

# CITY OF ALBUQUERQUE

Planning Department  
David Campbell, Director



Mayor Timothy M. Keller

October 25, 2018

David Soule, P.E.  
Rio Grande Engineering  
PO Box 93924  
Albuquerque, NM 87199

RE: **Jefferson Hotel**  
**Restaurant Ln NE**  
**Grading Plan Stamp Date: 8/15/18**  
**Drainage Report Stamp Date: 8/15/18**  
**Drainage File: F17D044C**

Dear Mr. Soule:

PO Box 1293

Based on the submittal received on 10/23/18, the grading plan and drainage report are approved for building permit.

Prior to Certificate of Occupancy (For Information):

Albuquerque

NM 87103

www.cabq.gov

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2. Provide photographs of the installed orifice plate, including one showing its dimensions and include with the drainage certification.
3. A Bernalillo County Recorded [Drainage Covenant \(No Public Easement\)](#) is required for the stormwater control pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee (\$25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services



# TREASURY DIVISION DAILY DEPOSIT

Transmittals for:  
PROJECTS Only

City of Albuquerque Treasury  
J-24 Deposit

Date: 8/23/2018 Office: ANNEX  
Station ID Cashier: E39083  
Batch: 9542 Trans: 12  
Fund: 305 Activity ID7547210  
Account: 461615 Project ID24\_MS4  
ID: Bus.Unit: PCDMD  
Alloc Amt: \$1,952.00  
Trans Amt: \$1,952.00  
MastCard Tendered : \$1,952.00

## Payment In-Lieu for Storm Water Quality Volume Requirement

CASH COUNT	AMOUNT	ACCOUNT NUMBER	FUND NUMBER	BUSINESS UNIT	PROJECT ID	ACTIVITY ID	AMOUNT
TOTAL CHECKS	\$ 1952.00	461615	305	PCDMD	24_MS4	7547210	\$ 1952.00
TOTAL AMOUNT						TOTAL DEPOSIT	<b>\$1952.00</b>

Hydrology#: F17D044C Name: Jefferson Hotel, 8608 sf imp  
Payment In-Lieu For Storm Water Quality  
Volume Requirement

Address/Legal Description: Unaddressed NW corner of Jefferson and Restaurant Ln  
Tr 2A3C1 and 2A3C2 McLeod Business Park

DEPARTMENT NAME: Planning Department/Development Review Services, Hydrology

PREPARED BY Dana Peterson PHONE 924-3695

BUSINESS DATE 8/2/18

DUAL VERIFICATION OF DEPOSIT

EMPLOYEE SIGNATURE

AND BY

EMPLOYEE SIGNATURE

REMITTER:

AMOUNT:

BANK:

CHECK #: DATE ON CHECK:

The Payment-in-Lieu can be paid at the Plaza del Sol Treasury, 600 2<sup>nd</sup> St. NW. **Bring two copies of this invoice to the Treasury** and provide a copy of the receipt to Hydrology, Suite 201, 600 2<sup>nd</sup> St. NW, or e-mail with the Hydrology submittal to [PLNDRS@cabq.gov](mailto:PLNDRS@cabq.gov).

\*\*\*\* DUPLICATE \*\*\*\*



Date: 8/23/2018  
Office: ANNEX      Cashier: E39083  
Batch: 9542      Tran #: 12

=====

Journal 24 (Misc)  
1:57 PM      Receipt #00515633  
Account#:  
J-24 Deposit

Date: 8/23/2018      Office: ANNEX  
Station ID      Cashier: E39083  
Batch: 9542      Trans: 12  
Fund: 305      Activity ID7547210  
Account: 461615      Project ID24\_MS4  
Dept ID:      Bus.Unit: PCMD  
Alloc Amt: \$1,952.00  
Trans Amt: \$1,952.00

Payment Total:      \$1,952.00

=====

Transaction Total:	\$1,952.00
MasterCard Tendered :	\$1,952.00

Thank you for your payment.  
Have a nice day!

\*\*\*\* DUPLICATE \*\*\*\*

# CITY OF ALBUQUERQUE

Planning Department  
David Campbell, Director



Mayor Timothy M. Keller

August 6, 2018

David Soule, P.E.  
Rio Grande Engineering  
PO Box 93924  
Albuquerque, NM 87199

RE: **Jefferson Hotel**  
**Restaurant Ln NE**  
**Grading Plan Stamp Date: 7/30/18**  
**Drainage Report Stamp Date: 7/30/18**  
**Drainage File: F17D044C**

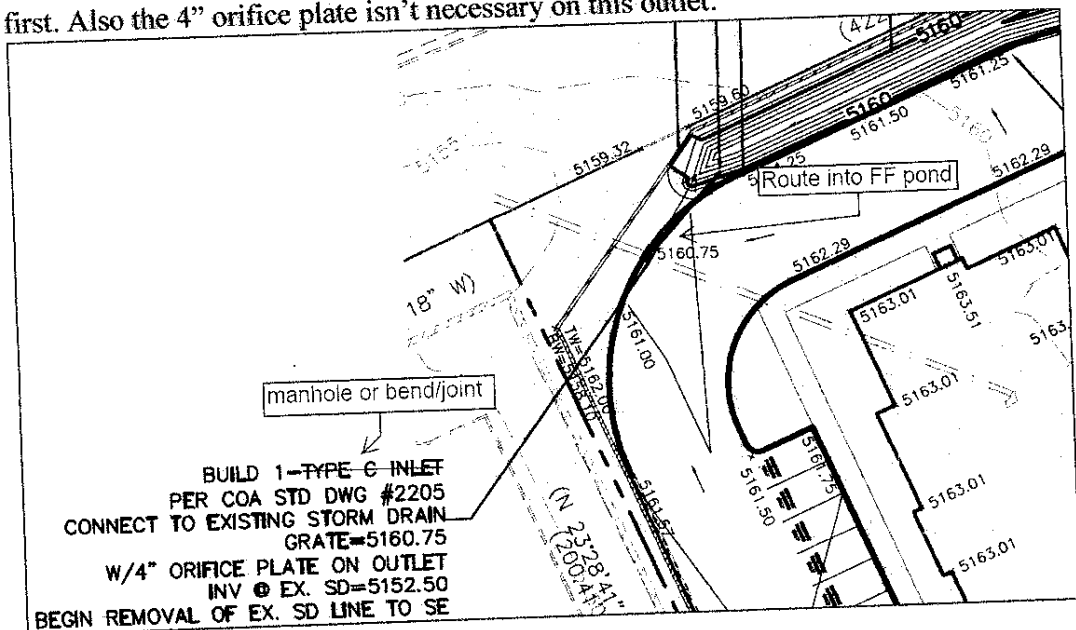
Dear Mr. Soule:

PO Box 1293  
Albuquerque  
NM 87103  
www.cabq.gov

Based on the submittal received on 7/31/18, the grading plan and drainage report cannot be approved for building permit until the following are corrected:

Prior to Building Permit:

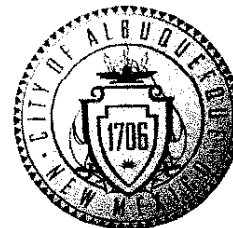
1. The Type C inlet at the NW corner should be removed as it allows surface flows to bypass the first flush pond. Stormwater draining to this low spot will need to be routed to the pond first. Also the 4" orifice plate isn't necessary on this outlet:



CORRECTED

# CITY OF ALBUQUERQUE

Planning Department  
David Campbell, Director



Mayor Timothy M. Keller

2. Correct the calculation error for the Fee-in Lieu amount in the narrative and in Appendix A; should be  $244\text{cf} \times \$8/\text{cf} = \$1952$ . CORRECTED
3. Payment of the Fee in Lieu (Amount = \$1,952, per Appendix A of the drainage report) for the required first flush volume must be made. PENDING RECIEPT TO PAY
4. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, [ccherne@cabq.gov](mailto:ccherne@cabq.gov) or 924-3420). SUBMITTED BY OTHERS

Prior to Certificate of Occupancy (For Information):

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2. Provide photographs of the installed orifice plate, including one showing its dimensions and include with the drainage certification.
3. A Bernalillo County Recorded Drainage Covenant (No Public Easement) is required for the stormwater control pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee (\$25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie ([clabadie@cabq.gov](mailto:clabadie@cabq.gov), 924-3996) or Madeline Carruthers ([mtafoya@cabq.gov](mailto:mtafoya@cabq.gov), 924-3997) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

If you have any questions, please contact me at 924-3695 or [dpeterson@cabq.gov](mailto:dpeterson@cabq.gov).

PO Box 1293

Albuquerque

NM 87103

[www.cabq.gov](http://www.cabq.gov)

Sincerely,

Dana Peterson, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services

DRAINAGE REPORT

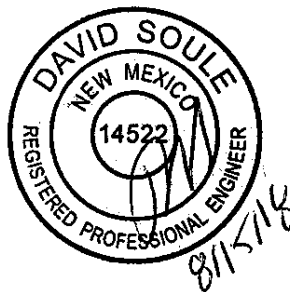
For

**TRU BY HILTON  
TRACT 2-A-3-C-1 MCLEOD BUSINESS PARK  
Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering  
PO Box 93924  
Albuquerque, New Mexico 87199

April 17, 2018



David Soule P.E. No. 14522

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### **Appendix**

Site Hydrology .....	A
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### **Map**

Site Grading and Drainage Plan

## **PURPOSE**

The purpose of this report is to provide the Drainage Management Plan for the development of a 4.95 acre tract of land that is being redeveloped as a 4 story hotel. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

## **INTRODUCTION**

The subject of this report, as shown on the Exhibit A, is a 4.95 -acre parcel of land located on the west side of Jefferson Boulevard directly south of Interstate 25. The proposed legal description of this site is tract 2A3C1 and 2A3C2 of McLeod Business Park. The existing two lots are in the process of being lot line adjusted. As shown on FIRM map35001C0138H, the entire site is located within Flood Zone X. The site is bound on all sides by roadways, and is not impacted by upland flows. The site is an existing developed site, with a restaurant building and large parking field. The site currently discharges 7.74 cfs to the adjacent NMDOT right of way utilizing a detention pond. The site was developed utilizing (F17-D44C). The southern portion of the site is undeveloped and governed by F17-D69 and allowed to discharge 7.85 cfs or (4.33 cfs/acre). The proposed improvements include the redevelopment of the existing building and the construction of a new hotel with associated paved parking area. The site must conform to the master plan peak flow requirements and must retain the first flush volume onsite.

## **EXISTING CONDITIONS**

The site is currently developed. The site currently discharges developed flow of 7.85 cfs to a swale along the NMDOT right of way, utilizing a detention pond. The remaining undeveloped southern portion sheet flows to Hotel Lane. The flows in this basin are all conveyed to 3-42" culverts located at McLeod and Interstate 25 where they are conveyed to the Vineyard channel and the Main North Diversion Channel. The site is not impacted by upland flows.





## **PROPOSED CONDITIONS**

The proposed improvements consist of interior improvements to the existing building and the construction of a new hotel. The area between the buildings will be paved. The site contains 4 drainage basins. Basin A contains the northern portion of the new building and discharges 3.32 cfs to the existing outfall. The basin retains the first flush volume of 556 cubic feet. Basin B contains the existing building and the southern half of the new hotel as well as most of the parking area. This basin generates 12.61 cfs. This basin drains to a central pond that has an outlet control. As shown in appendix B, this pond will discharge 5.1 cfs and have a maximum water surface elevation of 5158.31. The first flush volume of 3010 cf is retained in the pond below the inlet grate. Basin C contains the southern portion of the lot and discharges 2.77 cfs to an inlet connected to the outfall of basin B. This basin does not capture the 699 cubic feet of first flush volume therefore generates a fee in lieu of \$5,707.00. The combined flow from basin B and C is 7.87 cfs, which is .02 cfs greater than allowed. The northeast corner of the site contains a large landscaped pond and does not discharge.

