

590 Bonaparte Drive
71A
RIGHT OF WAY AGREEMENT

I INB-RATEL (PRES.) acting as an independent Contractor, do herein
guarantee that the work to be performed within the right of way limits of Bonaparte
PROPERTY/OFFICER (STREET)

Drive for the purpose of Water & sewer line installation
(NAME) (TYPE OF WORK TO BE PERFORMED)

said work shall be completed in accordance with City of Napoleon Engineering Specifications. It is
further agreed that Rohrer Hospitality Inc. shall save the City of Napoleon from
(CONTRACTOR NAME)

liability due to damage of utilities, personal property loss, personal injury, non-payment of suppliers
or any possible litigation arising from the construction as stated above.

The City of Napoleon hereby authorizes said contractor to temporarily block off, except local traffic
on Bonaparte Drive on 11-20-97 at 8:00 AM and re-open
(STREET NAME) (DATE) (TIME)
the street on 11-20-97 at 6:00 PM for a period not to exceed 12 hours. (The City
(DATE) (TIME)
of Napoleon shall receive 48 hours notice prior to construction.)

As an assurance that the above mentioned work is done according to the Engineers specifications, a
CERTIFIED CHECK for the amount of \$ 2000.00 (made payable to the City of
Napoleon) shall be deposited with the City Engineering Department and held as surety. If the work
herein described involves the removal of pavement, sidewalk, curbing, and or other structural
material within the City Right of Way said shall be replaced by contractor no later than

12-10-97. weather permitting.
(DATE)

If it is the opinion of the City Engineering Department that the work performed under this agreement
does not meet said departments minimum specifications, appropriate deductions from the deposit will
be made to compensate the City for any corrections necessary. Any portion of the deposit not used
by the City for such corrections will be refunded to contractor within 30 days of completion of said.
If for any reason the work herein described is not completed by the date listed, a penalty of \$25.00
will be assessed each day or part thereof beyond said date. The penalty as assessed will be deducted
from the deposit listed above.

NO WORK SHALL BEGIN PRIOR TO OBTAINING THE PROPER SEWER TAPPING PERMIT

The foregoing statement was agreed to on this 20th day of November, 1997
(DATE) (MONTH) (YEAR)
Donna D. Jones Mark J. Jones
PROPERTY/OFFICER CITY MANAGER OR DESIGNEE - CITY OF NAPOLEON

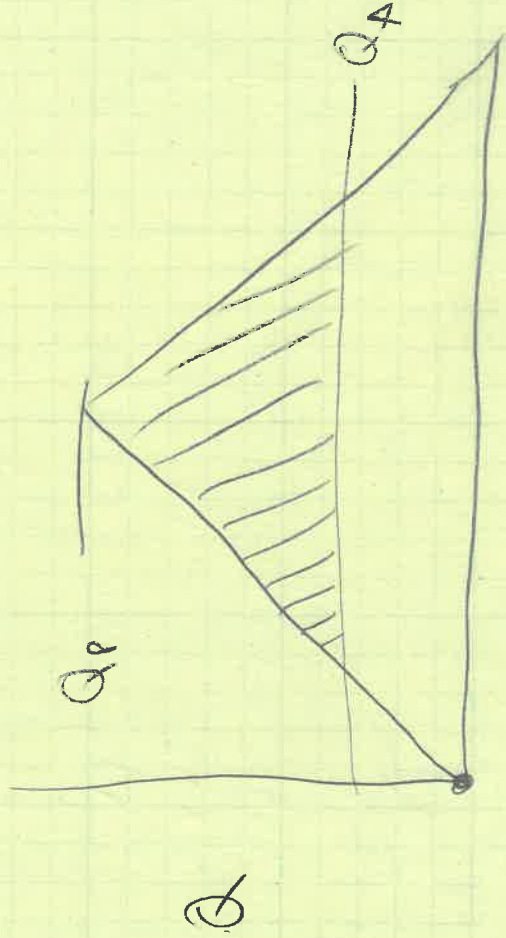
On Nov. 20th, 1997, the above parties appeared before me and
(DATE) (YEAR)

indicated their agreement with the contents of this document by their signatures.

SEAL

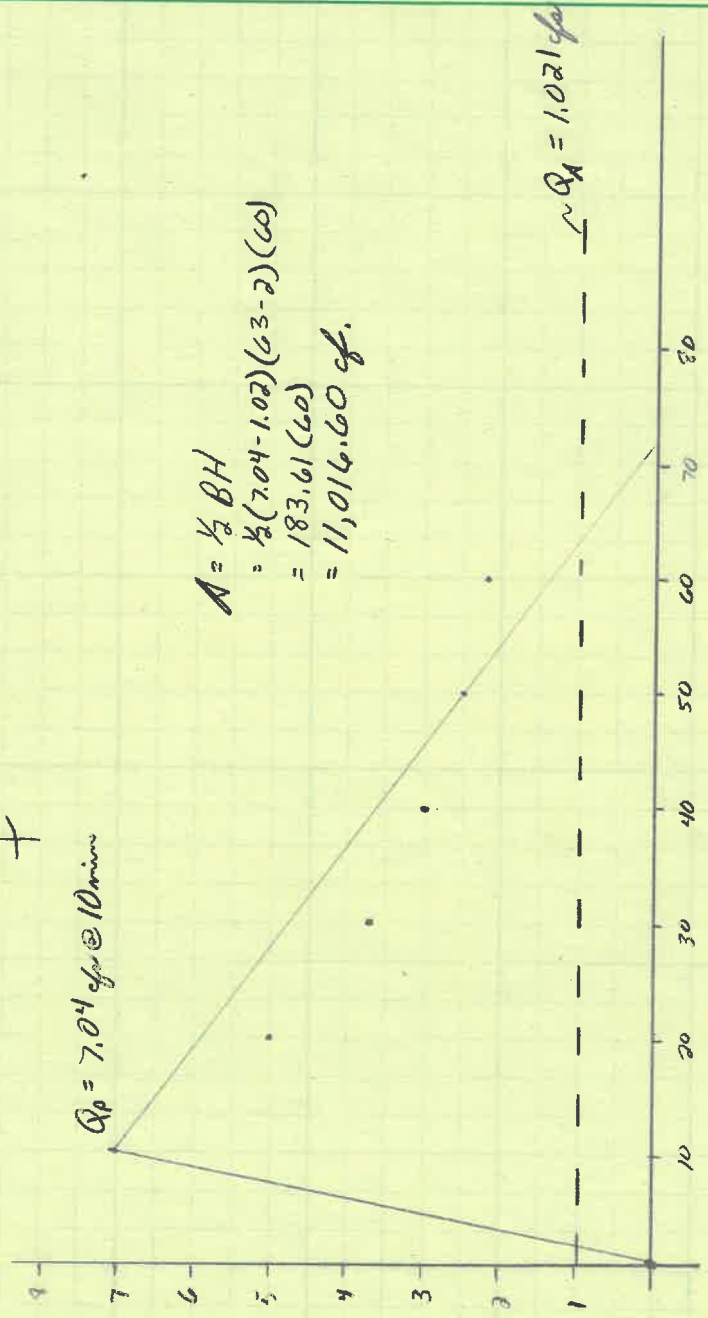
Sheryl K. Rathge
Notary Public for the State of Ohio
My Commission expires _____

SHERYL K. RATHGE
NOTARY PUBLIC, STATE OF OHIO
COMMISSION EXPIRES OCTOBER 16, 2001



$Q_p = 7.04 \text{ cfs @ 10 min}$

$$\begin{aligned}
 A &= \frac{1}{2} BH \\
 &= \frac{1}{2} (7.04 - 1.02) (63 - 2) (60) \\
 &= 183.61 (60) \\
 &= 11,016.60 \text{ sq. ft.}
 \end{aligned}$$



Fax Cover This is a confidential message, intended solely for the person to whom it is addressed. If you receive this message in error, please forward it to the correct person, or mail it back to us. Thank you.

To Christopher P. Miller - CPM Construction, Inc.
Fax No. (616) 983-0201 *ACH*
From Adam C. Hoff, P.E.
Date/Time 1/19/98
Subject Holiday Inn Express - Bonaparte Drive Bond
Pages 1, including this one

This FAX is in response to your correspondence of January 13, 1998. You are correct in that the trench back fill process was observed by our City Construction Inspector, Mr. Rex Moll. However, this work was not inspected on a full time basis. Furthermore, when Mr. Moll was on site, the granular material (ODOT 304) was being compacted by means of a lightweight plate vibrator. It has been our experience that work such as this should be performed with a hoe-pack or other heavier equipment to achieve full compaction. Based on this, we have concerns over settlement of the trench.

In a situation where the City holds the contract and bond for a street crossing, I would not have the same concerns as in this instance. If the City were to hold the contract and bond, a one (1) year guarantee would be very easily enforced. However, in this case, the best means we have to ensure that the area is restored to its original state is to retain a bond or certified check from the owner, or his representative, until the project is completed to our satisfaction.

It is our opinion that it is likely that the trench across Bonaparte Drive will settle and need additional work. Therefore, we will continue to require that a bond or certified check, in the amount of at least \$1,000.00 be provided by the owner.

If you have any questions, please call me at (419) 592-4010.

