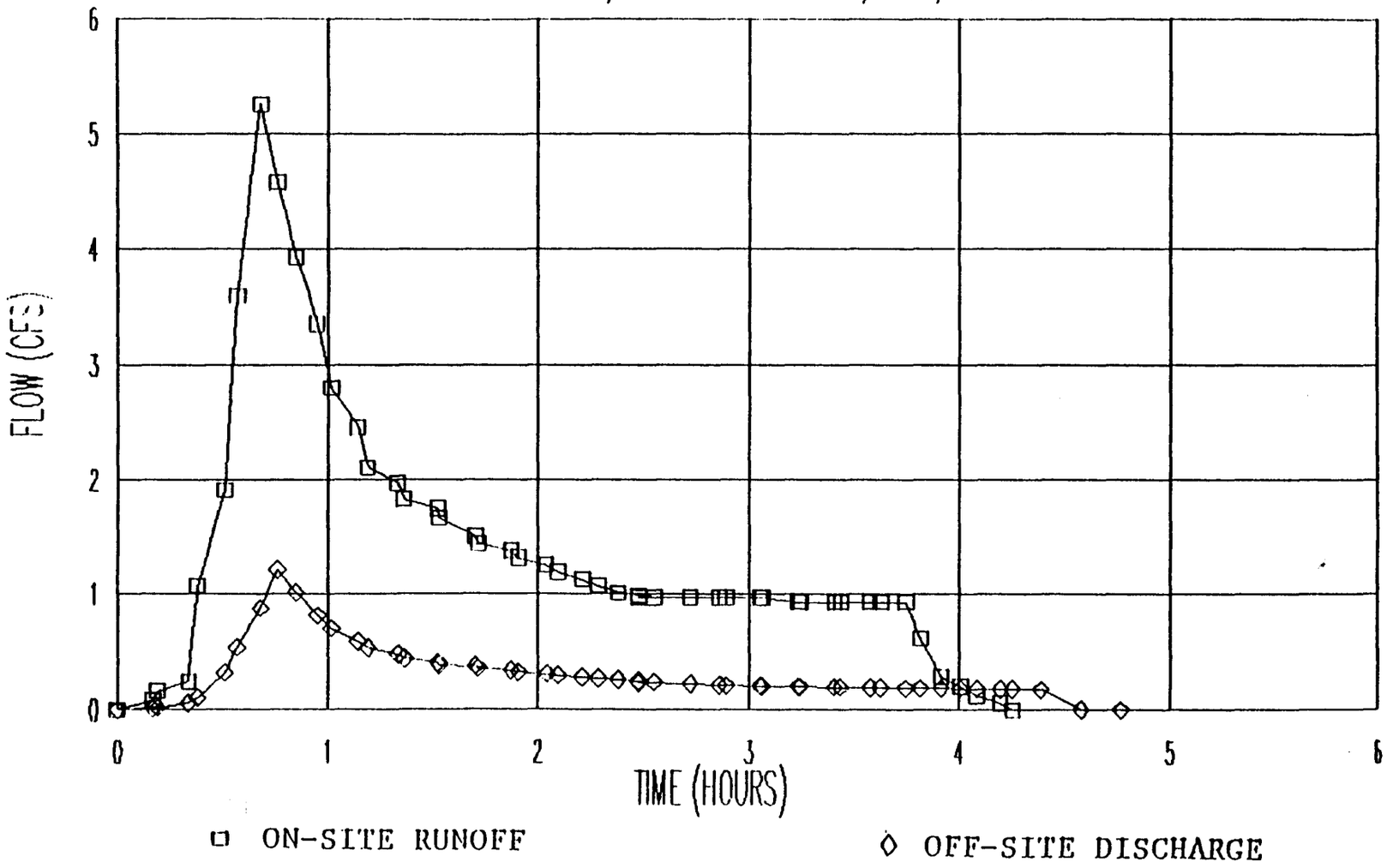

FIGURE 14

ST MARY'S PARKING

RATIONAL METHOD

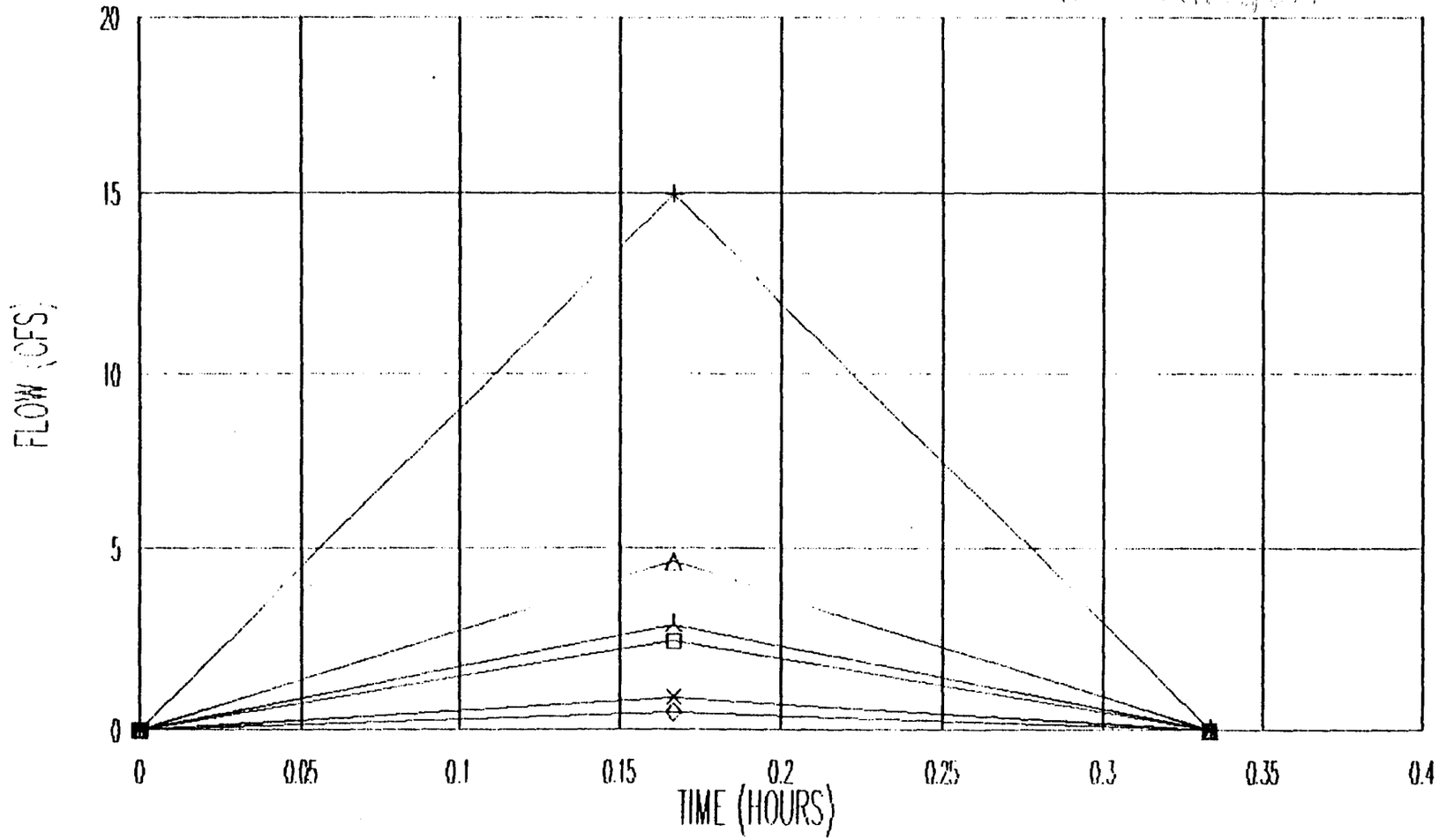

FIGURE 15

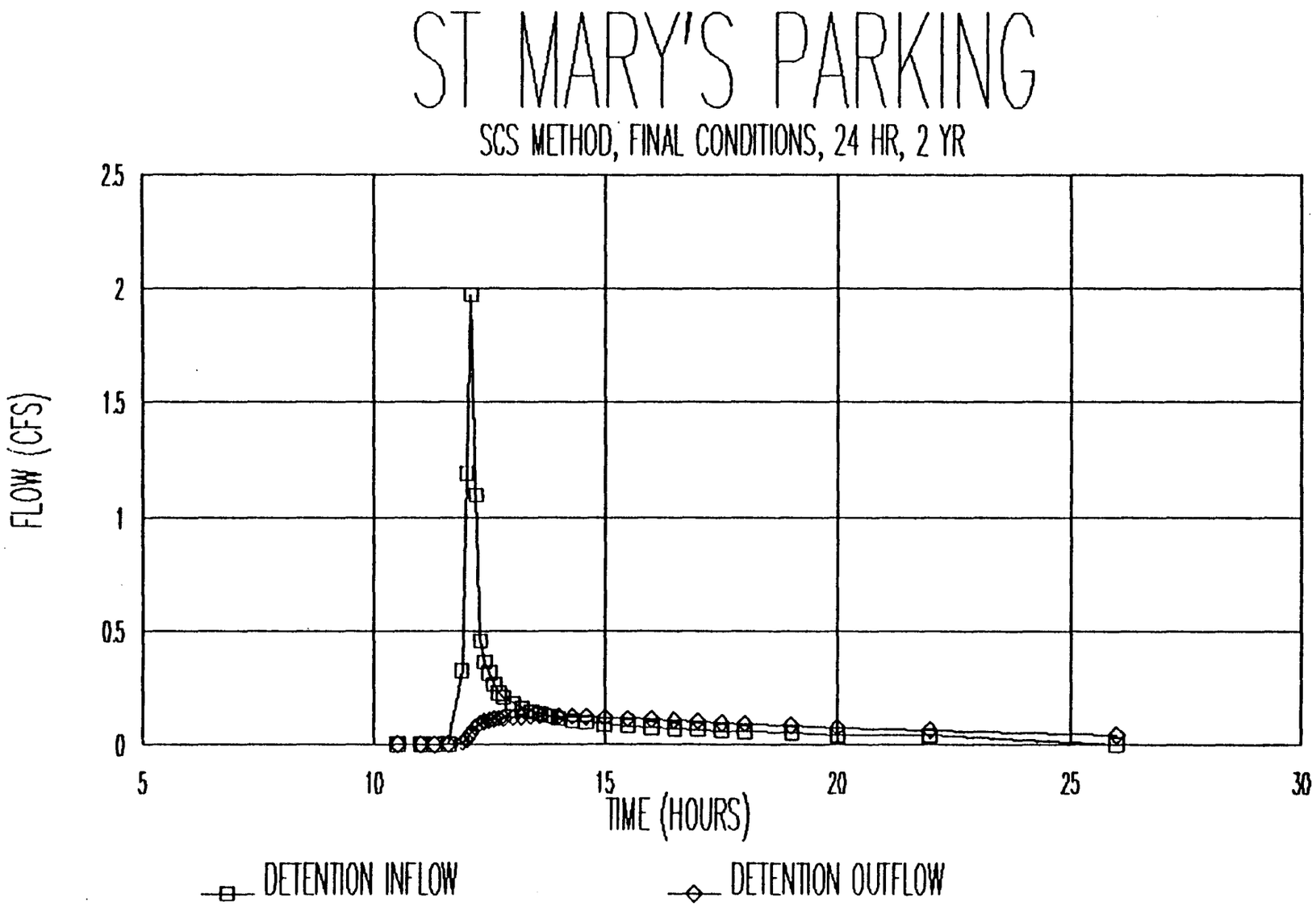
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 24 HR, 2 YR
FLOW (CFS)
2.5
2
1.5
1
0.5
0
5
10
15
20
25
30
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 16

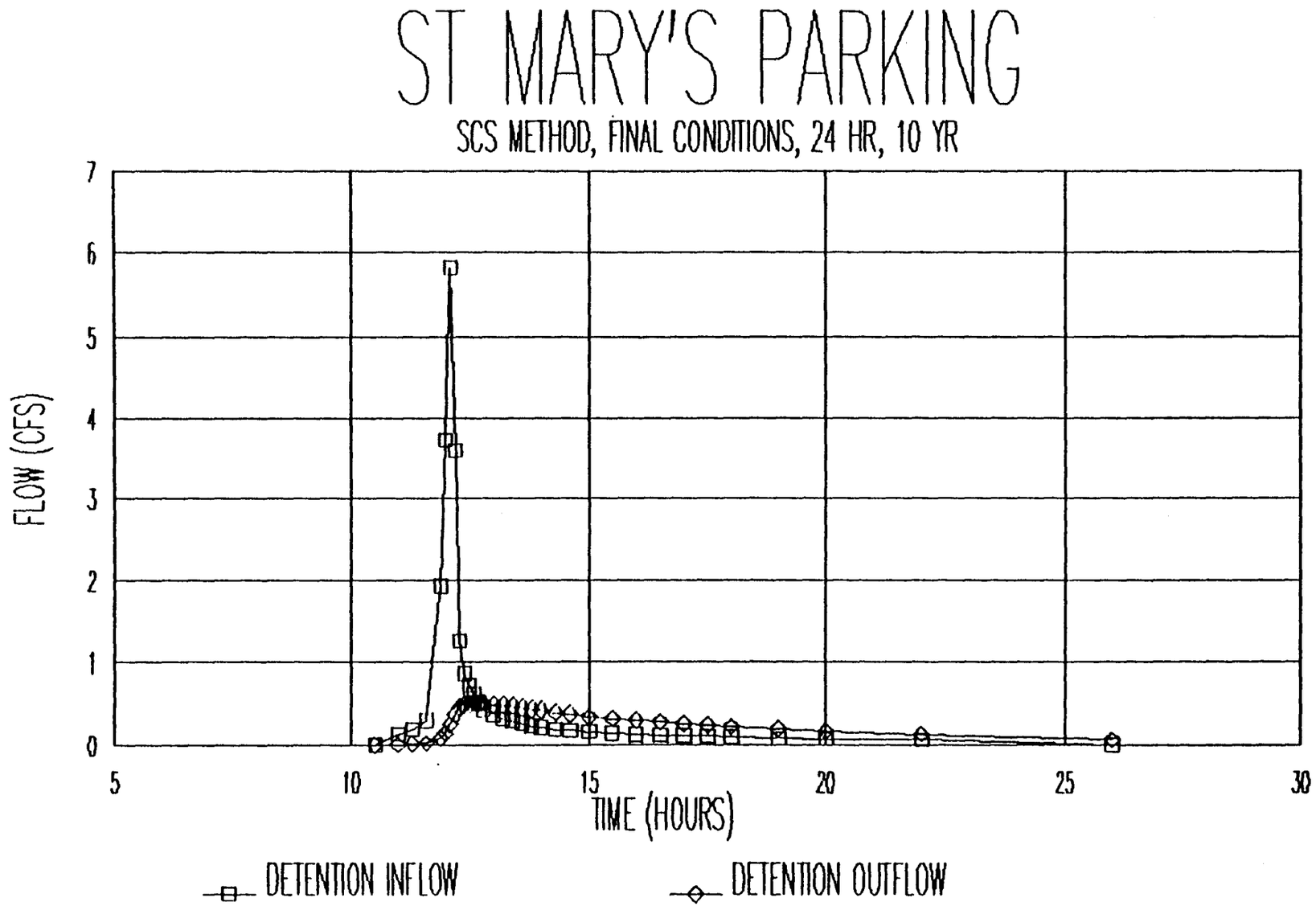
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 24 HR, 10 YR
FLOW (CFS)
0
1
2
3
4
5
6
7
5
10
15
20
25
30
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 17

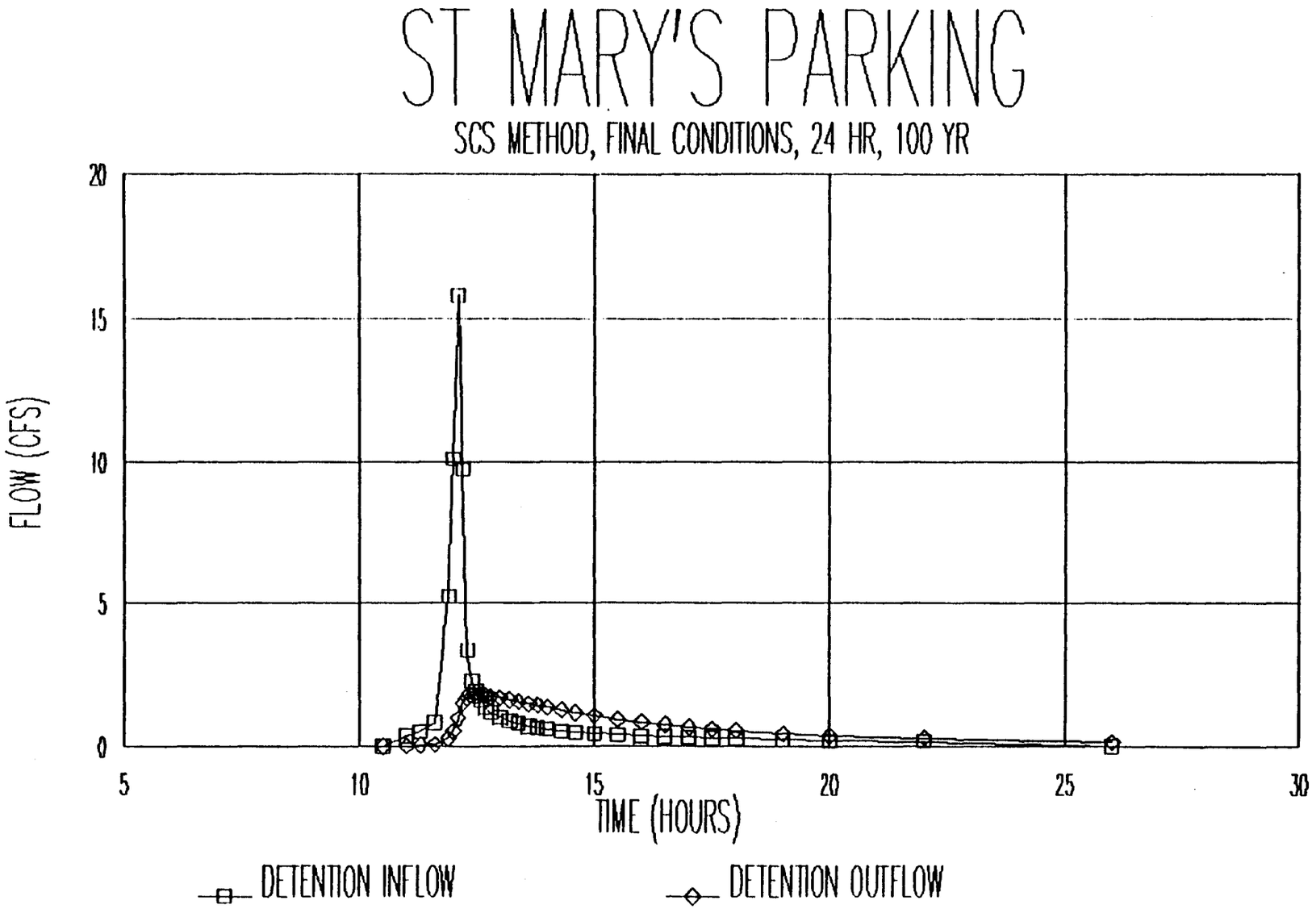
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 24 HR, 100 YR
FLOW (CFS)
20
15
10
5
0
5
10
15
20
25
30
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 18

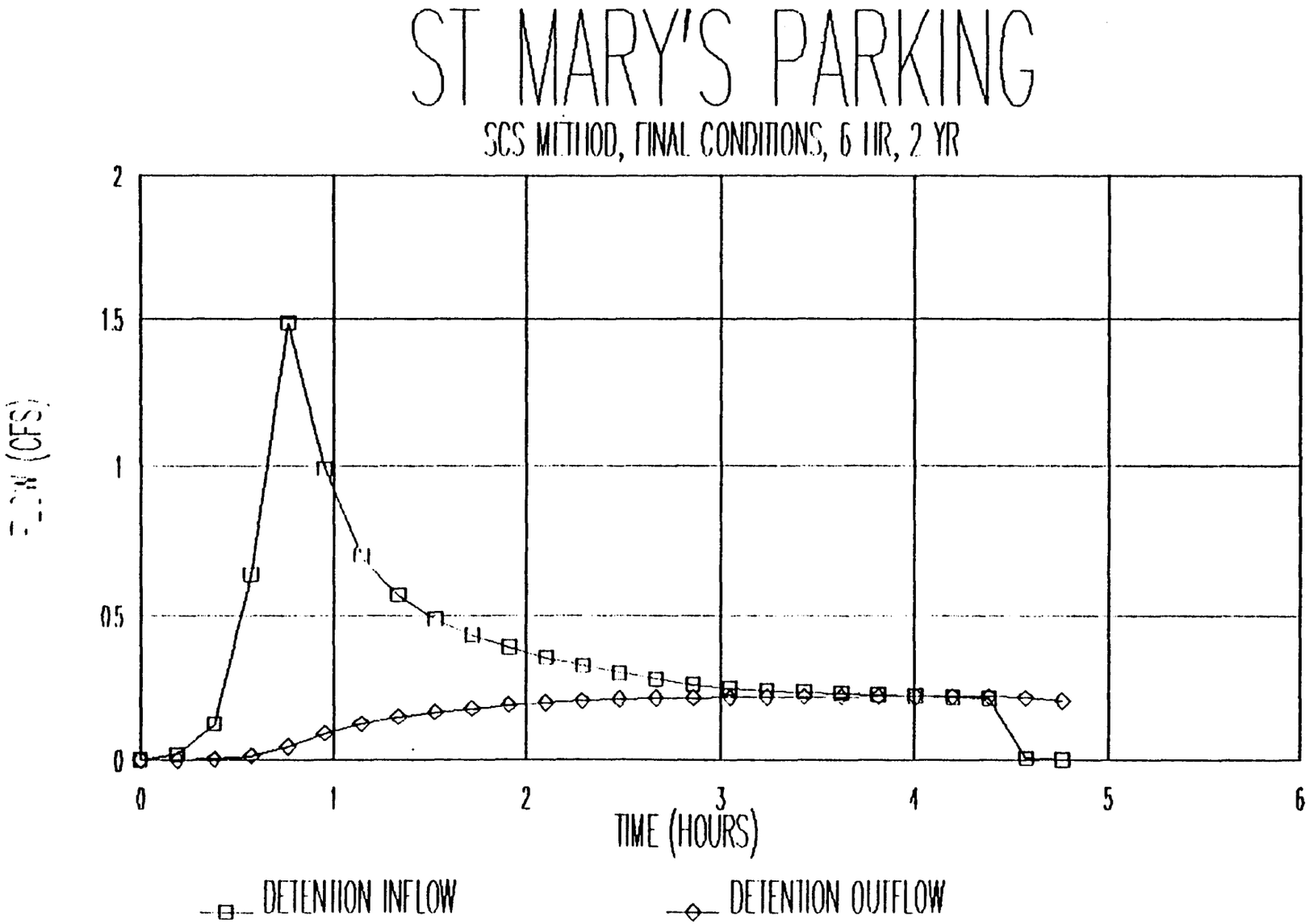
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 6 HR, 2 YR
FLOW (CFS)
2
1.5
1
0.5
0
0
1
2
3
4
5
6
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 19

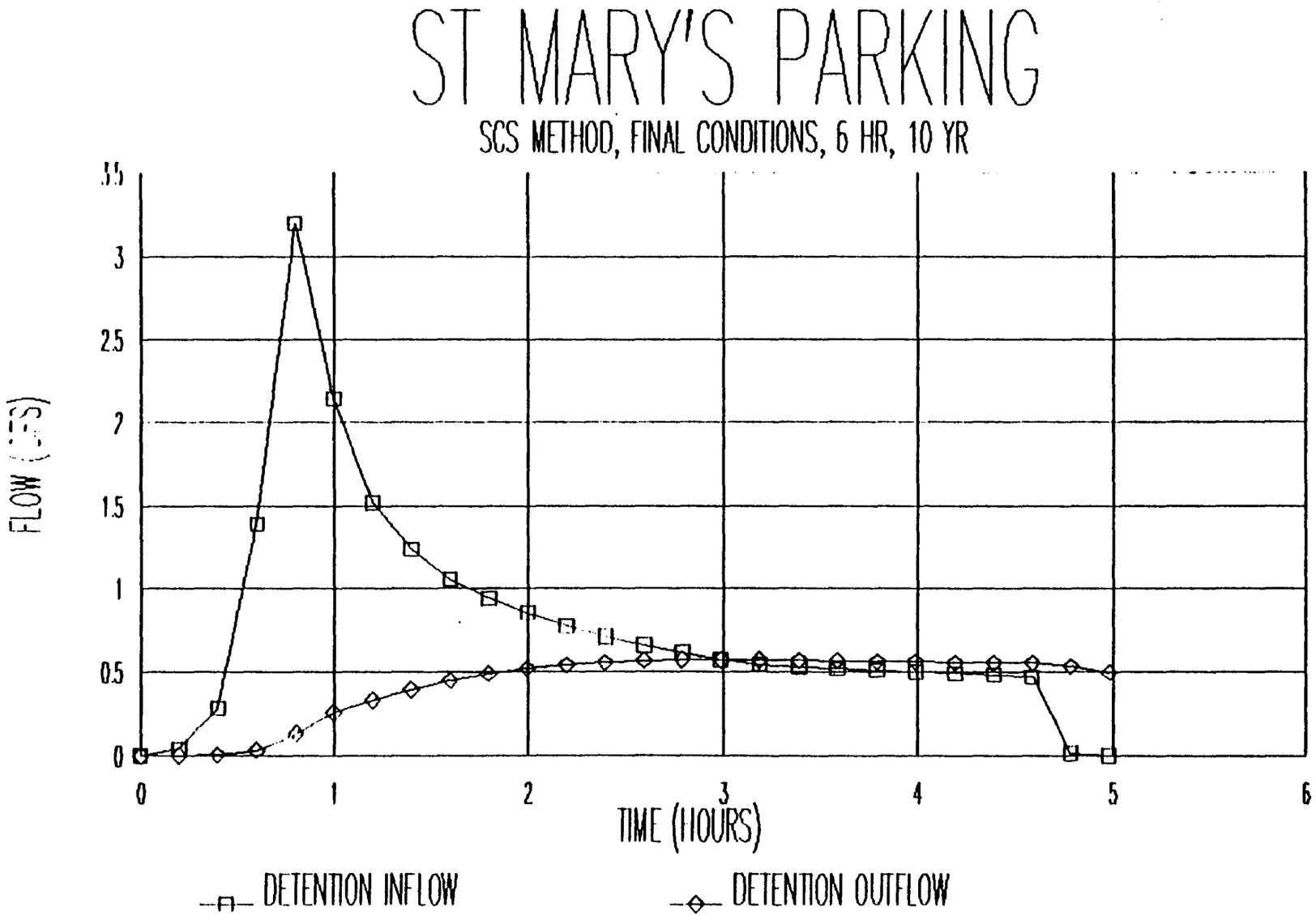
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 6 HR, 10 YR
FLOW (CFS)
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
6
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 20

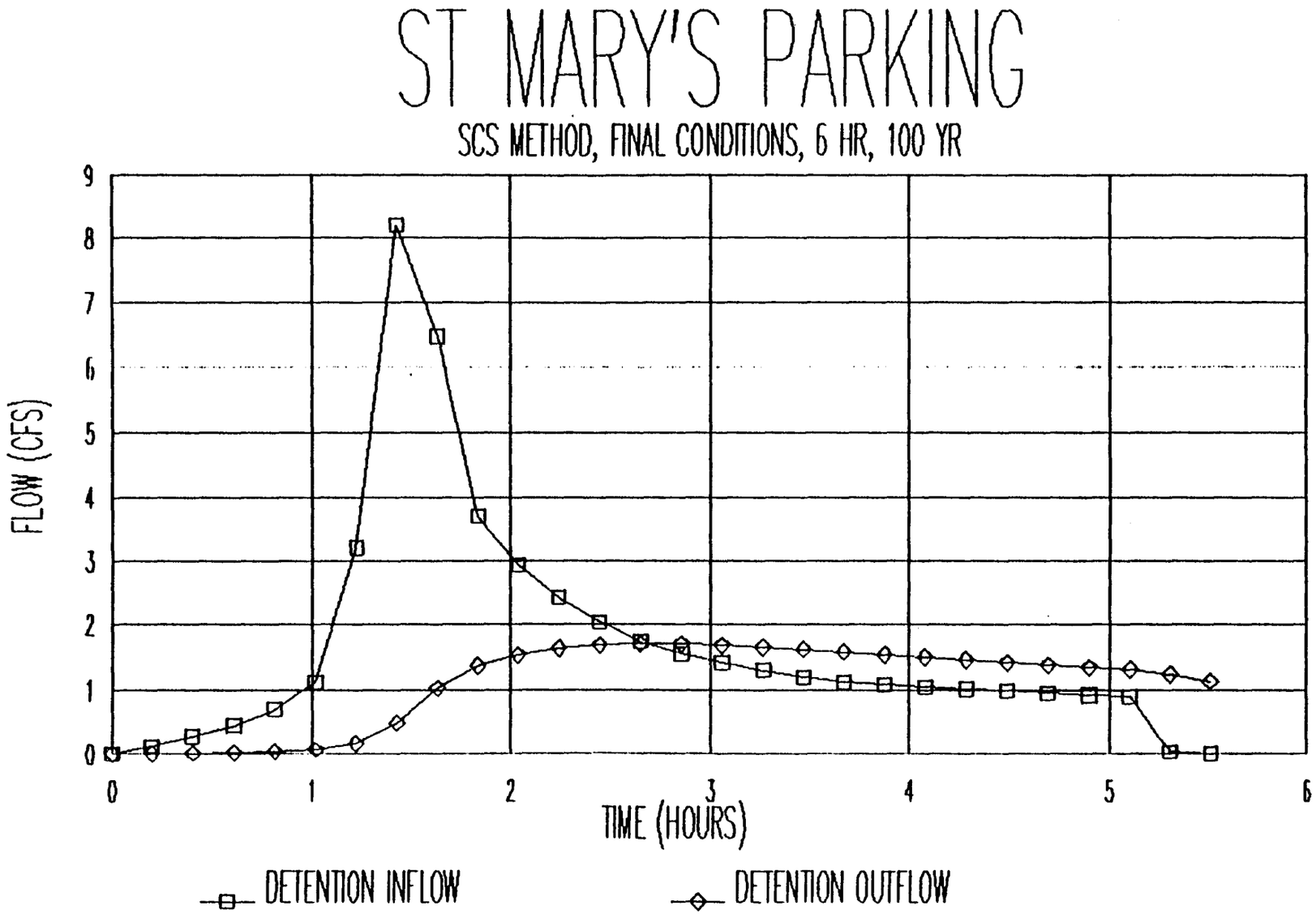
ST MARY'S PARKING
SCS METHOD, FINAL CONDITIONS, 6 HR, 100 YR
FLOW (CFS)
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 21

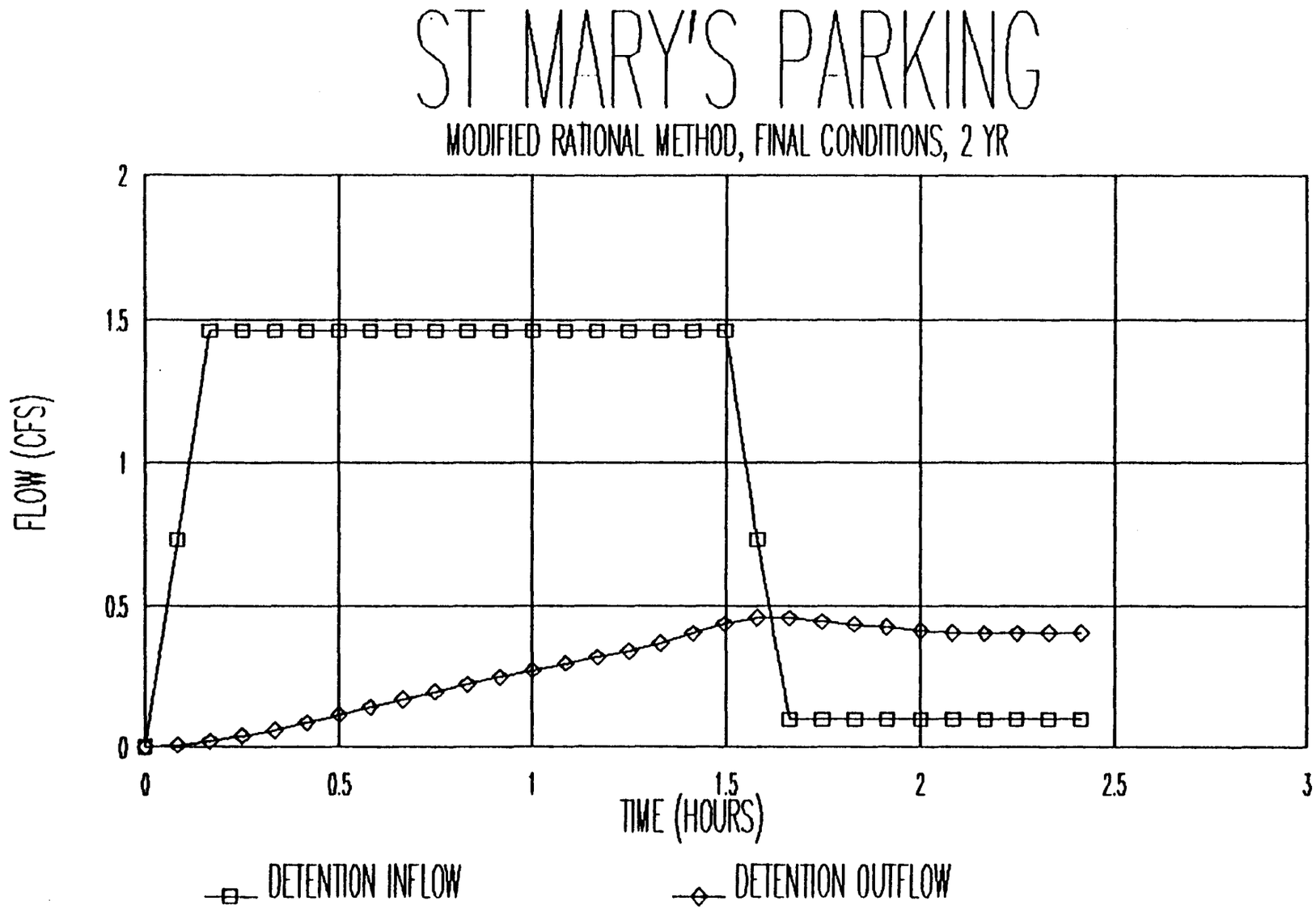
ST MARY'S PARKING
MODIFIED RATIONAL METHOD, FINAL CONDITIONS, 2 YR
FLOW (CFS)
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 22