## **SUMMARY AND RECOMMENDATIONS**

This project is a redevelopment of an existing site that allows 7.74 cfs to discharge to the NMDOT right of way via an existing outfall, and 7.85 cfs to discharge to Hotel Lane. The site discharges 3.32 cfs to the NMDOT right of way, a reduction of 4.42 cfs. The Southern portion of the site generates a flow greater than allowed, so the flow is metered by onsite detention ponding and an orifice controlled outlet. The resultant flow discharging to hotel lane is 7.87 cfs. The majority of the flow passes thru a first flush pond that retains the required volume. The portions of the site that can not be captured results in a fee in lieu to be paid. The onsite storm drain and outfalls were designed to convey the flow. The ponds will overflow in an emergency or clogging situation via the emergency spill way for basin a and thru the driveway for basin B. The development of this site will not negatively impact the upstream nor down stream facilities. Since the work area does exceed 1 acre, erosion and sediment Control Plan shall be required.

**APPENDIX A**  
**SITE HYDROLOGY**

[illegible]

© 1999 by The McGraw-Hill Companies

11. 30° SOUTH
12. 10° SOUTH
13. 10° TELEPHONE
14. 10° SOUTH
15. 30° SOUTH
16. 20° SOUTH
17. 10° SOUTH
18. 30° SOUTH
19. 10° SOUTH
20. 10° SOUTH
21. 10° SOUTH

10

- [illegible]

**2007**

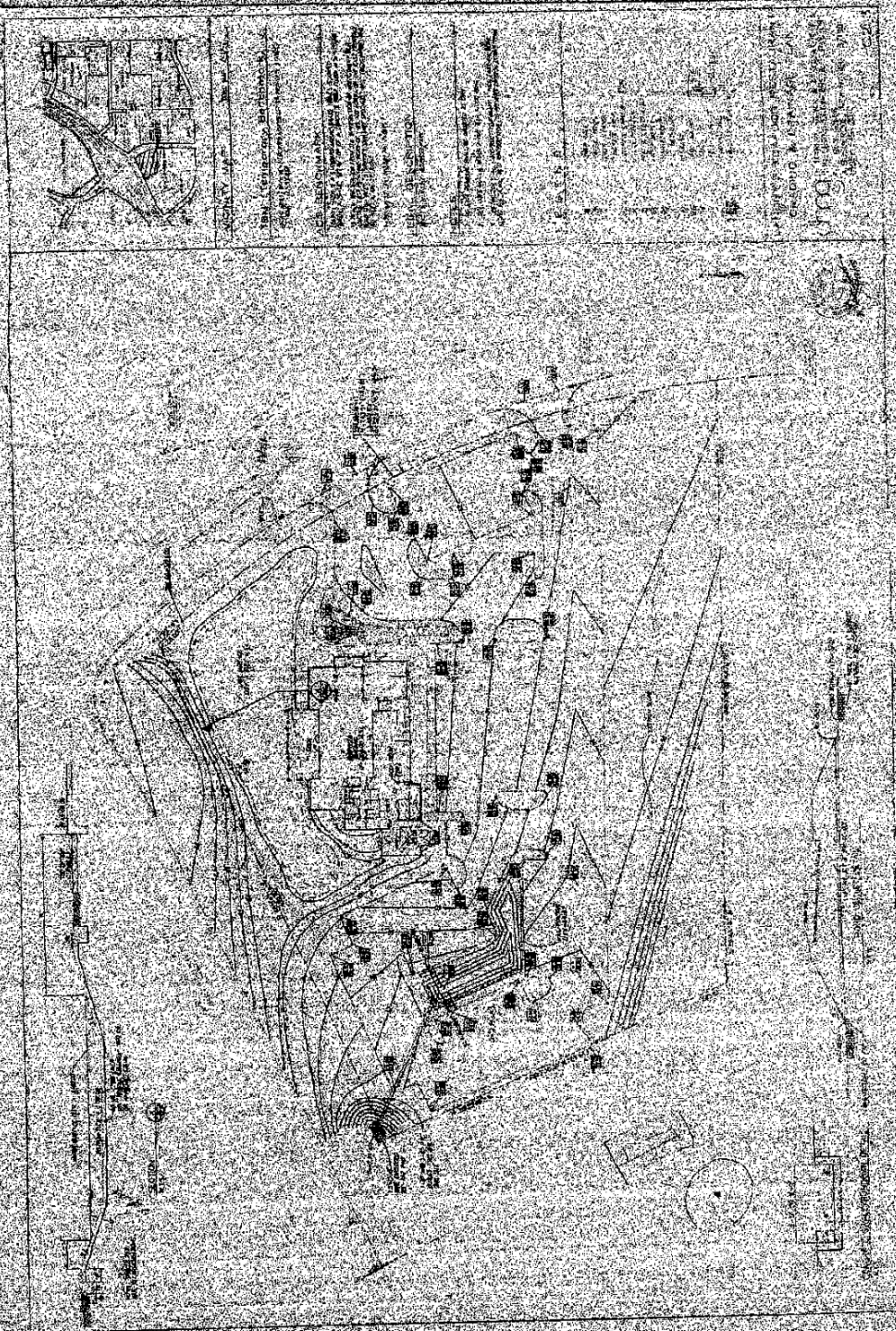
- 23 PRIVATE U  
JANU 2-A

**सिद्धान्त**

- ② PRIVATE 2-6

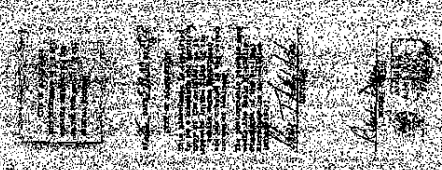
**WILLIAM**  
LETT, NORTON & ASSOCIATES, INC.  
600-9 MIAMI PARK BLVD., N.E.  
ATLANTA, GA. 30328  
A. SCHEIDT & SONS, INC.  
10000 N. CENTRAL EXP. HWY. S.W.  
DALLAS, TEX. 75243  
DODGE

## Evolution Conditions Basin Map



CITY OF ALGER

C 20 B 16 A 12



[illegible][illegible]

1. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RISK-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEWAGE THAT GETS INTO THE RISK-OFF DRAIN.
4. REVIEW OF EXISTING UTILITIES AND CLAMP OF SEWAGE TRENCHES TO BE COMPLETED PRIOR TO ANY EXCAVATION OR CONSTRUCTION OF THE CONSTRUCTION.
5. ALL EXPOSED SEWER SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO ACCEPTANCE OF ANY PROJECT.