255 W. Riverview Ave.

Napoleon, Ohio 43545

(419) 592-4010 Phone

(419) 599-8393 Fax

CASHIER'S CHECK

507489

REMITTER : RAHEE HOSPITALITY

NOVEMBER 20 19 97 56-359 412

PAY TO THE
ORDER OF

CITY OF NAPOLEON

\$ 2000.00

STATE OF OHIO
& TRUST COMPANY

DOLLARS



THE STATE BANK
AND TRUST COMPANY
DEFIANCE • NEY • PAULDING
DELTA • WAUSEON • LYONS

TELLER
VICE PRESIDENT
CASHIER

James J. Dwyer

⑈397489⑈ ⑆041203594⑆ 0000005⑈

*Returned 2-10-00
by Ted Rohrs
City of Napoleon
Signed off by Rahee Hospitality*

CPM Construction Inc.

Contractors • Construction Managers

January 13, 1998

Attn: Mr Adam C Hoff P E
City of Napoleon Ohio
PO Box 151
Napoleon Ohio 43545-0151

501 Main Street
St. Joseph, Michigan 49085
(616) 983-2555
Fax (616) 983-0201

**RE: Holiday Inn Express - Napoleon, Ohio
Road Bond - Water & Sewer Line
Serial Letter No. 97306.10**

Dear Mr. Hoff:

Please be informed that we are in receipt of your letter to Mr. N.B. Patel dated for January 7, 1998. You state that the City of Napoleon is not satisfied with the trench backfilling and compaction due to improper equipment used during the backfill process. It was my understanding that the roadway was inspected by your city inspector, who passed the trench and authorized the paving of the road. I don't understand what improper equipment you are referring to, please specify what equipment was used and what equipment should have been used.

CPM Construction, Inc. stands behind all of their subcontractors and the work they perform. If, at anytime during the time period from now until December 8, 1998, road repairs are needed due to settlement or improper work performance, we will make all necessary repairs to the roadway.

Therefore, there is no reason for the City of Napoleon to retain one thousand (\$1000.00) dollars bond in the offset chance of the road settling. Please forward the two thousand (\$2000.00) dollar bond check to Mr. Patel as soon as possible.

If you have any questions or comments, please feel free to contact me at the office. We look forward to a continued professional relationship with the City of Napoleon, Ohio.

Sincerely,

CPM Construction, Inc.

Christopher P. Miller

Christopher P. Miller
President

CPM/slt

File:97306.4.10

6" TAP FOR HOLIDAY EXPRESS

Material:

8" X 6" s.s. tap saddle	\$ 241.75
6" tap valve w/3 pc	\$ 373.49
6" tap by Nagel's	<u>\$ 350.00</u>
sub-total	\$ 965.24

Labor:

Backhoe w/operator - 3 hours @ \$60/hour	\$ 180.00
General labor - 3 hours; 1 man @ \$20/hour	\$ 60.00
Large dump truck w/operator - 2 hour @ \$50/hour	\$ 100.00
General labor - 1 hours; 1 man @ \$20/hour	<u>\$ 20.00</u>
sub-total	\$ 360.00
Total	\$1,325.24

NOTE: The total does not include backfill or the cost of the meters; additional charges are , pending.

ADDITIONAL CHARGES:

2" coppersetter	\$ 297.00
2" strainer	\$ 150.00
2" compound	<u>\$1,231.40</u>
sub-total	\$1,678.40
upper total	<u>\$1,325.24</u>
TOTAL	\$3,003.64
plus 25% up charge	<u>\$ 750.91</u>
GRAND TOTAL	\$3,754.55



City of NAPOLEON, OHIO

255 WEST RIVERVIEW AVENUE, P.O. BOX 151
NAPOLEON, OHIO 43545-0151
(419) 592-4010
FAX (419) 599-8393

January 07, 1998

Mayor
Donald M. Stange

Mr. N. B. Patel
Rahee Hospitality
840 N. Washington St.
Van Wert, Ohio 45891

Members of Council
Michael J. DeWit, President

Dennis Filgor

James Hershberger

Glenn A. Miller

Travis B. Sheaffer

Char Weber

Terri A. Williams

City Manager
Marc S. Gerken, P.E.

Finance Director
Gregory J. Heath

Law Director
David M. Grahm

City Engineer
Adam C. Hoff, P.E.

Re. Bonaparte Drive roadway opening bond for Holiday Inn Express water and sewer lines .

Dear Mr. Patel

This letter is in response to your request for the City to return the street bond check you submitted to us on November 20, 1997 . We have discussed your request and have determined that we are not satisfied with the trench backfill compaction. This is based on the improper equipment used by your contractor during the trench backfilling process. Therefore, we cannot grant your request as we believe the trench will settle over the next year. However, we are willing to trade the two thousand (\$2000.00) dollar check for one written to the City of Napoleon for the amount of one thousand (\$1000.00) dollars . This replacement bond check could then be used by us to cover roadway repairs caused by settlement, which at this time would seem inevitable. We will retain the replacement bond check for one year from the date the work was completed (12/08/97). If no roadway repairs are necessary before 12/08/98, the replacement bond check would then be returned to you.

Regarding your question on the cost of the electrical supply for your facility, please see the attached invoice. This figure should include all related costs.

Please contact me when you would like to make the street bond check exchange.

Sincerely

Brent N. Damman
Zoning Administrator

cc. Adam C. Hoff, P.E., City Engineer
Rex Moll, Construction Inspector

\\DOCZONING\HOLINBON.SAM



210 S. Main Street
Swanton, Ohio 43558-1347
419-825-1103
FAX 419-825-3800

Golf View Professional Building
1044 Chelsea Ave, P.O. Box 671
Napoleon, Ohio 43545
419-592-9661
FAX 419-592-7021

November 6, 1997

CITY OF NAPOLEON ENGINEERING DEPARTMENT
255 RIVERVIEW AVE
NAPOLEON OH 43545

Attention: Adam C. Hoff, P.E.

Re: Holiday Inn Express Revised Site Plan~Napoleon Twp., Henry Co., Napoleon, OH

Dear Mr. Hoff:

Enclosed please find three (3) copies of the revised Site Plan for the above referenced project. Mr. Patel decided to remove the change in elevation that was present in the floor (683.00 to 682.00) and have a constant elevation of 682.00 throughout the structure.

A few of the elevations on the sidewalk and parking area were altered to conform to this new finished floor elevation. These changes of certain elevations did not alter the tops of any basins, nor affect the detention capacity of the parking lot.

If you have any questions, comments, or require any additional information for the above referenced project, please contact our office at the number listed above.

Sincerely,

Chad E. Lulfs, Engineer

Encl.:

11/6/97, 4:20 PM
K:\MSWORKS\PA\TEL\ADAM2.WPS

Engineers • Surveyors • Designers • Planner

A Total Quality Commitment



210 S. Main Street
Swanton, Ohio 43558-1347
419-825-1103
FAX 419-825-3800

Golf View Professional Building
1044 Chelsea Ave, P.O. Box 671
Napoleon, Ohio 43545
419-592-9661
FAX 419-592-7021

November 4, 1997

CITY OF NAPOLEON ENGINEERING DEPT
255 RIVERVIEW AVE
NAPOLEON OH 43545

Attention: Adam C. Hoff, P.E.

Subject: Holiday Inn Express~Napoleon Twp., Henry Co., Napoleon, OH

Dear Mr. Hoff:

Enclosed please find one (1) set of revised drainage calculations and three (3) sets of the revised site plan for the above referenced project. Also attached are drawings illustrating the applicable areas. The only revisions were to the drainage calculations, including pipe sizes and grades.

If you have any questions, comments, or require any additional information for the above referenced project, please contact our office at the number listed above.

Sincerely,

Chad E. Lulfs, Engineer

Encl.

11/4/97, 2:20 PM
K:\MSWORKS\PA\TELADRAINAGE\COVER3.WPS

Engineers • Surveyors • Designers • Planner

A Total Quality Commitment

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE PRE-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
NOVEMBER 4, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

HOLIDAY INN EXPRESS HOTEL LOT

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

$c = 0.3$ $i = 2.3$ $A = 1.480$
 $Q1 = 1.021$

Pre-Development $Q1 = 1.021$

WEST OUTLOT

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

$c = 0.3$ $i = 2.3$ $A = 1.289$
 $Q1 = 0.889$

Pre-Development $Q1 = 0.889$

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
NOVEMBER 4, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

RATIONAL METHOD: Q = ciA Q = RUNOFF (c.f.s.) c = runoff coefficient
i = INTENSITY (in./hr.) A = AREA (acres)

HOLIDAY INN EXPRESS HOTEL LOT

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.30	4,505.088	0.103	0.071	0.414	0.021
	IMPERMEABLE	0.90	7,202.664	0.165	0.342		0.101
2	PERMEABLE	0.30	2,946.702	0.068	0.047	0.430	0.014
	IMPERMEABLE	0.90	8,070.082	0.185	0.383		0.113
3	PERMEABLE	0.30	2,281.116	0.052	0.036	1.216	0.011
	IMPERMEABLE	0.90	24,830.808	0.570	1.180		0.347
4	PERMEABLE	0.30	5,817.347	0.134	0.092	0.511	0.027
	IMPERMEABLE	0.90	8,824.347	0.203	0.419		0.123
TOTAL AREA:			64,478.154	1.480	2.571	2.571	0.755
WEIGHTED "C" =			0.755		TOTAL POST-DEVELOPMENT FLOW FOR A 1 YEAR STORM =		
					2.571		

WEST OUTLOT

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
OUTLOT	PERMEABLE	0.30	39,654.712	0.910	0.628	1.405	0.212
	IMPERMEABLE	0.90	16,354.778	0.375	0.777		0.263
TOTAL AREA:			56,009.490	1.286	1.405	1.405	0.475
WEIGHTED "C" =			0.475		TOTAL POST-DEVELOPMENT FLOW FOR A 1 YEAR STORM =		
					1.405		