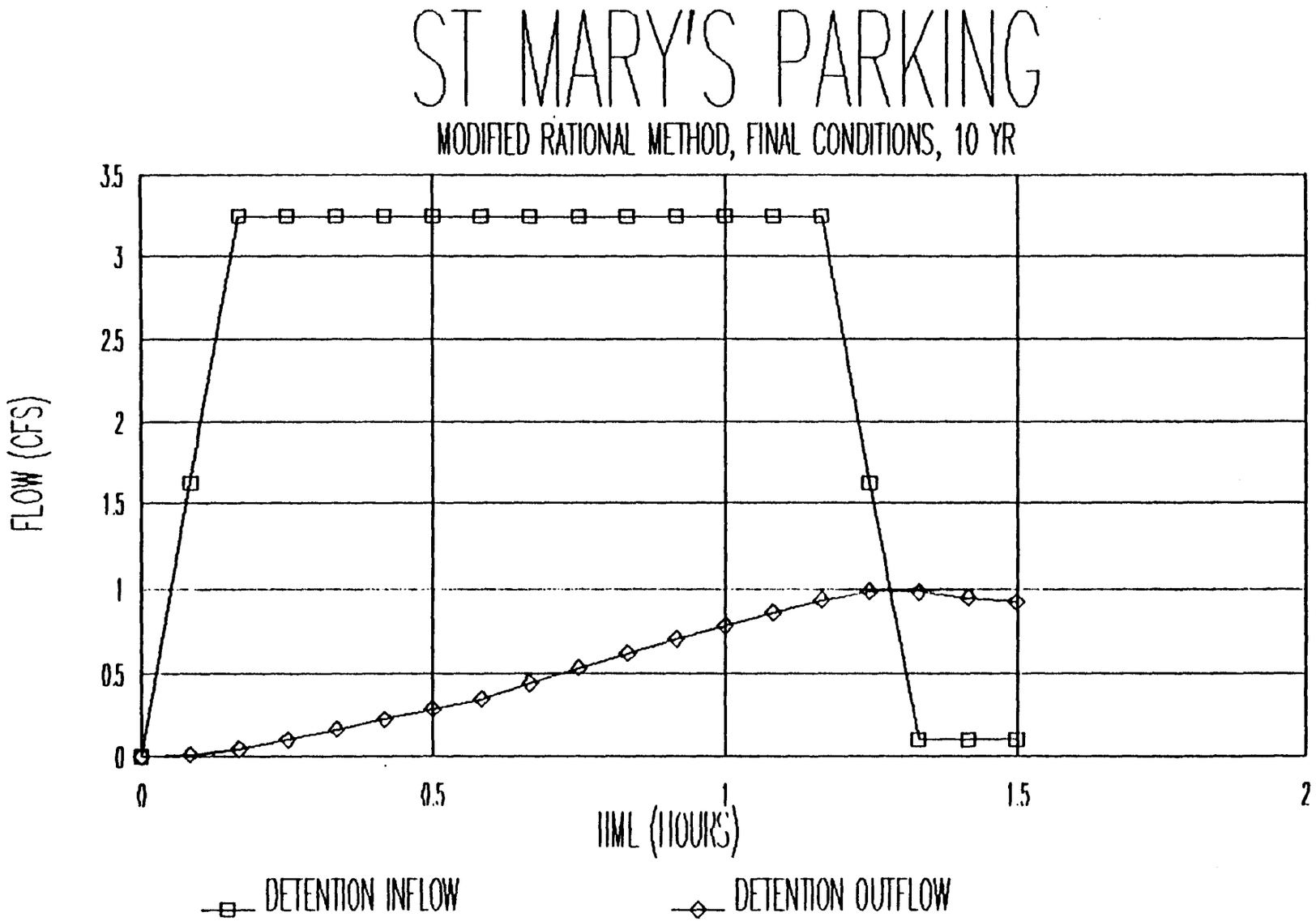
ST MARY'S PARKING
MODIFIED RATIONAL METHOD, FINAL CONDITIONS, 10 YR
FLOW (CFS)
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 23

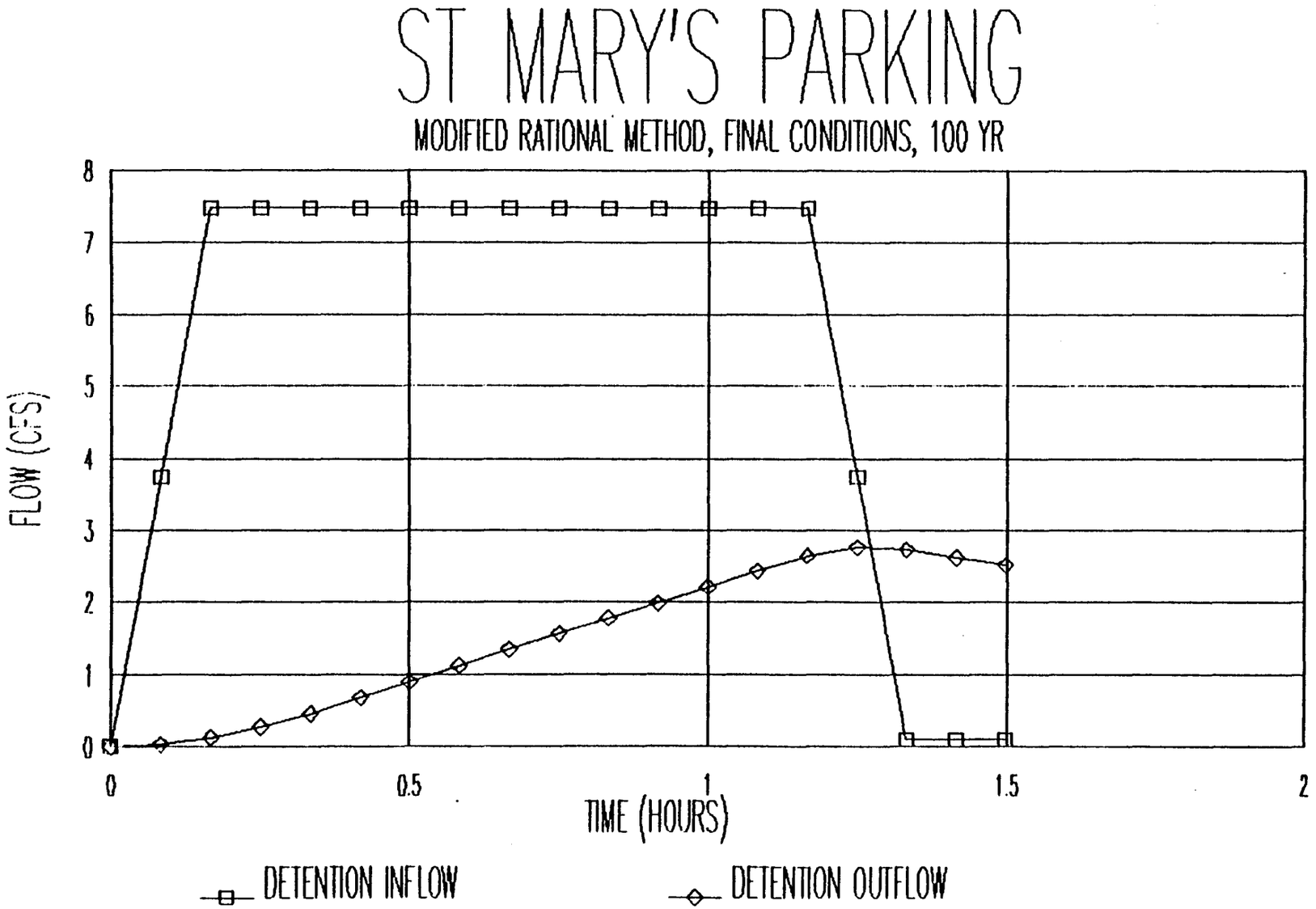
ST MARY'S PARKING
MODIFIED RATIONAL METHOD, FINAL CONDITIONS, 100 YR
FLOW (CFS)
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
TIME (HOURS)
DETENTION INFLOW
DETENTION OUTFLOW

FIGURE 24

APPENDIX

BASIN 1 ORIGINAL CONDITIONS 2 YR STORM
SCS TR 20: FOR Tc=0.15, Ia/P=.5 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0111	84.613	1.818514	0.7	0.052485	374	0.217886	0.519575

0

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
10.5			0			0		0		0	0
11	0	0	0.001	0.9	0.4	0	0	0.9	0.400367	0	0
11.3	0	0	0.001	1.08	0.4	0.9	0	1.98	0.400808	0	0
11.6	0	0	0.001	1.08	0.4	1.98	0	3.06	0.401249	0	0
11.9	0	0	0.001	1.08	0.4	3.06	0	4.14	0.401690	0	0
12	38.5	0.102941	0.022429	4.217317	0.401649	4.14	0	4.037317	0.401649	0	0
12.1	318.5	0.851604	0.185553	37.43694	0.416939	4.037317	0	41.47426	0.416939	0	0
12.2	374	1	0.217886	72.61928	0.446600	41.47426	0	114.0935	0.446600	0	0
12.3	259	0.692513	0.150889	66.37978	0.473712	114.0935	0	180.4733	0.473712	0	0
12.4	196	0.524064	0.114186	47.71375	0.493200	180.4733	0	228.1870	0.493200	0	0
12.5	168	0.449197	0.097874	38.17100	0.508791	228.1870	0	266.3580	0.508791	0	0
12.6	146	0.390374	0.085057	32.92773	0.522240	266.3580	0	299.2858	0.522240	0	0
12.7	127	0.339572	0.073988	28.62825	0.533933	299.2858	0	327.9140	0.533933	0	0
12.8	114	0.304812	0.066414	25.27255	0.544255	327.9140	0	353.1866	0.544255	0	0
13	101.5	0.271390	0.059132	45.19698	0.562716	353.1866	0	398.3836	0.562716	0	0
13.2	91.5	0.244652	0.053306	40.47803	0.579249	398.3836	0	438.8616	0.579249	0	0
13.4	84.5	0.225935	0.049228	36.91261	0.594325	438.8616	0	475.7742	0.594325	0	0
13.6	78.5	0.209893	0.045732	34.18611	0.608288	475.7742	0	509.9603	0.608288	0	0
13.8	73	0.195187	0.042528	31.77421	0.621266	509.9603	0	541.7345	0.621266	0	0
14	68	0.181818	0.039615	29.57203	0.633345	541.7345	0	571.3066	0.633345	0	0
14.3	61.5	0.164438	0.035829	40.74020	0.649985	571.3066	0	612.0468	0.649985	0	0
14.6	59.5	0.159090	0.034663	38.06613	0.665532	612.0468	0	650.1129	0.665532	0	0
15	56.5	0.151069	0.032916	48.65753	0.685406	650.1129	0	698.7705	0.685406	0	0
15.5	51.5	0.137700	0.030003	56.62730	0.708535	698.7705	0	755.3978	0.708535	0	0
16	46.5	0.124331	0.027090	51.38403	0.729522	755.3978	0	806.7818	0.729522	0	0
16.5	43.5	0.116310	0.025342	47.16942	0.748796	806.7818	0	853.9712	0.748796	0	0
17	42	0.112299	0.024468	44.82995	0.765458	853.9712	0	898.8012	0.767107	0	0
17.5	40	0.106951	0.023303	42.99480	0.767726	898.8012	0	937.7567	0.783019	0	0
18	38.5	0.102941	0.022429	41.15966	0.754879	937.7567	0	941.4814	0.784539	0	0
19	34.5	0.092245	0.020099	76.55173	0.759033	941.4814	0	945.4138	0.786145	0	0
20	30	0.080213	0.017477	67.63817	0.767171	945.4138	0	946.6722	0.786659	0	0
22	28	0.074866	0.016312	121.6438	0.801265	946.6722	0	1020.602	0.816855	0	0
26	0	0	0	117.4492	0	1020.602	0	1099.880	0.849236	0	0

BASIN 2, 2 YEAR STORM ORIGINAL CONDITIONS
SCS TR 20: FOR Tc=0.1, Ia/P=.5 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0028	85	1.764705	0.7	0.057037	589	0.086081	0.504201

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
10.5			0	
11	0	0	0	0
11.3	0	0	0	0
11.6	0	0	0	0
11.9	0	0	0	0
12	76	0.129870	0.011179	0.017286
12.1	589	1	0.086081	17.50686
12.2	377	0.699448	0.060206	26.03217
12.3	196	0.363636	0.031302	16.47176
12.4	171	0.317254	0.027309	10.55011
12.5	154	0.265714	0.024594	9.342746
12.6	134	0.248606	0.021400	8.279110
12.7	117	0.217068	0.018685	7.215474
12.8	105	0.200371	0.017248	6.468055
13	99	0.183673	0.015810	11.90122
13.2	89	0.165120	0.014213	10.80865
13.4	83	0.153788	0.013255	9.888937
13.6	77	0.142857	0.012297	9.199011
13.8	72	0.133580	0.011498	8.566579
14	67	0.124304	0.010700	7.991641
14.3	61	0.113172	0.009742	11.03081
14.6	59	0.109461	0.009422	10.34888
15	56	0.103896	0.008943	13.22357
15.5	51	0.094619	0.008144	15.57959
16	46	0.085343	0.007346	13.94225
16.5	43	0.079777	0.006867	12.79237
17	42	0.077922	0.006707	12.21743
17.5	40	0.074211	0.006388	11.76623
18	38	0.070500	0.006068	11.21129
19	34	0.063079	0.005429	20.69777
20	30	0.055658	0.004791	16.39802
22	25	0.051746	0.004471	33.34641
26	0	0	0	32.19654

OF

ORIGINAL CONDITIONS BASIN 1, 10YR
SCS TR 20: FOR Tc=0.15, Ia/P=.3 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0111	84.631	1.816001	1.12	0.222616	740.5	1.829801	0.324286

0

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
10.5	0	0	0.0001			0			0	0	
11	0	0	0.0001	0.0001	0	0	0	0	0	0	0
11.3	0	0	0.0001	0.0001	0	0	0	0	0	0	0
11.6	96.5	0.130817	0.0001	0.0001	0	0	0	0	0	0	0
11.9	374	0.505664	0.238455	128.8196	0	0	0	0	0	0	0
12	740.5	1	0.924167	209.2719	0	0	0	0	0	0	0
12.1	610.5	0.824443	1.829801	495.7142	0	0	0	0	0	0	0
12.2	357	0.482107	1.508566	600.9061	0	0	0	0	0	0	0
12.3	224	0.302498	0.882159	430.3306	0	0	0	0	0	0	0
12.4	173.5	0.234301	0.553512	258.4208	0	0	0	0	0	0	0
12.5	142	0.191762	0.428724	176.8025	0	0	0	0	0	0	0
12.6	118.5	0.160027	0.350867	140.33	0	0	0	0	0	0	0
12.7	103.5	0.1397	0.292816	115.8668	0	0	0	30.51211	0.412462	0	0
12.8	89.5	0.120864	0.255752	98.74253	0.412462	30.51211	0	56.51476	0.423083	0	0
13	78.5	0.106007	0.221158	171.6875	0.423083	56.51476	0	101.7266	0.441549	0	0
13.2	71	0.095881	0.193976	149.4481	0.441549	101.7266	0	141.0819	0.457624	0	0
13.4	65	0.087779	0.175443	132.9911	0.457624	141.0819	0	176.1035	0.471928	0	0
13.6	59.5	0.080351	0.160417	120.9818	0.471928	176.1035	0	207.9626	0.48494	0	0
13.8	54.5	0.073599	0.147027	110.7518	0.48494	207.9626	0	237.1277	0.496853	0	0
14	48.5	0.065496	0.134671	101.4112	0.496853	237.1277	0	263.8331	0.50776	0	0
14.3	46	0.06212	0.119645	137.4339	0.50776	263.8331	0	300.026	0.522543	0	0
14.6	42.5	0.057394	0.113668	126.0969	0.522543	300.026	0	333.2321	0.536106	0	0
15	38.5	0.051992	0.105019	157.4543	0.536106	333.2321	0	374.6958	0.553041	0	0
15.5	34.5	0.04659	0.095135	180.1384	0.553041	374.6958	0	422.133	0.572416	0	0
16	31.5	0.042539	0.085251	162.3469	0.572416	422.133	0	464.8851	0.589878	0	0
16.5	30	0.040513	0.077838	146.7794	0.589878	464.8851	0	503.5377	0.605665	0	0
17	28.5	0.038486	0.074131	136.7717	0.605665	503.5377	0	539.5549	0.620376	0	0
17.5	27	0.036462	0.070424	130.0999	0.620376	539.5549	0	573.8151	0.63437	0	0
18	24	0.032411	0.066718	123.4282	0.63437	573.8151	0	606.3184	0.647645	0	0
19	20.5	0.027684	0.059305	226.8409	0.647645	606.3184	0	751.1646	0.706807	0	0
20	19	0.025656	0.050854	197.9298	0.706807	751.1646	0	875.8186	0.75772	0	0
22	0	0	0.04695	351.3811	0.75772	875.8186	0	1094.464	0.847024	0	0
26			0	336.0375	0.847024	1094.464	0	1293.26	0.928221	0	0

BASIN 2, 10 YEAR ORIGINAL CONDITIONS
SCS TR 20: FOR Tc=0.1, Ia/P=.3 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0028	85	1.764705	1.12	0.232398	936	0.609070	0.315126

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
10.5			0	
11	0	0	0	0
11.3	0	0	0	0
11.6	0	0	0	0
11.9	154	0.164529	0.100210	54.11361
12	568	0.606837	0.369607	84.56715
12.1	936	1	0.609070	176.1620
12.2	524	0.559829	0.340975	171.0083
12.3	217	0.231837	0.141205	86.79260
12.4	172	0.183760	0.111923	45.56319
12.5	149	0.159186	0.096956	37.59841
12.6	126	0.134615	0.081990	32.21046
12.7	107	0.114316	0.069626	27.29106
12.8	97	0.103632	0.063119	28.89432
13	86	0.091880	0.055961	42.86922
13.2	76	0.081196	0.049454	37.94980
13.4	69	0.073717	0.044899	33.96741
13.6	63	0.067307	0.040995	30.92206
13.8	58	0.061965	0.037741	28.34522
14	55	0.058623	0.034467	26.00264
14.3	46	0.051282	0.031234	35.49009
14.6	46	0.049145	0.029932	33.03038
15	42	0.044871	0.027330	41.22941
15.5	38	0.040598	0.024727	46.85161
16	34	0.036324	0.022124	42.16644
16.5	31	0.033119	0.020172	38.06693
17	30	0.032051	0.019521	35.72435
17.5	28	0.029914	0.018220	33.96741
18	27	0.028846	0.017569	32.21043
19	24	0.025641	0.015617	59.73580
20	20	0.021367	0.013014	51.53677
22	19	0.020299	0.012363	91.36064
26	0	0	0	89.01806

BASIN 1, 100YR ORIGINAL CONDITIONS
SCS TR 20: FOR Tc=0.15, Ia/P=.1 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0111	84.613	1.818514	2.01	0.782234	874.5	7.593106	0.180946

0

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
10.5			0			0		0		0	
11	23.5	0.026872	0.204045	183.6411	0	0	0	183.6411	0.475006	0	0
11.3	32.5	0.037164	0.282190	262.5678	0.475006	183.6411	0	446.2089	0.562250	0	0
11.6	50	0.057175	0.434139	386.8186	0.562250	446.2089	0	833.0276	0.740242	0	0
11.9	121.5	0.138936	1.054959	804.1139	0.740242	833.0276	0	1637.141	1.023179	0	0
12	525	0.600343	4.558468	1010.417	1.023179	1637.141	0	2647.558	1.162470	0	0
12.1	874.5	1	7.593106	2187.283	1.162470	2647.558	0	4834.842	1.463998	0	0
12.2	711.5	0.813607	6.177810	2478.765	1.463998	4834.842	0	7313.607	1.805708	0	0
12.3	349	0.399085	3.030296	1657.459	1.805708	7313.607	0	8971.066	2.011282	0	0
12.4	198.5	0.226986	1.723535	855.6897	2.011282	8971.066	0	9826.756	2.050202	0	0
12.5	144.5	0.165237	1.254664	536.0759	2.050202	9826.756	0	10362.83	2.074585	0	0
12.6	116	0.132647	1.007204	407.1364	2.074585	10362.83	0	10769.96	2.093103	0	0
12.7	94	0.107489	0.816183	328.2097	2.093103	10769.96	0	11098.17	2.108031	0	0
12.8	81	0.092624	0.703306	273.5081	2.108031	11098.17	0	11371.68	2.120471	0	0
13	68	0.077758	0.590430	465.7452	2.120471	11371.68	0	11837.43	2.141655	0	0
13.2	59	0.067467	0.512285	396.9775	2.141655	11837.43	0	12234.40	2.159711	0	0
13.4	52.5	0.060054	0.455846	348.5275	2.159711	12234.40	0	12582.93	2.175563	0	0
13.6	47.5	0.054316	0.412432	312.5867	2.175563	12582.93	0	12895.51	2.189780	0	0
13.8	43	0.049170	0.373360	282.8855	2.189780	12895.51	0	13178.40	2.202647	0	0
14	39	0.044596	0.338629	256.3161	2.202647	13178.40	0	13434.71	2.214305	0	0
14.3	34.5	0.039451	0.299556	344.6202	2.214305	13434.71	0	13779.34	2.229979	0	0
14.6	32.5	0.037164	0.282190	314.1436	2.229979	13779.34	0	14093.48	2.244268	0	0
15	29.5	0.033733	0.256142	387.6001	2.244268	14093.48	0	14481.08	2.261897	0	0
15.5	26.5	0.030303	0.230094	437.6130	2.261897	14481.08	0	14918.69	2.281801	0	0
16	23.5	0.026872	0.204045	390.7259	2.281801	14918.69	0	15309.42	2.299573	0	0
16.5	21	0.024013	0.182338	347.7460	2.299573	15309.42	0	15657.16	2.315390	0	0
17	20	0.022870	0.173655	320.3952	2.315390	15657.16	0	15977.56	2.329962	0	0
17.5	19	0.021726	0.164973	304.7662	2.329962	15977.56	0	16282.33	2.343824	0	0
18	18	0.020583	0.156290	289.1371	2.343824	16282.33	0	16571.46	2.356975	0	0
19	15.5	0.017724	0.134583	523.5727	2.356975	16571.46	0	17095.04	2.380789	0	0
20	13	0.014865	0.112876	445.4275	2.380789	17095.04	0	17540.46	2.401049	0	0
22	12	0.013722	0.104193	781.4516	2.401049	17540.46	0	18321.91	2.436592	0	0
26	0	0	0	750.1937	2.436592	18321.91	0	19072.11	2.470713	0	0

BASIN 2, 100 YEAR STORM ORIGINAL CONDITIONS
SCS TR 20: FOR Tc=0.1, Ia/P=.1 AND Tt=0, 24 HR STORM

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0028	85	1.764705	2.01	0.802464	1010	2.269368	0.175592

TIME (HOURS)			INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
10.5	q(p)	%max	Q	
11	24	0.023762	0.053925	48.53303
11.3	34	0.033663	0.076394	70.37290
11.6	53	0.052475	0.119085	105.5593
11.9	34	0.033663	0.076394	105.5593
12	647	0.640594	1.453744	275.4249
12.1	1010	1	2.269368	670.1603
12.2	623	0.616831	1.399818	660.4537
12.3	217	0.214851	0.487577	339.7312
12.4	147	0.145544	0.330294	147.2168
12.5	123	0.121782	0.276368	109.1993
12.6	104	0.102970	0.233677	91.80838
12.7	86	0.085148	0.193233	76.84397
12.8	76	0.075247	0.170764	65.51960
13	66	0.065346	0.148295	114.8615
13.2	57	0.056435	0.128073	99.49273
13.4	51	0.050495	0.114591	87.35947
13.6	46	0.045544	0.103357	78.46174
13.8	42	0.041584	0.094369	71.18179
14	38	0.037623	0.085382	64.71071
14.3	34	0.033663	0.076394	87.35947
14.6	32	0.031683	0.071900	80.07951
15	29	0.028712	0.065160	98.68384
15.5	26	0.025742	0.058419	111.2215
16	23	0.022772	0.051678	99.08828
16.5	21	0.020792	0.047184	88.97723
17	20	0.019801	0.044937	82.91060
17.5	19	0.018811	0.042691	78.86618
18	18	0.017821	0.040444	74.82176
19	15	0.014851	0.033703	133.4658
20	13	0.012871	0.029209	113.2437
22	12	0.011881	0.026962	202.2209
26	0	0	0	194.1321

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
7.11	0.311	0.9	1	1.990089

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.995044	148.6596	0	0	0	148.6596	0.065778	0	0
0.167	1.990089	451.3521	0.065778	148.6596	0	519.1200	0.227699	0	0
0.25	0.995044	445.9769	0.227699	519.1200	0	688.0361	0.304440	0	0
0.333	0.001	148.8070	0.304440	688.0361	0	498.6415	0.220637	0	0
0.417	0.1	15.2712	0.220637	498.6415	0	338.6300	0.149836	0	0
0.5	0.1	29.86	0.149836	338.6300	0	337.0464	0.149135	0	0
0.5833	0.1	29.986	0.149135	337.0464	0	367.0344	0.162404	0	0
0.6667	0.1	30.024	0.162404	367.0344	0	397.0584	0.175689	0	0
0.75	0.1	29.986	0.175689	397.0584	0	427.0464	0.188958	0	0
0.833	0.1	29.88	0.188958	427.0464	0	456.9264	0.202179	0	0
0.9167	0.1	30.132	0.202179	456.9264	0	487.0584	0.215512	0	0
1	0.1	29.988	0.215512	487.0584	0	517.0464	0.228781	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
7.11	0.311	0.76	1	1.680519

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.840259	125.5348	0	0	0	58.08672	0.025702	0	0
0.167	1.680519	381.1416	0.025702	58.08672	0	234.4464	0.103737	0	0
0.25	0.840259	376.6044	0.103737	234.4464	0	381.2767	0.168706	0	0
0.333	0.01	127.0288	0.168706	381.2767	0	357.5764	0.158219	0	0
0.417	0.1	16.652	0.158219	357.5764	0	291.9189	0.129167	0	0
0.5	0.1	29.88	0.129167	291.9189	0	294.3691	0.130251	0	0
0.5833	0.1	29.986	0.130251	294.3691	0	324.3571	0.143520	0	0
0.6667	0.1	30.024	0.143520	324.3571	0	354.3811	0.156805	0	0
0.75	0.1	29.986	0.156805	354.3811	0	384.3691	0.170074	0	0
0.833	0.1	29.88	0.170074	384.3691	0	414.2491	0.183296	0	0
0.9167	0.1	30.132	0.183296	414.2491	0	444.3811	0.196628	0	0
1	0.1	29.988	0.196628	444.3811	0	474.3691	0.209897	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.67	1	1.481510

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.740755	110.6688	0	0	0	110.6688	0.445201	0	0
0.167	1.481510	336.0066	0.445201	110.6688	0	446.6754	0.582440	0	0
0.25	1.481510	442.6753	0.582440	446.6754	0	889.3508	0.763247	0	0
0.333	1.481510	442.6753	0.763247	889.3508	0	1332.026	0.944054	0	0
0.417	0.740755	336.0066	0.944054	1332.026	0	1668.032	1.027437	0	0
0.5	0.1	125.6088	1.027437	1668.032	0	1793.641	1.044753	0	0
0.5833	0.1	29.966	1.044753	1793.641	0	1823.629	1.048887	0	0
0.6667	0.1	30.024	1.048887	1823.629	0	1853.653	1.053026	0	0
0.75	0.1	29.988	1.053026	1853.653	0	1883.641	1.057160	0	0
0.833	0.1	29.88	1.057160	1883.641	0	1913.521	1.061279	0	0
0.9167	0.1	30.132	1.061279	1913.521	0	1943.653	1.065433	0	0
1	0.1	29.988	1.065433	1943.653	0	1973.641	1.069567	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 30 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.54	1	1.194053

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.597026	89.19578	0	0	0	89.19578	0.436431	0	0
0.167	1.194053	270.8113	0.436431	89.19578	0	360.0071	0.547041	0	0
0.25	1.194053	356.7831	0.547041	360.0071	0	716.7902	0.692766	0	0
0.333	1.194053	356.7831	0.692766	716.7902	0	1073.573	0.838491	0	0
0.417	1.194053	361.0817	0.838491	1073.573	0	1434.655	0.985972	0	0
0.5	1.194053	356.7831	0.985972	1434.655	0	1791.438	1.044449	0	0
0.5833	0.597026	268.5545	1.044449	1791.438	0	2059.992	1.081471	0	0
0.6667	0.1	104.6376	1.081471	2059.992	0	2164.630	1.095896	0	0
0.75	0.1	29.988	1.095896	2164.630	0	2194.618	1.100030	0	0
0.833	0.1	29.88	1.100030	2194.618	0	2224.498	1.104149	0	0
0.9167	0.1	30.132	1.104149	2224.498	0	2254.630	1.108303	0	0
1	0.1	29.988	1.108303	2254.630	0	2284.618	1.112437	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATTIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.47	1	1.039268

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.519634	77.63337	0	0	0	77.63337	0.431708	0	0
0.167	1.039268	235.7061	0.431708	77.63337	0	313.3395	0.527980	0	0
0.25	1.039268	310.5334	0.527980	313.3395	0	623.8730	0.654815	0	0
0.333	1.039268	310.5334	0.654815	623.8730	0	934.4064	0.781650	0	0
0.417	1.039268	314.2748	0.781650	934.4064	0	1248.681	0.910012	0	0
0.5	1.039268	310.5334	0.910012	1248.681	0	1559.214	1.012436	0	0
0.5833	1.039268	311.6556	1.012436	1559.214	0	1870.870	1.055399	0	0
0.6667	1.039268	312.0300	1.055399	1870.870	0	2182.900	1.098414	0	0
0.75	0.519634	289.7419	1.098414	2182.900	0	2416.642	1.130637	0	0
0.833	0.1	92.97337	1.130637	2416.642	0	2509.216	1.143398	0	0
0.9167	0.1	30.132	1.143398	2509.216	0	2539.348	1.147552	0	0
1	0.1	29.986	1.147552	2539.348	0	2569.336	1.151686	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATTIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.4	1	0.884484

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.442242	66.07095	0	0	0	66.07095	0.426986	0	0
0.167	0.884484	200.6609	0.426986	66.07095	0	266.6719	0.538919	0	0
0.25	0.884484	264.2838	0.538919	266.6719	0	530.9557	0.616664	0	0
0.333	0.884484	264.2838	0.616664	530.9557	0	795.2395	0.724608	0	0
0.417	0.884484	267.4679	0.724608	795.2395	0	1062.707	0.834053	0	0
0.5	0.884484	264.2838	0.834053	1062.707	0	1326.991	0.941997	0	0
0.5833	0.884484	265.2390	0.941997	1326.991	0	1592.230	1.016987	0	0
0.6667	0.884484	265.5574	1.016987	1592.230	0	1857.787	1.053596	0	0
0.75	0.884484	265.2390	1.053596	1857.787	0	2123.026	1.090160	0	0
0.833	0.884484	264.2838	1.090160	2123.026	0	2387.310	1.126593	0	0
0.9167	0.442242	199.8845	1.126593	2387.310	0	2587.195	1.154148	0	0
1	0.1	81.30376	1.154148	2587.195	0	2668.499	1.165356	0	0
1.083	0.1	29.88	1.165356	2668.499	0	2698.379	1.169476	0	0
1.166	0.1	29.88	1.169476	2698.379	0	2728.259	1.173595	0	0
1.249	0.1	29.88	1.173595	2728.259	0	2758.139	1.177714	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.34	1	0.751811

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.375905	56.16031	0	0	0	56.16031	0.024849	0	0
0.167	0.751811	170.5108	0.024849	56.16031	0	226.6711	0.100296	0	0
0.25	0.751811	224.6412	0.100296	226.6711	0	451.3123	0.199695	0	0
0.333	0.751811	224.6412	0.199695	451.3123	0	675.9536	0.299094	0	0
0.417	0.751811	227.3477	0.299094	675.9536	0	903.3013	0.399690	0	0
0.5	0.751811	224.6412	0.399690	903.3013	0	1127.942	0.499089	0	0
0.5833	0.751811	225.4532	0.499089	1127.942	0	1353.395	0.598647	0	0
0.6667	0.751811	225.7238	0.598647	1353.395	0	1546.372	0.661288	0	0
0.75	0.751811	225.4532	0.661288	1546.372	0	1680.472	0.680077	0	0
0.833	0.751811	224.6412	0.680077	1680.472	0	1782.123	0.694534	0	0
0.9167	0.751811	226.5355	0.694534	1782.123	0	1873.972	0.707598	0	0
1	0.751811	225.4532	0.707598	1873.972	0	1939.457	0.716908	0	0
1.083	0.375905	168.4609	0.716908	1939.457	0	1938.136	0.716724	0	0
1.166	0.1	71.10031	0.716724	1938.136	0	1839.010	0.702625	0	0
1.249	0.1	29.88	0.702625	1839.010	0	1697.952	0.682563	0	0
1.332	0.1	29.88	0.682563	1697.952	0	1557.606	0.662602	0	0
1.415	0.1	29.88	0.662602	1557.606	0	1417.535	0.627228	0	0
1.498	0.1	29.88	0.627228	1417.535	0	1276.371	0.564766	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	i	SOIL MOIS	Qp
7.11	0.311	0.32	1	0.707587

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.353793	52.85676	0	0	0	52.85676	0.023387	0	0
0.167	0.707587	160.4807	0.023387	52.85676	0	213.3375	0.094397	0	0
0.25	0.707587	211.4270	0.094397	213.3375	0	424.7645	0.187948	0	0
0.333	0.707587	211.4270	0.187948	424.7645	0	636.1916	0.281500	0	0
0.417	0.707587	213.9743	0.281500	636.1916	0	850.1660	0.376179	0	0
0.5	0.707587	211.4270	0.376179	850.1660	0	1061.593	0.469731	0	0
0.5833	0.707587	212.1912	0.469731	1061.593	0	1273.784	0.563621	0	0
0.6667	0.707587	212.4459	0.563621	1273.784	0	1457.172	0.644766	0	0
0.75	0.707587	212.1912	0.644766	1457.172	0	1581.141	0.665949	0	0
0.833	0.707587	211.4270	0.665949	1581.141	0	1676.339	0.679489	0	0
0.9167	0.707587	213.2101	0.679489	1676.339	0	1762.429	0.691738	0	0
1	0.707587	212.1912	0.691738	1762.429	0	1823.923	0.700479	0	0
1.083	0.707587	211.4270	0.700479	1823.923	0	1875.555	0.707823	0	0
1.166	0.707587	211.4270	0.707823	1875.555	0	1926.768	0.715107	0	0
1.249	0.353793	156.5702	0.715107	1926.768	0	1924.459	0.714778	0	0
1.332	0.1	67.79676	0.714778	1924.459	0	1832.041	0.701634	0	0
1.415	0.1	29.88	0.701634	1832.041	0	1701.969	0.683134	0	0
1.498	0.1	29.88	0.683134	1701.969	0	1570.604	0.664487	0	0
1.581	0.1	29.88	0.664487	1570.604	0	1440.373	0.637333	0	0
1.664	0.1	29.88	0.637333	1440.373	0	1310.456	0.577846	0	0
1.747	0.1	29.88	0.577846	1310.456	0	1180.176	0.522202	0	0
1.83	0.1	29.88	0.522202	1180.176	0	1079.162	0.477505	0	0
1.913	0.1	29.88	0.477505	1079.162	0	1036.419	0.458592	0	0
2	0.1	31.32	0.458592	1036.419	0	1024.174	0.453174	0	0
2.083	0.1	29.88	0.453174	1024.174	0	1021.361	[illegible]	[illegible]	[illegible]

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 80 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.29	1	0.641250