- NOTES:
2. ALL CHAIRS AND GUTTERS TO 5" HEMLOCK UNLESS OTHERWISE NOTED.
3. ALL REMAINING WALL DESIGN SHALL BE BY OTHERS.
4. ANY CHAIRS OR REINFORCEMENT NEARLY IMPAIRED BY CONSTRUCTION ACTION SHALL BE REPLACED TO MATCH DESIGN CONDITIONS.
5. ALL SITE WORK SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARDS FOR PUBLIC WORKS CONSTRUCTION CONDITION 9.

EXAMINING CONTROL  
 EXAMINING ASBESTOS CONTROL  
 PREPARED CHAIRMAN  
 PREPARED AND CONTROL  
 SCALE 1E  
 EXAMINING SPOT EXAMINATION  
 PREPARED SPOT EXAMINATION  
 BROADWAY  
 CANTONMENT  
 NIGHT-OF-WAY  
 PREPARED CLASS  
 EXAMINING CLASS AND OUTLET  
 EXAMINING SCHEDULE  
 PREPARED EXAMINING WALL (SEE EXAMINING UNIVERSITY)  
 PREPARED CONDUCTOR 30  
 ALA. PATH 25  
 ALA. CROSS STATE  
 ROCK PLATING-SEE DETAIL HAS SHEET

21852 21853 21854 21855 21856 21857 21858 21859 21860 21861 21862 21863 21864 21865 21866 21867 21868 21869 21870 21871 21872 21873 21874 21875 21876 21877 21878 21879 21880 21881 21882 21883 21884 21885 21886 21887 21888 21889 21890 21891 21892 21893 21894 21895 21896 21897 21898 21899 21900 21901 21902 21903 21904 21905 21906 21907 21908 21909 21910 21911 21912 21913 21914 21915 21916 21917 21918 21919 21920 21921 21922 21923 21924 21925 21926 21927 21928 21929 21930 21931 21932 21933 21934 21935 21936 21937 21938 21939 21940 21941 21942 21943 21944 21945 21946 21947 21948 21949 21950 21951 21952 21953 21954 21955 21956 21957 21958 21959 21960 21961 21962 21963 21964 21965 21966 21967 21968 21969 21970 21971 21972 21973 21974 21975 21976 21977 21978 21979 21980 21981 21982 21983 21984 21985 21986 21987 21988 21989 21990 21991 21992 21993 21994 21995 21996 21997 21998 21999 22000 22001 22002 22003 22004 22005 22006 22007 22008 22009 22010 22011 22012 22013 22014 22015 22016 22017 22018 22019 22020 22021 22022 22023 22024 22025 22026 22027 22028 22029 22030 22031 22032 22033 22034 22035 22036 22037 22038 22039 22040 22041 22042 22043 22044 22045 22046 22047 22048 22049 22050 22051 22052 22053 22054 22055 22056 22057 22058 22059 22060 22061 22062 22063 22064 22065 22066 22067 22068 22069 22070 22071 22072 22073 22074 22075 22076 22077 22078 22079 22080 22081 22082 22083 22084 22085 22086 22087 22088 22089 22090 22091 22092 22093 22094 22095 22096 22097 22098 22099 22100 22101 22102 22103 22104 22105 22106 22107 22108 22109 22110 22111 22112 22113 22114 22115 22116 22117 22118 22119 22120 22121 22122 22123 22124 22125 22126 22127 22128 22129 22130 22131 22132 22133 22134 22135 22136 22137 22138 22139 22140 22141 22142 22143 22144 22145 22146 22147 22148 22149 22150 22151 22152 22153 22154 22155 22156 22157 22158 22159 22160 22161 22162 22163 22164 22165 22166 22167 22168 22169 22170 22171 22172 22173 22174 22175 22176 22177 22178 22179 22180 22181 22182 22183 22184 22185 22186 22187 22188 22189 22190 22191 22192 22193 22194 22195 22196 22197 22198 22199 22200 22201 22202 22203 22204 22205 22206 22207 22208 22209 22210 22211 22212 22213 22214 22215 22216 22217 22218 22219 22220 22221 22222 22223 22224 22225 22226 22227 22228 22229 22230 22231 22232 22233 22234 22235 22236 22237 22238 22239 22240 22241 22242 22243 22244 22245 22246 22247 22248 22249 22250 22251 22252 22253 22254 22255 22256 22257 22258 22259 22
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**CAUTION:**  
EXISTING UTILITIES ARE NOT SHOWN.  
IT SHALL BE THE SOLE RESPONSIBILITY  
OF THE CONTRACTOR TO CONDUCT ALL  
NECESSARY FIELD INVESTIGATIONS PRIOR  
TO ANY EXCAVATION TO DETERMINE THE  
ACTUAL LOCATION OF UTILITIES & OTHER  
IMPROVEMENTS.