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
NOVEMBER 4, 1997 CALCULATED BY: CHAD E. LULFS, ENGINEER**

HOLIDAY INN EXPRESS HOTEL LOT

TOTAL AREA = 1.480 AC. Q1pre = 1.021 Q1post = 2.571
PERCENT INCREASE IN Q1 FLOW = 151.812%
=>USE A 25 YEAR STORM

TIME (minutes)	CRITICAL STORM I 25	CA (c = 0.755) (A = 1.480)	=	CRITICAL STORM Q (c.f.s.)	ALLOWABLE DISCHARGE Q2 (c.f.s.)	STORAGE c.f.s. Q (c.f.s.)	STORAGE VOLUME (cubic feet)
10	6.30	1.117	=	7.0371	1.021	6.0161	3,609.66
15	5.10	1.117	=	5.6967	1.021	4.6757	4,208.13
20	4.50	1.117	=	5.0265	1.021	4.0055	4,806.60
25	4.00	1.117	=	4.4680	1.021	3.4470	5,170.50
30	3.40	1.117	=	3.7978	1.021	2.7768	4,998.24
40	2.80	1.117	=	3.1276	1.021	2.1066	5,055.84
50	2.30	1.117	=	2.5691	1.021	1.5481	4,644.30
60	2.00	1.117	=	2.2340	1.021	1.2130	4,366.80

REQUIRED DETENTION = 5,170.50 CUBIC FEET
USE A SAFETY FACTOR OF 2.0 = **10,341.00** CUBIC FEET

WEST OUTLOT

TOTAL AREA = 1.286 AC. Q1pre = 0.889 Q1post = 1.405
PERCENT INCREASE IN Q1 FLOW = 58.043%
=>USE A 10 YEAR STORM

TIME (minutes)	CRITICAL STORM I 25	CA (c = 0.475) (A = 1.286)	=	CRITICAL STORM Q (c.f.s.)	ALLOWABLE DISCHARGE Q2 (c.f.s.)	STORAGE c.f.s. Q (c.f.s.)	STORAGE VOLUME (cubic feet)
10	5.20	0.611	=	3.1772	0.889	2.2882	1,372.92
15	4.30	0.611	=	2.6273	0.889	1.7383	1,564.47
20	3.70	0.611	=	2.2607	0.889	1.3717	1,646.04
25	3.30	0.611	=	2.0163	0.889	1.1273	1,690.95
30	2.90	0.611	=	1.7719	0.889	0.8829	1,589.22
40	2.35	0.611	=	1.4359	0.889	0.5469	1,312.44
50	2.00	0.611	=	1.2220	0.889	0.3330	999.00
60	1.70	0.611	=	1.0387	0.889	0.1497	538.92

REQUIRED DETENTION = **1,690.95** CUBIC FEET
USE A SAFETY FACTOR OF 2.0 = **3,381.90** CUBIC FEET

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
NOVEMBER 4, 1997
CALCULATED BY: CHAD E. LULFS**

RATIONAL METHOD:

$$Q = c i A \qquad Q = \text{RUNOFF (c.f.s.)} \qquad c = \text{runoff coefficient}$$
$$i = \text{INTENSITY (in./hr.)} \qquad A = \text{AREA (acres)}$$

HOLIDAY INN EXPRESS HOTEL LOT

DRAINAGE CALCULATIONS FOR THE 25 YEAR STORM

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.3	4,505.088	0.103	0.140		0.021
	IMPERMEABLE	0.9	7,202.664	0.165	0.670		0.101
2						0.809	
	PERMEABLE	0.3	2,946.702	0.068	0.091		0.014
	IMPERMEABLE	0.9	8,070.082	0.185	0.750		0.113
3						0.842	
	PERMEABLE	0.3	2,281.116	0.052	0.071		0.011
	IMPERMEABLE	0.9	24,830.808	0.570	2.309		0.347
4						2.379	
	PERMEABLE	0.3	5,817.347	0.134	0.180		0.027
	IMPERMEABLE	0.9	8,824.347	0.203	0.820		0.123
						1.001	
	TOTAL AREA:		64,478.154	1.480	5.031	5.031	0.755

WEIGHTED "C" = **0.755**

TOTAL POST-DEVELOPMENT FLOW FOR A 25 YEAR STORM = **5.031**

WEST OUTLOT

DRAINAGE CALCULATIONS FOR THE 10 YEAR STORM

OUTLOT

PERMEABLE	0.300	39,654.712	0.910	0.983		0.212
IMPERMEABLE	0.900	16,354.778	0.375	1.216		0.263
					2.200	
	TOTAL AREA:	56,009.490	1.286	2.200	2.200	0.475

WEIGHTED "C" = **0.475**

TOTAL POST-DEVELOPMENT FLOW FOR A 10 YEAR STORM = **2.200**

**HOLIDAY INN EXPRESS (NOT INCLUDING WEST OUTLOT)
T.R. WORLINE & ASSOCIATES, INC.
DETENTION AREA SIZING CALCULATIONS
NOVEMBER 4, 1997**

Prepared by: Chad E. Lu

Required Volume for Detention = 10,100,000 cu. ft.

Area #3 27,111,924 sq. ft.

Maximum Recommended
Depth of Detention Area = 0.833 ft.

Required Average Depth of Detention Area = 0.373 ft.

F.L.'s @ C.B. #3: 8" Storm 674.60
10" Storm 674.60

Top of Pipes @ C.B. #3: 18" Storm 675.27
10" Storm 675.43

Grate Elevation = Top of Pipe With Three
and One-half (3-1/2) Feet of Cover = 678.93

Elevation of Lowest Grate
Excluding C.B. #3 = 679.75

Difference in Grate Elevations = 0.82 ft.

0.833 > 0.82 ft.

Available Depth of Detention Area = 0.82 ft.

0.82 ft. > 0.373 ft.

WEST OUTLOT

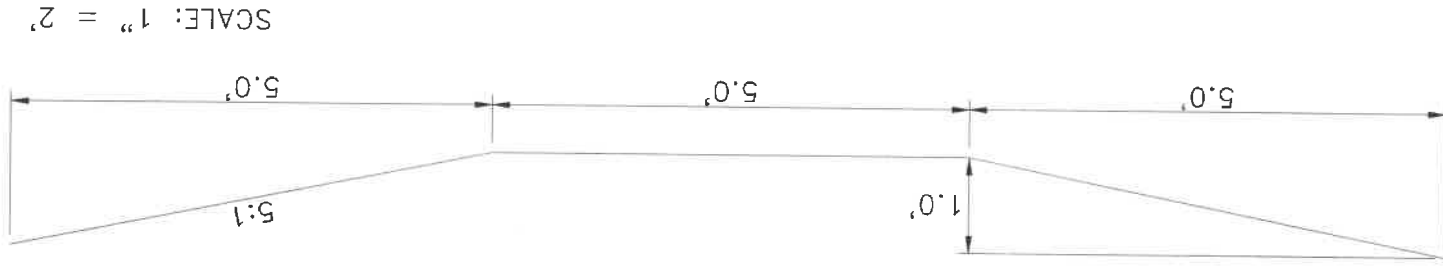
Required Volume for Detention = 3,320,000 cu. ft.

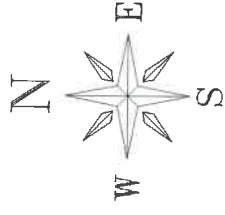
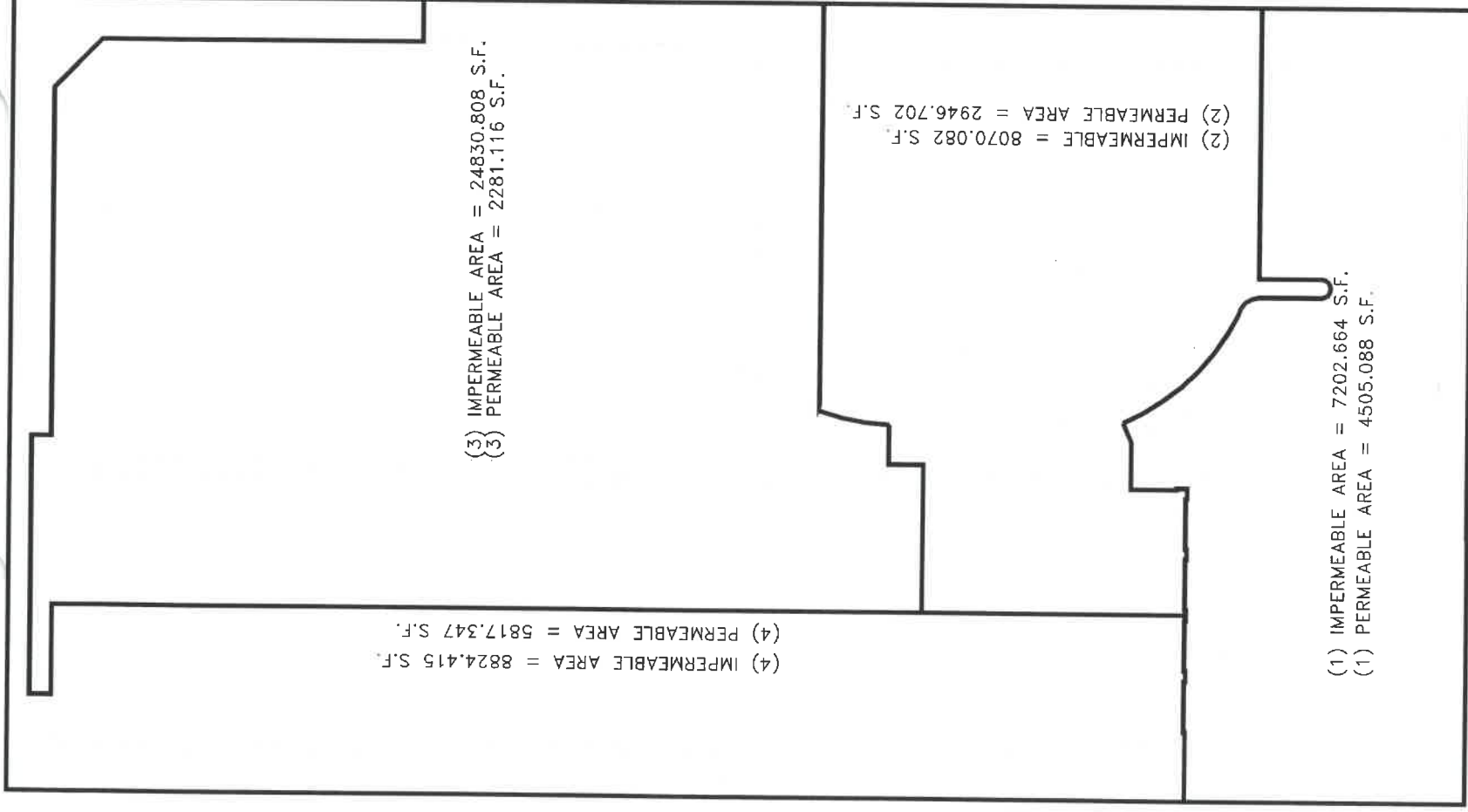
Average Swale Cross-sectional Area = 10,000 sq. ft.