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0.419564	0	
0.083	0.320625	47.90144	0	0	0	47.90144	0.419564	0	0
0.167	0.641250	145.4357	0.419564	47.90144	0	193.3371	0.476966	0	0
0.25	0.641250	191.6057	0.476966	193.3371	0	384.9429	0.557226	0	0
0.333	0.641250	191.6057	0.557226	384.9429	0	576.5486	0.635486	0	0
0.417	0.641250	193.5143	0.635486	576.5486	0	770.4629	0.714686	0	0
0.5	0.641250	191.6057	0.714686	770.4629	0	962.0687	0.792946	0	0
0.583	0.641250	192.2958	0.792946	962.0687	0	1154.367	0.871490	0	0
0.6667	0.641250	192.5291	0.871490	1154.367	0	1346.896	0.950127	0	0
0.75	0.641250	192.2988	0.950127	1346.896	0	1539.194	1.009676	0	0
0.833	0.641250	191.6057	1.009676	1539.194	0	1730.800	1.036090	0	0
0.9167	0.641250	193.2217	1.036090	1730.800	0	1924.022	1.062727	0	0
1	0.641250	192.2988	1.062727	1924.022	0	2116.320	1.089236	0	0
1.083	0.641250	191.6057	1.089236	2116.320	0	2307.926	1.115650	0	0
1.166	0.641250	191.6057	1.115650	2307.926	0	2499.531	1.142063	0	0
1.249	0.641250	191.6057	1.142063	2499.531	0	2691.137	1.168477	0	0
1.332	0.641250	191.6057	1.168477	2691.137	0	2882.743	1.194891	0	0
1.415	0.320625	143.7043	1.194891	2882.743	0	3026.447	1.214701	0	0
1.498	0.1	62.84144	1.214701	3026.447	0	3089.289	1.223364	0	0
1.581	0.1	29.86	1.223364	3089.289	0	3119.169	1.227484	0	0
1.664	0.1	29.88	1.227484	3119.169	0	3149.049	1.231603	0	0
1.747	0.1	29.88	1.231603	3149.049	0	3178.929	1.235722	0	0
1.83	0.1	29.88	1.235722	3178.929	0	3208.809	1.239841	0	0
1.913	0.1	29.88	1.239841	3208.809	0	3238.689	1.243960	0	0
2	0.1	31.32	1.243960	3238.689	0	3270.009	1.248278	0	0
2.083	0.1	29.88	1.248278	3270.009	0	3299.889	1.252397	0	0
2.166	0.1	29.88	1.252397	3299.889	0	3329.769	1.256516	0	0
2.249	0.1	29.88	1.256516	3329.769	0	3359.649	1.260635	0	0
2.332	0.1	29.88	1.260635	3359.649	0	3389.529	1.264754	0	0
2.415	0.1	29.88	1.264754	3389.529	0	3419.409	1.268873	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.27	1	0.597026

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0	0	0	0	0	
0.083	0.298513	44.59789	0	0	0	44.59789	0.416215	0	0
0.167	0.597026	135.4656	0.416215	44.59789	0	180.0635	0.473520	0	0
0.25	0.597026	178.3915	0.473520	180.0635	0	358.3951	0.546383	0	0
0.333	0.597026	178.3915	0.546383	358.3951	0	536.7867	0.619245	0	0
0.417	0.597026	180.5408	0.619245	536.7867	0	717.3275	0.692986	0	0
0.5	0.597026	178.3915	0.692986	717.3275	0	895.7191	0.765846	0	0
0.5833	0.597026	179.0363	0.765846	895.7191	0	1074.755	0.838974	0	0
0.6667	0.597026	179.2512	0.838974	1074.755	0	1254.006	0.912187	0	0
0.75	0.597026	179.0363	0.912187	1254.006	0	1433.043	0.985313	0	0
0.833	0.597026	178.3915	0.985313	1433.043	0	1611.434	1.057635	0	0
0.9167	0.597026	179.8960	1.057635	1611.434	0	1791.330	1.044434	0	0
1	0.597026	179.0363	1.044434	1791.330	0	1970.367	1.069115	0	0
1.083	0.597026	178.3915	1.069115	1970.367	0	2148.758	1.093708	0	0
1.166	0.597026	178.3915	1.093708	2148.758	0	2327.150	1.118300	0	0
1.249	0.597026	178.3915	1.118300	2327.150	0	2505.541	1.142892	0	0
1.332	0.597026	178.3915	1.142892	2505.541	0	2683.933	1.167484	0	0
1.415	0.597026	178.3915	1.167484	2683.933	0	2862.325	1.192076	0	0
1.498	0.597026	178.3915	1.192076	2862.325	0	3040.716	1.216668	0	0
1.581	0.298513	133.7936	1.216668	3040.716	0	3174.510	1.235113	0	0
1.664	0.1	59.53789	1.235113	3174.510	0	3234.048	1.243320	0	0
1.747	0.1	29.88	1.243320	3234.048	0	3263.928	1.247439	0	0
1.83	0.1	29.88	1.247439	3263.928	0	3293.808	1.251558	0	0
1.913	0.1	29.88	1.251558	3293.808	0	3323.688	1.255678	0	0
2	0.1	31.32	1.255678	3323.688	0	3355.008	1.259995	0	0
2.083	0.1	29.88	1.259995	3355.008	0	3384.888	1.264114	0	0
2.166	0.1	29.88	1.264114	3384.888	0	3414.768	1.268233	0	0
2.249	0.1	29.88	1.268233	3414.768	0	3444.648	1.272352	0	0
2.332	0.1	29.88	1.272352	3444.648	0	3474.528	1.276472	0	0
2.415	0.1	29.88	1.276472	3474.528	0	3504.408	1.280591	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.21	1	0.464354

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0	0		0	0	
0.083	0.232177	34.68725	0	0	0	34.68725	0.414167	0	0
0.167	0.464354	105.3155	0.414167	34.68725	0	140.0027	0.457182	0	0
0.25	0.464354	138.7490	0.457182	140.0027	0	278.7517	0.518853	0	0
0.333	0.464354	138.7490	0.518853	278.7517	0	417.5007	0.570324	0	0
0.417	0.464354	140.4266	0.570524	417.5007	0	557.9274	0.627615	0	0
0.5	0.464354	138.7490	0.627615	557.9274	0	696.6764	0.685548	0	0
0.5833	0.464354	138.7505	0.685548	696.6764	0	835.4269	0.741424	0	0
0.6667	0.464354	139.4176	0.741424	835.4269	0	974.8386	0.798566	0	0
0.75	0.464354	139.4205	0.798566	974.8386	0	1114.589	0.855744	0	0
0.833	0.464354	138.7490	0.855744	1114.589	0	1253.338	0.911914	0	0
0.9167	0.464354	138.7491	0.911914	1253.338	0	1392.087	0.969066	0	0
1	0.464354	139.2505	0.969066	1392.087	0	1531.337	1.026754	0	0
1.083	0.464354	138.7490	1.026754	1531.337	0	1670.086	1.082662	0	0
1.167	0.464354	138.7490	1.082662	1670.086	0	1808.835	1.140059	0	0
1.249	0.464354	138.7490	1.140059	1808.835	0	1947.584	1.196136	0	0
1.332	0.464354	138.7490	1.196136	1947.584	0	2087.508	1.253265	0	0
1.415	0.464354	138.7490	1.253265	2087.508	0	2226.257	1.309391	0	0
1.498	0.464354	138.7490	1.309391	2226.257	0	2365.007	1.365519	0	0
1.581	0.464354	138.7490	1.365519	2365.007	0	2503.756	1.421645	0	0
1.664	0.464354	138.7490	1.421645	2503.756	0	2642.479	1.476772	0	0
1.747	0.464354	138.7498	1.476772	2642.479	0	2781.246	1.530998	0	0
1.83	0.464354	138.7490	1.530998	2781.246	0	2919.997	1.586027	0	0
1.913	0.464354	138.7490	1.586027	2919.997	0	3058.746	1.641154	0	0
2	0.464354	140.4267	1.641154	3058.746	0	3204.182	1.697283	0	0
2.083	0.232177	104.0617	1.697283	3204.182	0	3308.244	1.753546	0	0
2.166	0.1	47.62725	1.753546	3308.244	0	3357.871	1.780396	0	0
2.249	0.1	29.86	1.780396	3357.871	0	3387.731	1.796569	0	0
2.332	0.1	29.86	1.796569	3387.731	0	3417.631	1.812828	0	0
2.415	0.1	29.88	1.812828	3417.631	0	3447.511	1.829047	0	0

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 2
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.3	0.9	1	0.486

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
0	0	
0.083	0.243	36.3042
0.167	0.486	110.2248
0.25	0.243	106.9128
0.333	0.081	36.4536
0.417	0.1	15.2712
0.5	0.1	29.88
0.5833	0.1	29.988
0.6667	0.1	30.024
0.75	0.1	29.988
0.833	0.1	29.88
0.9167	0.1	30.132
1	0.1	29.916

ORIGINAL CONDITIONS 2 YEAR STORM BASIN 2
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.3	0.76	1	0.4104

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
0	0	
0.083	0.2052	30.65688
0.167	0.4104	93.07872
0.25	0.2052	91.97064
0.333	0.01	32.15068
0.417	0.1	15.282
0.5	0.1	29.88
0.5833	0.1	29.988
0.6667	0.1	30.024
0.75	0.1	29.988
0.833	0.1	29.88
0.9167	0.1	30.132
1	0.1	29.988

ORIGINAL CONDITIONS BASIN 1 10 year storm

MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	1.68	1	3.714832

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.857416	277.4980	0	0	0	277.4980	0.122786	0	0
0.167	3.714832	642.5240	0.122786	277.4980	0	1120.022	0.495584	0	0
0.25	1.857416	832.4940	0.495584	1120.022	0	1823.677	0.700444	0	0
0.333	0.001	277.6474	0.700444	1823.677	0	1710.158	0.664298	0	0
0.417	0.1	16.2712	0.664298	1710.158	0	1338.909	0.592437	0	0
0.5	0.1	29.88	0.592437	1338.909	0	1289.951	0.548650	0	0
0.5833	0.1	29.988	0.548650	1289.951	0	1269.939	0.561919	0	0
0.6667	0.1	30.024	0.561919	1269.939	0	1299.963	0.575204	0	0
0.75	0.1	29.988	0.575204	1299.963	0	1329.951	0.588473	0	0
0.833	0.1	29.88	0.588473	1329.951	0	1359.831	0.601695	0	0
0.9167	0.1	30.132	0.601695	1359.831	0	1389.963	0.615027	0	0
1	0.1	29.988	0.615027	1389.963	0	1419.951	0.628296	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	1.44	1	3.184142

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.592071	237.8554	0	0	0	237.8554	0.105245	0	0
0.167	3.184142	722.1634	0.105245	237.8554	0	847.6983	0.375887	0	0
0.25	1.592071	713.5663	0.375887	847.6983	0	1220.242	0.539936	0	0
0.333	0.01	239.3494	0.539936	1220.242	0	1122.630	0.496739	0	0
0.417	0.1	16.632	0.496739	1122.630	0	1026.941	0.454399	0	0
0.5	0.1	29.88	0.454399	1026.941	0	1056.821	0.467620	0	0
0.5833	0.1	29.988	0.467620	1056.821	0	1086.809	0.480889	0	0
0.6667	0.1	30.024	0.480889	1086.809	0	1116.833	0.494174	0	0
0.75	0.1	29.988	0.494174	1116.833	0	1146.821	0.507443	0	0
0.833	0.1	29.88	0.507443	1146.821	0	1176.701	0.520664	0	0
0.9167	0.1	30.132	0.520664	1176.701	0	1206.833	0.533997	0	0
1	0.1	29.988	0.533997	1206.833	0	1169.373	0.517422	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
7.11	0.311	1.25	1	2.764012

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.382006	206.4717	0	0	0	110.6688	0.048966	0	0
0.167	2.764012	626.8780	0.048966	110.6688	0	446.6754	0.197644	0	0
0.25	2.764012	625.8869	0.197644	446.6754	0	889.3508	0.393518	0	0
0.333	2.764012	625.8869	0.393518	889.3508	0	1332.026	0.589392	0	0
0.417	1.382006	626.8780	0.589392	1332.026	0	1666.032	0.678607	0	0
0.5	0.1	221.4117	0.678607	1666.032	0	1793.641	0.696172	0	0
0.5833	0.1	27.986	0.696172	1793.641	0	1823.629	0.700438	0	0
0.6667	0.1	30.024	0.700438	1823.629	0	1853.653	0.704708	0	0
0.75	0.1	29.988	0.704708	1853.653	0	1883.641	0.708973	0	0
0.833	0.1	29.98	0.708973	1883.641	0	1853.275	0.704654	0	0
0.9167	0.1	30.132	0.704654	1853.275	0	1700.498	0.682924	0	0
1	0.1	29.986	0.682924	1700.498	0	1489.492	0.652914	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 39 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	1	1	2.21121

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.105605	165.1773	0	0	0	165.1773	0.467465	0	0
0.167	2.21121	501.5924	0.467465	165.1773	0	666.6798	0.672299	0	0
0.25	2.21121	660.7095	0.672299	666.6798	0	1327.389	0.942160	0	0
0.333	2.21121	660.7095	0.942160	1327.389	0	1988.098	1.071560	0	0
0.417	2.21121	668.6699	1.071560	1988.098	0	2656.768	1.163739	0	0
0.5	2.21121	660.7095	1.163739	2656.768	0	3317.478	1.254621	0	0
0.5833	1.105605	497.3232	1.254621	3317.478	0	3814.801	1.323360	0	0
0.6667	0.1	180.9854	1.323360	3814.801	0	3995.787	1.348330	0	0
0.75	0.1	29.988	1.348330	3995.787	0	4025.775	1.352464	0	0
0.833	0.1	29.88	1.352464	4025.775	0	4055.655	1.356583	0	0
0.9167	0.1	30.132	1.356583	4055.655	0	4085.787	1.360737	0	0
1	0.1	29.988	1.360737	4085.787	0	4115.775	1.364871	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.82	1	1.813192

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.906596	135.4454	0	0	0	135.4454	0.455321	0	0
0.167	1.813192	411.2319	0.455321	135.4454	0	546.6774	0.623285	0	0
0.25	1.813192	541.7818	0.623285	546.6774	0	1088.459	0.844571	0	0
0.333	1.813192	541.7818	0.844571	1088.459	0	1630.241	1.022227	0	0
0.417	1.813192	548.3093	1.022227	1630.241	0	2178.550	1.097815	0	0
0.5	1.813192	541.7818	1.097815	2178.550	0	2720.332	1.172502	0	0
0.5833	1.813192	543.7400	1.172502	2720.332	0	3264.072	1.247459	0	0
0.6667	1.813192	544.3928	1.247459	3264.072	0	3808.465	1.322506	0	0
0.75	0.906596	407.8050	1.322506	3808.465	0	4216.270	1.376724	0	0
0.833	0.1	150.3854	1.376724	4216.270	0	4366.655	1.399456	0	0
0.9167	0.1	30.132	1.399456	4366.655	0	4396.787	1.403610	0	0
1	0.1	29.988	1.403610	4396.787	0	4426.775	1.407744	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.73	1	1.614183

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.807091	120.5794	0	0	0	120.5794	0.449249	0	0
0.167	1.614183	366.0967	0.449249	120.5794	0	486.6762	0.598778	0	0
0.25	1.614183	482.3179	0.598778	486.6762	0	968.9942	0.795777	0	0
0.333	1.614183	482.3179	0.795777	968.9942	0	1451.312	0.992775	0	0
0.417	1.614183	488.1290	0.992775	1451.312	0	1939.441	1.064852	0	0
0.5	1.614183	482.3179	1.064852	1939.441	0	2421.759	1.131342	0	0
0.5833	1.614183	484.0612	1.131342	2421.759	0	2905.820	1.198072	0	0
0.6667	1.614183	484.6423	1.198072	2905.820	0	3390.462	1.264883	0	0
0.75	1.614183	484.0612	1.264883	3390.462	0	3874.524	1.331613	0	0
0.833	1.614183	482.3179	1.331613	3874.524	0	4356.842	1.396103	0	0
0.9167	0.807091	364.7892	1.396103	4356.842	0	4721.631	1.448391	0	0
1	0.1	136.0093	1.448391	4721.631	0	4857.640	1.467140	0	0
1.083	0.1	29.88	1.467140	4857.640	0	4887.520	1.471260	0	0
1.166	0.1	29.86	1.471260	4887.520	0	4917.400	1.475379	0	0
1.249	0.1	29.88	1.475379	4917.400	0	4947.280	1.479498	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.63	1	1.393062

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.696531	104.0617	0	0	0	104.0617	0.442503	0	0
0.167	1.393062	315.9465	0.442503	104.0617	0	420.0082	0.571518	0	0
0.25	1.393062	416.2470	0.571546	420.0082	0	836.2552	0.741561	0	0
0.333	1.393062	416.2470	0.741561	836.2552	0	1252.502	0.911573	0	0
0.417	1.393062	421.2620	0.911573	1252.502	0	1673.764	1.028227	0	0
0.5	1.393062	416.2470	1.028227	1673.764	0	2090.011	1.085609	0	0
0.5833	1.393062	417.7515	1.085609	2090.011	0	2507.762	1.143198	0	0
0.6667	1.393062	418.2530	1.143198	2507.762	0	2926.015	1.200856	0	0
0.75	1.393062	417.7515	1.200856	2926.015	0	3343.767	1.258446	0	0
0.833	1.393062	416.2470	1.258446	3343.767	0	3760.014	1.315927	0	0
0.9167	1.393062	419.7575	1.315627	3760.014	0	4179.771	1.373693	0	0
1	1.393062	417.7515	1.373693	4179.771	0	4597.523	1.431282	0	0
1.083	0.696531	312.1652	1.431282	4597.523	0	4909.708	1.474318	0	0
1.166	0.1	119.0017	1.474318	4909.708	0	5028.710	1.490723	0	0
1.249	0.1	29.88	1.490723	5028.710	0	5058.590	1.494842	0	0
1.332	0.1	29.88	1.494842	5058.590	0	5088.470	1.498962	0	0
1.415	0.1	29.88	1.498962	5088.470	0	5118.350	1.503081	0	0
1.498	0.1	29.88	1.503081	5118.350	0	5148.230	1.507200	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	i	SOIL MOIS	Qp
7.11	0.311	0.59	1	1.304613

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.652306	97.45465	0	0	0	97.45465	0.439804	0	0
0.167	1.304613	295.8664	0.439804	97.45465	0	393.3211	0.560656	0	0
0.25	1.304613	389.8186	0.560656	393.3211	0	783.1397	0.719874	0	0
0.333	1.304613	389.8186	0.719874	783.1397	0	1172.958	0.879092	0	0
0.417	1.304613	394.5152	0.879092	1172.958	0	1567.473	1.018577	0	0
0.5	1.304613	389.8186	1.018577	1567.473	0	1957.292	1.067316	0	0
0.5833	1.304613	391.2276	1.067316	1957.292	0	2348.519	1.121245	0	0
0.6667	1.304613	391.6972	1.121248	2348.519	0	2740.217	1.175246	0	0
0.75	1.304613	391.2276	1.175246	2740.217	0	3131.444	1.229179	0	0
0.833	1.304613	389.8186	1.229179	3131.444	0	3521.263	1.282917	0	0
0.9167	1.304613	393.1067	1.282917	3521.263	0	3914.369	1.337109	0	0
1	1.304613	391.2276	1.337109	3914.369	0	4305.617	1.391041	0	0
1.083	1.304613	389.8186	1.391041	4305.617	0	4622.653	1.434746	0	0
1.166	1.304613	389.8186	1.434746	4622.653	0	4791.493	1.456022	0	0
1.249	1.304613	389.8186	1.456022	4791.493	0	4890.181	1.471626	0	0
1.332	1.304613	389.8186	1.471626	4890.181	0	4988.869	1.485231	0	0
1.415	1.304613	389.8186	1.485231	4988.869	0	5084.050	1.498352	0	0
1.498	0.652306	292.3639	1.498352	5084.050	0	5085.264	1.498522	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.48	1	1.061380

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	0.530690	79.28514	0	0	0	79.28514	0.432363	0	0
0.167	1.061380	240.7211	0.432383	79.28514	0	320.0063	0.530703	0	0
0.25	1.061380	317.1405	0.530703	320.0063	0	637.1468	0.660236	0	0
0.333	1.061380	317.1405	0.660236	637.1468	0	954.2874	0.789770	0	0
0.417	1.061380	320.9615	0.789770	954.2874	0	1275.249	0.920864	0	0
0.5	1.061380	317.1405	0.920864	1275.249	0	1592.389	1.017009	0	0
0.5833	1.061380	318.2868	1.017009	1592.389	0	1910.676	1.060887	0	0
0.6667	1.061380	318.6689	1.060887	1910.676	0	2229.345	1.104817	0	0
0.75	1.061380	318.2868	1.104817	2229.345	0	2547.632	1.148694	0	0
0.833	1.061380	317.1405	1.148694	2547.632	0	2864.772	1.192414	0	0
0.9167	1.061380	317.8152	1.192414	2864.772	0	3184.588	1.236502	0	0
1	1.061380	318.2868	1.236502	3184.588	0	3502.875	1.280379	0	0
1.083	1.061380	317.1405	1.280379	3502.875	0	3820.015	1.324099	0	0
1.166	1.061380	317.1405	1.324099	3820.015	0	4137.156	1.367818	0	0
1.249	1.061380	317.1405	1.367818	4137.156	0	4454.296	1.411538	0	0
1.332	1.061380	317.1405	1.411538	4454.296	0	4771.437	1.455257	0	0
1.415	1.061380	317.1405	1.455257	4771.437	0	5088.577	1.498976	0	0
1.498	1.061380	317.1405	1.498976	5088.577	0	5405.718	1.542696	0	0
1.581	0.530690	237.8554	1.542696	5405.718	0	5643.573	1.575485	0	0
1.664	0.1	94.22514	1.575485	5643.573	0	5737.799	1.588475	0	0
1.747	0.1	29.88	1.588475	5737.799	0	5767.679	1.592594	0	0
1.83	0.1	29.88	1.592594	5767.679	0	5797.559	1.596713	0	0
1.913	0.1	29.88	1.596713	5797.559	0	5827.439	1.600832	0	0
2	0.1	31.32	1.600832	5827.439	0	5858.759	1.605150	0	0
2.083	0.1	29.88	1.605150	5858.759	0	5888.639	1.609269	0	0
2.166	0.1	29.88	1.609269	5888.639	0	5918.802	1.613151	0	0
2.249	0.1	29.88	1.613151	5918.802	0	5938.009	1.616075	0	0
2.332	0.1	29.88	1.616075	5938.009	0	5947.613	1.617399	0	0
2.415	0.1	29.89	1.617399	5947.613	0	5944.360	1.616950	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.311	0.36	1	0.796035

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.398017	59.46385	0	0	0	59.46385	0.424287	0	0
0.167	0.796035	180.5408	0.424287	59.46385	0	240.0047	0.498027	0	0
0.25	0.796035	237.8554	0.498027	240.0047	0	477.8601	0.595177	0	0
0.333	0.796035	237.8554	0.595177	477.8601	0	715.7156	0.692327	0	0
0.417	0.796035	240.7211	0.692327	715.7156	0	956.4367	0.790648	0	0
0.5	0.796035	237.8554	0.790648	956.4367	0	1194.292	0.887798	0	0
0.5833	0.796035	238.7151	0.887798	1194.292	0	1433.007	0.985299	0	0
0.6667	0.796035	239.0017	0.985299	1433.007	0	1672.009	1.027985	0	0
0.75	0.796035	238.7151	1.027985	1672.009	0	1910.724	1.060893	0	0
0.833	0.796035	237.8554	1.060893	1910.724	0	2148.579	1.093683	0	0
0.9167	0.796035	239.8614	1.093683	2148.579	0	2388.441	1.126749	0	0
1	0.796035	238.7151	1.126749	2388.441	0	2627.156	1.159657	0	0
1.083	0.796035	237.8554	1.159657	2627.156	0	2865.011	1.192447	0	0
1.166	0.796035	237.8554	1.192447	2865.011	0	3102.867	1.225236	0	0
1.249	0.796035	237.8554	1.225236	3102.867	0	3340.722	1.258026	0	0
1.332	0.796035	237.8554	1.258026	3340.722	0	3578.578	1.290815	0	0
1.415	0.796035	237.8554	1.290815	3578.578	0	3816.433	1.323605	0	0
1.498	0.796035	237.8554	1.323605	3816.433	0	4054.288	1.356394	0	0
1.581	0.796035	237.8554	1.356394	4054.288	0	4292.144	1.389184	0	0
1.664	0.796035	237.8554	1.389184	4292.144	0	4529.999	1.421974	0	0
1.747	0.796035	237.8554	1.421974	4529.999	0	4767.855	1.454763	0	0
1.83	0.796035	237.8554	1.454763	4767.855	0	5005.710	1.487553	0	0
1.913	0.796035	237.8554	1.487553	5005.710	0	5243.566	1.520342	0	0
2	0.796035	249.3183	1.520342	5243.566	0	5492.884	1.554712	0	0
2.083	0.398017	178.3915	1.554712	5492.884	0	5671.276	1.579304	0	0
2.166	0.1	74.40385	1.579304	5671.276	0	5744.392	1.589384	0	0
2.249	0.1	29.88	1.589384	5744.392	0	5767.767	1.592606	0	0
2.332	0.1	29.88	1.592606	5767.767	0	5782.440	1.594629	0	0
2.415	0.1	29.88	1.594629	5782.440	0	5787.470	1.595322	0	0

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 2
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.3	1.68	1	0.9072

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
0	0	
0.083	0.4536	67.76784
0.167	0.9072	205.7529
0.25	0.4536	205.3535
0.333	0.001	67.91724
0.417	0.1	15.2712
0.5	0.1	29.88
0.5833	0.1	29.988
0.6667	0.1	30.024
0.75	0.1	29.988
0.833	0.1	29.88
0.9167	0.1	30.132
1	0.1	29.988

ORIGINAL CONDITIONS 10 YEAR STORM BASIN 2
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.3	1.44	1	0.7776

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)
0	0	
0.083	0.3888	58.08672
0.167	0.7776	176.3596
0.25	0.3888	174.2601
0.333	0.01	59.58072
0.417	0.1	16.692
0.5	0.1	29.88
0.5833	0.1	29.988
0.6667	0.1	30.024
0.75	0.1	29.988
0.833	0.1	29.88
0.9167	0.1	30.132
1	0.1	29.988

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	3.6	1	12.05571

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	6.027858	900.5619	0	0	0	900.5619	0.398478	0	0
0.167	12.05571	2734.236	0.398478	900.5619	0	3011.734	0.869416	0	0
0.25	6.027858	2701.665	0.869416	3011.734	0	3821.706	0.984619	0	0
0.333	0.001	900.7113	0.984619	3821.706	0	2855.227	0.846674	0	0
0.417	0.1	15.2712	0.846674	2855.227	0	2116.596	0.742105	0	0
0.5	0.1	29.88	0.742105	2116.596	0	1755.304	0.690720	0	0
0.5833	0.1	29.988	0.690720	1755.304	0	1378.777	0.616928	0	0
0.6667	0.1	30.024	0.616928	1378.777	0	1299.965	0.575204	0	0
0.75	0.1	29.988	0.575204	1299.965	0	1329.951	0.588473	0	0
0.833	0.1	29.86	0.588473	1329.951	0	1359.801	0.601695	0	0
0.9167	0.1	30.132	0.601695	1359.801	0	1389.965	0.615027	0	0
1	0.1	29.988	0.615027	1389.965	0	1417.951	0.628276	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	3.04	1	10.18038

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	5.090191	760.4745	0	0	0	237.8554	0.105245	0	0
0.167	10.18038	2308.910	0.105245	237.8554	0	960.0189	0.424787	0	0
0.25	5.090191	2281.423	0.424787	960.0189	0	1673.585	0.679097	0	0
0.333	0.01	761.9665	0.679097	1673.585	0	1800.614	0.697164	0	0
0.417	0.1	16.632	0.697164	1800.614	0	1476.224	0.651027	0	0
0.5	0.1	29.86	0.651027	1476.224	0	1169.142	0.517319	0	0
0.5833	0.1	29.988	0.517319	1169.142	0	1066.809	0.480889	0	0
0.6667	0.1	30.024	0.480889	1066.809	0	1116.833	0.494174	0	0
0.75	0.1	29.988	0.494174	1116.833	0	1146.821	0.507443	0	0
0.833	0.1	29.88	0.507443	1146.821	0	1176.701	0.520664	0	0
0.9167	0.1	30.132	0.520664	1176.701	0	1206.833	0.533997	0	0
1	0.1	29.988	0.533997	1206.833	0	1236.821	0.547266	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	2.68	1	8.974810

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	4.487405	670.4183	0	0	0	670.4183	0.673826	0	0
0.167	8.974810	2035.487	0.673826	670.4183	0	2793.905	1.170513	0	0
0.25	8.974810	2681.673	1.170513	2705.905	0	5387.578	1.540195	0	0
0.333	8.974810	2681.673	1.540195	5387.576	0	8069.252	1.909677	0	0
0.417	4.487405	2035.487	1.909677	8069.252	0	10104.73	2.062846	0	0
0.5	0.1	665.3583	2.062846	10104.73	0	10790.09	2.094018	0	0
0.5833	0.1	29.988	2.094018	10790.09	0	10820.08	2.095382	0	0
0.6667	0.1	30.024	2.095382	10820.08	0	10850.10	2.096748	0	0
0.75	0.1	29.988	2.096748	10850.10	0	10880.09	2.098112	0	0
0.833	0.1	29.88	2.098112	10880.09	0	10909.97	2.099471	0	0
0.9167	0.1	30.132	2.099471	10909.97	0	10940.10	2.100841	0	0
1	0.1	29.988	2.100841	10940.10	0	10970.09	2.102205	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 30 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	2.12	1	7.099477

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.549738	530.3309	0	0	0	530.3309	0.616608	0	0
0.167	7.099477	1610.161	0.616608	530.3307	0	2140.492	1.092568	0	0
0.25	7.099477	2121.323	1.092568	2140.492	0	4261.816	1.365003	0	0
0.333	7.099477	2121.323	1.365003	4261.816	0	6383.139	1.677438	0	0
0.417	7.099477	2146.881	1.677438	6383.139	0	8530.021	1.973897	0	0
0.5	7.099477	2121.323	1.973897	8530.021	0	10651.34	2.087707	0	0
0.5833	3.549738	1596.743	2.087707	10651.34	0	12248.08	2.160353	0	0
0.6667	0.1	547.8987	2.160353	12248.08	0	12795.98	2.185253	0	0
0.75	0.1	29.986	2.185253	12795.98	0	12825.97	2.186617	0	0
0.833	0.1	29.88	2.186617	12825.97	0	12855.85	2.187976	0	0
0.9167	0.1	30.132	2.187976	12855.85	0	12885.98	2.189347	0	0
1	0.1	29.988	2.189347	12885.98	0	12915.97	2.190711	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATTIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	1.83	1	6.128322

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.064161	457.7856	0	0	0	457.7856	0.586978	0	0
0.167	6.128322	1389.903	0.586978	457.7856	0	1847.689	1.052204	0	0
0.25	6.128322	1831.142	1.052204	1847.689	0	3678.831	1.304636	0	0
0.333	6.128322	1831.142	1.304636	3678.831	0	5509.974	1.557068	0	0
0.417	6.128322	1853.204	1.557068	5509.974	0	7363.179	1.812541	0	0
0.5	6.128322	1831.142	1.812541	7363.179	0	9194.321	2.021437	0	0
0.5833	6.128322	1837.761	2.021437	9194.321	0	11032.08	2.105025	0	0
0.6667	6.128322	1839.967	2.105025	11032.08	0	12872.05	2.188713	0	0
0.75	3.064161	1378.320	2.188713	12872.05	0	14250.37	2.251404	0	0
0.833	0.1	472.7256	2.251404	14250.37	0	14723.09	2.272905	0	0
0.9167	0.1	30.132	2.272905	14723.09	0	14753.22	2.274275	0	0
1	0.1	29.988	2.274275	14753.22	0	14783.21	2.275639	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATTIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	1.57	1	5.257631

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.628815	392.7450	0	0	0	392.7450	0.560413	0	0
0.167	5.257631	1192.430	0.560413	392.7450	0	1585.175	1.016015	0	0
0.25	5.257631	1570.980	1.016015	1585.175	0	3156.156	1.232582	0	0
0.333	5.257631	1570.980	1.232582	3156.156	0	4727.136	1.449150	0	0
0.417	5.257631	1589.907	1.449150	4727.136	0	6317.044	1.668327	0	0
0.5	5.257631	1570.980	1.668327	6317.044	0	7888.024	1.884894	0	0
0.5833	5.257631	1576.658	1.884894	7888.024	0	9464.683	2.033734	0	0
0.6667	5.257631	1578.551	2.033734	9464.683	0	11043.23	2.105532	0	0
0.75	5.257631	1576.658	2.105532	11043.23	0	12619.89	2.177244	0	0
0.833	5.257631	1570.980	2.177244	12619.89	0	14190.87	2.246697	0	0
0.9167	2.628815	1166.172	2.246697	14190.87	0	15379.04	2.302740	0	0
1	0.1	409.1586	2.302740	15379.04	0	15788.20	2.321350	0	0
1.083	0.1	29.88	2.321350	15788.20	0	15818.08	2.322709	0	0
1.166	0.1	29.88	2.322709	15818.08	0	15847.96	2.324068	0	0
1.249	0.1	29.88	2.324068	15847.96	0	15877.84	2.325427	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
7.11	0.471	1.34	1	4.467405

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	2.243702	335.2091	0	0	0	335.2091	0.536913	0	0
0.167	4.467405	1017.743	0.536913	335.2091	0	1352.952	0.952601	0	0
0.25	4.467405	1340.836	0.952601	1352.952	0	2693.789	1.166843	0	0
0.333	4.467405	1340.836	1.166843	2693.789	0	4034.626	1.352684	0	0
0.417	4.467405	1356.991	1.352684	4034.626	0	5391.617	1.540752	0	0
0.5	4.467405	1340.836	1.540752	5391.617	0	6732.454	1.725593	0	0
0.5833	4.467405	1345.683	1.725593	6732.454	0	8078.137	1.911102	0	0
0.6667	4.467405	1347.298	1.911102	8078.137	0	9425.436	2.097749	0	0
0.75	4.467405	1345.683	2.097749	9425.436	0	10771.11	2.098155	0	0
0.833	4.467405	1340.836	2.098155	10771.11	0	12111.95	2.194141	0	0
0.9167	4.467405	1352.144	2.194141	12111.95	0	13464.10	2.215641	0	0
1	4.467405	1345.683	2.215641	13464.10	0	14809.78	2.276846	0	0
1.083	2.243702	1005.627	2.276846	14809.78	0	15815.41	2.322587	0	0
1.166	0.1	350.1491	2.322587	15815.41	0	16165.56	2.338513	0	0
1.249	0.1	29.88	2.338513	16165.56	0	16195.44	2.339872	0	0
1.332	0.1	29.88	2.339872	16195.44	0	16225.32	2.341231	0	0
1.415	0.1	29.88	2.341231	16225.32	0	16255.20	2.342590	0	0
1.498	0.1	29.88	2.342590	16255.20	0	16285.08	2.343949	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	I	SOIL MOIS	Qp
7.11	0.471	1.2	1	4.018572

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	2.009286	300.1873	0	0	0	300.1873	0.522608	0	0
0.167	4.018572	911.4121	0.522608	300.1873	0	1211.599	0.894867	0	0
0.25	4.018572	1200.749	0.894867	1211.599	0	2412.348	1.130045	0	0
0.333	4.018572	1200.749	1.130045	2412.348	0	3613.098	1.295574	0	0
0.417	4.018572	1215.216	1.295574	3613.098	0	4828.314	1.463098	0	0
0.5	4.018572	1200.749	1.463098	4828.314	0	6029.063	1.628627	0	0
0.5833	4.018572	1205.089	1.628627	6029.063	0	7234.152	1.794755	0	0
0.6667	4.018572	1206.536	1.794755	7234.152	0	8440.689	1.961082	0	0
0.75	4.018572	1205.089	1.961082	8440.689	0	9645.778	2.041971	0	0
0.833	4.018572	1200.749	2.041971	9645.778	0	10846.52	2.096585	0	0
0.9167	4.018572	1210.876	2.096585	10846.52	0	12057.40	2.151660	0	0
1	4.018572	1205.089	2.151660	12057.40	0	13262.49	2.206471	0	0
1.083	4.018572	1200.749	2.206471	13262.49	0	14463.24	2.261086	0	0
1.166	4.018572	1200.749	2.261086	14463.24	0	15663.99	2.315700	0	0
1.249	4.018572	1200.749	2.315700	15663.99	0	16864.74	2.370314	0	0
1.332	4.018572	1200.749	2.370314	16864.74	0	18065.49	2.424929	0	0
1.415	4.018572	1200.749	2.424929	18065.49	0	19266.23	2.479543	0	0
1.498	2.009286	900.5619	2.479543	19266.23	0	20166.80	2.520604	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	1.07	1	3.583226