# Weighted E Method

## JEFFERSON HOTEL

Existing Developed Basins- not accounting for detention basin

Basin	Area (sf)	Treatment A				Treatment B				Treatment C				Treatment D				100-Year 6-hr		10-day
		Area (acres)	%	Area (acres)	%	Area (acres)	%	Area (acres)	%	Area (acres)	%	Area (acres)	%	Area (acres)	%	Area (acres)	%	Weighted E (ac-ft)	Volume (ac-ft)	
BASIN A	33316	0.765	0%	0	0.0%	0.000	23.0%	0.17591	77%	0.589	1.892	0.121	3.32	1.974	0.461	12.49	0.199			
BASIN B	122099	2.803	0%	0	5.0%	0.140	8.0%	0.22424	86%	0.311	1.941	0.058	1.58	1.941	0.058	1.05	0.065			
BASIN C	15745	0.361	0%	0	5.0%	0.018	7.0%	0.0253	82%	0.197	1.914	0.038	1.05	1.914	0.038	1.05	0.062			
BASIN D	10484	0.241	0%	0	8.0%	0.019	10.0%	0.02407	72%	0.178	1.843	0.038	1.05	1.843	0.038	1.05	0.062			
BASIN E	10748	0.247	0%	0	0.0%	0.000	28.0%	0.06909	87%	0.178	1.970	0.520	14.07	1.970	0.520	14.07	0.889			
COMBINED C+B	137844	3.164	0%	0	5.0%	0.158223	7.9%	0.24954												

### Equations:

Weighted E =  $E_a A_a + E_b A_b + E_c A_c + E_d A_d / (\text{Total Area})$

Volume = Weighted E \* Total Area

Flow =  $Q_a A_a + Q_b A_b + Q_c A_c + Q_d A_d$

Where for 100-year, 6-hour storm (zone 3)

$E_a = 0.53$   
 $E_b = 0.78$   
 $E_c = 1.13$   
 $E_d = 2.12$   
 $Q_a = 1.57$   
 $Q_b = 2.28$   
 $Q_c = 3.14$   
 $Q_d = 4.7$

DRAINS TO NIMDOT  
 DRAINS TO HOTEL  
 EXISTING PROPOSED AFTER ROUTING  
 7.74 3.32 3.32  
 16.17 7.88

First flush requirement (Redevelopment=impx 28/12- New development=impx 34/12)  
 Area of site affected=7753 w/s/s impervious

BASIN A 556 BASIN B+C 3393 BASIN D 243.5782667 CF  
 first flush= 2303  
 volume retained= 4992  
 fee in lieu \$1,952 DOLLARS

**APPENDIX B**

**HYDRAULIC MODELING AND CALCULATIONS**



## ***DROP INLET CALCULATIONS***

POND	TYPE OF INLET	AREA (SF)	Q (CFS)	H (FT)	H ALLOW (FT)
	SINGLE D	3.84	1.58	0.0073	0.5

### ORIFICE EQUATION

$$Q = CA \sqrt{2gH}$$

$$C = 0.6$$

$$g = 32.2$$

INLETS IN SUMP CONDITION. ONE INLET CAN HANDLE THE FLOW,

# VOLUME CALCULATIONS

COMMONS POND

	ACTUAL ELEV.	DEPTH (FT)			VOLUME	VOLUME	Q
					CUMULATIVE	AC-FT	(CFS)
POND OUTLET	50.00	0.00					
	52.50	0.00			800	0.018	0.00
	56.00	3.50			5120	0.118	4.43
	57.00	4.50			6135	0.141	5.03
	58.00	5.50			7403	0.170	5.56
	58.50	6.00			10333	0.237	5.81

## Orifice Equation

$$Q = CA \text{ SQRT}(2gH)$$

C = 0.6  
 Diameter (in) 9.5  
 Area (ft<sup>2</sup>) = 0.492237391  
 g = 32.2  
 H (Ft) = Depth of water above center of orifice  
 Q (CFS) = Flow

pondrout031318.txt

\*S AHYMO - DETENTION-JEFFERSON HOTEL  
\*S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2  
QUARTER=0.0 ONE= 2.01 IN  
SIX=2.35 IN DAY= 2.75 IN DT = 0.05 HR

COMPUTE NM HYD ID=1 HYD NO=101 DA= .00494 SQ MI  
PER A=0 PER B=5 PER C=8 PER D=87  
TP=-.142 MASSRAIN=-1

PRINT HYD ID=1 CODE=3

\* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR  
ROUTE RESERVOIR ID=2 HYD NO=102 INFLOW=1 CODE=3  
OUTFLOW(CFS) STORAGE(AC-FT) ELEV(FT)  
0.00 0.018 52.50  
4.43 0.118 56.00  
5.03 0.141 57.00  
5.56 0.170 58.00  
5.81 0.237 58.50

FINISH

AHYMO.OUT

AHYMO PROGRAM (AHYMO-S4)

- Version: S4.01a - Rel: 01a

RUN DATE (MON/DAY/YR) = 07/30/2018

START TIME (HR:MIN:SEC) = 16:53:40

USER NO. =

RioGrandeSing\ea41963517

INPUT FILE = ettings\Owner\Desktop\2018 JOBS\1813-jefferson  
hotel\DRAINAGE\pondrout031318.txt

\*S AHYMO - DETENTION-JEFFERSON HOTEL  
\*S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2  
QUARTER=0.0 ONE= 2.01 IN  
SIX=2.35 IN DAY= 2.75 IN DT = 0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE

AREAS (NM & AZ) - D1  
DT = 0.050000 HOURS

0.050000 HOURS		END TIME =		24.000002 HOURS		
0.0000	0.0023	0.0046	0.0071	0.0099	0.0127	0.0159
0.0203	0.0272	0.0347	0.0424	0.0509	0.0595	0.0684
0.0776	0.0870	0.0974	0.1084	0.1204	0.1437	0.1728
0.2117	0.2559	0.3104	0.3831	0.4649	0.6062	0.8258
1.2021	1.4666	1.6752	1.7800	1.8719	1.9379	1.9905
2.0362	2.0697	2.1005	2.1259	2.1418	2.1530	2.1629
2.1722	2.1803	2.1879	2.1953	2.2025	2.2084	2.2118
2.2152	2.2186	2.2217	2.2247	2.2278	2.2307	2.2336
2.2363	2.2391	2.2417	2.2443	2.2469	2.2494	2.2518
2.2542	2.2565	2.2588	2.2611	2.2633	2.2654	2.2676
2.2697	2.2717	2.2738	2.2758	2.2778	2.2798	2.2817
2.2837	2.2856	2.2874	2.2893	2.2911	2.2930	2.2948
2.2965	2.2983	2.3000	2.3017	2.3034	2.3051	2.3068
2.3084	2.3100	2.3117	2.3133	2.3148	2.3164	2.3180
2.3195	2.3210	2.3225	2.3240	2.3255	2.3269	2.3284
2.3298	2.3313	2.3327	2.3341	2.3355	2.3368	2.3382
2.3396	2.3409	2.3422	2.3436	2.3449	2.3462	2.3474
2.3487	2.3500	2.3513	2.3525	2.3538	2.3551	2.3563
2.3576	2.3589	2.3601	2.3614	2.3627	2.3639	2.3652
2.3665	2.3677	2.3690	2.3702	2.3715	2.3728	2.3740
2.3753	2.3765	2.3778	2.3790	2.3803	2.3815	2.3828
2.3840	2.3853	2.3865	2.3878	2.3890	2.3903	2.3915
2.3927	2.3940	2.3952	2.3965	2.3977	2.3989	2.4002
2.4014	2.4027	2.4039	2.4051	2.4064	2.4076	2.4088
2.4101	2.4113	2.4125	2.4137	2.4150	2.4162	2.4174
2.4186	2.4199	2.4211	2.4223	2.4235	2.4247	2.4260
2.4272	2.4284	2.4296	2.4308	2.4320	2.4333	2.4345
2.4357	2.4369	2.4381	2.4393	2.4405	2.4417	2.4429
2.4441	2.4453	2.4465	2.4478	2.4490	2.4502	2.4514
2.4526	2.4538	2.4550	2.4561	2.4573	2.4585	2.4597
2.4609	2.4621	2.4633	2.4645	2.4657	2.4669	2.4681
2.4692	2.4704	2.4716	2.4728	2.4740	2.4752	2.4764
2.4775	2.4787	2.4799	2.4811	2.4822	2.4834	2.4846
2.4858	2.4869	2.4881	2.4893	2.4905	2.4916	2.4928
2.4940	2.4951	2.4963	2.4975	2.4986	2.4998	2.5010
2.5021	2.5033	2.5044	2.5056	2.5068	2.5079	2.5091
2.5102	2.5114	2.5125	2.5137	2.5148	2.5160	2.5171

AHYMO. OUT							
2.5183	2.5194	2.5206	2.5217	2.5229	2.5240	2.5252	
2.5263	2.5274	2.5286	2.5297	2.5309	2.5320	2.5331	
2.5343	2.5354	2.5365	2.5377	2.5388	2.5399	2.5411	
2.5422	2.5433	2.5445	2.5456	2.5467	2.5478	2.5490	
2.5501	2.5512	2.5523	2.5535	2.5546	2.5557	2.5568	
2.5579	2.5590	2.5602	2.5613	2.5624	2.5635	2.5646	
2.5657	2.5668	2.5679	2.5691	2.5702	2.5713	2.5724	
2.5735	2.5746	2.5757	2.5768	2.5779	2.5790	2.5801	
2.5812	2.5823	2.5834	2.5845	2.5856	2.5867	2.5878	
2.5889	2.5899	2.5910	2.5921	2.5932	2.5943	2.5954	
2.5965	2.5976	2.5986	2.5997	2.6008	2.6019	2.6030	
2.6040	2.6051	2.6062	2.6073	2.6084	2.6094	2.6105	
2.6116	2.6126	2.6137	2.6148	2.6159	2.6169	2.6180	
2.6191	2.6201	2.6212	2.6223	2.6233	2.6244	2.6254	
2.6265	2.6276	2.6286	2.6297	2.6307	2.6318	2.6328	
2.6339	2.6350	2.6360	2.6371	2.6381	2.6392	2.6402	
2.6413	2.6423	2.6433	2.6444	2.6454	2.6465	2.6475	
2.6486	2.6496	2.6506	2.6517	2.6527	2.6538	2.6548	
2.6558	2.6569	2.6579	2.6589	2.6600	2.6610	2.6620	
2.6630	2.6641	2.6651	2.6661	2.6672	2.6682	2.6692	
2.6702	2.6712	2.6723	2.6733	2.6743	2.6753	2.6763	
2.6774	2.6784	2.6794	2.6804	2.6814	2.6824	2.6834	
2.6844	2.6854	2.6865	2.6875	2.6885	2.6895	2.6905	
2.6915	2.6925	2.6935	2.6945	2.6955	2.6965	2.6975	
2.6985	2.6995	2.7005	2.7015	2.7025	2.7034	2.7044	
2.7054	2.7064	2.7074	2.7084	2.7094	2.7104	2.7114	
2.7123	2.7133	2.7143	2.7153	2.7163	2.7172	2.7182	
2.7192	2.7202	2.7211	2.7221	2.7231	2.7241	2.7250	
2.7260	2.7270	2.7280	2.7289	2.7299	2.7309	2.7318	
2.7328	2.7338	2.7347	2.7357	2.7366	2.7376	2.7386	
2.7395	2.7405	2.7414	2.7424	2.7433	2.7443	2.7452	
2.7462	2.7472	2.7481	2.7491	2.7500			

COMPUTE NM HYD

ID=1 HYD NO=101 DA= .00494 SQ MI  
 PER A=0 PER B=5 PER C=8 PER D=87  
 TP=-.142 MASSRAIN=-1

K = 0.077390HR TP = 0.142000HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428  
 UNIT PEAK = 15.928 CFS UNIT VOLUME = 0.9985 B = 526.28  
 P60 = 2.0100  
 AREA = 0.004298 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.124555HR TP = 0.142000HR K/TP RATIO = 0.877146 SHAPE  
 CONSTANT, N = 4.047639  
 UNIT PEAK = 1.6206 CFS UNIT VOLUME = 0.9931 B = 358.33  
 P60 = 2.0100  
 AREA = 0.000642 SQ MI IA = 0.40769 INCHES INF = 0.99154  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD

ID=1 CODE=3

PARTIAL HYDROGRAPH 101.00

TIME	FLOW	TIME	FLOW	TIME	FLOW
Page 2					

AHYMO.OUT

TIME HRS	FLOW HRS CFS	CFS	TIME HRS	FLOW HRS CFS	CFS	HRS	CFS
	0.000	0.0		5.100	0.0	10.200	0.1
15.300	0.1	0.0	20.400	0.1	0.0	10.350	0.1
15.450	0.150	0.0	20.550	0.1	0.1	10.500	0.1
15.600	0.300	0.0	20.700	0.1	0.1	10.650	0.1
15.750	0.450	0.0	20.850	0.1	0.1	10.800	0.1
15.900	0.600	0.0	21.000	0.1	0.1	10.950	0.1
16.050	0.750	0.0	21.150	0.1	0.1	11.100	0.1
16.200	0.900	0.1	21.300	0.1	0.1	11.250	0.1
16.350	1.050	0.8	21.450	0.1	0.1	11.400	0.1
16.500	1.200	2.0	21.600	0.1	0.1	11.550	0.1
16.650	1.350	4.7	21.750	0.1	0.1	11.700	0.1
16.800	1.500	14.0	21.900	0.1	0.1	11.850	0.1
16.950	1.650	9.1	22.050	0.1	0.1	12.000	0.1
17.100	1.800	4.5	22.200	0.1	0.1	12.150	0.1
17.250	1.950	2.6	22.350	0.1	0.1	12.300	0.1
17.400	2.100	1.4	22.500	0.1	0.1	12.450	0.1
17.550	2.250	0.8	22.650	0.1	0.1	12.600	0.1
17.700	2.400	0.5	22.800	0.1	0.1	12.750	0.1
17.850	2.550	0.3	22.950	0.1	0.1	12.900	0.1
18.000	2.700	0.2	23.100	0.1	0.1	13.050	0.1
18.150	2.850	0.1	23.250	0.1	0.1	13.200	0.1
18.300	3.000	0.1	23.400	0.1	0.1	13.350	0.1
18.450	3.150	0.0	23.550	0.1	0.1	13.500	0.1
18.600	3.300	0.0	23.700	0.1	0.1	13.650	0.1
18.750	3.450	0.0	23.850	0.1	0.1	13.800	0.1
18.900	3.600	0.0	24.000	0.1	0.1	13.950	0.1
19.050	3.750	0.0	24.150	0.0	0.1	14.100	0.1
19.200	3.900	0.0	24.300	0.0	0.1	14.250	0.1
19.350	4.050	0.0	24.450	0.0	0.1	14.400	0.1
19.500	4.200	0.0	24.600	0.0	0.1	14.550	0.1
19.650	4.350	0.0	24.750	0.0			

			AHYMO,OUT		
	4.500	0.0	9.600	0.1	14.700
19.800	0.1				
	4.650	0.0	9.750	0.1	14.850
19.950	0.1				
	4.800	0.0	9.900	0.1	15.000
20.100	0.1				
	4.950	0.0	10.050	0.1	15.150
20.250	0.1				

RUNOFF VOLUME = 2.32270 INCHES = 0.6120 ACRE-FEET  
 PEAK DISCHARGE RATE = 14.04 CFS AT 1.500 HOURS BASIN AREA =  
 0.0049 SQ. MI.

\* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR  
 ROUTE RESERVOIR ID=2 HYD NO=102 INFLOW=1 CODE=3  
 OUTFLOW(CFS) STORAGE(AC-FT) ELEV(FT)  
 0.00 0.018 52.50  
 4.43 0.118 56.00  
 5.03 0.141 57.00  
 5.56 0.170 58.00  
 5.81 0.237 58.50

\* \* \* \* \*

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	52.50	0.018	0.00
0.15	0.00	52.50	0.018	0.00
0.30	0.00	52.50	0.018	0.00
0.45	0.00	52.50	0.018	0.00
0.60	0.00	52.50	0.018	0.00
0.75	0.00	52.50	0.018	0.00
0.90	0.09	52.51	0.018	0.01
1.05	0.84	52.65	0.022	0.19
1.20	2.00	53.07	0.034	0.73
1.35	4.70	53.89	0.058	1.76
1.50	14.04	56.74	0.135	4.87
1.65	9.09	58.37	0.220	5.75
1.80	4.51	58.44	0.228	5.78
1.95	2.62	58.23	0.200	5.67
2.10	1.37	57.51	0.156	5.30
2.25	0.81	55.71	0.110	4.07
2.40	0.53	54.57	0.077	2.62
2.55	0.27	53.82	0.056	1.67
2.70	0.16	53.33	0.042	1.05
2.85	0.10	53.02	0.033	0.66
3.00	0.06	52.83	0.027	0.41
3.15	0.04	52.70	0.024	0.26
3.30	0.03	52.63	0.022	0.16

AHYMO.OUT				
3.45	0.03	52.59	0.020	0.11
3.60	0.03	52.56	0.020	0.07
3.75	0.03	52.54	0.019	0.05
3.90	0.03	52.53	0.019	0.04
4.05	0.03	52.53	0.019	0.04
4.20	0.03	52.53	0.019	0.03
4.35	0.03	52.53	0.019	0.03
4.50	0.04	52.53	0.019	0.03
4.65	0.04	52.53	0.019	0.04
4.80	0.04	52.53	0.019	0.04
4.95	0.04	52.53	0.019	0.04
5.10	0.05	52.53	0.019	0.04
5.25	0.05	52.54	0.019	0.04
5.40	0.05	52.54	0.019	0.05
5.55	0.06	52.54	0.019	0.05
5.70	0.06	52.54	0.019	0.05
5.85	0.06	52.55	0.019	0.06
6.00	0.07	52.55	0.019	0.06
6.15	0.07	52.55	0.019	0.06
6.30	0.07	52.55	0.020	0.07
6.45	0.07	52.55	0.020	0.07
6.60	0.07	52.55	0.020	0.07
6.75	0.07	52.55	0.020	0.07
6.90	0.07	52.55	0.020	0.07
7.05	0.07	52.56	0.020	0.07
7.20	0.07	52.56	0.020	0.07
7.35	0.07	52.55	0.020	0.07
7.50	0.07	52.55	0.020	0.07
7.65	0.07	52.55	0.020	0.07
7.80	0.07	52.55	0.020	0.07
7.95	0.07	52.55	0.020	0.07
8.10	0.07	52.55	0.020	0.07
8.25	0.07	52.55	0.020	0.07