Required Length of Swale 332,000 ft.

Therefore, create 350 l.f. of Swales.
(See Attached Cross-section)

NOTE: THE WEST OUTLOT REQUIRES 350 L.F.
 OF THE SWALE SHOWN BELOW OR A
 SWALE WITH A SIMILAR CROSS-SECTIONAL
 AREA (10 S.F.) THE SWALES SHALL BE
 PLACED AROUND THE OUTSIDE OF THE LOT.





City of Napoleon Engineering Dept.

City of Napoleon
255 West Riverview Avenue
P.O. 151
Napoleon, Ohio 43545

Phone: (419) 592-4010
Fax: (419) 599-8393

Memorandum

To: Brent Damman - Zoning Administrator
From: Adam C. Hoff, P.E. - City Engineer
cc: Jeff Marihugh, Sonny Helberg, Rex Moll
Date: November 3, 1997
Subject: Holiday Inn Express Plan Review

Based upon my review of the site plan submitted for the referenced project, I have developed the following comments:

1. The on-site storm water detention sizing appears to be too small. Based upon my calculations, the detention should be approximately 11,000 cubic feet (c.f.) versus the originally calculated 5,170.50 c.f.
2. The eighteen (18) inch storm sewer from C.B. #3 to C.B. #4 should either be "reduced" to an eight (8) inch at C.B. #4 or eliminated and replaced with an eight (8) inch for the full length. If the second option is chosen, the ten (10) inch from C.B. #2 to #3 could be upsized to provide underground storage.
3. The proposed truck parking to the east is acceptable.
4. Details regarding the proposed backflow prevention and fire connections must also be reviewed.

If you have any questions, please see me.



City of NAPOLEON, OHIO

255 WEST RIVERVIEW AVENUE, P.O. BOX 151
NAPOLEON, OHIO 43545-0151
(419) 592-4010
FAX (419) 599-8393

October 24, 1997

Mr. Devchand B. Patel
Rahee Hospitality, Inc.
2205 North Jefferson Street
Huntington, Indiana 46750

Mayor
Donald M. Stange

Members of Council
Michael J. DeWit, President
Dennis Filgor
James Hershberger
Glenn A. Miller
Travis B. Sheaffer
Char Weber
Terri A. Williams

City Manager
Marc S. Gerken, P.E.

Finance Director
Gregory J. Heath

Law Director
David M. Grahm

City Engineer
Adam C. Hoff, P.E.

Re: City of Napoleon
Holiday Inn Express

Dear Mr. Patel:

Per our meeting of October 21, 1997, we are requesting that you have your engineer proceed with the development of a site plan, including provisions for parking six (6) tractor-trailers to the east and adjacent to the hotel property. Upon receipt of this revised site plan and two (2) complete sets of building construction plans, we will review the plan and approve a zoning permit for the construction of the hotel foundation walls only. When the final review of the building plans, including backflow prevention, are complete, you may commence with the remaining construction of the hotel facility.

As the construction of the hotel is underway, you may request for an amendment to your conditional use permit in regards to the truck parking requirement. Such an amendment may be achieved by applying to the Planning Commission and presenting arguments of your past experiences with truck drivers utilizing your facilities. This tactic would allow you additional time to negotiate an agreement with the abutting property owner for truck parking. If your argument is not successful or an agreement cannot be reached with the abutting property owner, the truck parking will need to be constructed as shown on the approved site plan.

If you have any questions or require further information, please call me.

Yours truly,

Adam C. Hoff, P.E.
City Engineer

ACH:rd

cc: Mr. Marc S. Gerken, P.E.; City Manager
Mr. Brent Damman, Bldg/Zoning Administrator
Mr. Tim Worline, P.E.; T.R. Worline & Associates

c:\outsuite\wordpro\docs\cityengr\letters\patel\lvp10 24.97, 9:33AM



210 S. Main Street
Swanton, Ohio 43558-1347
419-825-1103
FAX 419-825-3800

Golf View Professional Building
1044 Chelsea Ave, P.O. Box 671
Napoleon, Ohio 43545
419-592-9661
FAX 419-592-7021

October 24, 1997

CITY OF NAPOLEON ENGINEERING DEPARTMENT
255 RIVERVIEW AVE
NAPOLEON OH 43545

Attention: Adam C. Hoff, P.E.

Re: Holiday Inn Express Revised Site Plan~Napoleon Twp., Henry Co., Napoleon, OH

Dear Mr. Hoff:

Enclosed please find three (3) copies of the revised Site Plan for the above referenced project. The truck parking area has been moved to the Southern portion of the East Outlot. The parking scheme is to have the trucks pull in and park facing the North. When they leave they will back into the area on the original Hotel Site. The backing area and the Hotel parking area are separated by a guardrail.

If you have any questions, comments, or require any additional information for the above referenced project, please contact our office at the number listed above.

Sincerely,

Chad E. Lulfs, Engineer

Encl.:

10/24/97, 9:39 AM
K:\MSWORKS\PA\TELADAM.WPS

Engineers • Surveyors • Designers • Planner

A Total Quality Commitment



210 S. Main Street
Swanton, Ohio 43558-1347
419-825-1103
FAX 419-825-3800

Golf View Professional Building
1044 Chelsea Ave, P.O. Box 671
Napoleon, Ohio 43545
419-592-9661
FAX 419-592-7021

October 17, 1997

CITY OF NAPOLEON ENGINEERING DEPT
255 RIVERVIEW AVE
NAPOLEON OH 43545

Attention: Adam C. Hoff, P.E.

Subject: Holiday Inn Express~Napoleon Twp., Henry Co., Napoleon, OH

Dear Mr. Hoff:

Enclosed please find one (1) set of revised drainage calculations and three (3) sets of the revised site plan for the above referenced project. Also attached are drawings illustrating the applicable areas. The issue of truck parking has yet to be resolved; when we receive the Patel's final decision, we will forward it on to you.

If you have any questions, comments, or require any additional information for the above referenced project, please contact our office at the number listed above.

Sincerely,

Chad E. Lulfs, Engineer

Encl.:

10/17/97, 9:01 AM
K:\MSWORKS\PA TEL\ DRAINAGE\COVER2.WPS

Engineers • Surveyors • Designers • Planner

A Total Quality Commitment

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE PRE-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
OCTOBER 14, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

HOLIDAY INN EXPRESS HOTEL LOT

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

$c = 0.3$ $i = 2.3$ $Q1 = 1.021$ $A = 1.480$

Pre-Development $Q1 = 1.021$

WEST OUTLOT

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

$c = 0.3$ $i = 2.3$ $Q1 = 0.889$ $A = 1.289$

Pre-Development $Q1 = 0.889$

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
OCTOBER 16, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

RATIONAL METHOD: Q = cIA Q = RUNOFF (c.f.s.) c = runoff coefficient
i = INTENSITY (in./hr.) A = AREA (acres)

HOLIDAY INN EXPRESS HOTEL LOT

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.3	4,505.088	0.103	0.071	0.414	0.021
	IMPERMEABLE	0.9	7,202.664	0.165	0.342		0.101
2	PERMEABLE	0.3	2,946.702	0.068	0.047	0.430	0.014
	IMPERMEABLE	0.9	8,070.082	0.185	0.383		0.113
3	PERMEABLE	0.3	2,281.116	0.052	0.036	1.216	0.011
	IMPERMEABLE	0.9	24,830.808	0.570	1.180		0.347
4	PERMEABLE	0.3	5,817.347	0.134	0.092	0.511	0.027
	IMPERMEABLE	0.9	8,824.347	0.203	0.419		0.123
			TOTAL AREA:	64,478.154	1.480	2.571	0.755