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.791613	267.6670	0	0	0	267.6670	0.509326	0	0
0.167	3.583226	812.6758	0.509326	267.6670	0	1080.342	0.841256	0	0
0.25	3.583226	1070.668	0.841256	1080.342	0	2151.010	1.094018	0	0
0.333	3.583226	1070.668	1.094018	2151.010	0	3221.679	1.241615	0	0
0.417	3.583226	1089.567	1.241615	3221.679	0	4305.246	1.390990	0	0
0.5	3.583226	1070.668	1.390990	4305.246	0	5375.915	1.538587	0	0
0.5833	3.583226	1074.538	1.538587	5375.915	0	6450.453	1.686718	0	0
0.6667	3.583226	1075.827	1.686718	6450.453	0	7526.281	1.835026	0	0
0.75	3.583226	1074.538	1.835026	7526.281	0	8600.819	1.983156	0	0
0.833	3.583226	1070.668	1.983156	8600.819	0	9671.487	2.043140	0	0
0.9167	3.583226	1079.697	2.043140	9671.487	0	10751.18	2.092248	0	0
1	3.583226	1074.538	2.092248	10751.18	0	11825.72	2.141122	0	0
1.083	3.583226	1070.668	2.141122	11825.72	0	12896.39	2.189820	0	0
1.166	3.583226	1070.668	2.189820	12896.39	0	13967.06	2.238518	0	0
1.249	3.583226	1070.668	2.238518	13967.05	0	15037.72	2.287215	0	0
1.332	3.583226	1070.668	2.287215	15037.72	0	16108.39	2.335913	0	0
1.415	1.791613	803.0311	2.335913	16108.39	0	16911.39	2.372436	0	0
1.498	0.1	282.6070	2.372436	16911.39	0	17194.00	2.385290	0	0
1.581	0.1	29.88	2.385290	17194.00	0	17223.88	2.386649	0	0
1.664	0.1	29.86	2.386649	17223.88	0	17253.76	2.388008	0	0
1.747	0.1	29.88	2.388008	17253.76	0	17283.64	2.389367	0	0
1.83	0.1	29.89	2.389367	17283.64	0	17313.52	2.390726	0	0
1.913	0.1	29.86	2.390726	17313.52	0	17343.40	2.392086	0	0
2	0.1	31.52	2.392086	17343.40	0	17374.72	2.393510	0	0
2.083	0.1	29.89	2.393510	17374.72	0	17404.60	2.394869	0	0
2.166	0.1	27.68	2.394869	17404.60	0	17434.48	2.396228	0	0
2.249	0.1	29.88	2.396228	17434.48	0	17464.36	2.397587	0	0
2.332	0.1	29.88	2.397587	17464.36	0	17494.24	2.398946	0	0
2.415	0.1	29.88	2.398946	17494.24	0	17524.12	2.400305	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
7.11	0.471	0.95	1	3.161369

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.590684	237.6483	0	0	0	237.6483	0.497065	0	0
0.167	3.181369	721.5346	0.497065	237.6483	0	959.1829	0.791769	0	0
0.25	3.181369	950.5932	0.791769	959.1829	0	1909.776	1.060763	0	0
0.333	3.181369	950.5932	1.060763	1909.776	0	2860.369	1.191807	0	0
0.417	3.181369	962.0461	1.191807	2860.369	0	3822.415	1.324439	0	0
0.5	3.181369	950.5932	1.324439	3822.415	0	4773.008	1.455474	0	0
0.5833	3.181369	954.0290	1.455474	4773.008	0	5727.037	1.586991	0	0
0.6667	3.181369	955.1743	1.586991	5727.037	0	6682.212	1.716667	0	0
0.75	3.181369	954.0290	1.716667	6682.212	0	7636.241	1.850184	0	0
0.835	3.181369	950.5932	1.850184	7636.241	0	8586.834	1.981226	0	0
0.9167	3.181369	956.6102	1.981226	8586.834	0	9545.444	2.037407	0	0
1	3.181369	954.0290	2.037407	9545.444	0	10499.47	2.080600	0	0
1.083	3.181369	950.5932	2.080600	10499.47	0	11450.06	2.124036	0	0
1.166	3.181369	950.5932	2.124036	11450.06	0	12400.66	2.167272	0	0
1.249	3.181369	950.5932	2.167272	12400.66	0	13351.25	2.210509	0	0
1.332	3.181369	950.5932	2.210509	13351.25	0	14301.84	2.253745	0	0
1.415	3.181369	950.5932	2.253745	14301.84	0	15252.43	2.296981	0	0
1.498	3.181369	950.5932	2.296981	15252.43	0	16203.03	2.340218	0	0
1.581	1.590664	712.9449	2.340218	16203.03	0	16915.97	2.372645	0	0
1.664	0.1	252.5883	2.372645	16915.97	0	17168.56	2.384133	0	0
1.747	0.1	29.88	2.384133	17168.56	0	17198.44	2.385492	0	0
1.83	0.1	29.88	2.385492	17196.44	0	17228.32	2.386851	0	0
1.913	0.1	29.88	2.386851	17228.32	0	17258.20	2.388210	0	0
2	0.1	31.32	2.388210	17258.20	0	17289.52	2.389635	0	0
2.083	0.1	29.88	2.389635	17289.52	0	17319.40	2.390994	0	0
2.166	0.1	29.88	2.390994	17319.40	0	17549.28	2.392353	0	0
2.249	0.1	29.88	2.392353	17549.28	0	17379.16	2.393712	0	0
2.332	0.1	29.88	2.393712	17379.16	0	17409.04	2.395071	0	0
2.415	0.1	29.88	2.395071	17409.04	0	17436.92	2.396430	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 1
MODIFIED RATTIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR		Qp
7.11	0.471	0.7		1	2.344167

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0		0	
0.083	1.172083	175.1092	0	0	0	175.1092	0.471521	0	0
0.167	2.344167	531.6570	0.471521	175.1092	0	706.7663	0.688672	0	0
0.25	2.344167	700.4370	0.688672	706.7663	0	1407.203	0.974759	0	0
0.333	2.344167	700.4370	0.974759	1407.203	0	2107.640	1.086039	0	0
0.417	2.344167	708.8761	1.086039	2107.640	0	2816.516	1.185761	0	0
0.5	2.344167	700.4370	1.185761	2816.516	0	3516.953	1.282320	0	0
0.5833	2.344167	702.9687	1.282320	3516.953	0	4219.922	1.379228	0	0
0.6667	2.344167	703.8127	1.379228	4219.922	0	4923.735	1.476252	0	0
0.75	2.344167	702.9687	1.476252	4923.735	0	5626.704	1.573160	0	0
0.833	2.344167	700.4370	1.573160	5626.704	0	6327.141	1.669718	0	0
0.9167	2.344167	706.3444	1.669718	6327.141	0	7033.485	1.767092	0	0
1	2.344167	702.9687	1.767092	7033.485	0	7736.454	1.863999	0	0
1.083	2.344167	700.4370	1.863999	7736.454	0	8436.891	1.960558	0	0
1.166	2.344167	700.4370	1.960558	8436.891	0	9137.328	2.018645	0	0
1.249	2.344167	700.4370	2.018645	9137.328	0	9837.765	2.050703	0	0
1.332	2.344167	700.4370	2.050703	9837.765	0	10538.20	2.082561	0	0
1.415	2.344167	700.4370	2.082561	10538.20	0	11238.63	2.114420	0	0
1.498	2.344167	700.4370	2.114420	11238.63	0	11939.07	2.146278	0	0
1.581	2.344167	700.4370	2.146278	11939.07	0	12639.51	2.178136	0	0
1.664	2.344167	700.4370	2.178136	12639.51	0	13339.95	2.209995	0	0
1.747	2.344167	700.4370	2.209995	13339.95	0	14040.38	2.241853	0	0
1.83	2.344167	700.4370	2.241853	14040.38	0	14740.82	2.273711	0	0
1.913	2.344167	700.4370	2.273711	14740.82	0	15441.26	2.305570	0	0
2	2.344167	734.1931	2.305570	15441.26	0	16175.45	2.338963	0	0
2.083	1.172083	525.3278	2.338963	16175.45	0	16700.78	2.362857	0	0
2.166	0.1	190.0472	2.362857	16700.78	0	16890.83	2.371501	0	0
2.249	0.1	29.88	2.371501	16890.83	0	16920.71	2.372860	0	0
2.332	0.1	29.88	2.372860	16920.71	0	16950.59	2.374219	0	0
2.415	0.1	29.88	2.374219	16950.59	0	16980.47	2.375578	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 2
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.45	3.6	1	2.916

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.458	217.8252	0	0	0	217.8252	0.076382	0	0
0.167	2.916	661.3486	0.096382	217.8252	0	879.174	0.389015	0	0
0.25	1.458	658.4756	0.389015	879.174	0	1532.649	0.654852	0	0
0.333	0.001	217.9748	0.654852	1532.649	0	1750.624	0.740059	0	0
0.417	0.1	15.2712	0.740059	1750.624	0	1765.895	0.672228	0	0
0.5	0.1	29.88	0.672228	1765.895	0	1795.775	0.684476	0	0
0.5833	0.1	29.988	0.684476	1795.775	0	1825.763	0.700741	0	0
0.6667	0.1	30.024	0.700741	1825.763	0	1855.787	0.705011	0	0
0.75	0.1	29.988	0.705011	1855.787	0	1885.775	0.709276	0	0
0.833	0.1	29.88	0.709276	1885.775	0	1915.655	0.718536	0	0
0.9167	0.1	30.132	0.718536	1915.655	0	1945.787	0.717612	0	0
1	0.1	29.988	0.717612	1945.787	0	1975.775	0.722077	0	0

ORIGINAL CONDITIONS 100 YEAR STORM BASIN 2
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
1.8	0.45	3.04	1	2.4624

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	1.2312	183.9412	0	0	0	183.9412	0.081389	0	0
0.167	2.4624	558.4723	0.081389	183.9412	0	742.4136	0.328501	0	0
0.25	1.2312	551.8236	0.328501	742.4136	0	1294.237	0.572671	0	0
0.333	0.01	185.4352	0.572671	1294.237	0	1479.672	0.651517	0	0
0.417	0.1	16.632	0.651517	1479.672	0	1496.304	0.658883	0	0
0.5	0.1	29.88	0.658883	1496.304	0	1526.184	0.658136	0	0
0.5833	0.1	29.988	0.658136	1526.184	0	1556.172	0.662398	0	0
0.6667	0.1	30.024	0.662398	1556.172	0	1586.196	0.666658	0	0
0.75	0.1	29.988	0.666658	1586.196	0	1616.184	0.670933	0	0
0.833	0.1	29.88	0.670933	1616.184	0	1646.064	0.675183	0	0
0.9167	0.1	30.132	0.675183	1646.064	0	1676.196	0.679469	0	0
1	0.1	29.988	0.679469	1676.196	0	1706.184	0.683734	0	0

OK

Final Conditions

USS TR 20: FOR Tc=0.1, Ia/P=.3 AND Tt=0, 24 HR STORM 2 YEAR

AREA SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0139	90.314	1.07248	0.7	0.151294	936	1.968398 0	0.306423

TIME (HOURS)	Tc=.1,Ia/P=.3 q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
10.5	0	0	0			0			0	0	
11	0	0	0	0	0	0	0	0	0	0	0
11.3	0	0	0	0	0	0	0	0	0	0	0
11.6	154	0.16453	0	0	0	0	0	0	0	0	0
11.9	568	0.606838	0.32386	174.8846	0	0	0	170.661	0.063209	0.007822	4.223644
12	936	1	1.194498	273.3046	0.063208	170.661	0.007822	438.9366	0.162569	0.020117	5.028924
12.1	524	0.559829	1.968398	569.3214	0.162569	439.9366	0.020117	996.417	0.369043	0.045667	11.84106
12.2	217	0.231838	1.101967	552.6657	0.369043	996.417	0.045667	1527.559	0.520889	0.073909	21.52372
12.3	172	0.183761	0.456349	280.4968	0.520889	1527.559	0.073909	1776.387	0.550399	0.090914	29.66827
12.4	149	0.159188	0.361714	147.2513	0.550399	1778.387	0.090914	1891.529	0.563709	0.098585	34.10963
12.5	126	0.134615	0.313345	121.5108	0.563709	1891.529	0.098585	1976.512	0.573707	0.104346	36.52756
12.6	107	0.114316	0.264977	104.098	0.573707	1976.512	0.104346	2042.243	0.58144	0.108802	38.36674
12.7	97	0.103632	0.22502	88.19939	0.58144	2042.243	0.108802	2090.683	0.587139	0.112086	39.75997
12.8	86	0.09188	0.20899	77.22179	0.587139	2090.683	0.112086	2127.109	0.591425	0.114556	40.79559
13	76	0.081197	0.180857	136.545	0.591425	2127.109	0.114556	2181.838	0.597863	0.118266	83.81593
13.2	69	0.073718	0.159827	122.6464	0.597863	2181.838	0.118266	2218.439	0.602169	0.120748	86.04496
13.4	63	0.067308	0.145106	109.7761	0.602169	2218.439	0.120748	2240.733	0.604792	0.122259	87.48236
13.6	56	0.061966	0.132486	99.99496	0.604792	2240.733	0.122259	2252.357	0.60616	0.123047	88.31016
13.8	53	0.056624	0.121973	91.60624	0.60616	2252.357	0.123047	2255.298	0.606506	0.123246	88.66562
14	48	0.051282	0.111458	84.03547	0.606506	2255.298	0.123246	2250.708	0.605966	0.122935	88.62537
14.3	46	0.049145	0.100744	114.6971	0.605966	2250.708	0.122935	2235.273	0.603914	0.121753	132.1318
14.6	42	0.044872	0.096736	106.7478	0.603914	2235.273	0.121753	2209.401	0.601106	0.120135	130.6196
15	38	0.040598	0.088326	133.2454	0.601106	2209.401	0.120135	2171.503	0.596647	0.117565	171.1442
15.5	34	0.036325	0.079914	151.4153	0.596647	2171.503	0.117565	2114.762	0.589972	0.113719	208.1558
16	31	0.03312	0.071502	136.2737	0.589972	2114.762	0.113719	2050.277	0.582385	0.109347	200.7592
16.5	30	0.032051	0.065193	123.0249	0.582385	2050.277	0.109347	1980.721	0.574202	0.104631	192.5806
17	28	0.029915	0.06309	115.4541	0.574202	1980.721	0.104631	1912.03	0.566121	0.099975	184.1454
17.5	27	0.028846	0.058684	109.7761	0.566121	1912.03	0.099975	1845.887	0.55834	0.09549	175.9185
18	24	0.025641	0.056781	104.098	0.55834	1845.887	0.09549	1782	0.550824	0.091159	167.9847
19	20	0.021368	0.050472	193.0545	0.550824	1782	0.091159	1661.577	0.536656	0.082995	313.4779
20	19	0.020299	0.04206	166.5568	0.536656	1661.577	0.082995	1543.732	0.522792	0.075006	284.4018
22	0	0	0.039957	295.2598	0.522792	1543.732	0.075006	1346.766	0.498802	0.061724	492.2261
26			0	287.689	0.498802	1346.766	0.061724	894.7817	0.331401	0.041009	739.6728

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.9	1	4.867533

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.433766	365.0647	0	0	0	359.6248	0.139194	0.026638	5.379646
0.167	4.867533	1103.756	0.139194	359.6248	0.026638	1443.164	0.508393	0.108393	20.41685
0.25	2.433766	1090.814	0.508393	1443.164	0.108393	2467.534	0.602480	0.202480	46.44453
0.333	0.001	365.7541	0.602480	2467.534	0.202480	2786.759	0.629437	0.229437	64.53860
0.417	0.1	15.2712	0.629437	2786.759	0.229437	2733.376	0.624628	0.224628	68.65482
0.5	0.1	29.88	0.624628	2733.376	0.224628	2696.631	0.621318	0.221318	66.62442
0.5833	0.1	29.988	0.621318	2696.631	0.221318	2660.735	0.618084	0.218084	65.68400
0.6667	0.1	30.024	0.618084	2660.735	0.218084	2625.755	0.614932	0.214932	65.00453
0.75	0.1	29.988	0.614932	2625.755	0.214932	2591.748	0.611869	0.211869	63.99470
0.833	0.1	29.88	0.611869	2591.749	0.211869	2558.765	0.608897	0.208897	62.86259
0.9167	0.1	30.132	0.608897	2558.765	0.208897	2526.392	0.605981	0.205981	62.50568
1	0.1	29.988	0.605981	2526.392	0.205981	2495.034	0.603156	0.203156	61.34608

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc-10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.76	1	4.110361

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.055180	307.0439	0	0	0	303.6832	0.112475	0.022495	3.360760
0.167	4.110361	932.2299	0.112475	303.6832	0.022495	1218.860	0.451429	0.090285	17.05249
0.25	2.055180	921.1319	0.451429	1218.860	0.090285	2101.449	0.567698	0.167698	38.54289
0.333	0.01	308.5377	0.567698	2101.449	0.167698	2356.447	0.590670	0.190670	53.54094
0.417	0.1	16.632	0.590670	2356.447	0.190670	2315.971	0.587024	0.187024	57.10754
0.5	0.1	29.85	0.587024	2315.971	0.187024	2290.314	0.584712	0.184712	55.53758
0.5833	0.1	29.988	0.584712	2290.314	0.184712	2265.249	0.582454	0.182454	55.05315
0.6667	0.1	30.024	0.582454	2265.249	0.182454	2240.823	0.580254	0.180254	54.44990
0.75	0.1	29.988	0.580254	2240.823	0.180254	2217.077	0.578115	0.178115	53.73391
0.833	0.1	29.88	0.578115	2217.077	0.178115	2194.046	0.576040	0.176040	52.91080
0.9167	0.1	30.132	0.576040	2194.046	0.176040	2171.440	0.574003	0.174003	52.75761
1	0.1	29.988	0.574003	2171.440	0.174003	2149.544	0.572031	0.172031	51.86447

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.67	1	3.623607

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.811803	270.6835	0	0	0	267.7207	0.099155	0.019831	2.962776
0.167	3.623607	821.8342	0.099155	267.7207	0.019831	1074.521	0.397971	0.079594	15.03311
0.25	3.623607	1082.734	0.397971	1074.521	0.079594	2120.059	0.569374	0.169374	37.19596
0.333	3.623607	1082.734	0.569374	2120.059	0.169374	3138.477	0.661124	0.261124	64.31652
0.417	1.811803	821.8342	0.661124	3138.477	0.261124	3671.871	0.727195	0.328776	88.43994
0.5	0.1	285.6235	0.727195	3671.871	0.328776	4058.546	0.744013	0.338511	98.74977
0.5833	0.1	29.988	0.744013	4058.546	0.338511	3987.857	0.737644	0.332939	100.6773
0.6667	0.1	30.024	0.737644	3987.857	0.332939	3918.737	0.731417	0.327490	99.14971
0.75	0.1	29.958	0.731417	3918.737	0.327490	3851.314	0.725343	0.322175	97.41095
0.833	0.1	29.88	0.725343	3851.314	0.322175	3785.701	0.719432	0.317003	95.49336
0.9167	0.1	30.132	0.719432	3785.701	0.317003	3721.081	0.713610	0.311909	94.75203
1	0.1	29.988	0.713610	3721.081	0.311909	3658.276	0.707952	0.306958	92.79910

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 30 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.54	1	2.920519

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.460259	218.1628	0	0	0	215.7749	0.079916	0.015983	2.387909
0.167	2.920519	662.3738	0.079916	215.7749	0.015983	866.0325	0.320752	0.064150	12.11624
0.25	2.920519	872.6513	0.320752	866.0325	0.064150	1709.328	0.532371	0.132371	29.36039
0.333	2.920519	872.6513	0.532371	1709.328	0.132371	2531.358	0.606428	0.206428	50.61674
0.417	2.920519	983.1651	0.606428	2531.358	0.206428	3341.069	0.679375	0.279375	73.45360
0.5	2.920519	872.6513	0.679375	3341.069	0.279375	4120.676	0.749610	0.343409	93.04405
0.5833	1.460259	656.8541	0.749610	4120.676	0.343409	4667.013	0.807054	0.373672	110.5179
0.6667	0.1	234.2262	0.807054	4667.013	0.373672	4781.460	0.817101	0.404213	119.7766
0.75	0.1	29.986	0.819101	4781.460	0.404213	4691.475	0.809629	0.395925	119.9728
0.833	0.1	29.88	0.809629	4691.475	0.395925	4604.253	0.800447	0.387891	117.1022
0.9167	0.1	30.132	0.800447	4604.253	0.387891	4518.693	0.791441	0.380011	115.6922
1	0.1	29.988	0.791441	4518.693	0.380011	4435.667	0.782722	0.372382	112.8139

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.47	1	2.541933

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.270966	189.8824	0	0	0	187.8040	0.069557	0.010911	2.076365
0.167	2.541933	576.3196	0.069557	187.8040	0.010911	758.7690	0.279178	0.055584	10.54561
0.25	2.541933	759.5298	0.279178	758.7690	0.055584	1486.157	0.512446	0.112446	25.14128
0.333	2.541933	759.5298	0.512446	1486.157	0.112446	2204.447	0.576977	0.176977	45.23793
0.417	2.541933	768.6905	0.576977	2204.447	0.176977	2959.999	0.640540	0.240540	65.12868
0.5	2.541933	759.5298	0.640540	2959.999	0.240540	3688.554	0.701671	0.301462	80.37576
0.5833	2.541933	762.2751	0.701671	3688.554	0.301462	4252.327	0.763402	0.355477	96.50161
0.6667	2.541933	759.1902	0.763402	4252.327	0.355477	4899.836	0.821561	0.413116	115.6815
0.75	1.270966	571.7068	0.821561	4899.836	0.413116	5340.965	0.877996	0.455746	130.5772
0.833	0.1	204.8221	0.877996	5340.965	0.455746	5409.479	0.886124	0.461983	132.1089
0.9167	0.1	30.132	0.886124	5406.679	0.461983	5501.099	0.878799	0.452074	132.7129
1	0.1	29.988	0.878799	5501.099	0.452074	5196.957	0.662837	0.442462	134.1299

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.4	1	2.162348

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.081674	161.6020	0	0	0	159.8532	0.059197	0.011839	1.748821
0.167	2.163348	490.6478	0.059197	159.8532	0.011839	641.5056	0.237594	0.047519	8.974975
0.25	2.163348	646.4083	0.237594	641.5056	0.047519	1266.795	0.469183	0.093836	21.11859
0.333	2.163348	646.4083	0.469183	1266.795	0.093836	1877.149	0.547490	0.147490	36.05435
0.417	2.163348	654.1964	0.547490	1877.149	0.147490	2478.552	0.601671	0.201671	52.79384
0.5	2.163348	646.4083	0.601671	2478.552	0.201671	3056.917	0.653776	0.253776	68.04388
0.5833	2.163348	648.7447	0.653776	3056.917	0.253776	3622.010	0.704685	0.304130	83.64809
0.6667	2.163348	649.5236	0.704685	3622.013	0.304100	4173.610	0.755116	0.348227	97.92739
0.75	2.163348	648.7447	0.755116	4173.610	0.348227	4710.513	0.811633	0.397676	111.8411
0.833	2.163348	646.4083	0.811633	4710.513	0.397676	5230.934	0.866414	0.415612	125.9877
0.9167	1.081674	486.8950	0.866414	5230.934	0.445612	5560.703	0.903281	0.477827	135.1255
1	0.1	177.1861	0.903281	5560.703	0.477827	5614.131	0.906750	0.480906	136.7026
1.083	0.1	29.66	0.906750	5614.131	0.480906	5501.561	0.894952	0.470566	137.1505
1.166	0.1	29.68	0.894952	5501.561	0.470566	5392.639	0.883435	0.460500	137.1027
1.249	0.1	29.86	0.883435	5392.639	0.460500	5286.381	0.872250	0.450719	136.1571

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.34	1	1.838845

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.919422	137.3617	0	0	0	135.8582	0.050317	0.010063	1.503498
0.167	1.838845	417.0502	0.050317	135.8582	0.010063	545.2777	0.201955	0.040391	7.628746
0.25	1.838845	549.4471	0.201955	545.2797	0.040391	1076.776	0.398805	0.079761	17.95075
0.333	1.838845	549.4471	0.398805	1076.776	0.077761	1596.055	0.522167	0.122167	30.16809
0.417	1.838845	556.0669	0.522167	1596.055	0.122167	2109.202	0.568306	0.168306	43.91961
0.5	1.838845	549.4471	0.568306	2108.202	0.168306	2600.730	[illegible]	[illegible]	56.91915
0.5833	1.838845	551.4330	0.612676	2600.730	0.212678	3081.866	0.656025	0.256025	70.27750
0.6667	1.838845	552.0950	0.656025	3081.866	0.256025	3550.770	0.698267	0.298267	83.21052
0.75	1.838845	551.4330	0.698267	3550.770	0.298267	4007.330	[illegible]	0.334474	94.87331
0.833	1.838845	549.4471	[illegible]	4007.330	0.334474	4450.965	0.784312	0.373773	105.8121
0.9167	1.838845	554.0810	0.784312	4450.965	0.373773	4886.378	0.830145	0.413877	116.6673
1	1.838845	551.4330	0.830145	4886.378	0.413877	5307.877	0.874513	[illegible]	129.9344
1.083	0.919422	412.0853	0.874513	5307.877	0.452699	5580.936	0.903256	0.477849	[illegible]
1.166	0.1	152.3017	0.903256	5580.936	0.477849	5590.330	0.904245	0.478714	142.9106
1.249	0.1	29.88	0.904245	5590.330	0.478714	5476.706	0.892495	0.468433	141.5039
1.332	0.1	29.88	0.892495	5476.706	0.468433	5370.112	0.881064	0.458431	138.4736
1.415	0.1	29.88	0.881064	5370.112	0.458431	5264.466	0.869948	0.448700	135.5255
1.498	0.1	29.88	0.869943	5264.466	0.448700	5161.607	0.859125	0.439234	132.6575

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	i	SOIL MOIS	Qp
8.91	0.607	0.32	1	1.730678

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.865339	129.2816	0	0	0	127.8666	0.047356	0.009471	1.415057
0.167	1.730678	392.5178	0.047356	127.8666	0.009471	513.2044	0.190075	0.038015	7.179996
0.25	1.730678	517.1267	0.190075	513.2044	0.038015	1013.436	0.375346	0.075069	16.67492
0.333	1.730678	517.1267	0.375346	1013.436	0.075069	1502.357	0.513725	0.113725	26.20600
0.417	1.730678	523.3571	0.513725	1502.357	0.113725	1984.752	0.557184	0.157184	40.96170
0.5	1.730678	517.1267	0.557184	1984.752	0.157184	2448.668	0.598979	0.198979	53.21090
0.5833	1.730678	518.9956	0.598979	2448.668	0.198979	2901.872	0.639808	0.239808	65.77178
0.6667	1.730678	519.6188	0.639808	2901.872	0.239808	3348.518	0.679596	0.279596	77.97301
0.75	1.730678	518.9958	0.679596	3348.518	0.279596	3773.207	0.718306	0.316018	87.30649
0.833	1.730678	517.1267	0.718306	3773.207	0.316018	4190.858	0.758932	0.349815	99.47567
0.9167	1.730678	521.4880	0.758932	4190.858	0.349815	4601.245	0.800131	0.387614	111.1012
1	1.730678	518.9956	0.800131	4601.245	0.387614	4998.516	0.841949	0.424205	121.7243
1.083	1.730678	517.1267	0.841949	4998.516	0.424205	5383.592	0.882488	0.457672	132.0514
1.166	1.730678	517.1267	0.882488	5383.592	0.457672	5758.213	0.921917	0.494177	142.1052
1.249	0.865339	387.8450	0.921917	5758.213	0.494177	5995.138	0.946856	0.515999	150.9204
1.332	0.1	144.2216	0.946856	5995.138	0.515999	5965.332	0.945824	0.515096	154.0457
1.415	0.1	29.88	0.945824	5965.332	0.515096	5863.022	0.932949	0.503830	152.2277
1.498	0.1	29.88	0.932949	5863.022	0.503830	5743.998	0.920420	0.492865	148.9066
1.581	0.1	29.88	0.920420	5743.998	0.492865	5628.207	0.908232	0.482203	145.6736
1.664	0.1	29.88	0.908232	5628.207	0.482203	5515.559	0.896374	0.471827	142.5022
1.747	0.1	29.88	0.896374	5515.559	0.471827	5405.971	0.884839	0.461734	139.4741
1.83	0.1	29.88	0.884839	5405.971	0.461734	5299.359	0.873616	0.451914	136.4991
1.913	0.1	29.88	0.873616	5299.359	0.451914	5195.643	0.862697	0.442361	133.6049
2	0.1	31.32	0.862697	5195.643	0.442361	5089.952	0.851575	0.432627	131.0282
2.083	0.1	27.88	0.851575	5089.952	0.432627	4991.920	0.841255	0.423578	127.9201
2.166	0.1	29.88	0.841255	4991.920	0.423578	4896.590	0.831220	0.414817	125.2594
2.249	0.1	29.88	0.831220	4896.590	0.414817	4804.089	0.821483	0.406297	122.6746
2.332	0.1	29.88	0.821483	4804.089	0.406297	4713.846	0.811985	0.397985	120.1599

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 80 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.29	1	1.568427

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.784213	117.1613	0	0	0	115.8791	0.042918	0.008583	1.282995
0.167	1.568427	355.7193	0.042918	115.8791	0.008583	465.0715	0.172256	0.034451	6.506571
0.25	1.568427	466.6460	0.172256	465.0715	0.034451	916.4267	0.340158	0.068031	15.31096
0.333	1.568427	468.6460	0.340158	916.4267	0.068031	1361.807	0.501063	0.101063	25.26287
0.417	1.568427	474.2974	0.501063	1361.807	0.101063	1799.577	0.540502	0.140502	36.52484
0.5	1.568427	468.6460	0.540502	1799.577	0.140502	2220.575	0.578430	0.178430	47.64853
0.5833	1.568427	470.0299	0.578430	2220.575	0.178430	2631.651	0.615482	0.215482	59.03321
0.6667	1.568427	470.9046	0.615482	2631.651	0.215482	3032.639	0.651589	0.251589	70.11674
0.75	1.568427	470.3399	0.651589	3032.639	0.251589	3422.269	0.686690	0.286690	80.70972
0.833	1.568427	468.6460	0.686690	3422.269	0.286690	3800.549	0.720770	0.318173	90.36681
0.9167	1.568427	472.5950	0.720770	3800.549	0.318173	4172.759	0.755027	0.348148	100.3681
1	1.568427	470.3377	0.755027	4172.759	0.348148	4535.711	0.793022	0.381374	109.3877
1.083	1.568427	468.6460	0.793022	4535.711	0.381394	4883.582	0.829850	0.413619	116.7750
1.166	1.568427	468.6460	0.829850	4883.582	0.413619	5228.955	0.865679	0.444969	128.2730
1.249	1.568427	466.6460	0.865679	5228.955	0.444969	5555.088	0.900535	0.475468	137.5164
1.332	1.568427	468.6460	0.900535	5555.088	0.475468	5877.231	0.934445	0.505137	146.5028
1.415	0.784213	351.4845	0.934445	5877.231	0.505137	6075.057	0.955269	0.523360	153.6579
1.498	0.1	132.1015	0.955269	6075.057	0.523360	6051.106	0.952748	0.521154	156.0505
1.581	0.1	29.88	0.952748	6051.106	0.521154	5926.975	0.939681	0.509721	154.0129
1.664	0.1	29.88	0.939681	5926.975	0.509721	5806.232	0.926971	0.498600	150.6452
1.747	0.1	29.88	0.926971	5806.232	0.498600	5688.748	0.914605	0.487779	147.5651
1.83	0.1	29.88	0.914605	5688.748	0.487779	5574.450	0.902574	0.477252	144.1757
1.913	0.1	29.88	0.902574	5574.450	0.477252	5463.261	0.890869	0.467010	141.0729
2	0.1	31.32	0.890869	5463.261	0.467010	5349.949	0.878942	0.456574	144.6534
2.083	0.1	29.88	0.878942	5349.949	0.456574	5244.855	0.867679	0.446894	134.9782
2.166	0.1	29.88	0.867679	5244.855	0.446894	5142.610	0.857116	0.437477	132.1251
2.249	0.1	29.88	0.857116	5142.610	0.437477	5043.147	0.846647	0.428316	129.3495
2.332	0.1	29.88	0.846647	5043.147	0.428316	4946.660	0.836490	0.419429	126.6391
2.415	0.1	29.88	0.836490	4946.660	0.419429	4870.673	0.828490	0.412402	124.2800

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.27	1	1.460259

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.730129	109.0614	0	0	0	107.8874	0.039958	0.007991	1.198954
0.167	1.460259	331.1669	0.039958	107.8874	0.007991	433.0162	0.160376	0.032075	6.038121
0.25	1.460259	436.3256	0.160376	433.0162	0.032075	855.0869	0.316698	0.063339	14.25500
0.333	1.460259	436.3256	0.316698	855.0869	0.063339	1267.918	0.469599	0.093917	23.49458
0.417	1.460259	441.5625	0.469599	1267.918	0.093917	1675.742	0.529346	0.129346	33.75762
0.5	1.460259	436.3256	0.529346	1675.742	0.129346	2068.138	0.564697	0.164697	43.93007
0.5833	1.460259	437.9027	0.564697	2068.138	0.164697	2451.473	0.599231	0.199231	54.56751
0.6667	1.460259	438.4284	0.599231	2451.473	0.199231	2825.032	0.632885	0.232885	64.86950
0.75	1.460259	437.9027	0.632885	2825.032	0.232885	3188.191	0.665602	0.265602	74.74559
0.833	1.460259	436.3256	0.665602	3188.191	0.265602	3540.414	0.697334	0.297334	84.10286
0.9167	1.460259	440.0055	0.697334	3540.414	0.297334	3886.664	0.728528	0.324962	93.75526
1	1.460259	437.9027	0.728528	3886.664	0.324962	4222.948	0.760310	0.352771	101.6194
1.083	1.460259	436.3256	0.760310	4222.948	0.352771	4549.373	0.794670	0.382857	109.6999
1.166	1.460259	436.3256	0.794670	4549.373	0.382857	4866.938	0.828098	0.412086	118.7615
1.249	1.460259	436.3256	0.828098	4866.938	0.412086	5175.881	0.860619	0.440541	127.3626
1.332	1.460259	436.3256	0.860619	5175.881	0.440541	5476.437	0.892256	0.468224	135.7696
1.415	1.460259	436.3256	0.892256	5476.437	0.468224	5768.833	0.923035	0.495155	143.9290
1.498	1.460259	436.3256	0.923035	5768.833	0.495155	6053.292	0.952978	0.521355	151.6568
1.581	0.730129	327.2442	0.952978	6053.292	0.521355	6222.428	0.970781	0.536934	158.1065
1.664	0.1	124.0214	0.970781	6222.428	0.536934	6186.508	0.967000	0.533625	159.9416
1.747	0.1	29.88	0.967000	6186.508	0.533625	6058.699	0.953547	0.521653	157.6886
1.83	0.1	29.88	0.953547	6058.699	0.521653	5934.360	0.940458	0.510401	154.2189
1.913	0.1	29.88	0.940458	5934.360	0.510401	5813.398	0.927726	0.499260	150.8435
2	0.1	[illegible]	0.927726	5813.398	0.499260	5690.128	0.914750	0.487906	151.5903
2.083	0.1	29.88	0.914750	5690.128	0.487906	5575.794	0.902715	0.477375	144.2181
2.166	0.1	29.88	0.902715	5575.794	0.477375	5464.565	0.891006	0.467131	141.1093
2.249	0.1	29.88	0.891006	5464.565	0.467131	5356.356	0.879616	0.457164	138.0897
2.332	0.1	29.88	0.879616	5356.356	0.457164	5251.090	0.868535	0.447469	135.1522
2.415	0.1	29.88	0.868535	5251.090	0.447468	5148.785	0.857766	0.438045	132.2959