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	0.07	52.55	0.020	0.07
8.55	0.07	52.55	0.020	0.07
8.70	0.07	52.55	0.020	0.07
8.85	0.07	52.55	0.020	0.07
9.00	0.07	52.55	0.020	0.07
9.15	0.07	52.55	0.020	0.07
9.30	0.07	52.55	0.020	0.07
9.45	0.07	52.55	0.020	0.07
9.60	0.07	52.55	0.020	0.07
9.75	0.07	52.55	0.020	0.07
9.90	0.07	52.55	0.020	0.07
10.05	0.07	52.55	0.020	0.07
10.20	0.07	52.55	0.020	0.07
10.35	0.07	52.55	0.019	0.07
10.50	0.07	52.55	0.019	0.07
10.65	0.07	52.55	0.019	0.07
10.80	0.07	52.55	0.019	0.07
10.95	0.06	52.55	0.019	0.07
11.10	0.07	52.55	0.019	0.07
11.25	0.07	52.55	0.019	0.07
11.40	0.07	52.55	0.019	0.07
11.55	0.07	52.55	0.019	0.07
11.70	0.06	52.55	0.019	0.07
11.85	0.06	52.55	0.019	0.07
12.00	0.06	52.55	0.019	0.07
12.15	0.06	52.55	0.019	0.06



			AHYMO.OUT	
12.30	0.06	52.55	0.019	0.06
12.45	0.06	52.55	0.019	0.06
12.60	0.06	52.55	0.019	0.06
12.75	0.06	52.55	0.019	0.06
12.90	0.06	52.55	0.019	0.06
13.05	0.06	52.55	0.019	0.06
13.20	0.06	52.55	0.019	0.06
13.35	0.06	52.55	0.019	0.06
13.50	0.06	52.55	0.019	0.06
13.65	0.06	52.55	0.019	0.06
13.80	0.06	52.55	0.019	0.06
13.95	0.06	52.55	0.019	0.06
14.10	0.06	52.55	0.019	0.06
14.25	0.06	52.55	0.019	0.06
14.40	0.06	52.55	0.019	0.06
14.55	0.06	52.55	0.019	0.06
14.70	0.06	52.55	0.019	0.06
14.85	0.06	52.55	0.019	0.06
15.00	0.06	52.55	0.019	0.06
15.15	0.06	52.55	0.019	0.06
15.30	0.06	52.55	0.019	0.06
15.45	0.06	52.55	0.019	0.06
15.60	0.06	52.55	0.019	0.06
15.75	0.06	52.55	0.019	0.06
15.90	0.06	52.55	0.019	0.06
16.05	0.06	52.55	0.019	0.06
16.20	0.06	52.55	0.019	0.06
16.35	0.06	52.55	0.019	0.06
16.50	0.06	52.55	0.019	0.06
16.65	0.06	52.55	0.019	0.06

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	0.06	52.55	0.019	0.06
16.95	0.06	52.55	0.019	0.06
17.10	0.06	52.55	0.019	0.06
17.25	0.06	52.55	0.019	0.06
17.40	0.06	52.55	0.019	0.06
17.55	0.06	52.55	0.019	0.06
17.70	0.06	52.55	0.019	0.06
17.85	0.06	52.55	0.019	0.06
18.00	0.06	52.55	0.019	0.06
18.15	0.06	52.55	0.019	0.06
18.30	0.06	52.55	0.019	0.06
18.45	0.06	52.55	0.019	0.06
18.60	0.06	52.55	0.019	0.06
18.75	0.06	52.55	0.019	0.06
18.90	0.06	52.55	0.019	0.06
19.05	0.06	52.55	0.019	0.06
19.20	0.06	52.55	0.019	0.06
19.35	0.06	52.55	0.019	0.06
19.50	0.06	52.55	0.019	0.06
19.65	0.06	52.55	0.019	0.06
19.80	0.06	52.55	0.019	0.06
19.95	0.06	52.55	0.019	0.06
20.10	0.06	52.54	0.019	0.06
20.25	0.06	52.54	0.019	0.06
20.40	0.06	52.54	0.019	0.06
20.55	0.06	52.54	0.019	0.06
20.70	0.06	52.54	0.019	0.06
20.85	0.06	52.54	0.019	0.06
21.00	0.06	52.54	0.019	0.06

			AHYMO.OUT	
21.15	0.06	52.54	0.019	0.06
21.30	0.06	52.54	0.019	0.06
21.45	0.06	52.54	0.019	0.06
21.60	0.06	52.54	0.019	0.06
21.75	0.05	52.54	0.019	0.06
21.90	0.06	52.54	0.019	0.05
22.05	0.06	52.54	0.019	0.06
22.20	0.05	52.54	0.019	0.05
22.35	0.05	52.54	0.019	0.05
22.50	0.05	52.54	0.019	0.05
22.65	0.05	52.54	0.019	0.05
22.80	0.05	52.54	0.019	0.05
22.95	0.05	52.54	0.019	0.05
23.10	0.05	52.54	0.019	0.05
23.25	0.05	52.54	0.019	0.05
23.40	0.05	52.54	0.019	0.05
23.55	0.05	52.54	0.019	0.05
23.70	0.05	52.54	0.019	0.05
23.85	0.05	52.54	0.019	0.05
24.00	0.05	52.54	0.019	0.05
24.15	0.03	52.54	0.019	0.05
24.30	0.01	52.53	0.019	0.03
24.45	0.00	52.52	0.018	0.02
24.60	0.00	52.51	0.018	0.01
24.75	0.00	52.51	0.018	0.01
24.90	0.00	52.50	0.018	0.00
PEAK DISCHARGE =		5.789 CFS	- PEAK OCCURS AT HOUR 1.75	
MAXIMUM WATER SURFACE ELEVATION =		58.459		
MAXIMUM STORAGE =		0.2315 AC-FT	INCREMENTAL TIME= 0.050000HRS	

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 16:53:40