WEIGHTED "C" = **0.755**

TOTAL POST-DEVELOPMENT FLOW FOR A 1 YEAR STORM = **2.571**

WEST OUTLOT

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
	PERMEABLE	0.300	39,654.712	0.910	0.628	1.405	0.212
	IMPERMEABLE	0.900	16,354.778	0.375	0.777		0.263
			TOTAL AREA:	56,009.490	1.286	1.405	0.475

WEIGHTED "C" = **0.475**

TOTAL POST-DEVELOPMENT FLOW FOR A 1 YEAR STORM = **1.405**

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
OCTOBER 16, 1997 CALCULATED BY: CHAD E. LULFS, ENGINEER**

HOLIDAY INN EXPRESS HOTEL LOT

TOTAL AREA = 1.480 AC. Q1pre = 1.021 Q1post = 2.571
PERCENT INCREASE IN Q1 FLOW = 151.812%
=>USE A 25 YEAR STORM

TIME (minutes)	CRITICAL STORM I 25	CA (c = 0.755) (A = 1.480)	=	CRITICAL STORM Q (c.f.s.)	ALLOWABLE DISCHARGE Q2 (c.f.s.)	STORAGE c.f.s. Q (c.f.s.)	STORAGE VOLUME (cubic feet)
10	6.30	1.117	=	7.0371	1.021	6.0161	3,609.66
15	5.10	1.117	=	5.6967	1.021	4.6757	4,208.13
20	4.50	1.117	=	5.0265	1.021	4.0055	4,806.60
25	4.00	1.117	=	4.4680	1.021	3.4470	5,170.50
30	3.40	1.117	=	3.7978	1.021	2.7768	4,998.24
40	2.80	1.117	=	3.1276	1.021	2.1066	5,055.84
50	2.30	1.117	=	2.5691	1.021	1.5481	4,644.30
60	2.00	1.117	=	2.2340	1.021	1.2130	4,366.80

REQUIRED DETENTION = **5,170.50** CUBIC FEET

WEST OUTLOT

TOTAL AREA = 1.286 AC. Q1pre = 0.889 Q1post = 1.405
PERCENT INCREASE IN Q1 FLOW = 58.043%
=>USE A 10 YEAR STORM

TIME (minutes)	CRITICAL STORM I 25	CA (c = 0.475) (A = 1.286)	=	CRITICAL STORM Q (c.f.s.)	ALLOWABLE DISCHARGE Q2 (c.f.s.)	STORAGE c.f.s. Q (c.f.s.)	STORAGE VOLUME (cubic feet)
10	5.20	0.611	=	3.1772	0.889	2.2882	1,372.92
15	4.30	0.611	=	2.6273	0.889	1.7383	1,564.47
20	3.70	0.611	=	2.2607	0.889	1.3717	1,646.04
25	3.30	0.611	=	2.0163	0.889	1.1273	1,690.95
30	2.90	0.611	=	1.7719	0.889	0.8829	1,589.22
40	2.35	0.611	=	1.4359	0.889	0.5469	1,312.44
50	2.00	0.611	=	1.2220	0.889	0.3330	999.00
60	1.70	0.611	=	1.0387	0.889	0.1497	538.92

REQUIRED DETENTION = **1,690.95** CUBIC FEET

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT)
OCTOBER 14, 1997**

CALCULATED BY: CHAD E. LULFS

RATIONAL METHOD:

$$Q = cIA \qquad Q = \text{RUNOFF (c.f.s.)} \qquad c = \text{runoff coefficient}$$
$$i = \text{INTENSITY (in./hr.)} \qquad A = \text{AREA (acres)}$$

HOLIDAY INN EXPRESS HOTEL LOT

DRAINAGE CALCULATIONS FOR THE 25 YEAR STORM

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.3	4,505.088	0.103	0.140	0.809	0.021
	IMPERMEABLE	0.9	7,202.664	0.165	0.670		0.101
2	PERMEABLE	0.3	2,946.702	0.068	0.091	0.842	0.014
	IMPERMEABLE	0.9	8,070.082	0.185	0.750		0.113
3	PERMEABLE	0.3	2,281.116	0.052	0.071	2.379	0.011
	IMPERMEABLE	0.9	24,830.808	0.570	2.309		0.347
4	PERMEABLE	0.3	5,817.347	0.134	0.180	1.001	0.027
	IMPERMEABLE	0.9	8,824.347	0.203	0.820		0.123
TOTAL AREA:				64,478.154	1.480	5.031	0.755

$$\text{WEIGHTED "C"} = \mathbf{0.755}$$

$$\text{TOTAL POST-DEVELOPMENT FLOW FOR A 25 YEAR STORM} = \mathbf{5.031}$$

WEST OUTLOT

DRAINAGE CALCULATIONS FOR THE 10 YEAR STORM

OUTLOT

PERMEABLE	0.300	39,654.712	0.910	0.983	2.200	0.212
IMPERMEABLE	0.900	16,354.778	0.375	1.216		0.263
TOTAL AREA:				56,009.490	1.286	2.200

$$\text{WEIGHTED "C"} = \mathbf{0.475}$$

$$\text{TOTAL POST-DEVELOPMENT FLOW FOR A 10 YEAR STORM} = \mathbf{2.200}$$

**HOLIDAY INN EXPRESS (NOT INCLUDING WEST OUTLOT)
T.R. WORLINE & ASSOCIATES, INC.
DETENTION AREA SIZING CALCULATIONS
OCTOBER 16, 1997**

Prepared by: Chad E. Lulfs

Required Volume for Detention = 4,850.000 cu. ft.

Area #3 27,111.924 sq. ft.

Maximum Recommended
Depth of Detention Area = 0.833 ft.

Required Average Depth of Detention Area = 0.179 ft.

F.L.'s @ C.B. #3: 18" Storm 675.38
10" Storm 676.05

Top of Pipes @ C.B. #3: 18" Storm 676.88
10" Storm 676.88

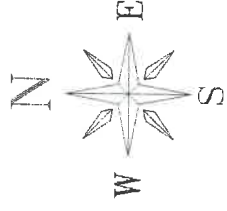
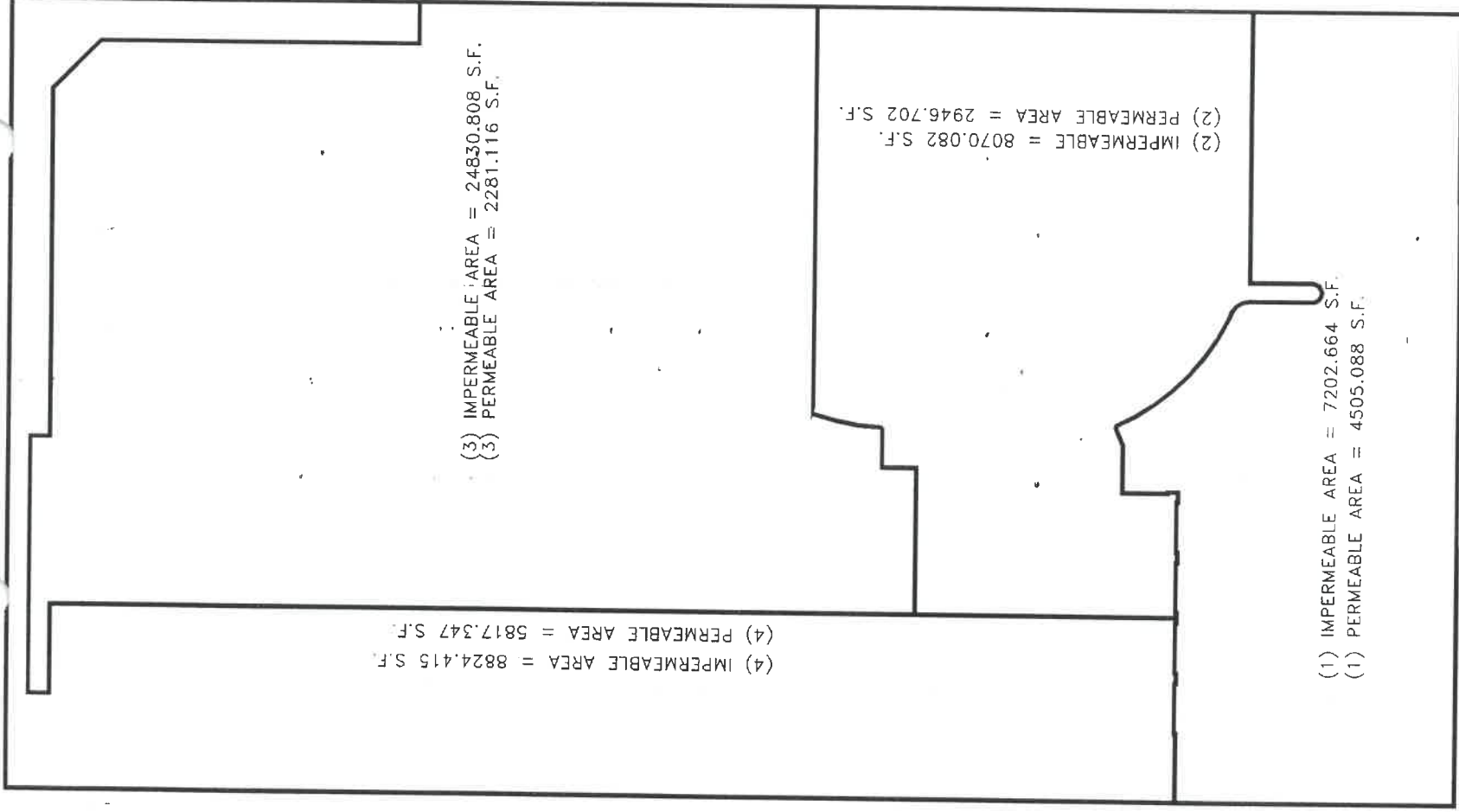
Grate Elevation = Top of Pipe
With Three (3) Feet of Cover = 679.88

Elevation of Lowest Grate
Excluding C.B. #3 = 681.00

Difference in Grate Elevations = 1.12 ft.
1.12 ft. > 0.833 ft.