FINAL CONDITIONS 2 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.21	1	1.135757

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.567678	84.84110	0	0	0	83.91246	0.031078	0.006215	0.928631
0.167	1.135757	257.5676	0.031078	83.91246	0.006215	336.7904	0.124737	0.024947	4.711672
0.25	1.135757	339.3644	0.124737	336.7904	0.024947	665.0676	0.246521	0.049264	11.08772
0.333	1.135757	339.3644	0.246521	665.0676	0.049264	986.1584	0.365743	0.073048	18.27356
0.417	1.135757	343.4531	0.365743	986.1584	0.073048	1303.962	0.482948	0.096569	25.64935
0.5	1.135757	339.3644	0.482948	1303.962	0.096569	1610.450	0.523464	0.123464	32.57603
0.5833	1.135757	340.5910	0.523464	1610.450	0.123464	1909.971	0.550447	0.150447	41.07034
0.6667	1.135757	340.9970	0.550447	1909.971	0.150447	2201.853	0.576743	0.176743	49.11797
0.75	1.135757	340.5910	0.576743	2201.853	0.176743	2485.609	0.602307	0.202307	56.53465
0.833	1.135757	339.3644	0.602307	2485.609	0.202307	2760.820	0.627100	0.227100	64.15306
0.9167	1.135757	342.2265	0.627100	2760.820	0.227100	3030.950	0.651436	0.251436	72.09651
1	1.135757	340.5910	0.651436	3030.950	0.251436	3292.605	0.675009	0.275009	78.93538
1.083	1.135757	339.3644	0.675009	3292.605	0.275009	3546.381	0.697872	0.297872	85.58653
1.166	1.135757	339.3644	0.697872	3546.381	0.297872	3795.788	0.720161	0.317640	91.95767
1.249	1.135757	339.3644	0.720161	3795.788	0.317640	4035.396	0.741927	0.336686	97.75654
1.332	1.135757	339.3644	0.741927	4035.396	0.336686	4271.093	0.765378	0.357205	103.6675
1.415	1.135757	339.3644	0.765378	4271.093	0.357205	4500.566	0.789533	0.378341	109.8906
1.498	1.135757	339.3644	0.789533	4500.566	0.378341	4728.810	0.813032	0.398903	116.1204
1.581	1.135757	339.3644	0.813032	4728.810	0.398903	4940.994	0.835694	0.418907	122.1809
1.664	1.135757	339.3644	0.835694	4940.994	0.418907	5152.281	0.858134	0.438368	128.0769
1.747	1.135757	339.3644	0.858134	5152.281	0.438368	5357.833	0.879771	0.457300	133.8128
1.83	1.135757	339.3644	0.879771	5357.833	0.457300	5557.804	0.900821	0.475718	139.3930
1.913	1.135757	339.3644	0.900821	5557.804	0.475718	5752.347	0.921299	0.493657	144.8217
2	1.135757	355.7178	0.921299	5752.347	0.493657	5950.597	0.942168	0.511897	157.4667
2.083	0.567678	254.5283	0.942168	5950.597	0.511897	6050.789	0.952714	0.521125	154.8885
2.166	0.1	97.78110	0.952714	6050.789	0.521125	5995.617	0.946907	0.516046	154.2300
2.249	0.1	29.88	0.946907	5995.617	0.516046	5872.990	0.933999	0.504749	152.5064
2.332	0.1	29.88	0.933999	5872.990	0.504749	5753.693	0.921441	0.493761	149.1774
2.415	0.1	29.88	0.921441	5753.693	0.493761	5637.634	0.909224	0.483071	145.9388

Final Conditions

OK

CS TR 20: FOR Tc=0.1, Ia/P=.1 AND Tt=0, 24 HR STORM 10 YEAR

AREA (SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0139	90.31	1.072971	1.12	0.41436	1010	5.817197 0	0.191602

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW	INITIAL WATER	INITIAL STORAGE	INITIAL OUTFLOW	FINAL STORAGE	FINAL WATER	FINAL OUTFLOW	OUTFLOW VOLUME
					VOLUME (CU FT)	ELEVATION	VOLUME (CU FT)	(CFS)	VOLUME (CU FT)	ELEVATION	(CFS) (CU FT)
10.5	0	0	0			0			0	0	
11	24	0.023762	0.13828	124.4074	0	0	0	119.4791	0.044252	0.005476	4.928262
11.3	34	0.033663	0.195826	180.3907	0.044252	119.4791	0.005476	289.7421	0.107312	0.013279	10.12771
11.6	53	0.052475	0.305259	270.566	0.107312	289.7421	0.013279	539.7981	0.199925	0.024739	20.53007
11.9	334	0.330693	1.923707	1206.641	0.199925	539.7981	0.024739	1684.426	0.539344	0.084544	59.0132
12	647	0.640574	3.726462	1017.03	0.539344	1684.426	0.084544	2659.126	0.654015	0.150624	42.33026
12.1	1010	1	5.817197	1717.859	0.654015	2659.126	0.150624	4302.704	0.847377	0.26205	74.26129
12.2	673	0.616832	3.586231	1692.977	0.847377	4302.704	0.26205	5880.03	1.024761	0.380456	115.651
12.3	217	0.214851	1.249853	870.8516	1.024761	5880.03	0.380456	6599.826	1.08846	0.45874	151.0552
12.4	147	0.145545	0.846661	377.369	1.08846	6599.826	0.45874	6807.974	1.1069	0.481376	169.2211
12.5	123	0.121782	0.708431	279.9166	1.1069	6807.974	0.481376	6912.547	1.116155	0.492751	175.3431
12.6	104	0.10297	0.598998	235.6373	1.116155	6912.547	0.492751	6969.382	1.121184	0.498932	178.503
12.7	86	0.085149	0.495326	196.9783	1.121184	6969.382	0.498932	6986.411	1.122691	0.500784	179.949
12.8	76	0.075248	0.43773	167.95	1.122691	6986.411	0.500784	6974.319	1.121621	0.499469	180.0456
13	66	0.065347	0.380134	294.4308	1.121621	6974.319	0.499469	6911.589	1.11607	0.492647	357.1617
13.2	57	0.056436	0.328277	255.0351	1.11607	6911.589	0.492647	6815.675	1.107562	0.482215	350.9503
13.4	51	0.050495	0.29374	228.9333	1.107582	6815.675	0.482215	6697.059	1.097085	0.469315	342.5508
13.6	46	0.045545	0.264942	201.1253	1.097085	6697.059	0.469315	6565.432	1.085436	0.454999	332.7529
13.8	42	0.041584	0.241903	182.4642	1.085436	6565.432	0.454999	6425.765	1.073077	0.439809	322.131
14	38	0.037624	0.218865	165.8765	1.073077	6425.765	0.439809	6280.661	1.060235	0.424028	310.9613
14.3	34	0.033663	0.195826	223.9333	1.060235	6280.661	0.424028	6059.626	1.040675	0.399988	444.9687
14.6	32	0.031683	0.184307	205.2722	1.040675	6059.626	0.399988	5845.836	1.021755	0.376737	419.4316
15	29	0.028713	0.167028	252.9617	1.021755	5845.836	0.376737	5577.047	0.9973	0.348444	522.1301
15.5	26	0.025743	0.14975	285.1002	0.9973	5577.047	0.348444	5254.802	0.959388	0.326597	607.5371
16	23	0.022772	0.132471	253.9964	0.959388	5254.802	0.326597	4940.22	0.922379	0.30527	568.6809
16.5	21	0.020792	0.120952	226.0802	0.922379	4940.22	0.30527	4637.361	0.886748	0.284738	531.0075
17	20	0.019802	0.115192	212.5298	0.886748	4637.361	0.284738	4354.674	0.853491	0.265573	495.2602
17.5	19	0.018812	0.109432	202.162	0.853491	4354.674	0.265573	4094.734	0.82291	0.247951	462.1716
18	18	0.017822	0.103673	191.7947	0.82291	4094.734	0.247951	3854.925	0.794697	0.231693	431.6792
19	15	0.014851	0.086394	342.1203	0.794697	3854.925	0.231693	3416.506	0.743118	0.20197	780.5937
20	13	0.012871	0.074875	290.2839	0.743118	3416.506	0.20197	3027.236	0.697322	0.17558	679.5903
22	12	0.011881	0.069115	516.3641	0.697322	3027.236	0.17558	2427.782	0.626798	0.13494	1117.871
26	0	0	0	497.6295	0.626798	2427.762	0.13494	1456.422	0.51252	0.069087	1468.992

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	1.68	1	9.086061

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	4.543030	678.7288	0	0	0	671.2997	0.248629	0.049725	7.429650
0.167	9.086061	2060.718	0.248629	671.2997	0.049725	2691.111	0.620820	0.220820	40.90667
0.25	4.543030	3056.166	0.620820	2691.111	0.220820	4635.920	0.803781	0.390809	91.37742
0.333	0.001	678.6762	0.803781	4635.920	0.390808	5190.395	0.862146	0.441878	124.4034
0.417	0.1	15.2712	0.862146	5190.395	0.441878	5078.668	0.849659	0.431127	131.9964
0.5	0.1	29.88	0.849659	5078.668	0.431127	4976.070	0.837586	0.422138	127.4778
0.5833	0.1	29.988	0.837586	4976.070	0.422138	4880.783	0.825956	0.413361	125.2748
0.6667	0.1	30.024	0.825956	4880.783	0.413361	4787.983	0.814787	0.404814	122.8245
0.75	0.1	29.988	0.814787	4787.983	0.404814	4697.826	0.804097	0.396510	120.1506
0.833	0.1	29.88	0.804097	4697.826	0.396510	4610.432	0.793903	0.388460	117.2746
0.9167	0.1	30.132	0.793903	4610.432	0.388460	4524.702	0.784203	0.380664	115.0613
1	0.1	29.988	0.784203	4524.702	0.380664	4441.713	0.774986	0.373120	112.9776

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	1.44	1	7.788052

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.894026	581.7675	0	0	0	575.3997	0.213111	0.042622	6.367757
0.167	7.788052	1766.330	0.213111	575.3997	0.042622	2307.128	0.586227	0.186227	34.69211
0.25	7.788052	2327.070	0.586227	2307.128	0.186227	4549.182	0.794650	0.382819	85.01563
0.333	3.894026	1745.302	0.794650	4549.182	0.382819	6157.961	0.963995	0.530996	136.5240
0.417	0.1	603.8967	0.963995	6157.961	0.530996	6595.195	1.010020	0.571268	166.6623
0.5	0.1	29.88	1.010020	6595.195	0.571268	6456.292	0.995399	0.558474	168.7834
0.5833	0.1	29.988	0.995399	6456.292	0.558474	6320.677	0.981128	0.545983	165.6023
0.6667	0.1	30.024	0.981128	6320.677	0.545983	6186.601	0.967221	0.533818	162.0998
0.75	0.1	29.988	0.967221	6186.601	0.533818	6060.280	0.953713	0.521999	158.3093
0.833	0.1	29.88	0.953713	6060.280	0.521999	5935.896	0.940620	0.510543	154.2616
0.9167	0.1	30.132	0.940620	5935.896	0.510543	5813.867	0.927777	0.499305	152.1436
1	0.1	29.988	0.927777	5813.867	0.499305	5695.774	0.915344	0.488476	148.1005

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	1.25	1	6.760462

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.380231	505.0065	0	0	0	499.4789	0.184992	0.036998	5.527367
0.167	6.760462	1388.272	0.184992	499.4789	0.036998	2003.140	0.558841	0.158841	29.41100
0.25	6.760462	2020.026	0.558841	2003.140	0.158841	3950.139	0.734246	0.329965	78.02783
0.333	6.760462	2020.026	0.734246	3950.139	0.329965	5845.832	0.931140	0.502247	124.8327
0.417	6.380231	1588.272	0.931140	5845.832	0.502247	7206.252	1.074552	0.627783	170.6532
0.5	0.1	519.9465	1.074552	7208.252	0.627783	7836.120	1.107065	0.657932	192.0764
0.5833	0.1	29.988	1.107065	7556.120	0.657932	7871.086	1.091693	0.642731	195.0315
0.6667	0.1	30.024	1.091693	7871.086	0.642731	7210.359	1.074774	0.627927	190.7514
0.75	0.1	29.988	1.074774	7210.359	0.627927	7854.201	1.058836	0.613544	186.1464
0.833	0.1	29.88	1.058836	7854.201	0.613544	6952.836	1.042403	0.599603	181.2443
0.9167	0.1	30.132	1.042403	6952.836	0.599603	6754.356	1.026774	0.585927	176.6120
1	0.1	29.988	1.026774	6754.356	0.585927	6610.621	1.011644	0.572688	173.7229

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 30 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	1	1	5.40837

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.704185	404.0052	0	0	0	399.5831	0.147993	0.029598	4.422053
0.167	5.40837	1226.618	0.147993	399.5831	0.029598	1603.157	0.522807	0.122807	23.04575
0.25	5.40837	1616.020	0.522807	1603.157	0.122807	3161.569	0.663199	0.263199	57.66930
0.333	5.40837	1616.020	0.663199	3161.569	0.263199	4679.225	0.808639	0.394797	98.39462
0.417	5.40837	1635.491	0.808639	4679.225	0.394797	6174.566	0.965757	0.532520	140.2103
0.5	5.40837	1616.020	0.965757	6174.566	0.532520	7611.634	1.117014	0.664887	178.8927
0.5833	2.704185	1216.396	1.117014	7611.634	0.664887	8614.790	1.222609	0.757283	213.2402
0.6667	0.1	420.9642	1.222609	8614.790	0.757283	8805.748	1.242710	0.774871	230.0370
0.75	0.1	29.988	1.242710	8805.748	0.774871	8606.124	1.221697	0.756485	229.6116
0.833	0.1	29.88	1.221697	8606.124	0.756485	8412.629	1.201329	0.738663	223.8751
0.9167	0.1	30.132	1.201329	8412.629	0.738663	8222.621	1.181049	0.721180	219.7401
1	0.1	29.988	1.181349	8222.621	0.721180	8037.078	1.162008	0.704257	218.7301

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	I SOIL MOIS FACTOR		Qp
8.91	0.607	0.82	1	4.434663

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.217431	331.2842	0	0	0	327.6582	0.121354	0.024270	9.626084
0.167	4.434863	1005.827	0.121354	327.6582	0.024270	1315.086	0.487069	0.097413	18.37874
0.25	4.434863	1325.197	0.487069	1315.086	0.097413	2598.966	0.962070	0.212070	46.20701
0.333	4.434863	1325.197	0.962070	2598.966	0.212070	3839.447	0.724274	0.321240	79.67667
0.417	4.434863	1341.102	0.724274	3839.447	0.321240	5066.866	0.649145	0.430502	113.6635
0.5	4.434863	1325.197	0.867145	5066.866	0.430502	6247.148	0.973584	0.539211	144.8752
0.5833	4.434863	1329.926	0.973584	6247.148	0.539211	7399.462	1.094660	0.648345	177.6125
0.6667	4.434863	1331.326	1.094660	7399.462	0.648345	8521.710	1.212811	0.748710	209.2756
0.75	2.217431	997.4481	1.212811	8521.710	0.748710	9264.103	1.298063	0.818930	235.3520
0.833	0.1	346.2242	1.298063	9264.103	0.818930	9364.293	1.303608	0.826154	246.0745
0.9167	0.1	29.196	1.303608	9364.293	0.826154	9167.848	1.292826	0.808922	246.3666
1	0.1	29.196	1.292826	9167.848	0.808922	9004.305	1.283768	0.788922	239.4760

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	I SOIL MOIS FACTOR		Qp
8.91	0.607	0.73	1	3.948110

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.974055	294.9238	0	0	0	291.6957	0.108085	0.021607	3.228099
0.167	3.948110	895.4318	0.108085	291.6957	0.021607	1170.747	0.433610	0.086722	16.37936
0.25	3.948110	1179.695	0.433610	1170.747	0.086722	2309.630	0.855433	0.186453	40.81236
0.333	3.948110	1179.695	0.855433	2309.630	0.186453	3416.666	0.686386	0.286386	70.63951
0.417	3.948110	1198.908	0.686386	3416.666	0.286386	4511.952	0.790729	0.379386	100.6624
0.5	3.948110	1179.695	0.790729	4511.952	0.379386	5563.792	0.901451	0.476270	127.8354
0.5833	3.948110	1166.959	0.901451	5563.792	0.476270	6590.745	1.009552	0.570858	157.0064
0.6667	3.948110	1185.360	1.009552	6590.745	0.570858	7590.902	1.114681	0.662977	185.2234
0.75	3.948110	1182.959	1.114681	7590.902	0.662977	8562.627	1.217116	0.752478	212.2385
0.833	3.948110	1179.695	1.217116	8562.627	0.752478	9504.521	1.316265	0.839282	237.5016
0.9167	1.974055	892.2554	1.316265	9504.521	0.839282	10126.12	1.382644	0.897314	261.6261
1	0.1	310.9856	1.382644	10126.12	0.897314	10176.45	1.386995	0.901120	269.6573
1.083	0.1	29.88	1.386995	10176.45	0.901120	9940.007	1.362166	0.879342	266.0012
1.166	0.1	29.88	1.362166	9940.007	0.879342	9709.276	1.337816	0.858091	259.5726
1.249	0.1	29.88	1.337816	9709.276	0.858091	9485.683	1.314296	0.837618	253.3229

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.63	1	3.407273

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.703636	254.5283	0	0	0	251.7574	0.093266	0.018647	2.785993
0.167	3.407273	772.7695	0.093286	251.7574	0.018647	1010.371	0.374211	0.074842	14.13561
0.25	3.407273	1016.093	0.374211	1010.371	0.074842	1993.679	0.557989	0.157989	34.78502
0.333	3.407273	1016.093	0.557989	1993.679	0.157989	2951.671	0.644294	0.244294	60.10121
0.417	3.407273	1030.359	0.644294	2951.671	0.244294	3895.849	0.729355	0.325686	86.19113
0.5	3.407273	1016.093	0.729355	3895.849	0.325686	4804.577	0.821534	0.406342	109.3651
0.5833	3.407273	1021.773	0.821534	4804.577	0.406342	5692.237	0.914772	0.488100	134.1128
0.6667	3.407273	1022.997	0.914772	5692.237	0.488100	6556.756	1.005972	0.567725	156.5006
0.75	3.407273	1021.773	1.005972	6556.756	0.567725	7396.660	1.094385	0.645067	181.8491
0.833	3.407273	1016.093	1.094385	7396.660	0.645067	8210.799	1.180064	0.720073	203.9550
0.9167	3.407273	1026.679	1.180064	8210.799	0.720073	9009.423	1.264149	0.793631	228.0547
1	3.407273	1021.773	1.264149	9009.423	0.793631	9782.526	1.345529	0.864837	248.6708
1.083	1.703636	768.5699	1.345529	9782.526	0.864837	10280.82	1.397961	0.910733	265.2704
1.166	0.1	269.4633	1.397961	10280.82	0.910733	10282.36	1.398146	0.910877	272.1486
1.249	0.1	29.86	1.398146	10282.36	0.910877	10049.41	1.372990	0.888866	268.6819
1.332	0.1	29.86	1.372990	10049.41	0.888866	9810.928	1.346818	0.867456	262.3943
1.415	0.1	29.68	1.346818	9810.928	0.867456	9584.768	1.324712	0.846623	256.0851
1.498	0.1	29.86	1.324712	9584.768	0.846623	9364.779	1.301555	0.826361	249.9439

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.59	1	3.190938

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.595469	238.3630	0	0	0	235.7540	0.087316	0.017463	2.609011
0.167	3.190938	723.7046	0.087316	235.7540	0.017463	946.2207	0.350452	0.070090	13.23811
0.25	3.190938	953.4523	0.350452	946.2207	0.070090	1867.299	0.546603	0.146603	32.57407
0.333	3.190938	953.4523	0.546603	1867.299	0.146603	2764.865	0.727465	0.227465	55.85589
0.417	3.190938	964.9397	0.727465	2764.865	0.227465	3649.109	0.707126	0.306236	80.69366
0.5	3.190938	953.4523	0.707126	3649.109	0.306236	4500.289	0.789504	0.378816	102.2721
0.5833	3.190938	956.8985	0.789504	4500.289	0.378816	5332.249	0.877076	0.454944	124.9370
0.6667	3.190938	958.0473	0.877076	5332.249	0.454944	6142.501	0.962568	0.529572	147.7656
0.75	3.190938	956.8985	0.962568	6142.501	0.529572	6929.719	1.045233	0.602079	169.6798
0.833	3.190938	953.4529	1.045233	6929.719	0.602079	7692.770	1.125554	0.672360	190.4013
0.9167	3.190938	961.4938	1.125554	7692.770	0.672360	8441.281	1.204345	0.741302	212.7824
1	3.190938	956.8985	1.204345	8441.281	0.741302	9165.871	1.280618	0.808040	232.8085
1.083	3.190938	953.4523	1.280618	9165.871	0.808040	9868.217	1.354549	0.872736	251.1072
1.166	3.190938	953.4523	1.354549	9868.217	0.872736	10551.49	1.426478	0.935664	270.1741
1.249	1.595469	715.0872	1.426478	10551.49	0.935664	10859.87	1.458934	0.964067	283.8199
1.332	0.01	299.8570	1.458934	10859.87	0.964067	10627.04	1.434425	0.942622	284.8585
1.415	0.01	2.986	1.434425	10627.04	0.942622	10619.96	1.433680	0.941970	281.5581
1.498	0.01	2.986	1.433680	10619.96	0.941970	11018.98	1.475682	0.978722	286.9514

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 80 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.52	1	2.812352

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.406176	210.0827	0	0	0	207.7832	0.076956	0.015391	2.299468
0.167	2.812352	637.8415	0.076956	207.7832	0.015391	833.9572	0.306673	0.061774	11.66747
0.25	2.812352	840.3308	0.306673	833.9572	0.061774	1646.138	0.526676	0.126678	26.15492
0.333	2.812352	840.3308	0.526676	1646.138	0.126678	2457.955	0.598013	0.198013	48.50708
0.417	2.812352	850.4553	0.598013	2457.955	0.198013	3217.906	0.668279	0.268279	70.50363
0.5	2.812352	840.3308	0.668279	3217.906	0.268279	3968.641	0.738913	0.338924	92.59583
0.5833	2.812352	843.3682	0.738913	3968.641	0.338924	4702.794	0.810820	0.396967	109.2151
0.6667	2.812352	844.3806	0.810820	4702.794	0.396967	5418.079	0.886115	0.462851	129.0766
0.75	2.812352	843.3682	0.886115	5416.099	0.462851	6113.070	0.959270	0.526861	148.3975
0.833	2.812352	840.3308	0.959270	6113.070	0.526861	6786.705	1.030179	0.588907	166.6958
0.9167	2.812352	847.4180	1.030179	6786.705	0.588907	7447.504	1.099737	0.649770	186.6191
1	2.812352	843.3682	1.099737	7447.504	0.649770	8087.185	1.167072	0.708688	205.6872
1.083	2.812352	843.3638	1.167072	8087.185	0.708688	8707.227	1.232339	0.765797	220.2881
1.166	2.812352	840.3308	1.232339	8707.227	0.765797	9310.439	1.295835	0.821356	237.1207
1.249	2.812352	840.3308	1.295835	9310.439	0.821356	9897.272	1.357607	0.875406	253.4963
1.332	2.812352	840.3308	1.357607	9897.272	0.875406	10468.17	1.417702	0.927989	269.4274
1.415	1.406176	630.2481	1.417702	10468.17	0.927989	10468.17	1.417702	0.927989	277.2883
1.498	0.1	225.0227	1.417702	10468.17	0.927989	10416.62	1.412276	0.923241	276.5740
1.581	0.1	29.88	1.412276	10416.62	0.923241	10173.97	1.386734	0.900892	272.5257
1.664	0.1	29.88	1.386734	10173.97	0.900892	9937.920	1.361886	0.879150	268.7384
1.747	0.1	29.88	1.361886	9937.920	0.879150	9708.270	1.337712	0.857998	265.1900
1.83	0.1	29.88	1.337712	9708.270	0.857998	9484.854	1.314195	0.837420	261.8256
1.913	0.1	29.88	1.314195	9484.854	0.837420	9267.504	1.291316	0.817401	258.6304
2	0.1	31.32	1.291316	9267.504	0.817401	9048.008	1.268000	0.797000	255.8154
2.083	0.1	29.88	1.268000	9048.008	0.797000	8840.572	1.246376	0.778079	253.2169
2.166	0.1	29.88	1.246376	8840.572	0.778079	8640.712	1.225338	0.759670	250.7398
2.249	0.1	29.88	1.225338	8640.712	0.759670	8446.278	1.204871	0.741762	248.3141
2.332	0.1	29.88	1.204871	8446.278	0.741762	8257.122	1.184960	0.724340	246.0357
2.415	0.1	29.88	1.184960	8257.122	0.724340	8073.101	1.165589	0.707390	243.9006

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	I	SOIL MOIS FACTOR	Qp
8.91	0.607	0.48	1	2.596017

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	1.298008	193.9225	0	0	0	191.7999	0.071037	0.014207	2.122585
0.167	2.596017	586.7787	0.071037	191.7999	0.014207	769.8087	0.285113	0.057022	10.28979
0.25	2.596017	775.6900	0.285113	769.8087	0.057022	1519.752	0.515295	0.115295	25.74397
0.333	2.596017	775.6900	0.515293	1519.752	0.115293	2251.149	0.581184	0.181184	44.29376
0.417	2.596017	785.0357	0.581184	2251.149	0.181184	2971.561	0.646088	0.246088	64.60367
0.5	2.596017	775.6900	0.646086	2971.561	0.246086	3664.571	0.706519	0.307454	87.67938
0.5833	2.596017	778.4967	0.706519	3664.571	0.307454	4342.421	0.772866	0.368775	113.6445
0.6667	2.596017	779.4286	0.772866	4342.421	0.368775	5003.487	0.842472	0.424668	118.3604
0.75	2.596017	778.4907	0.842472	5006.489	0.424668	5645.764	0.910080	0.488820	136.2180
0.833	2.596017	775.6900	0.910080	5645.764	0.488820	6268.322	0.975612	0.541161	150.1332
0.9167	2.596017	782.2920	0.975612	6266.322	0.541161	6879.017	1.039896	0.597409	171.5570
1	2.596017	778.4737	1.039896	6879.017	0.597409	7470.195	1.102125	0.651860	187.3154
1.083	2.596017	775.6900	1.102125	7470.195	0.651860	8043.224	1.162444	0.704639	202.4609
1.166	2.596017	775.6900	1.162444	8043.224	0.704639	8600.697	1.221126	0.755985	219.2173
1.249	2.596017	775.6900	1.221126	8600.697	0.755985	9143.836	1.278214	0.805957	233.3512
1.332	2.596017	775.6900	1.278214	9143.836	0.805957	9670.652	1.333752	0.854553	248.0744
1.415	2.596017	775.6900	1.333752	9670.652	0.854553	10183.94	1.387785	0.901810	262.3976
1.498	2.596017	775.6900	1.387783	10183.94	0.901810	10683.30	1.440347	0.947804	276.3324
1.581	1.298008	581.7675	1.440347	10683.30	0.947804	10683.30	1.440347	0.947804	268.2038
1.664	0.1	208.6625	1.440347	10683.30	0.947804	10609.96	1.432628	0.941049	262.1947
1.747	0.1	29.88	1.432628	10609.96	0.941049	10362.07	1.406534	0.918217	257.7745
1.83	0.1	29.88	1.406534	10362.07	0.918217	10120.91	1.381148	0.896004	253.6446
1.915	0.1	29.88	1.381148	10120.91	0.896004	9886.292	1.356451	0.874395	249.4977
2	0.1	31.32	1.356451	9886.292	0.874395	9647.200	1.331284	0.852373	245.4120
2.083	0.1	29.88	1.331284	9647.200	0.852373	9425.442	1.307941	0.831948	241.6877
2.166	0.1	29.88	1.307941	9425.442	0.831948	9209.705	1.285232	0.812078	238.0175
2.249	0.1	29.88	1.285232	9209.705	0.812078	8999.826	1.263139	0.792747	234.3608
2.332	0.1	29.88	1.263139	8999.826	0.792747	8795.643	1.241646	0.773940	230.8631
2.415	0.1	29.88	1.241646	8795.643	0.773940	8597.083	1.220737	0.755645	227.5201

FINAL CONDITIONS 10 YEAR STORM
MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.607	0.36	1	1.947013

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	0.973506	145.4418	0	0	0	143.8499	0.053277	0.010655	1.591939
0.167	1.947013	441.5825	0.053277	143.8499	0.010655	577.3558	0.213635	0.042767	6.077475
0.25	1.947013	581.7675	0.213635	577.3558	0.042767	1140.115	0.422265	0.084453	19.00667
0.333	1.947013	581.7675	0.422265	1140.115	0.084453	1697.755	0.630608	0.130608	32.13017
0.417	1.947013	586.7767	0.630608	1689.755	0.130608	2281.652	0.579426	0.179426	46.67752
0.5	1.947013	581.7675	0.579426	2231.652	0.179426	2752.792	0.626377	0.226377	60.82739
0.5833	1.947013	586.8705	0.626377	2752.792	0.226377	3261.899	0.672243	0.272243	74.76922
0.6667	1.947013	584.5712	0.672243	3261.877	0.272243	3758.337	0.716967	0.314846	88.13389
0.75	1.947013	588.8705	0.716967	3758.867	0.314846	4241.843	0.762299	0.354511	100.8655
0.833	1.947013	581.7675	0.762299	4241.843	0.354511	4711.224	0.811707	0.397744	112.3978
0.9167	1.947013	586.8748	0.811707	4711.224	0.397744	5171.668	0.860174	0.440152	126.2376
1	1.947013	583.8703	0.860174	5171.668	0.440152	5617.382	0.907092	0.481206	135.1466
1.083	1.947013	581.7675	0.907092	5617.382	0.481206	6049.428	0.952570	0.520999	147.7295
1.166	1.947013	581.7675	0.952570	6049.428	0.520999	6469.729	0.996813	0.559711	161.4582
1.249	1.947013	581.7675	0.996813	6469.729	0.559711	6878.628	1.039855	0.597373	172.9665
1.332	1.947013	581.7675	1.039855	6878.628	0.597373	7276.427	1.081729	0.634013	183.7491
1.415	1.947013	581.7675	1.081729	7276.427	0.634013	7663.426	1.122465	0.669657	194.7664
1.498	1.947013	581.7675	1.122465	7663.426	0.669657	8039.919	1.162096	0.704334	205.2744
1.581	1.947013	581.7675	1.162096	8039.919	0.704334	8406.191	1.200651	0.738070	215.4952
1.664	1.947013	581.7675	1.200651	8406.191	0.738070	8762.520	1.238160	0.770890	225.4386
1.747	1.947013	581.7675	1.238160	8762.520	0.770890	9109.175	1.274650	0.802818	235.1121
1.83	1.947013	581.7675	1.274650	9109.175	0.802818	9446.420	1.310149	0.833880	244.5229
1.913	1.947013	581.7675	1.310149	9446.420	0.833880	9774.509	1.344685	0.864099	253.6782
2	1.947013	609.2843	1.344685	9774.509	0.864099	10108.85	1.379879	0.894894	275.4581
2.083	0.973506	436.3256	1.379879	10108.85	0.894894	10108.85	1.379879	0.894894	267.3945
2.166	0.1	160.5818	1.379879	10108.85	0.894894	9976.072	1.365902	0.882664	265.5678
2.249	0.1	29.66	1.365902	9976.072	0.882664	9744.469	1.341523	0.861332	260.5531
2.332	0.1	29.66	1.341523	9744.469	0.861332	9520.070	1.317902	0.840664	254.2783
2.415	0.1	29.66	1.317902	9520.070	0.840664	9301.764	1.294922	0.820557	248.1865

Final Conditions 100 year storm

SCS TR 20: FOR Tc=0.1, Ia/P=.1 AND Tt=0, 24 HR STORM

AREA SQ MI)	CN	S	P	Q	UNIT Qp	Qp	Ia/P
0.0139	90.31	1.072971	2.01	1.1238	1010	15.77703 0	0.106763

TIME (HOURS)	q(p)	%max	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
10.5	0	0	0			0			0	0	
11	24	0.023762	0.3749	337.4097	0	0	0	324.0436	0.120016	0.014851	13.36612
11.3	34	0.033663	0.531108	489.2441	0.120016	324.0436	0.014851	785.82	0.291044	0.036015	27.46772
11.6	53	0.052475	0.827904	733.8662	0.291044	785.82	0.036015	1462.701	0.513259	0.069512	56.98476
11.9	334	0.330693	5.217354	3264.439	0.513259	1462.701	0.069512	4539.431	0.875227	0.278099	187.7101
12	647	0.640594	10.10667	2758.325	0.875227	4539.431	0.278099	7154.27	1.137546	0.51904	143.4851
12.1	1010	1	15.77703	4659.066	1.137546	7154.27	0.51904	11540.01	1.517219	0.999456	273.3293
12.2	623	0.616832	9.731772	4591.584	1.517219	11540.01	0.999456	15681.89	1.763145	1.498888	449.7019
12.3	217	0.214851	3.389718	2361.868	1.763145	15681.89	1.498888	17465.45	1.869044	1.713951	578.3111
12.4	147	0.145545	2.296261	1023.476	1.869044	17465.45	1.713951	17863.27	1.892665	1.761921	625.6569
12.5	123	0.121782	1.921361	759.1719	1.892665	17863.27	1.761921	17985.49	1.899922	1.776659	636.9443
12.6	104	0.10297	1.624565	638.2668	1.899922	17985.49	1.776659	17985.82	1.899942	1.776699	639.6044
12.7	86	0.085149	1.343391	534.2321	1.899942	17985.82	1.776699	17882.73	1.893821	1.764268	637.374
12.8	76	0.075248	1.187182	455.5032	1.893821	17882.73	1.764268	17706.94	1.883383	1.743071	631.3209
13	66	0.065347	1.030974	798.5364	1.883383	17706.94	1.743071	17269.47	1.857409	1.690321	1236.621
13.2	57	0.056436	0.890387	691.69	1.857409	17269.47	1.690321	16766	1.827515	1.629611	1195.176
13.4	51	0.050495	0.796662	607.3375	1.827515	16766	1.629611	16223.58	1.795308	1.564205	1149.774
13.6	46	0.045545	0.718558	545.4791	1.795308	16223.58	1.564205	15668.97	1.762378	1.49733	1102.153
13.8	42	0.041584	0.656075	494.8676	1.762378	15668.97	1.49733	15110.21	1.729201	1.429954	1053.822
14	38	0.037624	0.593591	449.8797	1.729201	15110.21	1.429954	14554.73	1.69622	1.362974	1005.454
14.3	34	0.033663	0.531108	607.3375	1.69622	14554.73	1.362974	13742.97	1.648021	1.265092	1419.156
14.6	32	0.031683	0.499866	556.7261	1.648021	13742.97	1.265092	12982.94	1.602894	1.173446	1316.811
15	29	0.028713	0.453004	686.0665	1.602894	12982.94	1.173446	12059.46	1.548062	1.062093	1609.588
15.5	26	0.025743	0.406141	773.2307	1.548062	12059.46	1.062093	11030.32	1.480559	0.940594	1802.418
16	23	0.022772	0.359279	688.8782	1.480559	11030.32	0.940594	10115.68	1.399618	0.84112	1603.542
16.5	21	0.020792	0.328037	618.5845	1.399618	10115.68	0.84112	9300.112	1.327444	0.752419	1434.185
17	20	0.019802	0.312416	576.4083	1.327444	9300.112	0.752419	8591.556	1.264739	0.675358	1284.999
17.5	19	0.018812	0.296796	548.2908	1.264739	8591.556	0.675358	7984.171	1.210989	0.609299	1156.191
18	18	0.017822	0.281175	520.1734	1.210989	7984.171	0.609299	7459.475	1.164555	0.552234	1045.38
19	15	0.014851	0.234312	927.8768	1.164555	7459.475	0.552234	6572.877	1.086095	0.455809	1614.477
20	13	0.012871	0.203071	787.2894	1.086095	6572.877	0.455809	5859.007	1.022921	0.378169	1501.161
22	12	0.011881	0.18745	1405.874	1.022921	5859.007	0.378169	4831.125	0.909544	0.297874	2433.757
26	0	0	0	1349.639	0.909544	4831.125	0.297874	2855.651	0.677135	0.163947	3325.115