Available Depth of Detention Area = 0.833 ft.

0.833 ft. > 0.179 ft.



September 29, 1997

T.R. WORLINE & ASSOCIATES INC
210 S MAIN ST
SWANTON OH 43558-1347

CITY OF NAPOLEON ENGINEERING DEPARTMENT
255 RIVERVIEW AVE
NAPOLEON OH 43545

Attention: Adam C. Hoff, P.E.

Re: Holiday Inn Express Drainage Calculations~Napoleon Twp., Henry Co., Napoleon, OH

Dear Mr. Hoff:

Enclosed please find revised drainage calculations for the above referenced project. Also attached are drawings illustrating the applicable areas. The lot to the west of the proposed development and the truck parking area to the east of the proposed development were included in the calculations to allow for further development.

We received a copy of the second draft of the City of Napoleon's Engineering Department Rules & Regulations. The methodology outlined for drainage calculations was followed in all but one portion. In our discussion last week, I was given the impression that the City of Napoleon wanted to mirror the City of Defiance's drainage calculation methods. The City of Defiance uses the percent increase in volume runoff, the same as your Rules & Regulations state. However, I believe I may have found an error in the equation listed to determine the percent increase. To calculate the percent increase in the volume of runoff, the following equations must be used:

$$1.) \frac{Q_{prop.} - Q_{exist.}}{Q_{exist.}} = \% \text{ INCREASE}$$

OR

$$2.) \frac{Q_{prop.}}{Q_{exist.}} - 1 = \% \text{ INCREASE}$$

Note: Q is for 1 yr or 2 yr Storm

The method outlined in your Rules & Regulations gives the percent of the $Q_{exist.}$ storm rather than the percent of increase of the $Q_{exist.}$ storm. The difference is 100%.

A copy of the City of Defiance's Stormwater Controlled Runoff (Calculation Procedures) has been included with these calculations. Please notice the sample calculations on the bottom of page three (3).

Our office understands that the Rules & Regulations which we received from you was only a draft copy. We are only making these comments to potentially help you reach your final draft. If you would like any outside opinions or contributions toward the Drainage Calculation Regulations or any other area of the City of Napoleon's Rules & Regulations, our office would be more than happy to help in any way possible.

This letter is not meant to "step on your toes" in any way. It is simply to offer our knowledge of several municipalities' requirements on drainage calculations and offer our opinions on which are the most comprehensive and practical. If you wish to discuss our ideas on this topic or have any questions, comments, or require any additional information for the above referenced project, please contact our office at the number listed above.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chad E. Lulfs", written in a cursive style.

Chad E. Lulfs, Engineer

Encl.:

9/29/97, 1:08 PM
COVER.WPS

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT & TRUCK PARKING LOT)
DRAINAGE CALCULATIONS FOR THE PRE-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
SEPTEMBER 25, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

$c = 0.3$ $i = 2.3$ $A = 3.952$
 $Q1 = 2.727$

Pre-Development $Q1 = 2.727$

K:\MSWORKS\IPATEL\PRE-DEV.WKS

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT & TRUCK PARKING LOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
CALCULATED USING A 1 YEAR STORM WITH THE RATIONAL METHOD
SEPTEMBER 25, 1997
CALCULATED BY: CHAD E. LULFS, ENGINEER**

RATIONAL METHOD: $Q = ciA$ $Q = \text{RUNOFF (c.f.s.)}$ $c = \text{runoff coefficient}$
 $i = \text{INTENSITY (in./hr.)}$ $A = \text{AREA (acres)}$

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.3	4,737,340	0.109	0.075		0.008
	IMPERMEABLE	0.9	7,434,916	0.171	0.353		0.039
2	PERMEABLE	0.3	3,178,954	0.073	0.050	0.428	
	IMPERMEABLE	0.9	8,302,334	0.191	0.395		0.006
3	PERMEABLE	0.3	2,513,368	0.058	0.040	0.445	0.043
	IMPERMEABLE	0.9	25,063,060	0.575	1.191		0.004
4	PERMEABLE	0.3	6,049,599	0.139	0.096	1.231	0.131
	IMPERMEABLE	0.9	9,056,667	0.208	0.430		0.047
OUTLOT						0.526	
TRUCK	OVERALL	0.685	56,000,000	1.286	2.025		0.223
PARKING	PERMEABLE	0.3	25,102,736	0.576	0.398	2.025	0.044
	IMPERMEABLE	0.9	24,721,780	0.568	1.175		0.129
						1.572	
	TOTAL AREA:		172,160,754	3.952	6.228	6.228	0.685
	WEIGHTED "C" =						0.685
	TOTAL POST-DEVELOPMENT FLOW FOR A 1 YEAR STORM =					6.228	

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT & TRUCK PARKING LOT)
DRAINAGE CALCULATIONS FOR THE POST-DEVELOPMENT CONDITIONS
CALCULATED USING A 5 YEAR STORM WITH THE RATIONAL METHOD
SEPTEMBER 25, 1997 CALCULATED BY: CHAD E. LULFS, ENGINEER**

TOTAL AREA = 3.952 AC. Q1pre = 2.727 Q1post = 6.228
 PERCENT INCREASE IN Q1 FLOW = 28.383%
 ==>USE A 5 YEAR STORM

TIME (minutes)	CRITICAL STORM I 10	CA (c = 0.685) (A = 3.952)	=	CRITICAL STORM Q (c.f.s.)	ALLOWABLE DISCHARGE Q2 (c.f.s.)	STORAGE c.f.s. Q (c.f.s.)	STORAGE VOLUME (cubic feet)
10	4.40	2.707	=	11.9108	2.727	9.1838	5,510.28
15	3.60	2.707	=	9.7452	2.727	7.0182	6,316.38
20	3.30	2.707	=	8.9331	2.727	6.2061	7,447.32
25	2.70	2.707	=	7.3089	2.727	4.5819	6,872.85
30	2.40	2.707	=	6.4968	2.727	3.7698	6,785.64
40	1.90	2.707	=	5.1433	2.727	2.4163	5,799.12
50	1.60	2.707	=	4.3312	2.727	1.6042	4,812.60
60	1.40	2.707	=	3.7898	2.727	1.0628	3,826.08

USE 7,447.32 CUBIC FEET

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT & TRUCK PARKING LOT)
DRAINAGE CALCULATIONS FOR THE 5 YEAR STORM
SEPTEMBER 25, 1997**

CALCULATED BY: CHAD E. LULFS

RATIONAL METHOD:

$$Q = c i A \quad \begin{array}{l} Q = \text{RUNOFF (c.f.s.)} \\ i = \text{INTENSITY (in./hr.)} \end{array} \quad \begin{array}{l} c = \text{runoff coefficient} \\ A = \text{AREA (acres)} \end{array}$$

AREA NO.	SUB-AREA DESCRIPTION	RUNOFF COEFFICIENT	SUB-AREA (sq. ft.)	SUB-AREA (acres)	SUB-AREA "Q" (c.f.s.)	TOTAL AREA "Q" (c.f.s.)	WEIGHTED "C"
1	PERMEABLE	0.3	4,737,340	0.109	0.108		0.008
	IMPERMEABLE	0.9	7,434,916	0.171	0.507		0.039
2						0.615	
3	PERMEABLE	0.3	3,178,954	0.073	0.072		0.006
	IMPERMEABLE	0.9	8,302,334	0.191	0.566		0.043
4						0.638	
	PERMEABLE	0.3	2,513,368	0.058	0.057		0.004
	IMPERMEABLE	0.9	25,063,060	0.575	1.709		0.131
						1.766	
OUTLOT							
	PERMEABLE	0.3	6,049,599	0.139	0.137		0.011
	IMPERMEABLE	0.9	9,056,667	0.208	0.618		0.047
						0.755	
TRUCK PARKING							
	OVERALL	0.685	56,000,000	1.286	2.906		0.223
						2.906	
	PERMEABLE	0.3	25,102,736	0.576	0.571		0.044
	IMPERMEABLE	0.9	24,721,780	0.568	1.686		0.129
						2.256	
	TOTAL AREA:		172,160,754	3.952	8.936		0.685

$$\text{WEIGHTED "C"} = \mathbf{0.685}$$

$$\text{TOTAL POST-DEVELOPMENT FLOW FOR A 5 YEAR STORM} = \mathbf{8.936}$$

**HOLIDAY INN EXPRESS (INCLUDING WEST OUTLOT & TRUCK PARKING LOT)
T.R. WORLINE & ASSOCIATES, INC.**

RETENTION AREA SIZING CALCULATIONS

September 25, 1997

Prepared by: Chad E. Lulfs

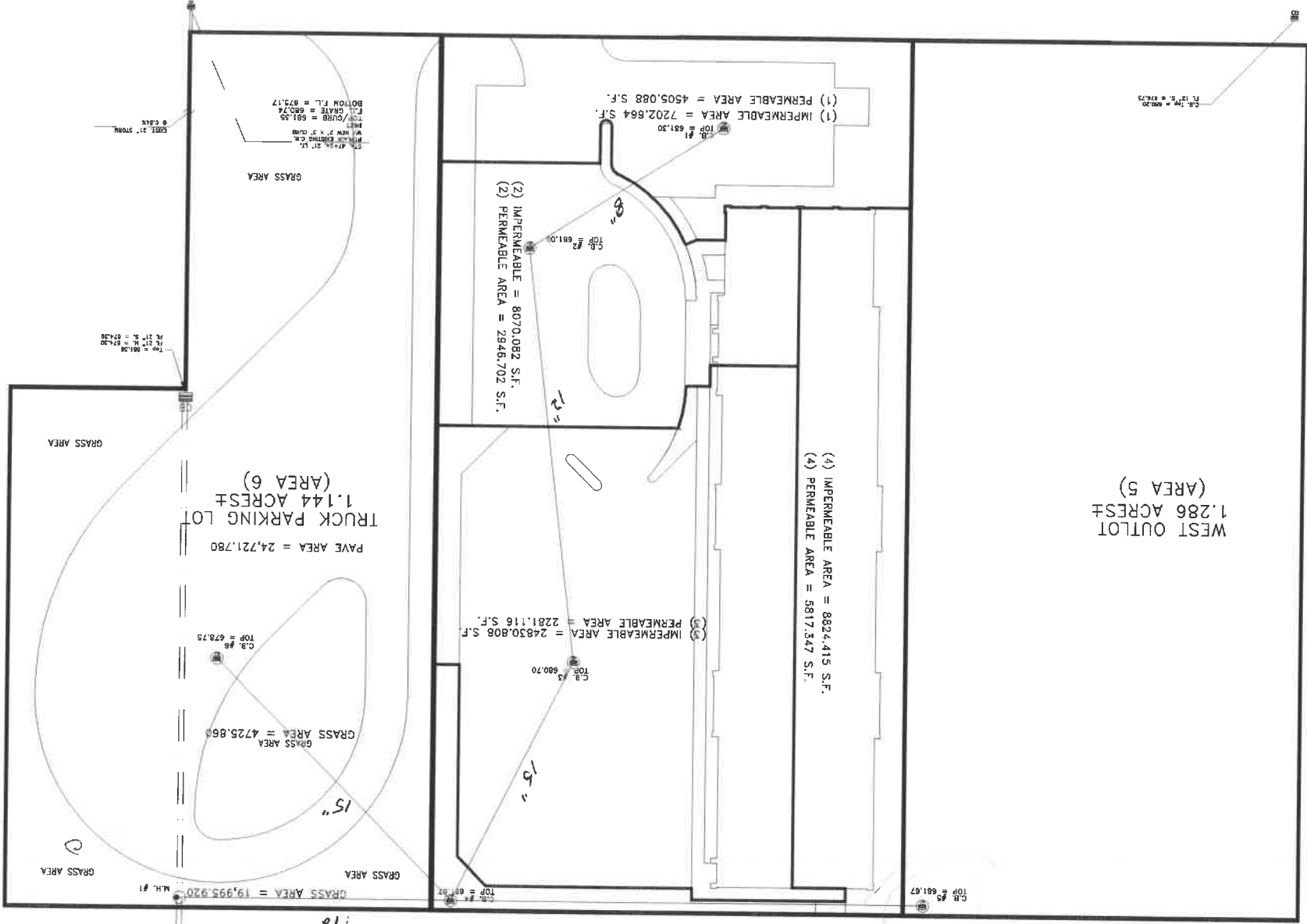
Required Volume for Retention = 6,682.293 cu. ft.

Area of Truck Parking = 24,721.780 sq. ft.

Maximum Depth of Retention Area = 0.833 ft.

Required Average Depth of Retention Area = 0.270 ft.

Proposed Depth of Retention Area @ C.B. #6 = 0.500 ft.



1"=60'

1.2"

TRUCK PARKING LOT
(AREA 6)
1.144 ACRES±

WEST OUTLOT
(AREA 5)
1.286 ACRES±

(2) IMPERMEABLE AREA = 8070.082 S.F.
(2) PERMEABLE AREA = 2946.702 S.F.

(4) IMPERMEABLE AREA = 8824.415 S.F.
(4) PERMEABLE AREA = 5817.347 S.F.

(1) IMPERMEABLE AREA = 7202.664 S.F.
(1) PERMEABLE AREA = 4505.088 S.F.

(3) IMPERMEABLE AREA = 24830.808 S.F.
(3) PERMEABLE AREA = 2281.116 S.F.

GRASS AREA = 4725.866

GRASS AREA = 19,995.920

PAVE AREA = 24,721.780

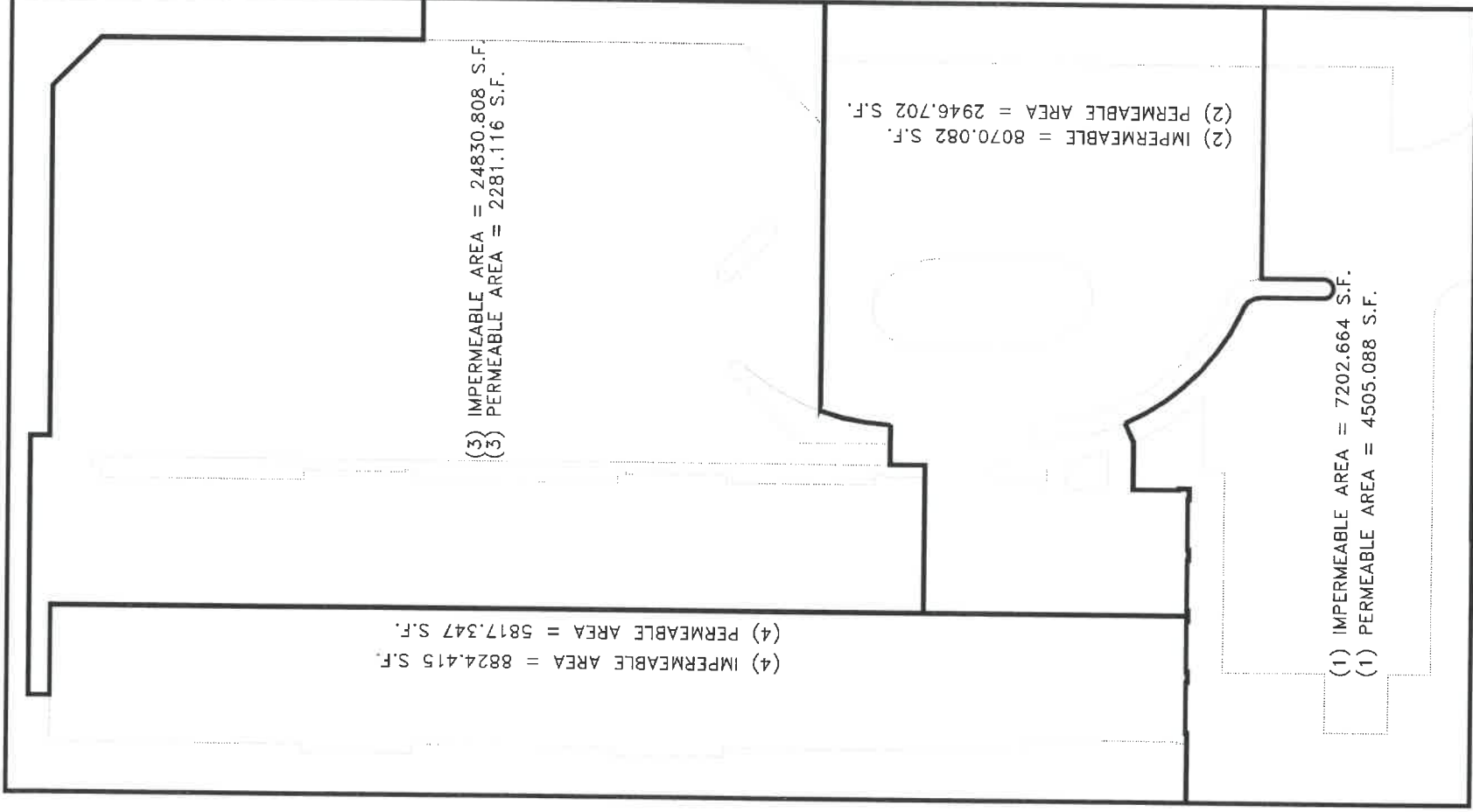
GRASS AREA

GRASS AREA

GRASS AREA

GRASS AREA
TOP #1 = 681.30
TOP #2 = 681.00
TOP #3 = 680.70
TOP #4 = 681.67
TOP #5 = 678.75
TOP #6 = 681.56
TOP #7 = 674.38
TOP #8 = 681.30
TOP #9 = 681.30
TOP #10 = 681.30
TOP #11 = 681.30
TOP #12 = 681.30
TOP #13 = 681.30
TOP #14 = 681.30
TOP #15 = 681.30
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TOP #77 = 681.30
TOP #78 = 681.30
TOP #79 = 681.30
TOP #80 = 681.30
TOP #81 = 681.30
TOP #82 = 681.30
TOP #83 = 681.30
TOP #84 = 681.30
TOP #85 = 681.30
TOP #86 = 681.30
TOP #87 = 681.30
TOP #88 = 681.30
TOP #89 = 681.30
TOP #90 = 681.30
TOP #91 = 681.30
TOP #92 = 681.30
TOP #93 = 681.30
TOP #94 = 681.30
TOP #95 = 681.30
TOP #96 = 681.30
TOP #97 = 681.30
TOP #98 = 681.30
TOP #99 = 681.30
TOP #100 = 681.30

1" = 40'



Stormwater Controlled Runoff (Calculation Procedures)

- (A) Determine Pre-Development Runoff Calculations for Q2 Storm Rational Method $Q = CIA$
- (B) Determine Post-Development Runoff Calculations for Q2 Storm Rational Method $Q = CIA$

- (C) The maximum discharge allowed shall be the CFS determined from Step (A) above.