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 10 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	3.6	1	22.42112

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	11.21056	1674.857	0	0	0	1655.802	0.527549	0.127549	19.05593
0.167	22.42112	5085.110	0.527549	1655.802	0.127549	6634.701	1.014179	0.574906	106.2114
0.25	11.21056	5024.573	1.014179	6634.701	0.574906	11420.95	1.510150	1.020300	238.3239
0.333	0.001	1675.307	1.510150	11420.95	1.020300	12787.20	1.590084	1.180169	328.7502
0.417	0.1	15.2712	1.590084	12787.20	1.180169	12431.62	1.570159	1.140918	350.8578
0.5	0.1	29.88	1.570159	12431.62	1.140318	12126.19	1.552024	1.104046	335.3084
0.5833	0.1	29.988	1.552024	12126.19	1.104048	11830.36	1.534459	1.068918	325.8147
0.6667	0.1	30.024	1.534459	11830.36	1.068918	11544.55	1.517489	1.034978	315.8370
0.75	0.1	29.988	1.517489	11544.55	1.034978	11269.07	1.501132	1.002265	305.4645
0.833	0.1	29.88	1.501132	11269.07	1.002265	11003.21	1.474022	0.977269	295.7425
0.9167	0.1	30.132	1.474022	11003.21	0.977269	10742.49	1.446578	0.953256	290.8530
1	0.1	29.988	1.446578	10742.49	0.953256	10490.44	1.420046	0.930040	282.3815

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 15 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	3.04	1	18.93339

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	9.466696	1414.324	0	0	0	1398.728	0.504389	0.104389	15.59586
0.167	18.93339	4294.093	0.504389	1398.728	0.104389	5604.460	0.905732	0.480016	88.36219
0.25	18.93339	5657.298	0.905732	5604.460	0.480016	11043.48	1.478261	0.980978	218.2726
0.333	9.466696	4242.973	1.478261	11043.48	0.980978	14925.29	1.718222	1.436444	361.1630
0.417	0.1	1446.484	1.716222	14925.29	1.436444	15919.54	1.777256	1.554512	452.2326
0.5	0.1	29.88	1.777256	15919.54	1.554512	15492.75	1.751915	1.503830	456.9163
0.5833	0.1	29.988	1.751915	15492.75	1.503830	15447.61	1.749234	1.498469	450.1648
0.6667	0.1	30.024	1.749234	15447.61	1.498469	15470.14	1.750572	1.501145	450.3022
0.75	0.1	29.988	1.750572	15470.14	1.501145	15481.54	1.751249	1.502498	450.3664
0.833	0.1	29.88	1.751249	15481.54	1.502498	15488.11	1.751639	1.503279	449.0632
0.9167	0.1	30.132	1.751639	15488.11	1.503279	15495.39	1.752071	1.504143	453.0982
1	0.1	29.988	1.752071	15495.39	1.504143	15499.16	1.752295	1.504591	451.1296

FINAL CONDITIONS 100 YR
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 20 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	2.68	1	16.69128

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	8.345640	1246.838	0	0	0	1219.839	0.451792	0.180716	26.99911
0.167	16.69128	3785.582	0.451792	1219.839	0.180716	4920.914	0.833780	0.378195	84.50750
0.25	16.69128	4967.354	0.833780	4920.914	0.378195	9724.754	1.339447	0.850151	163.5149
0.333	16.69128	4967.354	1.339447	9724.754	0.850151	14380.16	1.685854	1.371709	331.9459
0.417	8.345640	3785.582	1.685854	14380.16	1.371709	17691.48	1.882465	1.764931	474.2600
0.5	0.1	1261.778	1.882465	17691.48	1.764931	18413.10	1.925311	1.850623	540.1638
0.5833	0.1	29.988	1.925311	18413.10	1.850623	17897.30	1.894686	1.789372	545.7810
0.6667	0.1	30.024	1.894686	17897.30	1.789372	17398.97	1.865097	1.730195	528.3575
0.75	0.1	29.988	1.865097	17398.97	1.730195	16918.66	1.836579	1.673158	510.2988
0.833	0.1	29.88	1.836579	16918.66	1.673158	16456.79	1.809155	1.618311	491.7455
0.9167	0.1	30.132	1.809155	16456.79	1.618311	16007.34	1.782468	1.564937	479.5683
1	0.1	29.988	1.782468	16007.34	1.564937	15575.72	1.756841	1.513682	461.6083

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 30 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	2.12	1	13.20355

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	6.601775	986.3052	0	0	0	964.9477	0.357388	0.142955	21.35750
0.167	13.20355	2994.565	0.357388	964.9477	0.142955	3893.797	0.729170	0.291668	65.71509
0.25	13.20355	3945.220	0.729170	3893.797	0.291668	7698.176	1.126123	0.651048	140.8419
0.333	13.20355	3945.220	1.126123	7698.176	0.651048	11394.17	1.508560	1.017120	249.2245
0.417	13.20355	3992.753	1.508560	11394.17	1.017120	15014.34	1.723509	1.447019	372.5779
0.5	13.20355	3945.220	1.723509	15014.34	1.447019	18465.96	1.928450	1.856901	493.6057
0.5833	6.601775	2969.610	1.928450	18465.96	1.856901	20631.99	2.056200	2.168601	603.5838
0.6667	0.1	1006.070	2.056200	20831.99	2.168601	21179.38	2.073017	2.219051	658.6744
0.75	0.1	29.988	2.073017	21179.38	2.219051	20557.46	2.042911	2.128734	651.9070
0.833	0.1	29.88	2.042911	20557.46	2.128734	19964.15	2.014190	2.042572	623.1933
0.9167	0.1	30.132	2.014190	19964.15	2.042572	19390.25	1.983330	1.966661	604.0312
1	0.1	29.988	1.983330	19390.25	1.966661	18840.27	1.950675	1.901350	579.9697

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 40 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	1.83	1	11.39740

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	5.698702	851.3861	0	0	0	832.9501	0.308500	0.123400	18.43596
0.167	11.39740	2584.931	0.308500	832.9501	0.123400	3358.042	0.680904	0.272361	59.83920
0.25	11.39740	3405.544	0.680904	3358.042	0.272361	6641.144	1.014857	0.547200	122.4425
0.333	11.39740	3405.544	1.014857	6641.144	0.547200	9836.287	1.351188	0.861108	210.4013
0.417	11.39740	3446.575	1.351188	9836.287	0.861108	12970.56	1.602159	1.204318	312.2926
0.5	11.39740	3405.544	1.602159	12970.56	1.204318	15963.17	1.779846	1.559692	412.9433
0.5833	11.39740	3417.853	1.779846	15963.17	1.559692	18861.69	1.951947	1.903894	519.3302
0.6667	11.39740	3421.956	1.951947	18861.69	1.903894	21654.36	2.096009	2.288027	629.2913
0.75	5.698702	2563.390	2.096009	21654.36	2.288027	23491.61	2.184945	2.554837	726.1392
0.833	0.1	866.3261	2.184945	23491.61	2.554837	23491.61	2.184945	2.554837	763.3854
0.9167	0.1	30.132	2.184945	23491.61	2.554837	22767.75	2.149905	2.449717	753.9862
1	0.1	29.988	2.149905	22767.75	2.449717	22078.13	2.116523	2.349569	719.6051

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 50 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	1.57	1	9.778101

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0		0	0	0	
0.083	4.889050	730.4241	0	0	0	714.6075	0.264669	0.105867	15.81664
0.167	9.778101	2217.673	0.264669	714.6075	0.105867	2877.709	0.637631	0.255052	54.57116
0.25	9.778101	2921.696	0.637631	2877.709	0.255052	5693.459	0.915101	0.454094	105.9465
0.333	9.778101	2921.696	0.915101	5693.459	0.454094	8439.171	1.204123	0.723848	175.9846
0.417	9.778101	2956.897	1.204123	8439.171	0.723848	11137.10	1.488115	0.988908	258.9698
0.5	9.778101	2921.696	1.488115	11137.10	0.988908	13717.87	1.646530	1.293061	340.9262
0.5833	9.778101	2932.257	1.646530	13717.87	1.293061	16217.85	1.794968	1.589936	432.2766
0.6667	9.778101	2935.777	1.794968	16217.85	1.589936	18633.20	1.938380	1.876761	520.4266
0.75	9.778101	2932.257	1.938380	18633.20	1.876761	20956.19	2.062213	2.186639	609.2663
0.833	9.778101	2921.696	2.062213	20956.19	2.186639	23176.35	2.169685	2.509055	701.5368
0.9167	4.889050	2209.753	2.169685	23176.35	2.509055	24598.95	2.238549	2.715648	787.1540
1	0.1	748.0582	2.238549	24598.95	2.715648	24536.24	2.235513	2.706540	813.0021
1.083	0.1	29.88	2.235513	24536.24	2.706540	23774.59	2.198644	2.595932	792.1695
1.166	0.1	29.88	2.198644	23774.59	2.595932	23044.86	2.163320	2.489960	759.8303
1.249	0.1	29.88	2.163320	23044.86	2.489960	22346.07	2.129493	2.388480	728.8390

OK

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	1.34	1	8.345640

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	4.172820	623.4193	0	0	0	609.9197	0.225896	0.090358	13.49955
0.167	8.345640	1892.791	0.225896	609.9197	0.090358	2452.800	0.599351	0.239740	49.91097
0.25	8.345640	2493.677	0.599351	2452.800	0.239740	4855.123	0.826855	0.371731	91.35391
0.333	8.345640	2493.677	0.826855	4855.123	0.371731	7203.261	1.074027	0.602425	145.5390
0.417	8.345640	2523.721	1.074027	7203.261	0.602425	9510.536	1.316898	0.829105	216.4474
0.5	8.345640	2493.677	1.316898	9510.536	0.829105	11722.56	1.528058	1.056117	281.6522
0.5833	8.345640	2502.690	1.528058	11722.56	1.056117	13870.30	1.655581	1.311162	354.9499
0.6667	8.345640	2505.695	1.655581	13870.30	1.311162	15945.34	1.778787	1.557575	430.6549
0.75	8.345640	2502.690	1.778787	15945.34	1.557575	17945.33	1.897538	1.795076	502.6965
0.833	8.345640	2493.677	1.897538	17945.33	1.795076	19867.76	2.009524	2.028573	571.2533
0.9167	8.345640	2514.706	2.009524	19867.76	2.028573	21730.46	2.099693	2.299079	652.0043
1	8.345640	2502.690	2.099693	21730.46	2.299079	23505.06	2.165597	2.556791	728.0893
1.083	4.172820	1870.258	2.165597	23505.06	2.556791	24587.86	2.238012	2.714037	787.4618
1.166	0.1	638.3593	2.238012	24587.86	2.714037	24418.93	2.229835	2.689505	807.2892
1.249	0.1	29.86	2.229835	24418.93	2.689505	23660.90	2.193141	2.579423	787.1779
1.332	0.1	29.88	2.193141	23660.90	2.579423	22935.78	2.158039	2.474119	754.9993
1.415	0.1	29.88	2.158039	22935.78	2.474119	22241.46	2.124429	2.373288	724.2028
1.498	0.1	29.88	2.124429	22241.46	2.373288	21576.63	2.092246	2.276740	694.7143

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 70 MIN

AREA	C	i	SOIL MOIS	Qp
8.91	.699	1.2	1	7.473708

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.736854	556.2859	0	0	0	546.1968	0.202295	0.080918	12.08915
0.167	7.473708	1695.036	0.202295	546.1968	0.080918	2194.159	0.576050	0.230420	47.07433
0.25	7.473708	2233.143	0.576050	2194.159	0.230420	4344.831	0.773140	0.321597	82.47144
0.333	7.473708	2233.143	0.773140	4344.831	0.321597	6450.968	0.994838	0.528516	127.0069
0.417	7.473708	2260.049	0.994838	6450.968	0.528516	8520.453	1.212679	0.731834	190.5649
0.5	7.473708	2233.143	1.212679	8520.453	0.731834	10505.78	1.421661	0.926884	247.8124
0.5833	7.473708	2241.215	1.421661	10505.78	0.926884	12436.94	1.570475	1.140951	310.0512
0.6667	7.473708	2243.906	1.570475	12436.94	1.140951	14304.99	1.681391	1.362782	375.8605
0.75	7.473708	2241.215	1.681391	14304.99	1.362782	16105.48	1.788295	1.576591	440.7298
0.833	7.473708	2233.143	1.788295	16105.48	1.576591	17836.82	1.891095	1.782190	501.8020
0.9167	7.473708	2251.977	1.891095	17836.82	1.782190	19521.64	1.991132	1.982264	567.1526
1	7.473708	2241.215	1.991132	19521.64	1.982264	21133.90	2.070815	2.212446	628.9549
1.083	7.473708	2233.143	2.070815	21133.90	2.212446	22672.58	2.145299	2.435897	694.4626
1.166	7.473708	2233.143	2.145299	22672.58	2.435897	24145.92	2.216619	2.649857	759.8118
1.249	3.736854	1674.857	2.216619	24145.92	2.649857	25010.24	2.258459	2.775377	810.5301
1.332	0.1	573.2259	2.258459	25010.24	2.775377	24759.62	2.246327	2.738981	823.8452
1.415	0.1	29.88	2.246327	24759.62	2.738981	23987.84	2.208967	2.626901	801.6630
1.498	0.1	29.88	2.208967	23987.84	2.626901	23248.84	2.173194	2.519582	768.8847

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 60 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	1.07	1	6.664056

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	3.332028	497.8050	0	0	0	487.0255	0.180379	0.072151	10.77949
0.167	6.664056	1511.407	0.180379	487.0255	0.072151	1953.993	0.554413	0.221765	44.44031
0.25	6.664056	1991.220	0.554413	1953.993	0.221765	3868.641	0.726904	0.290761	76.57159
0.333	6.664056	1991.220	0.726904	3868.641	0.290761	5747.782	0.920819	0.459431	112.0788
0.417	6.664056	2015.210	0.920819	5747.782	0.459431	7596.597	1.115431	0.641069	166.3956
0.5	6.664056	1991.220	1.115431	7596.597	0.641069	9370.233	1.302129	0.815321	217.5847
0.5833	6.664056	1998.417	1.302129	9370.233	0.815321	11098.68	1.484072	0.985134	269.9603
0.6667	6.664056	2000.816	1.484072	11098.68	0.985134	12774.32	1.590507	1.181014	325.1822
0.75	6.664056	1998.417	1.590507	12774.32	1.181014	14389.81	1.686427	1.372855	382.9272
0.833	6.664056	1991.220	1.686427	14389.81	1.372855	15943.26	1.778664	1.557328	437.7694
0.9167	6.664056	2008.013	1.778664	15943.26	1.557328	17454.97	1.868422	1.736845	496.3003
1	6.664056	1998.417	1.868422	17454.97	1.736845	18906.70	1.954619	1.909238	546.6939
1.083	6.664056	1991.220	1.954619	18906.70	1.909238	20300.22	2.030459	2.091377	597.6921
1.166	6.664056	1991.220	2.030459	20300.22	2.091377	21637.53	2.095194	2.285583	653.9180
1.249	6.664056	1991.220	2.095194	21637.53	2.285583	22918.03	2.157180	2.471541	710.7145
1.332	6.664056	1991.220	2.157180	22918.03	2.471541	24144.15	2.216533	2.649601	765.0988
1.415	3.332028	1493.415	2.216533	24144.15	2.649601	24144.15	2.216533	2.649601	791.7009
1.498	0.1	512.7450	2.216533	24144.15	2.649601	23871.12	2.203317	2.609951	785.7772
1.581	0.1	29.88	2.203317	23871.12	2.609951	23137.07	2.167783	2.503351	763.9274
1.664	0.1	29.88	2.167783	23137.07	2.503351	22434.20	2.133759	2.401278	732.7517
1.747	0.1	29.88	2.133759	22434.20	2.401278	21761.18	2.101180	2.303541	702.9001
1.83	0.1	29.88	2.101180	21761.18	2.303541	21116.74	2.069984	2.209954	674.3163
1.913	0.1	29.88	2.069984	21116.74	2.209954	20499.68	2.040114	2.120343	646.9465
2	0.1	31.32	2.040114	20499.68	2.120343	19880.98	2.010164	2.030494	650.0210
2.083	0.1	29.88	2.010164	19880.98	2.030494	19315.02	1.978863	1.957727	595.8402
2.166	0.1	29.88	1.978863	19315.02	1.957727	18769.60	1.946479	1.892959	575.2925
2.249	0.1	29.88	1.946479	18769.60	1.892959	18243.21	1.915224	1.830449	556.2771
2.332	0.1	29.89	1.915224	18243.21	1.830449	17735.16	1.885059	1.770118	537.9247
2.415	0.1	29.88	1.885059	17735.16	1.770116	17244.83	1.855945	1.711891	520.2122

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FINAL CONDITIONS 100 YEAR STORM

MODIFIED RATIIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 90 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	0.95	1	5.916685

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.958342	441.9764	0	0	0	432.4058	0.160150	0.064060	9.570582
0.167	5.916685	1341.904	0.160150	432.4058	0.064060	1732.301	0.534441	0.213776	42.00891
0.25	5.916685	1767.905	0.534441	1732.301	0.213776	3427.205	0.687135	0.274854	73.00145
0.333	5.916685	1767.905	0.687135	3427.205	0.274854	5094.990	0.852104	0.395297	100.1206
0.417	5.916685	1789.205	0.852104	5094.990	0.395297	6740.218	1.025286	0.556933	143.9773
0.5	5.916685	1767.905	1.025286	6740.218	0.556933	8318.545	1.191425	0.711997	189.5783
0.5833	5.916685	1774.295	1.191425	8318.545	0.711997	9856.669	1.353333	0.863111	236.1718
0.6667	5.916685	1776.425	1.353333	9856.669	0.863111	11351.59	1.506032	1.012064	281.5013
0.75	5.916685	1774.295	1.506032	11351.59	1.012064	12796.66	1.591833	1.183667	329.2279
0.833	5.916685	1767.905	1.591833	12796.66	1.183667	14186.23	1.674340	1.348680	378.3326
0.9167	5.916685	1782.815	1.674340	14186.23	1.348680	15538.47	1.754629	1.509259	430.5771
1	5.916685	1774.295	1.754629	15538.47	1.509259	16837.05	1.831733	1.663466	475.7184
1.083	5.916685	1767.905	1.831733	16837.05	1.663466	18085.75	1.905875	1.811751	519.1975
1.166	5.916685	1767.905	1.905875	18085.75	1.811751	19290.93	1.977433	1.954866	562.7327
1.249	5.916685	1767.905	1.977433	19290.93	1.954866	20451.05	2.037760	2.113281	607.7813
1.332	5.916685	1767.905	2.037760	20451.05	2.113281	21563.37	2.091605	2.274815	655.5816
1.415	5.916685	1767.905	2.091605	21563.37	2.274815	22628.46	2.143163	2.429489	702.8231
1.498	5.916685	1767.905	2.143163	22628.46	2.429489	23648.30	2.192531	2.577593	748.0581
1.581	2.958342	1325.929	2.192531	23648.30	2.577593	23648.30	2.192531	2.577593	770.1849
1.664	0.1	456.9164	2.192531	23648.30	2.577593	23267.34	2.174089	2.522269	761.9195
1.747	0.1	29.88	2.174089	23267.34	2.522269	22558.60	2.139781	2.419344	736.2771
1.83	0.1	29.88	2.139781	22558.60	2.419344	21880.30	2.106946	2.320839	708.1834
1.913	0.1	29.88	2.106946	21880.30	2.320839	21230.80	2.075506	2.226518	679.3752
2	0.1	31.32	2.075506	21230.80	2.226518	20579.58	2.043982	2.131947	682.5357
2.083	0.1	29.88	2.043982	20579.58	2.131947	19985.33	2.015216	2.045648	624.1328
2.166	0.1	29.88	2.015216	19985.33	2.045648	19415.33	1.984819	1.969639	599.8840
2.249	0.1	29.88	1.984819	19415.33	1.969639	18866.42	1.952227	1.904455	578.7898
2.332	0.1	29.88	1.952227	18866.42	1.904455	18336.65	1.920772	1.841545	559.6525
2.415	0.1	29.88	1.920772	18336.65	1.841545	17825.35	1.890413	1.780827	541.1625

FINAL CONDITIONS 100 YEAR STORM
MODIFIED RATIONAL METHOD WITH Tc=10 MIN AND STORM DURATION 120 MIN

AREA (ACRES)	C	i	SOIL MOIS FACTOR	Qp
8.91	0.699	0.7	1	4.359663

TIME (HOURS)	INFLOW (CFS)	INCREMENT INFLOW VOLUME (CU FT)	INITIAL WATER ELEVATION	INITIAL STORAGE VOLUME (CU FT)	INITIAL OUTFLOW (CFS)	FINAL STORAGE VOLUME (CU FT)	FINAL WATER ELEVATION	FINAL OUTFLOW (CFS)	OUTFLOW VOLUME (CU FT)
0	0			0			0	0	
0.083	2.179831	325.6668	0	0	0	318.6148	0.118005	0.047202	7.052007
0.167	4.359663	988.7715	0.118005	318.6148	0.047202	1271.761	0.471022	0.188409	35.62443
0.25	4.359663	1302.667	0.471022	1271.761	0.188409	2510.154	0.604518	0.241807	64.27435
0.333	4.359663	1302.667	0.604518	2510.154	0.241807	3733.981	0.714773	0.285909	78.84086
0.417	4.359663	1318.362	0.714773	3733.981	0.285909	4951.476	0.836997	0.381197	100.8665
0.5	4.359663	1302.667	0.836997	4951.476	0.381197	6123.046	0.960320	0.496299	131.0980
0.5833	4.359663	1307.375	0.960320	6123.046	0.496299	7264.772	1.080502	0.608468	165.6489
0.6667	4.359663	1308.945	1.080502	7264.772	0.608468	8374.662	1.197332	0.717510	199.0360
0.75	4.359663	1307.375	1.197332	8374.662	0.717510	9451.015	1.310633	0.823257	231.0227
0.833	4.359663	1302.667	1.310633	9451.015	0.823257	10492.40	1.420253	0.925569	261.2748
0.9167	4.359663	1313.653	1.420253	10492.40	0.925569	11511.28	1.515513	1.031027	294.7809
1	4.359663	1307.375	1.515513	11511.28	1.031027	12492.00	1.573744	1.147489	326.6467
1.083	4.359663	1302.667	1.573744	12492.00	1.147489	13435.07	1.629739	1.259479	359.6011
1.166	4.359663	1302.667	1.629739	13435.07	1.259479	14345.26	1.683782	1.367564	392.4803
1.249	4.359663	1302.667	1.683782	14345.26	1.367564	15223.71	1.735940	1.471681	424.2132
1.332	4.359663	1302.667	1.735940	15223.71	1.471681	16071.54	1.786280	1.572561	454.8398
1.415	4.359663	1302.667	1.786280	16071.54	1.572561	16889.81	1.834865	1.669731	484.3966
1.498	4.359663	1302.667	1.834865	16889.81	1.669731	17679.55	1.881757	1.763514	512.9269
1.581	4.359663	1302.667	1.881757	17679.55	1.763514	18441.75	1.927013	1.854026	540.4606
1.664	4.359663	1302.667	1.927013	18441.75	1.854026	19177.39	1.970691	1.941383	567.0343
1.747	4.359663	1302.667	1.970691	19177.39	1.941383	19886.54	2.010433	2.031301	593.5191
1.83	4.359663	1302.667	2.010433	19886.54	2.031301	20567.48	2.043396	2.130188	621.7266
1.913	4.359663	1302.667	2.043396	20567.48	2.130188	21219.50	2.074958	2.224876	650.6468
2	4.359663	1365.446	2.074958	21219.50	2.224876	21873.24	2.106605	2.319815	711.6988
2.083	2.179831	977.0004	2.106605	21873.24	2.319815	21873.24	2.106605	2.319815	693.1608
2.166	0.1	340.6068	2.106605	21873.24	2.319815	21527.83	2.069884	2.269653	685.6667
2.249	0.1	29.88	2.089684	21527.83	2.269653	20990.28	2.059167	2.177503	664.4052
2.332	0.1	29.88	2.059167	20693.28	2.177503	20285.69	2.029755	2.089267	637.4556
2.415	0.1	29.88	2.029755	20285.69	2.089267	19703.91	2.001593	2.004779	611.6507

ORIGINAL CONDITIONS
RUNOFF SUMMARY

BASIN PARAMETER	BASIN 1	BASIN 2
AREA (ACRES)	7.11	1.80
AREA (SQUARE MILES)	0.0111	0.0028
MAXIMUM ELEVATION	4660.63	4658.68
MINIMUM ELEVATION	4636.38	4640.26
LONGEST WATER COURSE		
LENGTH (FEET)	869.00	540.00
SLOPE	0.0256	0.0341
TIME OF CONCENTRATION (MINUTES)	9.05	4.50
2-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	0.90	0.90
SCS METHOD (INCH/24 HOUR)	0.70	0.70
SCS METHOD (INCH/6 HOUR)	0.55	0.55
10-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	1.68	1.68
SCS METHOD (INCH/24 HOUR)	1.12	1.12
SCS METHOD (INCH/6 HOUR)	0.87	0.87
100-YEAR RAINFALL		
RATIONAL METHOD (INCH/HR)	3.60	3.60
SCS METHOD (INCH/24 HOUR)	2.01	2.01
SCS METHOD (INCH/6 HOUR)	1.56	1.56
RUNOFF--SCS METHOD (INCH)		
24 HOUR		
2-YEAR	0.352	0.352
10-YEAR	0.822	0.822
100-YEAR	0.782	0.602
RUNOFF--SCS METHOD (INCH)		
6 HOUR		
2-YEAR	0.017	0.098
10-YEAR	0.110	0.282
100-YEAR	0.475	0.807
2-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	1.99	0.49
SCS METHOD (24 HOUR)	0.22	0.09
SCS METHOD (6 HOUR)	0.34	0.09
10-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	3.72	0.91
SCS METHOD (24 HOUR)	1.63	0.61
SCS METHOD (6 HOUR)	1.88	0.46
100-YEAR PEAK FLOW (CFS)		
RATIONAL METHOD	12.05	2.92
SCS METHOD (24 HOUR)	7.59	2.27
SCS METHOD (6 HOUR)	5.25	1.22
2-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	5782.00	1468.00
SCS METHOD (24 HOUR)	1366.00	379.00
SCS METHOD (6 HOUR)	2556.00	599.00
10-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	9554.00	2419.00
SCS METHOD (24 HOUR)	3844.00	1567.00
SCS METHOD (6 HOUR)	7451.00	2013.00
100-YEAR RUNOFF VOLUME (CU. FT.)		
MODIFIED RATIONAL METHOD (24 HR)	22150.00	5561.00
SCS METHOD (24 HOUR)	20944.00	5419.00
SCS METHOD (6 HOUR)	20623.00	5842.00
2-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	0.49
SCS METHOD (24 HOUR)	0.00	0.09
SCS METHOD (6 HOUR)	0.00	0.09
10-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	0.91
SCS METHOD (24 HOUR)	0.00	0.61
SCS METHOD (6 HOUR)	0.00	0.46
100-YEAR OFF-SITE DISCHARGE (CFS)		
MODIFIED RATIONAL METHOD	0.00	2.92
SCS METHOD (24 HOUR)	0.00	2.27
SCS METHOD (6 HOUR)	0.00	1.22

ST MARYS
FINAL CONDITIONS
RUNOFF SUMMARY

BASIN PARAMETER	BASIN 1
AREA (ACRES)	8.91
AREA (SQUARE MILES)	0.0139
MAXIMUM ELEVATION	4660.63
MINIMUM ELEVATION	4638.38
LONGEST WATER COURSE	
LENGTH (FEET)	869.00
SLOPE	0.0256
TIME OF CONCENTRATION (MINUTES)	4.40
2-YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	0.90
SCS METHOD (INCH/24 HOUR)	0.70
SCS METHOD (INCH/6 HOUR)	0.55
10-YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	1.66
SCS METHOD (INCH/24 HOUR)	1.12
SCS METHOD (INCH/6 HOUR)	0.87
100-YEAR RAINFALL	
RATIONAL METHOD (INCH/HR)	3.60
SCS METHOD (INCH/24 HOUR)	2.01
SCS METHOD (INCH/6 HOUR)	1.56
RUNOFF--SCS METHOD (INCH)	
24 HOUR	
2-YEAR	0.151
10-YEAR	0.415
100-YEAR	1.124
RUNOFF--SCS METHOD (INCH)	
6 HOUR	
2-YEAR	0.080
10-YEAR	0.249
100-YEAR	0.749
2-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	4.87
SCS METHOD (24 HOUR)	1.97
SCS METHOD (6 HOUR)	1.48
10-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	9.08
SCS METHOD (24 HOUR)	3.82
SCS METHOD (6 HOUR)	3.21
100-YEAR PEAK FLOW (CFS)	
RATIONAL METHOD	22.46
SCS METHOD (24 HOUR)	15.76
SCS METHOD (6 HOUR)	8.19
2-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (90 MIN)	8159.00
SCS METHOD (24 HOUR)	5072.00
SCS METHOD (6 HOUR)	6346.00
10-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (70 MIN)	13693.00
SCS METHOD (24 HOUR)	10362.00
SCS METHOD (6 HOUR)	14348.00
100-YEAR RUNOFF VOLUME (CU. FT.)	
MODIFIED RATIONAL METHOD (70 MIN)	31440.00
SCS METHOD (24 HOUR)	36241.00
SCS METHOD (6 HOUR)	34432.00
2-YEAR OFF-SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (90 MIN)	0.54
SCS METHOD (24 HOUR)	0.12
SCS METHOD (6 HOUR)	0.22
10-YEAR OFF-SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (70 MIN)	0.96
SCS METHOD (24 HOUR)	0.50
SCS METHOD (6 HOUR)	0.57
100-YEAR OFF-SITE DISCHARGE (CFS)	
MODIFIED RATIONAL METHOD (70 MIN)	2.78
SCS METHOD (24 HOUR)	1.76
SCS METHOD (6 HOUR)	1.78

TRAFFIC/PEDESTRIAN IMPACT STUDY
PROPOSED PARKING LOT ADDITION
ST. MARY'S HOSPITAL

July 1992

Prepared By:

Western Engineers, Inc.
2150 Hwy. 6 & 50
Grand Junction, CO 81505

TABLE OF CONTENTS

SUMMARY OF SOLUTIONS FOR VEHICLE/PEDESTRIAN CONFLICTS

As a result of investigation and traffic analysis, the following recommendations will provide for the safety of pedestrians and vehicular traffic flow.

1. By improving the line-of-sight for north bound vehicles on 7th street making a right turn to Patterson Road, will keep vehicles from encroaching in the pedestrian crosswalk. This will also be beneficial for vehicles merging with eastbound traffic, as they will be able to see oncoming traffic. This can be accomplished by the a combination of the following:

   a) Remove 10 parking spaces, located at the southwest corner of the intersection bordering Patterson Road, from service.

   b) Move the "stop-bar" for northbound traffic in the through and left-turn-only lanes to the south while keeping the "stop-bar" for the right-turn-only lane in the same location. This action will aid the vehicle performing the right turn maneuver to view on-coming traffic.

2. "No right turn on red when pedestrians in crosswalk" restriction at the south side of the intersection of Seventh St. with Patterson Road. This will give the pedestrian the right-of-way during the walk phase.

3. Lengthen the "walk" signal for pedestrians at the 7th Street and Patterson Road intersection. This will allow for a more comfortable crossing time for the expected increase in pedestrian traffic.

4. Install fencing and remove sidewalks adjacent to current parking lot on the east side of 7th Street. This plan will deter pedestrian traffic from crossing 7th Street in the middle of the block by allowing the only access to the sidewalk at the location of the signalized "crosswalk".

5. Provide parking lot entrance/exit on Patterson. This plan allows for a full access driveway to accommodate the parking lot located at the southeast corner of 7th Street and Patterson Road. The use of this driveway will allow vehicles to enter and exit the parking lot from Patterson Road, thus eliminating some congestion at the intersections of 7th Street and Wellington Avenue.

6. Minimize use of 7th and Wellington by providing employee information and signage at the Wellington exit directing traffic on Wellington to the Bookcliff and 12th intersection.

In conclusion, the combination of all solutions listed is recommended. Increased policing and enforcement will be required initially for new traffic regulations. Once implemented, the safety of pedestrians and vehicles will provide permanent benefit to the overall public.

INTRODUCTION

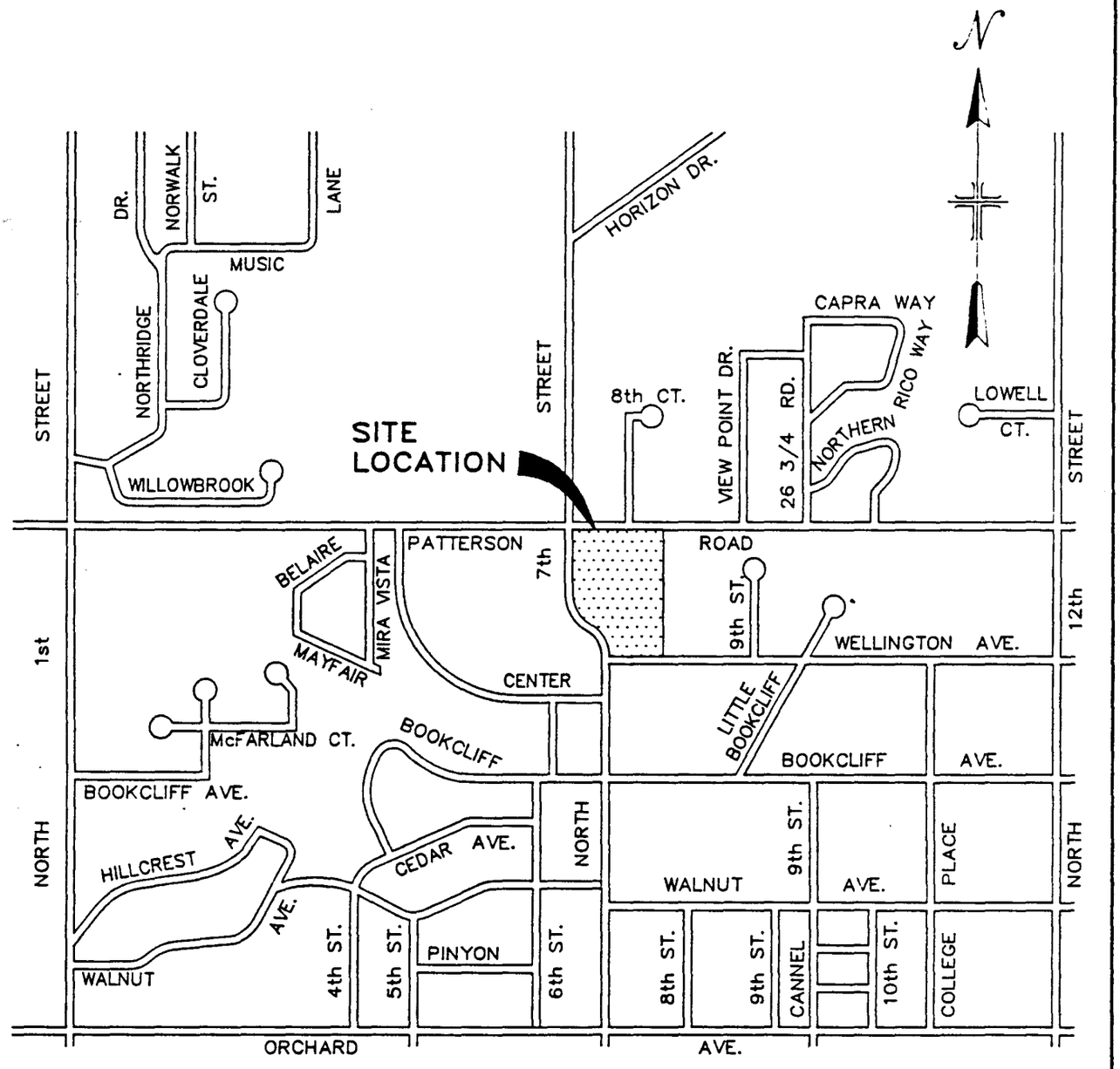
The following report is an impact study for traffic and pedestrian volumes generated by a proposed development of an employee parking lot for St. Mary's Hospital.

The proposed site for this facility is located at the southeast corner of 7th Street and Patterson Road (see Vicinity Map, Figure 1). There is an existing parking lot which is bordered by 7th Street on the west and Patterson Road on the north. This existing parking lot contains 130 parking stalls. The proposed addition will be constructed immediately to the east containing 360 additional parking stalls, making a total of 490 spaces. Both parking lots will be using a common entrance/exit located on Wellington Avenue near 7th Street, while a proposed full access driveway will be constructed on Patterson Road to accommodate both parking lots. The intersection most directly affected by the increase in vehicle traffic volume is 7th Street and Wellington Avenue. The general geometry of this intersection is a "T" shape with 7th Street being the main thoroughfare, north and south, and Wellington Avenue is a minor street to the east. 7th street has four lanes of travel with two in each direction separated by a painted meridian. This meridian serves as a left turn lane for south bound traffic and a merge lane for left turns off of Wellington. To lessen the impact of increased vehicle traffic volume at 7th Street and Wellington Avenue, in-house directives and special signage erected at the Wellington Avenue exit of the parking lot will encourage traffic to exit east towards Bookcliff Avenue.

In 1985, the City of Grand Junction established a requirement to maintain a Level of Service (LOS) C for all traffic ways in the city. A Level of Service A is the most desirable whereas LOS F is unacceptable. The proposed parking lot will have a impact on the intersection of 7th Street and Wellington Avenue and the traffic of Patterson Road.

There will be an increase in pedestrian traffic across 7th Street to access the hospital and then return to the parking lot. The only designated crosswalk in the vicinity of the proposed facility is at the intersection of 7th Street and Patterson Road.

FIGURE 1



VICINITY MAP
NOT TO SCALE

WESTERN ENGINEERS, INC.

PROJECTED TRAFFIC VOLUME

The existing parking lot and the proposed project are on the east side of Seventh Street and are designated as employee parking only. To determine the increase of vehicular traffic entering and exiting the parking facilities, a correlation to the existing pedestrian traffic will be made. The largest pedestrian volume (including all people that are presently short cutting) at 7th and Patterson was observed during the 7:45 to 8:00 AM time period. During the 15 minute period 18 people were counted crossing the street from the parking lot to the hospital. At this particular time there were 49 vehicles occupying space in the existing lot. The 18 drivers (pedestrians) represent 37% of the parked vehicles. Prorating this to the total existing and proposed parking (37% of 490 spaces), the maximum number of vehicles considered to be exiting the lot will be 182. If these drivers arrive at the same shift it is entirely possible they may exit at the same time. Therefore it is possible to use the 182 vehicles for the morning peak, 7: 15 to 8:15 AM, or the afternoon peak traffic hour, 4:15 to 5:15 PM. for the worst case scenario.

SEVENTH AND WELLINGTON VEHICULAR ANALYSIS
(With exit only for the North Entrance on Patterson)

7th Street, with many medical offices, facilities and clinics, is a major north and south thoroughfare for the City of Grand Junction. Wellington is a minor collector also serving a large majority of the medical services in Grand Junction. Table 1 provides traffic information as observed by Western Engineers, Inc. in May, 1992, at the 7th and Wellington intersection. There are two major peak times, one around the noon hour and the other between 3:15 to 4:15 P.M. The peak hour of traffic exiting the proposed parking lot is determined to be between 4:15 to 5:15 P.M. This report will focus on the latter time period for the analysis comparison.

Table 2 tabulates and collates the data of existing traffic to calculate the current LOS using the programmed sequences of the 1985 HCM Traffic Analysis software. The conclusions identify LOS for the following traffic movements as follows:

EXISTING LEVEL OF SERVICE

1. Left hand turn from Wellington to 7th LOS E
2. Right hand turn from Wellington to 7th LOS A
3. Left hand S/B lane of 7th to Wellington LOS A

Table 3 tabulates and collates information based on observation with direct proportion of pedestrians crossing 7th Street to the number of vehicles in the existing parking lot. This percentage (37%) was used to determine the number of vehicles anticipated

during the peak hour. The largest impact on the intersection will be during the late afternoon shift change, when employees combined with vehicles from medical offices on Wellington Avenue attempt to exit onto 7th Street. The peak hour for vehicle traffic exiting the parking lot that will have the greatest impact on existing traffic is 4:15 to 5:15 P.M. Using the 37% described above, then applying this to a full capacity for both parking lots (490 vehicles), a peak vehicle traffic count of 182 VPH was arrived at. Assuming that 20% of the 182 vehicles will use the exit only on to Patterson Road, the remaining 146 vehicles will exit onto Wellington Avenue and ultimately use the intersection referenced. Using a ratio of vehicles currently using the intersection during the anticipated peak hour, 70% (102 vehicles) will turn right and 30% (44 vehicles) will turn left. This projected traffic volume at 7th Street and Wellington Avenue is 290 VPH right-turn and 126 VPH left-turn (see Figure 2).

Traffic Volumes

	EXISTING VPH	PROJECTED VPH	TOTAL VPH
1. Left hand turn Wellington to 7th	82	44	126
2. Right hand turn Wellington to 7th	188	102	290
3. Left hand S/B lane 7th to Wellington	48	0	48

In comparison, volume of traffic and its direction of flow were derived from "Trip Generation", 5th Edition, Institute of Transportation Engineers. The pertaining section to the proposed parking lot is HOSPITAL 610 "Employees on a Weekday, Peak hour of adjacent Street Traffic, One Hour Between 4 and 6 P.M.". Using the average rate of vehicle per employee (in this case, employee will reference the number of parking stalls), 0.33 vehicle per employee, the resultant traffic volume is 162 VPH. This volume is well below the calculated 182 VHR, thus the higher estimated volume is used in the calculations to determine the LOS at the intersection.

PROJECTED LEVEL OF SERVICE

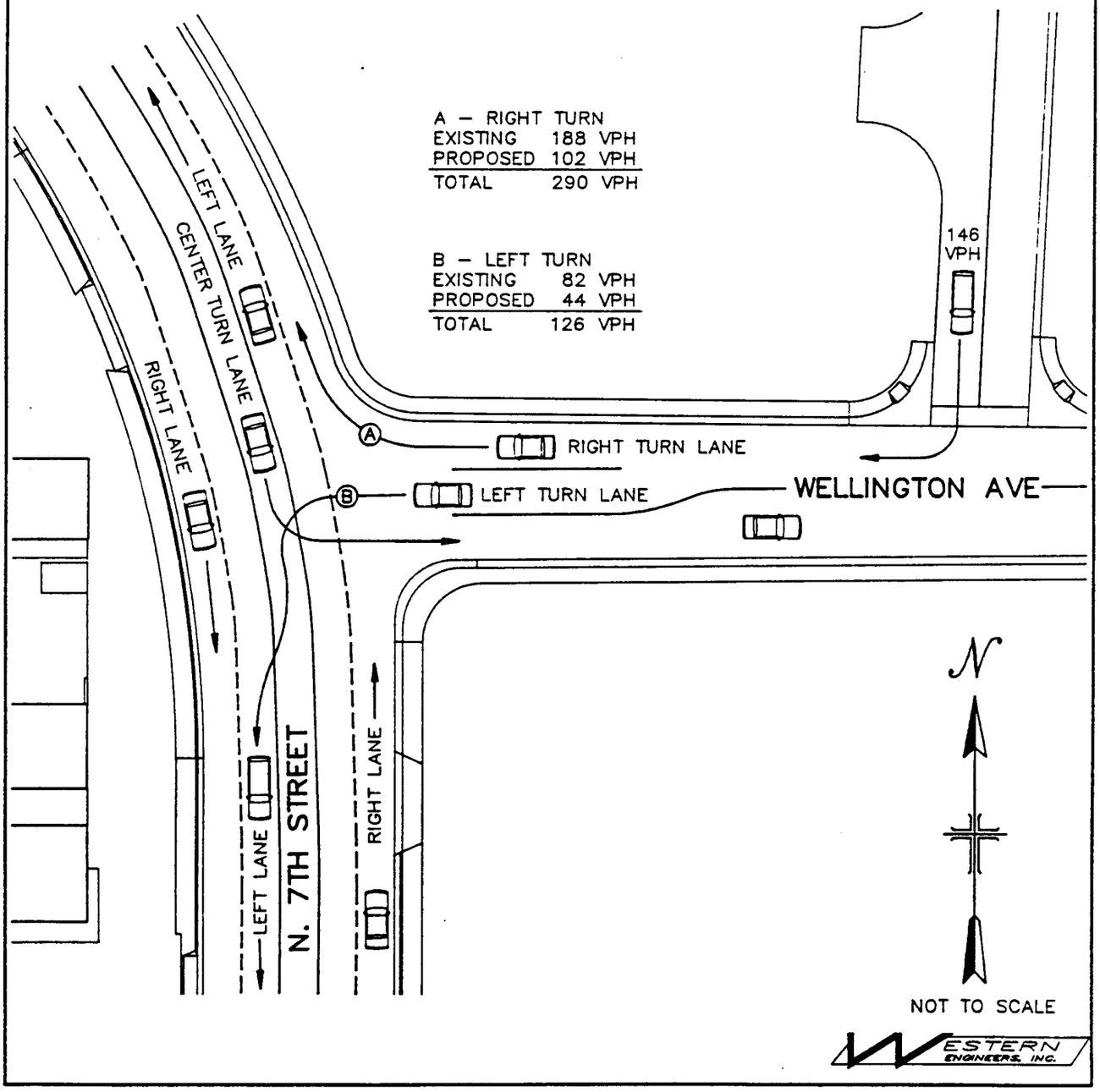
1. Left hand turn from Wellington to 7th LOS E
2. Right hand turn from Wellington to 7th LOS A
3. Left hand S/B lane of 7th to Wellington LOS A

Comparing the existing to the projected LOS, there is no change in the Level of Service of the intersection at 7th and Wellington due to the increased traffic from the proposed project.

FIGURE 2

PROJECTED VEHICULAR TRAFFIC

7TH STREET AND WELLINGTON AVENUE
TOTAL PEAK HOUR 182 VEHICLES



For comparative purposes, two hypothetical traffic scenarios are presented in Table 4. These calculations determine the number of vehicles needed to raise the LOS to the next higher level on Wellington only.

PROPOSED PATTERSON ROAD DRIVEWAY TRAFFIC ANALYSIS
(Without Wellington Avenue)

In order to relieve the impact of vehicles exiting the parking lot on the intersection of 7th and Wellington, a driveway can be constructed allowing right and left turns onto Patterson Road. As discussed earlier, the projected number of vehicles exiting the parking lot during the peak hour (4:14 - 5:15) is 182 cars. For the analysis, 54 VPH are estimated making a left-turn from the driveway and maintain a LOS E. The remaining 128 vehicles are assumed to make a right-turn movement. Table 5 tabulates the traffic count at the proposed parking lot driveway and Patterson Road.

Traffic Volumes

		PROJECTED VPH
1.	Left hand turn Driveway and Patterson	54
2.	Right hand turn Driveway to Patterson	128
3.	Left hand W/B lane Patterson to Driveway	10

PROJECTED LEVEL OF SERVICE

1.	Left hand turn from Driveway to Patterson	LOS E
2.	Right hand turn from Driveway to Paterson	LOS A
3.	Left hand W/B lane of Patterson to Driveway	LOS B

DISTRIBUTION THROUGH BOTH EXITS
(Wellington and Patterson)

The total exodus from the parking lot will not occur at one particular exit. Drivers will use Wellington to some degree depending on their destination. A majority of the people will use Patterson as it provides the most efficient access to the greater parts of Grand Junction. The 182 vehicles were distributed between the two entrances/exits with 109 cars are proportioned to Patterson and 73 vehicles to Wellington.

The driveway exit at Wellington will distribute approximately 18 cars eastbound on Wellington and 55 cars to 7th Street. It is anticipated that the 18 cars going eastbound on Wellington are the result of the signage at the exit and the long delays to merge onto

7th Street. Of the 55 vehicle approaching 7th and Wellington, 25 vehicles will make left turns and the remaining 30 will right turn onto Wellington. These two turning motions must be added to the existing traffic as shown in Figure 3.

Traffic Volumes

	EXISTING VPH	PROJECTED VPH	TOTAL VPH
1. Left hand turn Wellington to 7th	82	44	126
2. Right hand turn Wellington to 7th	188	102	290
3. Left hand S/B lane 7th to Wellington	48	0	48

PROJECTED LEVEL OF SERVICE

1. Left hand turn from Wellington to 7th LOS E
2. Right hand turn from Wellington to 7th LOS A
3. Left hand S/B lane of 7th to Wellington LOS A

Returning to the driveway entrance and exit at Patterson, the 109 cars exiting onto Patterson are divided with 55 vehicles making right turns and 54 VPH making left hand turns onto Patterson. Also included are 10 left hand turns from the west bound lane on Patterson (see Figure 4).

Traffic Volumes

	PROJECTED VPH
1. Left hand turn Driveway and Patterson	55
2. Right hand turn Driveway to Patterson	54
3. Left hand W/B lane Patterson to Driveway	10

PROJECTED LEVEL OF SERVICE

1. Left hand turn from Driveway to Patterson LOS E
2. Right hand turn from Driveway to Paterson LOS A
3. Left hand W/B lane of Patterson to Driveway LOS B

FIGURE 4

PROJECTED VEHICULAR TRAFFIC

PROPOSED DRIVEWAY AT PATTERSON ROAD
TOTAL PEAK HOUR 182 VEHICLES
60% EXIT PATTERSON 109 VEHICLES
40% EXIT WELLINGTON 73 VEHICLES

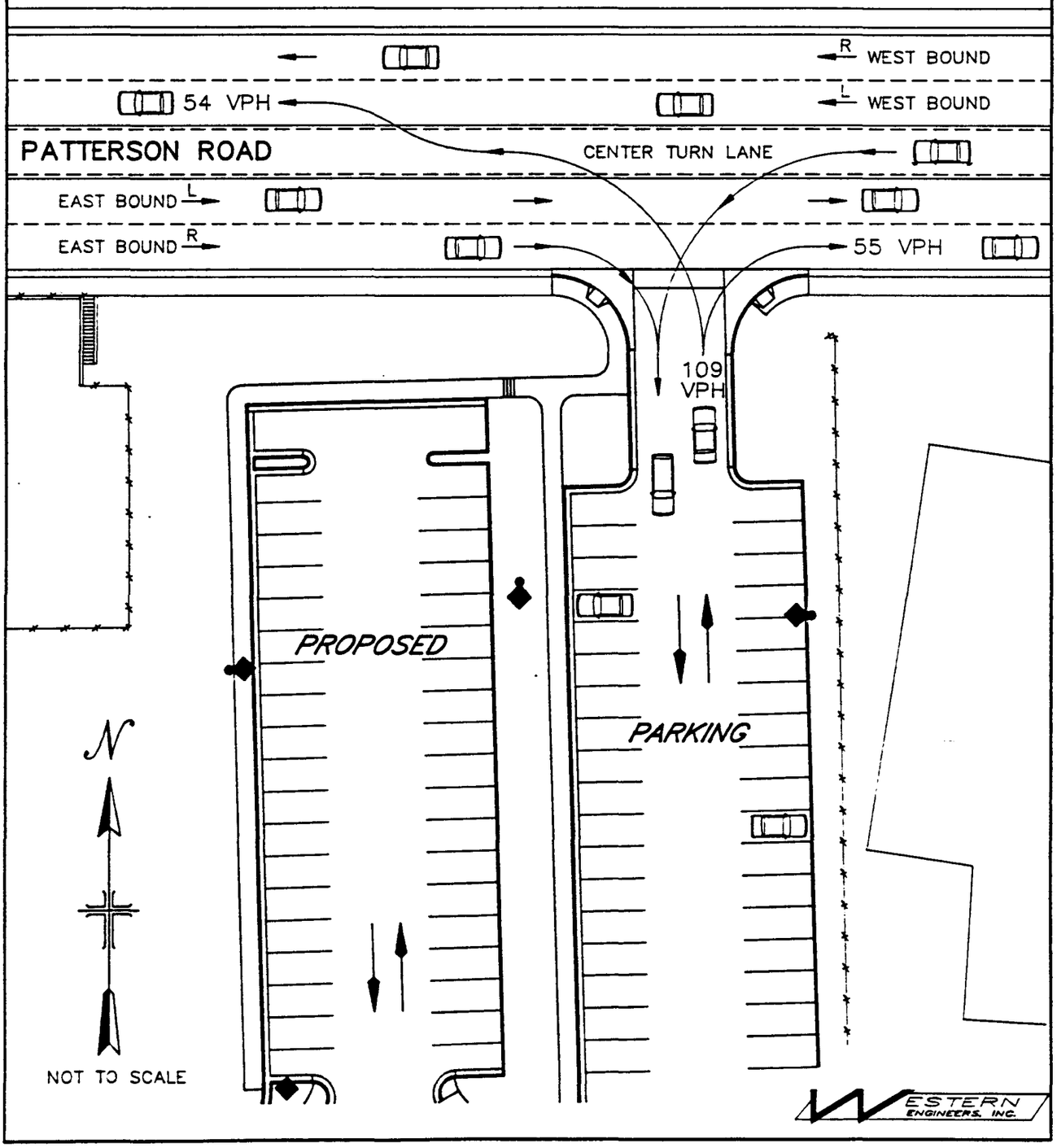
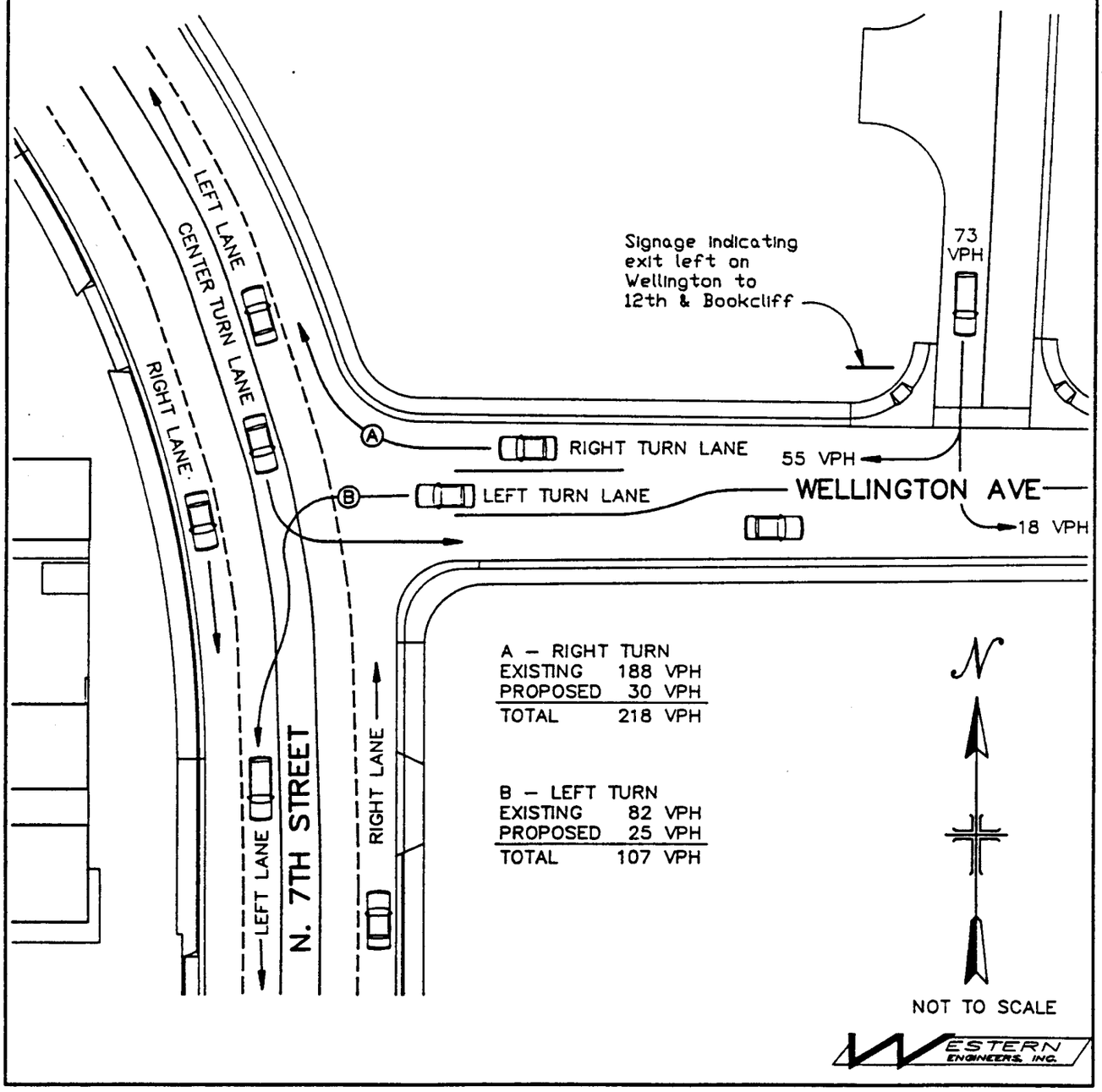


FIGURE 3

PROJECTED VEHICULAR TRAFFIC

7TH STREET AND WELLINGTON AVENUE
TOTAL PEAK HOUR 182 VEHICLES
60% EXIT PATTERSON 109 VEHICLES
40% EXIT WELLINGTON 73 VEHICLES



A – RIGHT TURN

EXISTING	188 VPH
PROPOSED	30 VPH
TOTAL	218 VPH

B – LEFT TURN

EXISTING	82 VPH
PROPOSED	25 VPH
TOTAL	107 VPH

N

NOT TO SCALE

WESTERN ENGINEERS, INC.

VEHICLE GAP COUNT

The "critical gap", as defined in HIGHWAY CAPACITY MANUAL Special Report 209, Transportation Research Board, 1985, is the median time headway between two successive vehicles in the major street traffic stream that is accepted by drivers in a subject movement that must cross and/or merge with the major street flow. This gap must be considered in design whenever a vehicle attempts a movement that conflicts with the major traffic flow. The above referenced manual suggests a critical gap, based on the posted speed limit of 35 mph, of 7.3 seconds to make a left hand turn from the parking lot to westbound on Patterson. This 7.3 seconds is the suggested time that a driver can execute a selected maneuver with confidence that the gap will remain stable as the vehicle crosses through it. The critical gap of 7.3 seconds is applicable to both the 7th and Wellington intersection and the driveway access to Patterson Road. All remaining movements, ie. right turn, require a 5.5 second critical gap.

Table 6 tabulates the vehicle gap count at 7th Street and Wellington Avenue. Examining the 4:15 peak time there are 21 gaps greater than seven seconds. As a standard rule two cars can use a 10 second or greater gap. This allows for 34 turns in 15 minute period. Factoring to and hourly rate (4x34), provides an allowable turns of 136 VPH. This is in excess of the projected increase of 107 VPH at 7th and Wellington.

Using the same method above, Table 7 tabulates the vehicle gap count at the proposed driveway and Patterson Road. The critical peak time of 4:15 has an observed gap count of 13 greater than 7 seconds. This computes to 72 VPH ((2x5+8)x4). The proposed left hand turns on to Patterson of 54 VPH is less than the available volume of 72 VPH

This concludes that there are sufficient gaps in existing traffic flows at 7th and Wellington and the driveway location at Patterson to allow the increased turning movements created by the proposed parking lot.

EXISTING PEDESTRIAN TRAFFIC

A significant amount of pedestrian traffic is directly related to the hospital on the west side of 7th street and the parking lot on the east side of 7th street. Table 8 provides pedestrian information as observed. There are two major peak times, one between 7:45 to 8:00 A.M. and the other between 4:00 to 4:15 P.M. One major observation noted during the study is the fact that approximately 2/3 of the pedestrian traffic use a "short cut" from the parking lot across 7th Street and the hospital. This short cut or "J Walking" generally occurs at a point where the sidewalk entrance to the existing parking lot connects with the sidewalk

parallelling 7th Street. Table 9 provides observed traffic through the intersection to be correlated with the pedestrian traffic. For purposes of this study, all pedestrian traffic is assumed to use the designated crosswalk at the intersection. Another observation made while obtaining traffic counts is the vehicles making a right turn from 7th Street to Patterson Road. Since the intersection is offset (Patterson Road west of 7th Street is offset to the north when aligned with Patterson Road east of 7th Street), this presents a hazard to both vehicle and pedestrian traffic. The majority of vehicles observed making a right turn on red had to commit themselves to the turn by completely blocking the crosswalk in order to see if any oncoming traffic would impede the completion of the turn. This is the major hazard to pedestrians attempting to cross the street (see Figure 5).

SEVENTH AND PATTERSON PEDESTRIAN ANALYSIS

Table 10 tabulates and collates the data of existing pedestrians to calculate the current LOS using the programmed sequences of the 1985 HCM Traffic Analysis software. The conclusions identify LOS levels for the following pedestrian movement as follows:

EXISTING LEVEL OF SERVICE

South crosswalk 7th and Patterson	LOS A
Maximum Surge	LOS A

The peak pedestrian traffic occurs between 7:45 to 8:00 A.M. and 4:00 to 4:15 P.M. There is a higher volume of vehicle traffic during the P.M. peak, therefore the pedestrian LOS is analyzed for the worst case scenario. Again, using 37% of parking lot capacity (182 vehicles), and assuming one pedestrian per vehicle, peak pedestrian volume is 182 pedestrians per 15-minutes. This information is reflected in Table 11.

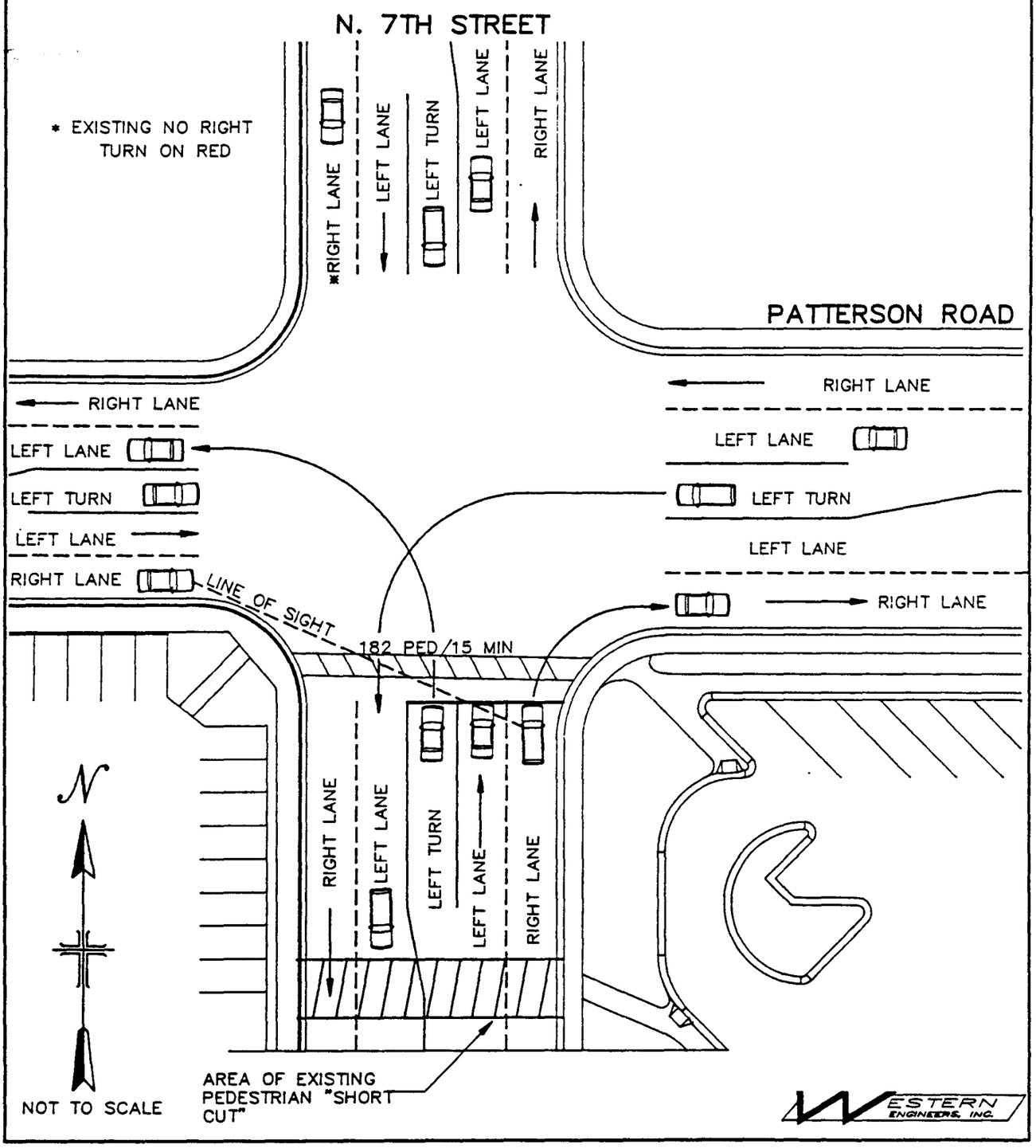
PROJECTED LEVEL OF SERVICE

South crosswalk 7th and Patterson	LOS B
Maximum Surge	LOS C

The projected increase in pedestrian traffic volume will raise the LOS at the referenced intersection. It should be noted that the intersection at 7th and Patterson meets the requirements for pedestrian traffic at LOS C.

FIGURE 5

PROJECTED PEDESTRIAN TRAFFIC



TABLES

TABLE 1

EXISTING TRAFFIC VOLUMES
7th STREET & WELLINGTON AVENUE

	5/27/92 Wed. (VHR)
SOUTHBOUND 7th Street	
3:15 to 4:15 P.M.	641
3:30 to 4:30 P.M.	595
3:45 to 4:45 P.M.	579
4:00 to 5:00 P.M.	525
4:15 to 5:15 P.M.	509
4:30 to 5:30 P.M.	507
4:45 to 5:45 P.M.	445
5:00 to 6:00 P.M.	423
5:15 to 6:15 P.M.	371
NORTHBOUND 7th Street	
3:15 to 4:15 P.M.	710
3:30 to 4:30 P.M.	709
3:45 to 4:45 P.M.	666
4:00 to 5:00 P.M.	685
4:15 to 5:15 P.M.	659
4:30 to 5:30 P.M.	656
4:45 to 5:45 P.M.	641
5:00 to 6:00 P.M.	554
5:15 to 6:15 P.M.	448
WESTBOUND Wellington Avenue	
3:15 to 4:15 P.M.	199
3:30 to 4:30 P.M.	203
3:45 to 4:45 P.M.	211
4:00 to 5:00 P.M.	227
4:15 to 5:15 P.M.	270
4:30 to 5:30 P.M.	280
4:45 to 5:45 P.M.	262
5:00 to 6:00 P.M.	226
5:15 to 6:15 P.M.	162

TABLE 2
EXISTING INTERSECTION AND LOS

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET..... 30

PEAK HOUR FACTOR..... 1

AREA POPULATION..... 30000

NAME OF THE EAST/WEST STREET..... Wellington Ave.

NAME OF THE NORTH/SOUTH STREET..... 7th Street

NAME OF THE ANALYST..... Western Eng.

DATE OF THE ANALYSIS (mm/dd/yy)..... 5/27/92

TIME PERIOD ANALYZED..... 4:15 - 5:15 P.M.

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	82	0	48
THRU	--	0	607	461
RIGHT	--	188	52	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	2	2	2

TABLE 2
(CONT.)

CAPACITY AND LEVEL-OF-SERVICE Page- 2

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	90	155	145	145	55	E
RIGHT	207	763	763	763	557	A
MAJOR STREET						
SB LEFT	53	517	517	517	464	A

TABLE 3
PROJECTED VEHICLE TRAFFIC LOS

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET..... 30

PEAK HOUR FACTOR..... 1

AREA POPULATION..... 30000

NAME OF THE EAST/WEST STREET..... Wellington Ave.

NAME OF THE NORTH/SOUTH STREET..... 7th Street

NAME OF THE ANALYST..... Western Eng.

DATE OF THE ANALYSIS (mm/dd/yy)..... PROJECTED

TIME PERIOD ANALYZED..... 4:15 - 5:15

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	126	0	48
THRU	--	0	607	461
RIGHT	--	290	52	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	2	2	2

TABLE 3
(CONT.)

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	139	155	145	145	6	E
RIGHT	319	763	763	763	444	A
MAJOR STREET						
SB LEFT	53	517	517	517	464	A

TABLE 4
LEVEL OF SERVICE CHANGE

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET..... 30

PEAK HOUR FACTOR..... 1

AREA POPULATION..... 30000

NAME OF THE EAST/WEST STREET..... Wellington Ave.

NAME OF THE NORTH/SOUTH STREET..... 7th Street

NAME OF THE ANALYST..... Western Eng.

DATE OF THE ANALYSIS (mm/dd/yy)..... PROJECTED

TIME PERIOD ANALYZED..... 4:15 - 5:15

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	132	0	48
THRU	--	0	607	461
RIGHT	--	331	52	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	2	2	2

TABLE 4
(CONT.)

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	145	155	145	145	-0	F
RIGHT	364	763	763	763	399	B
MAJOR STREET						
SB LEFT	53	517	517	517	464	A

TABLE 5

EXISTING VEHICLE VOLUMES
PATTERSON ROAD AND DRIVEWAY

6/30/92
Tue.

	WESTBOUND	EASTBOUND	TOTAL
7:15 to 8:15 A.M.	826	402	1,228
7:30 to 8:30 A.M.	841	468	1,309
7:45 to 8:45 A.M.	766	506	1,272
8:00 to 9:00 A.M.	669	491	1,160
8:15 to 9:15 A.M.	664	495	1,159

	WESTBOUND	EASTBOUND	TOTAL
10:45 to 11:45 A.M.	667	618	1,285
11:00 to 12:30 P.M.	697	690	1,387
11:15 to 12:15 P.M.	709	717	1,426
11:30 to 12:30 P.M.	697	736	1,433
11:45 to 11:45 P.M.	714	745	1,459
12:00 to 1:00 P.M.	713	739	1,452
12:15 to 1:15 P.M.	682	663	1,345

	WESTBOUND	EASTBOUND	TOTAL
3:15 to 4:15 P.M.	743	932	1,675
3:30 to 4:30 P.M.	742	952	1,694
3:45 to 4:45 P.M.	731	960	1,691
4:00 to 5:00 P.M.	725	983	1,708
4:15 to 5:15 P.M.	684	1,085	1,769
4:30 to 5:30 P.M.	698	1,091	1,789
4:45 to 5:45 P.M.	670	1,078	1,748
5:00 to 6:00 P.M.	628	1,009	1,637
5:15 to 6:15 P.M.	605	853	1,458

TABLE 6

EXISTING VEHICLE GAP COUNT
7th ST. AND WELLINGTON AVENUE

TIME OF DAY	5-6 SEC	6-7 SEC	7-8 SEC	8-9 SEC	9-10 SEC	+10 SEC
7:15-8:15 A.M.	11	22	10	10	16	58
7:30-8:30 A.M.	15	16	12	13	11	49
7:45-8:45 A.M.	14	18	11	14	9	44
8:00-9:00 A.M.	13	16	13	13	9	49
8:15-9:15 A.M.	15	16	13	14	12	54
10:45-11:45 A.M.	29	20	18	18	6	54
11:00-12:00 A.M.	27	19	16	17	5	54
11:15-12:15 A.M.	27	16	14	12	8	52
11:30-12:30 A.M.	26	14	11	10	8	53
11:45-12:45 P.M.	22	16	11	9	8	55
12:00- 1:00 P.M.	16	14	13	7	7	59
12:15- 1:15 P.M.	16	17	15	10	5	56
3:15-4:15 P.M.	26	24	14	15	9	39
3:30-4:30 P.M.	27	22	12	18	5	48
3:45-4:45 P.M.	24	20	15	21	10	48
4:00-5:00 P.M.	19	18	12	19	14	50
4:15-5:15 P.M.	17	18	10	18	12	52

TABLE 7

EXISTING VEHICLE GAP COUNT
PATTERSON ROAD AND DRIVEWAY

TIME OF DAY	5-6 SEC	6-7 SEC	7-8 SEC	8-9 SEC	9-10 SEC	+10 SEC
7:15-8:15 A.M.	15	23	14	12	11	55
7:30-8:30 A.M.	18	26	11	17	8	52
7:45-8:45 A.M.	23	27	12	18	8	48
8:00-9:00 A.M.	29	23	12	17	11	49
8:15-9:15 A.M.	28	19	16	16	11	47
10:45-11:45 A.M.	34	22	21	18	9	29
11:00-12:00 A.M.	29	24	19	17	8	33
11:15-12:15 A.M.	22	24	18	12	6	28
11:30-12:30 A.M.	21	26	15	10	5	29
11:45-12:45 P.M.	25	28	11	9	5	30
12:00- 1:00 P.M.	28	27	10	7	5	21
12:15- 1:15 P.M.	29	22	11	10	5	20
3:15-4:15 P.M.	22	21	11	12	12	23
3:30-4:30 P.M.	22	22	10	12	9	21
3:45-4:45 P.M.	22	25	10	14	4	24
4:00-5:00 P.M.	20	24	12	15	6	23
4:15-5:15 P.M.	27	20	11	17	6	24
4:30-5:30 P.M.	26	19	12	16	6	23
4:45-5:45 P.M.	23	20	13	13	11	19
5:00-6:00 P.M.	25	19	11	12	8	27
5:15-6:15 P.M.	25	24	15	9	13	30

TABLE 8

EXISTING PEDESTRIAN VOLUMES
7th STREET & PATTERSON ROAD

	6/30/92 Tue. (Ped/15 Min.)	6/30/92 Tue. (Ped/15 Min.)
	WESTBOUND	EASTBOUND
7:15 to 7:30 A.M.	5	2
7:30 to 7:45 A.M.	8	0
7:45 to 8:00 A.M.	18	0
8:00 to 8:15 A.M.	5	0
8:15 to 8:30 A.M.	12	0
8:30 to 8:45 A.M.	7	0
8:45 to 9:00 A.M.	6	0
9:00 to 9:15 A.M.	1	0
	WESTBOUND	EASTBOUND
11:45 to 12:00 P.M.	2	5
12:00 to 12:15 P.M.	1	7
12:15 to 12:30 P.M.	0	5
12:30 to 12:45 P.M.	0	7
12:45 to 1:00 P.M.	2	10
1:00 to 1:15 P.M.	0	5
	WESTBOUND	EASTBOUND
3:15 to 3:30 P.M.	2	4
3:30 to 3:45 P.M.	0	14
3:45 to 4:00 P.M.	2	5
4:00 to 4:15 P.M.	1	7
4:15 to 4:30 P.M.	0	5
4:30 to 4:45 P.M.	0	7
4:45 to 5:00 P.M.	2	10
5:00 to 5:15 P.M.	0	5
5:15 to 5:30 P.M.	1	3
5:30 to 5:45 P.M.	0	4
5:45 to 6:00 P.M.	0	4
6:00 to 6:15 P.M.	0	5

TABLE 9

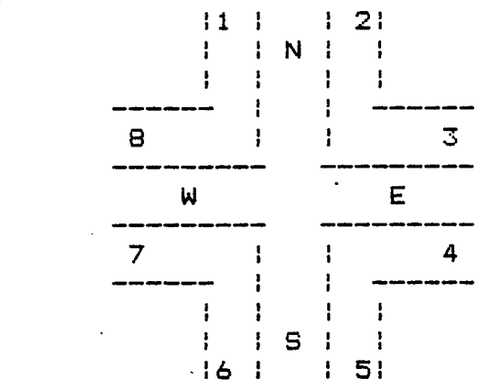
OBSERVED TRAFFIC VOLUMES
SEVENTH STREET AND PATTERSON ROAD

	7/2/92 Tue. (VHR)
EASTBOUND Patterson Rd.	
3:15 to 4:15 P.M.	739
3:30 to 4:30 P.M.	777
3:45 to 4:45 P.M.	762
4:00 to 5:00 P.M.	768
4:15 to 5:15 P.M.	830
4:30 to 5:30 P.M.	810
4:45 to 5:45 P.M.	810
5:00 to 6:00 P.M.	768
5:15 to 6:15 P.M.	668
WESTBOUND Patterson Rd.	
3:15 to 4:15 P.M.	743
3:30 to 4:30 P.M.	742
3:45 to 4:45 P.M.	731
4:00 to 5:00 P.M.	725
4:15 to 5:15 P.M.	684
4:30 to 5:30 P.M.	698
4:45 to 5:45 P.M.	670
5:00 to 6:00 P.M.	628
5:15 to 6:15 P.M.	605
EASTBOUND Right-Turn 7th to Patterson	
3:15 to 4:15 P.M.	193
3:30 to 4:30 P.M.	175
3:45 to 4:45 P.M.	198
4:00 to 5:00 P.M.	215
4:15 to 5:15 P.M.	255
4:30 to 5:30 P.M.	281
4:45 to 5:45 P.M.	268
5:00 to 6:00 P.M.	241
5:15 to 6:15 P.M.	185

TABLE 10
EXISTING CROSSWALK LOS

FACILITY LOCATION..... 7th & Patterson
ANALYST..... Western Eng.
TIME OF ANALYSIS..... 7:45 - 8:00 A.M.
DATE OF ANALYSIS..... 6/30/92
MISC.INFORMATION..... All Pedestrians

A) INTERSECTION SCHEMATIC



B) CROSSWALK ANALYSIS

15-MINUTE PEDESTRIAN VOLUMES
(VOLS. ARE OUTBOUND FROM CORNER)

FROM 1->2:	0	FROM 5->6:	18
FROM 2->1:	0	FROM 6->5:	0
FROM 3->4:	0	FROM 7->8:	0
FROM 4->3:	0	FROM 8->7:	0

LOCATION	CURB->CURB STREET WIDTH (Ft.)	XWALK WIDTH (Ft.)	CONFLICTING VEHICLE VOL. WITH PEDS (Veh/Cycle)	PED GREEN TIME (Sec)
NORTH	55	5	0	40
EAST	55	5	2	35
SOUTH	66	5	2	40
WEST	55	5	0	35

LEVEL OF SERVICE RESULTS:

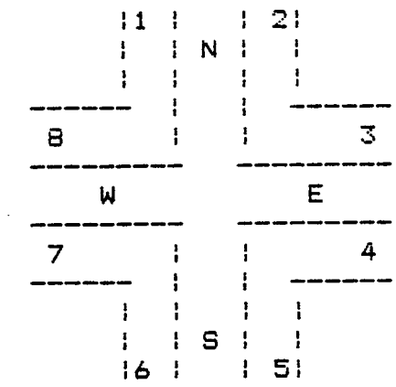
	WITHOUT VEHICLES SQ.FT. PER PEDESTRIAN	LOS	WITH VEHICLES SQ.FT. PER PEDESTRIAN	LOS	MAXIMUM SURGE SQ.FT. PER PEDESTRIAN	LOS
NORTH	0		0		0	
EAST	0		0		0	
SOUTH	555	A	537	A	313	A
WEST	0		0		0	

TABLE 11
PROJECTED PEDESTRIAN TRAFFIC LOS

****

FACILITY LOCATION..... 7th & Patterson
ANALYST..... Western Eng.
TIME OF ANALYSIS..... 7:45 - 8:00
DATE OF ANALYSIS..... PROJECTED
MISC.INFORMATION..... All Pedestrians

A) INTERSECTION SCHEMATIC



B) CROSSWALK ANALYSIS

15-MINUTE PEDESTRIAN VOLUMES
(VOLS. ARE OUTBOUND FROM CORNER)

FROM 1->2:	0	FROM 5->6:	0
FROM 2->1:	0	FROM 6->5:	182
FROM 3->4:	0	FROM 7->8:	0
FROM 4->3:	0	FROM 8->7:	0

LOCATION	CURB->CURB STREET WIDTH (Ft.)	XWALK WIDTH (Ft.)	CONFLICTING VEHICLE VOL. WITH PEDS (Veh/Cycle)	PED GREEN TIME (Sec)
NORTH	55	5	0	40
EAST	55	5	0	35
SOUTH	66	5	2	40
WEST	55	5	0	35

LEVEL OF SERVICE RESULTS:
****

	WITHOUT VEHICLES ********** SQ.FT. PER PEDESTRIAN	LOS	WITH VEHICLES ********** SQ.FT. PER PEDESTRIAN	LOS	MAXIMUM SURGE ********** SQ.FT. PER PEDESTRIAN	LOS
NORTH	0		0		0	
EAST	0		0		0	
SOUTH	55	B	53	B	31	C
WEST	0		0		0	

APPENDIX

HOSPITAL (610)

EXISTING TRAFFIC/PEDESTRIAN COUNT DATA

Hospital
(610)

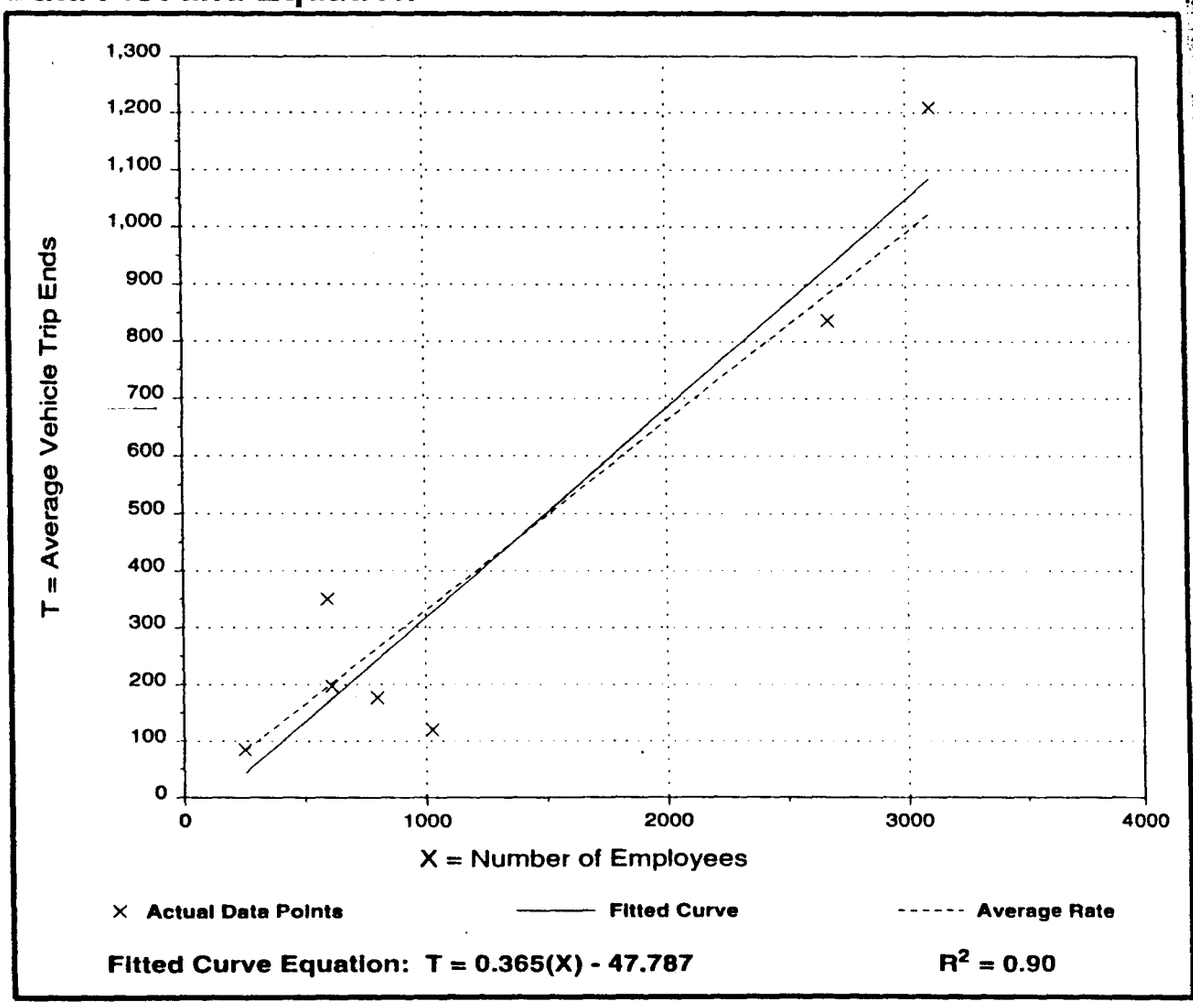
Average Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 7
Average Number of Employees: 1,294
Directional Distribution: 71% entering, 29% exiting

Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.33	0.12 - 0.59	0.58

Data Plot and Equation



Fitted Curve Equation: T = 0.365(X) - 47.787 **R^2 = 0.90**

Hospital
(610)

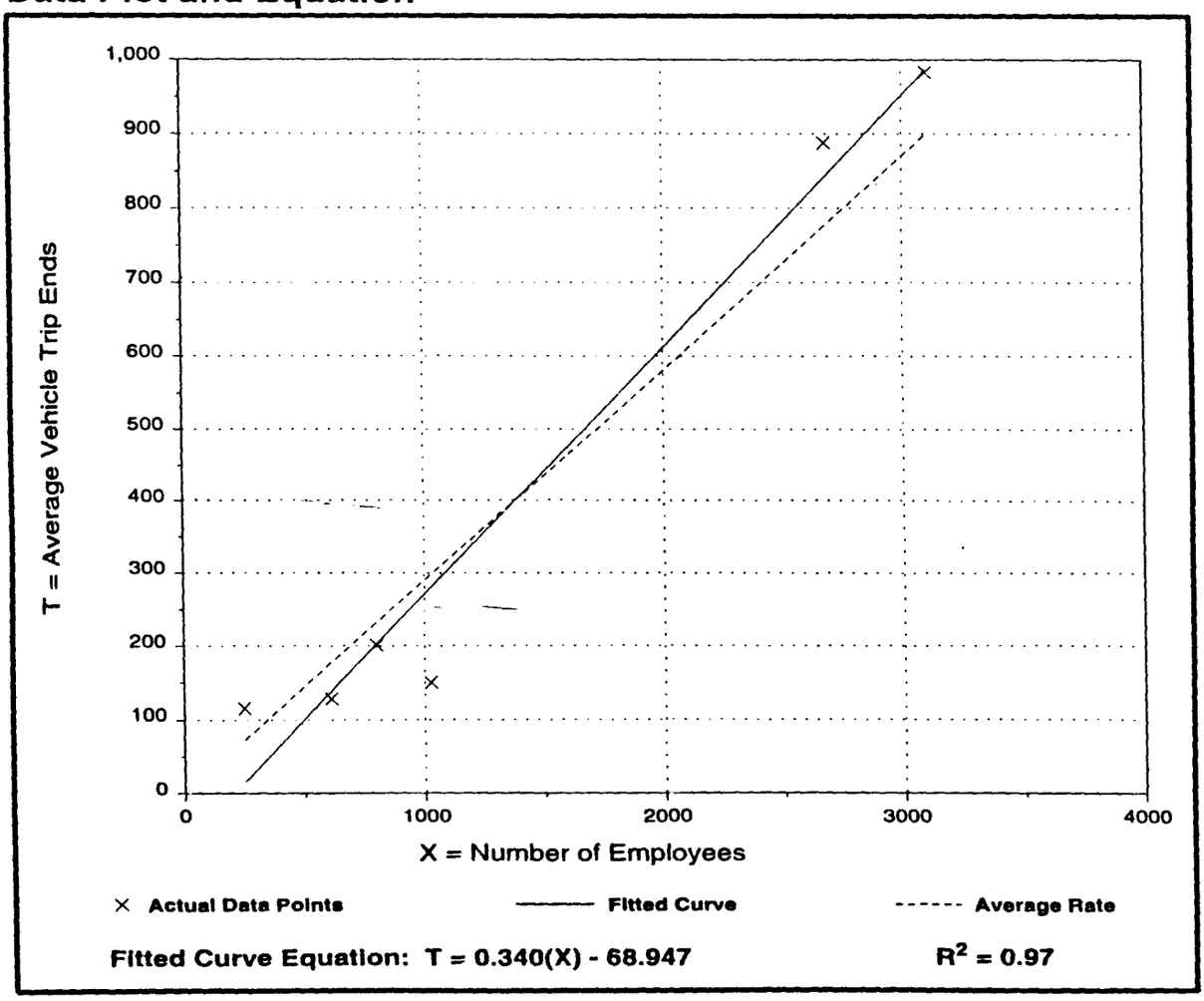
Average Vehicle Trip Ends vs: Employees
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 6
Average Number of Employees: 1,411
Directional Distribution: 30% entering, 70% exiting

Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.29	0.15 - 0.46	0.54

Data Plot and Equation

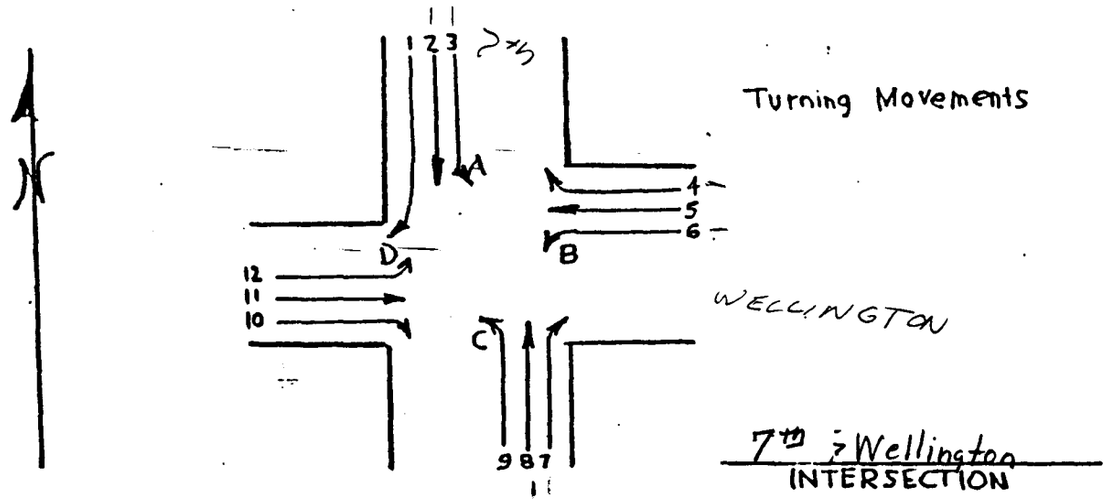


Fitted Curve Equation: T = 0.340(X) - 68.947 **R^2 = 0.97**

8 HOUR VEHICLE INTERSECTION VOLUME COUNT

Date 5-27-92

7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15				TOTAL
7	140	149	176	126	134	121	117	112				1075
	21	44	78	33	41	28	39	23				307
4	9	14	13	7	12	11	16	17				99
5												
	6	7	2	5	8	12	13	13				65
7	9	25	36	17	22	23	27	21				180
	78	88	85	72	84	98	80	74				659
9												
10												
1												
12												
NL	262	327	390	260	301	293	292	260				2385
A	161	193	254	159	175	149	156	135				1382
B	14	21	15	12	20	23	29	30				164
C	87	113	121	89	106	121	107	95				839
D												
NL	262	327	390	260	301	293	292	260				2385



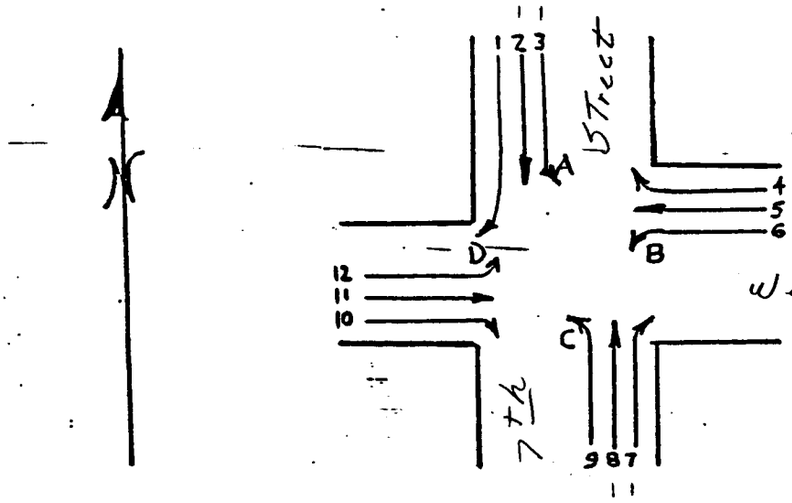
Turning Movements

7th & Wellington
INTERSECTION

8 HOUR VEHICLE INTERSECTION VOLUME COUNT

Date 5-27-92

45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00			TOTAL
1												
2	123	116	126	143	125	99	125	105	134			
3	26	20	24	21	15	15	12	24	34			
4	21	17	34	30	53	31	37	24	25			
5												
6	24	22	26	30	25	22	18	21	9			
7	27	25	21	15	18	10	15	17	39			
8	116	117	113	146	133	99	119	107	115			
9												
10												
11												
12												
TAL	337	317	344	385	369	276	326	298	356			
A	149	136	150	164	140	114	137	129	168			
B	45	39	60	60	78	53	55	45	34			
C	143	142	134	161	151	109	134	124	154			
D												
TAL	334	317	344	385	369	276	326	298	356			



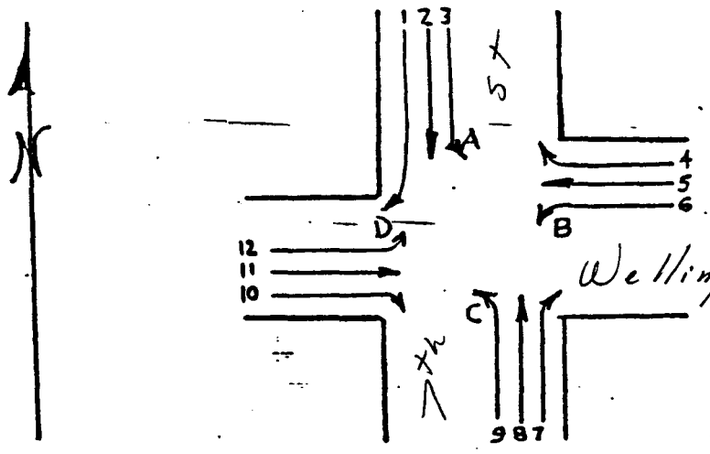
Turning Movements

7th & Wellington
INTERSECTION

8 HOUR VEHICLE INTERSECTION VOLUME COUNT

Date 5-27-92

	1:15											TOTAL
2	109											1205
	34											225
4	24											296
5	15											212
1	23											210
3	102											1167
9	----											
10												
11												
12												
ALL	307											3315
A	143											1430
B	39											508
C	125											1372
D												
TAL	307											3315



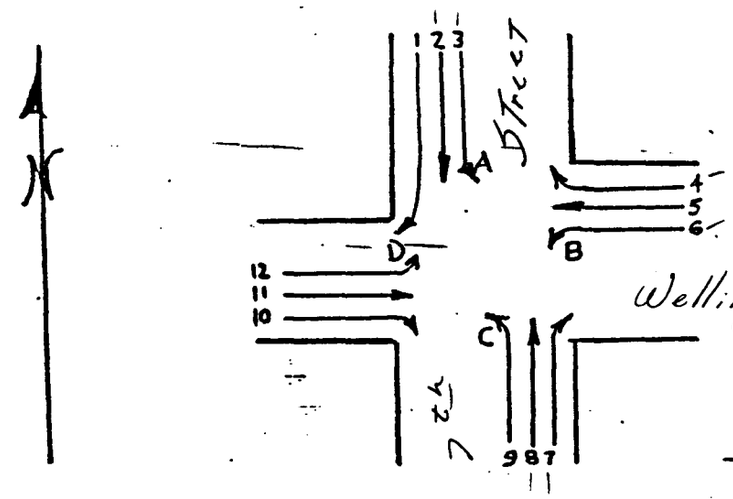
Turning Movements

7th + Wellington
INTERSECTION

8 HOUR VEHICLE INTERSECTION VOLUME COUNT

Date 5-27-92

5:5	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30			TOTAL
2	141	145	141	127	97	134	111	119	106			
3	19	18	31	19	17	13	7	11	6			
4	34	32	36	25	35	40	46	67	44			
5												
5	19	21	14	18	22	21	20	19	23			
1	22	23	60	83	12	13	16	11	5			
3	121	153	121	127	130	120	184	173	134			
9												
0												
11												
12												
TAL	356	392	403	399	313	341	384	400	318			
A	160	163	172	146	114	147	118	130	112			
3	53	53	50	43	57	61	66	86	67			
C	143	176	181	210	142	133	200	184	139			
D												
TAL	356	392	403	399	313	341	384	400	318			



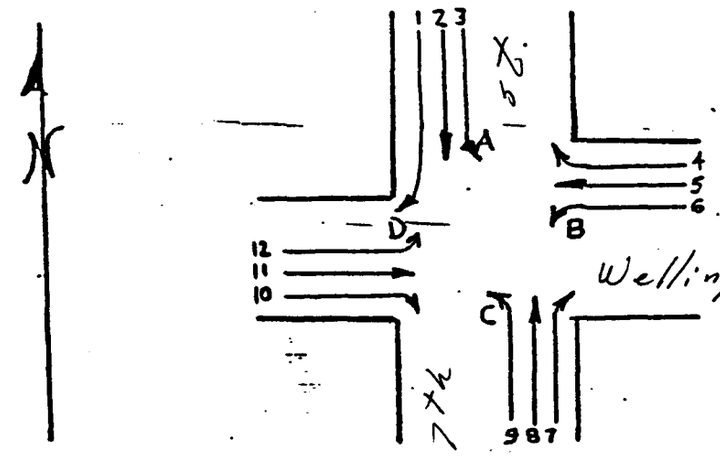
Turning Movements

7th ? Wellington
INTERSECTION

8 HOUR VEHICLE INTERSECTION VOLUME COUNT

Date 5-27-92

	5:45	6:00	6:15									TOTAL
	0											
2	84	86	76									1367
3	1	10	2									154
4	24	22	15									420
5	19	8	7									211
1	0	4	3									252
3	118	109	75									1565
9												
0												
11												
12												
ALL	246	239	178									3969
A	85	96	78									
B	43	30	22									
C	118	113	78									
D												
TAL	246	239	178									3969



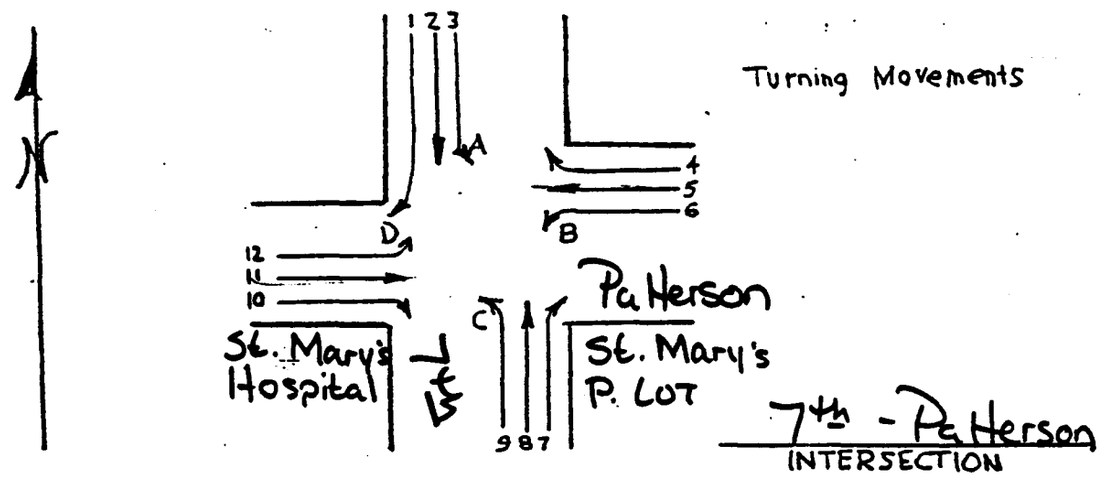
Turning Movements

7th & Wellington
INTERSECTION

8 HOUR PEDESTRIAN INTERSECTION VOLUME COUNT

Date 6-30-92

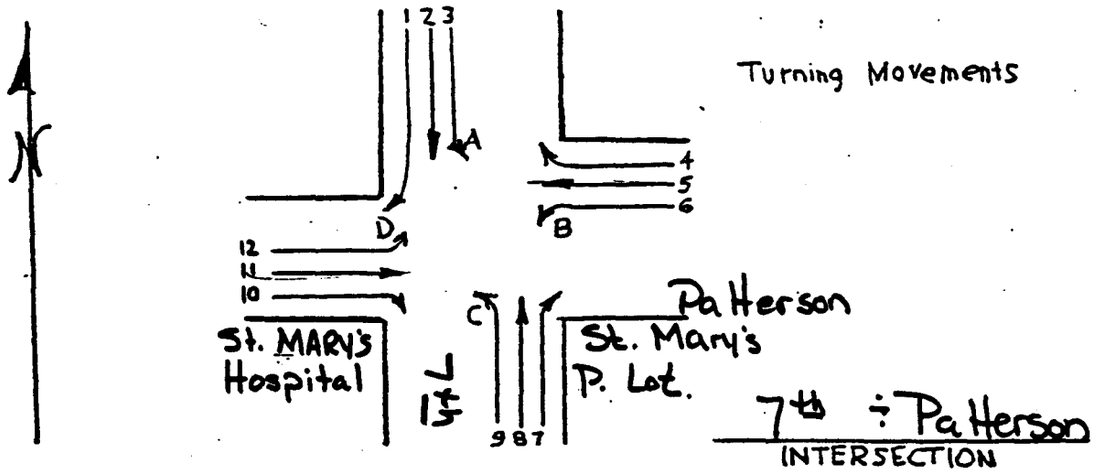
	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15				TOTAL
1													
2													
3													
4													
5	2	2	5	1	5	5	4	1					25
6	3	6	13	4	7	2	2	Ø					37
7													
8													
9													
10	-	-	-	-	-	-	-	-					-
11	2	-	-	-	-	-	-	-					2
12													
STAL	7	8	18	5	12	7	6	1					64
A													
B	5	8	18	5	12	7	6	1					42
C													
D	2	-	-	-	-	-	-	-					2
OTAL	7	8	18	5	12	7	6	1					64



8 HOUR PEDESTRIAN INTERSECTION VOLUME COUNT

Date 6-30-92

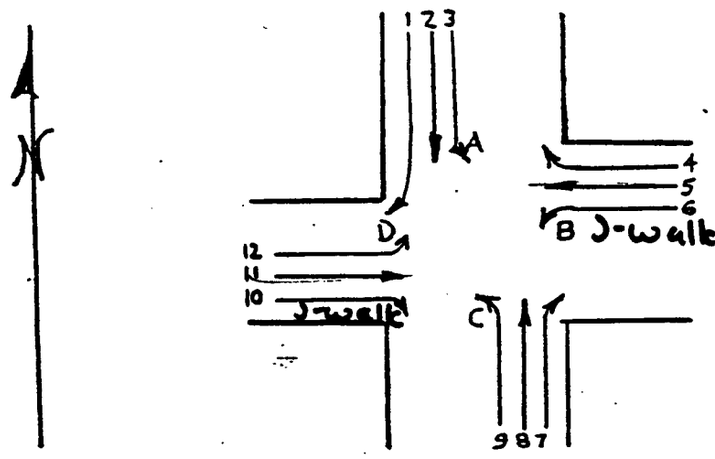
	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:15		TOTAL
1													
2													
3													
4													
5		-	-	-	-	4	1	1	-	2	1		9
6		3	-	1	1	-	-	1	1	-	1		8
7													
8													
9													
10		2	3	-	1	2	5	2	-	3	-		18
11		-	-	-	1	2	-	2	1	-	-		6
12													
TOTAL		5	3	1	3	8	6	6	2	5	2		41
A													
B		3	-	1	1	4	1	2	1	2	2		17
C													
D		2	3	-	2	4	5	4	1	3	-		23
TOTAL		5	3	1	3	8	6	6	2	5	2		41



8 HOUR PEDESTRIAN INTERSECTION VOLUME COUNT

Date 6-30-91

SIDE	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30			TOTAL
1	32	30	28	27	24	24	18	13	11			
2												
3												
4												
5	2	-	-	-	-	-	-	-	-			
6	-	-	2	1	-	-	2	-	1			
7												
8												
9												
10	3	8	5	7	3	5	5	3	2			
11	1	6	-	-	2	2	5	2	1			
12												
TOTAL	6	14	7	8	5	7	12	5	4			
A												
B	2	-	2	1	-	-	2	-	1			
C												
D	4	14	5	7	5	7	10	5	3			
TOTAL	6	14	7	8	5	7	12	5	4			



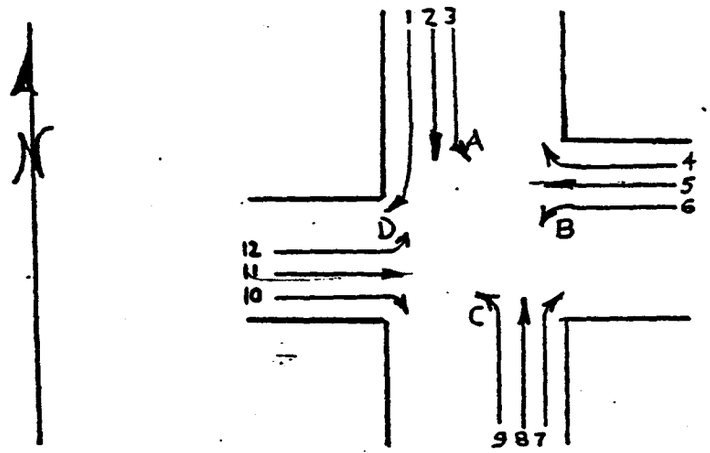
Turning Movements

7th & Patterson
INTERSECTION

8 HOUR PEDESTRIAN INTERSECTION VOLUME COUNT

Date 6-30-92

	5:45	6:00	6:15									TOTAL
1	8	7	4									
2												
3												
4												
5	—	—	—									2
6	—	—	—									6
7												
8												
9												
10	1	4	3									49
11	3	—	2									24
12												
TOTAL	4	4	5									81
A												
B	—	—	—									8
C												
D	4	4	5									73
TOTAL	4	4	5									81



Turning Movements

7th & Patterson
INTERSECTION