NOTE: Storm discharge shall be based on the hydraulic grade of the stormwater head in the detention basin.

- (D) Percentage of Increase in Volume of Runoff:

$$\frac{\text{(B) above}}{\text{(A) above}} = \% \text{ of Increase}$$

If Equal to or greater than

20
50
100
250
500

And less than

20
50
100
250
500
-

The Critical Storm for Peak Rate Control
2 Year
5 Year
10 Year
25 Year
50 Year
100 Year

- (E) Develop Storm Discharge & Runoff Chart for Storage:

Time Critical in Min.	I 10 Storm	CA	=	Critical Storm Q (CFS)	Allowable Storm Discharge Q2 (CFS)	Storage Volume Q (CFS) Cu.Ft.
10	5.1	3.1	=	15.81	5	10.81 6486
15	4.2	3.1	=	13.02	5	8.02 7218
20	3.6	3.1	=	11.16	5	6.16 7392
25	3.2	3.1	=	9.92	5	4.92 7380
30	2.8	3.1	=	8.68	5	3.68 6624
40	2.25	3.1	=	6.975	5	1.975 4740
50	1.9	3.1	=	5.89	5	0.89 2670
60	1.6	3.1	=	4.96	5	-0.04 -144
Use 7400 Cubic Feet						

- (F) Minimum storage area of step (E) calculation is developed by multiplying Time in seconds by storage Q in CFS = Cubic Feet of Storage.

- (G) Overflow of storage area MUST be developed to discharge surplus water from storms exceeding Critical storm design.

DATA: O.D.O.T. Location & Design Manual

Table 1152-1

Figure 1152-1

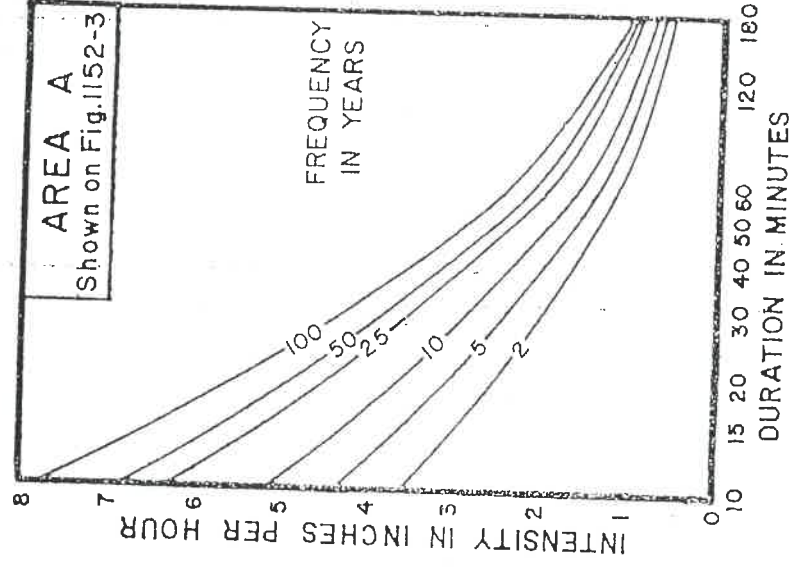
Figure 1152-2

Figure 1152-3

Runoff Intensity from ODOT Location and Design Manual
Area (A) Attached

Time	12	15	110	125	150	1100
10	3.6	4.4	5.1	6.3	6.8	7.8
15	2.95	3.6	4.2	5.1	5.6	6.4
20	2.5	3	3.6	4.5	4.8	5.4
25	2.25	2.7	3.2	4	4.3	4.8
30	2	2.4	2.8	3.4	3.8	4.2
40	1.6	1.9	2.25	2.8	3	3.5
50	1.35	1.6	1.9	2.3	2.5	2.9
60	1.15	1.4	1.6	2	2.2	2.5

(From Area A Attached)



OHIO
24-Hour Rainfall (Inches)

AREA 1

COUNTY	FREQUENCY									
	1	2	5	10	25	50	100			
Allen	2.3	2.7	3.3	3.8	4.3	4.8	5.1			
Auglaize	2.4	2.7	3.4	3.9	4.4	4.9	5.1			
Defiance	2.3	2.6	3.3	3.8	4.3	4.8	5.1			
Fulton	2.2	2.6	3.2	3.7	4.2	4.6	5.0			
Hancock	2.3	2.6	3.3	3.7	4.2	4.7	5.0			
Hardin	2.3	2.7	3.3	3.8	4.3	4.8	5.1			
Henry	2.3	2.6	3.3	3.7	4.2	4.7	5.0			
Lucas	2.2	2.5	3.2	3.6	4.1	4.6	4.9			
Mercer	2.4	2.8	3.4	3.9	4.5	5.0	5.4			
Ottawa	2.2	2.5	3.1	3.6	4.0	4.5	4.8			
Paulding	2.3	2.7	3.4	3.8	4.4	4.8	5.2			
Putnam	2.3	2.7	3.3	3.8	4.3	4.8	5.1			
Sandusky	2.2	2.5	3.1	3.6	4.1	4.5	4.8			
VanWert	2.3	2.7	3.4	3.9	4.4	4.9	5.3			
Williams	2.3	2.6	3.3	3.8	4.3	4.7	5.1			
Wood	2.2	2.6	3.2	3.7	4.2	4.6	4.9			

AREA 2

Ashtabula	2.1	2.3	3.0	3.5	4.0	4.5	4.7
Crawford	2.2	2.5	3.2	3.6	4.1	4.6	4.8
Cuyahoga	2.1	2.2	3.0	3.4	3.9	4.4	4.6
Erie	2.2	2.4	3.1	3.5	3.9	4.4	4.7
Geauga	2.1	2.3	3.0	3.5	3.9	4.4	4.6
Huron	2.2	2.4	3.1	3.5	4.0	4.5	4.7
Lake	2.1	2.2	3.0	3.4	3.9	4.4	4.6
Lorain	2.1	2.3	3.0	3.4	3.9	4.4	4.6
Mahoning	2.2	2.4	3.1	3.6	4.1	4.6	4.8
Medina	2.1	2.3	3.0	3.5	3.9	4.4	4.6
Portage	2.1	2.3	3.0	3.5	3.9	4.4	4.6
Seneca	2.2	2.5	3.2	3.6	4.1	4.6	4.7
Summit	2.1	2.3	3.0	3.5	3.9	4.4	4.8
Trumbull	2.1	2.4	3.1	3.6	4.1	4.6	4.6
Wyandot	2.3	2.6	3.2	3.7	4.2	4.7	4.9

$$Q = CFA$$

$$Q_1 \text{ Exist.} = .4 \times 2.3 \times 31.85 = 29.3 \text{ CFS}$$

$$Q_1 \text{ Prop.} = .55 \times 2.3 \times 31.85 = 40.3 \text{ CFS}$$

$$.5 \times 2.3 \times 31.85 = 36.6 \text{ CFS} \rightarrow 25\% \text{ INCR}$$

INCR > 20%

$$\frac{40.3 - 29.3}{29.3} = \frac{11}{29.3} = .375 = 37.5\% \text{ INCR.}$$

USE 5% PRESTORMING

Exhibit OH2-1
Sheet 1 of 3

EFM-Ohio Supplement

Prepared from
Weather Bureau

12/65

APPENDIX

The following criteria have been adopted by the Ohio Department of Natural Resources, Division of Soil and Water Districts, and are recommended to alleviate accelerated stream channel and flood plain erosion caused by increased stormwater runoff from developed urban areas.

Stream Channel and Flood Plain Erosion

To control pollution of public waters by soil sediment from accelerated stream channel erosion and to control flood plain erosion caused by accelerated stormwater runoff from development areas, the increased peak rates and volumes of runoff shall be controlled such that:

- (a) The peak rate of runoff from the critical storm and all more frequent storms occurring on the development area does not exceed the peak rate of runoff from a one year frequency storm (of 24 hours duration) occurring on the same area under pre-development conditions.

- (b) Storms of less frequent occurrence than the critical storm, up to the one hundred year storm, have peak runoff rates no greater than the peak runoff rates from equivalent size storms under pre-development conditions.

The critical storm for a specific development area is determined as follows:

- (a) Determine by appropriate hydrologic methods the total volume of runoff from a one-year frequency, 24-hour storm occurring on the development area before and after development.
- (b) From the volumes determined in (a), determine the percentage increase in volume of runoff due to development, and using this percentage, select the 24-hour critical storm from this table.

If the percentage of increase in volume of runoff is:

equal to or greater than	10	100 year
and less than	20	25 year
	50	50 year
	100	100 year
	250	100 year
	500	100 year
	—	100 year

The critical storm for peak rate control will be



210 S. Main Street
Swanton, Ohio 43558-1347
419-825-1103
FAX 419-825-3800



September 4, 1997

Mr. Adam Hoff, P.E.
City of Napoleon
P. O. Box 151
Napoleon, Ohio 43545

Subject: Holiday Inn Express, Napoleon, Ohio
TRWA Project Number: 1174-0001

Dear Mr. Hoff:

We are completing the site engineering design plans for the facility referenced above which is located on Bonaparte Drive.

We will be presenting to you a preliminary site plan for review at the September 9, 1997 Planning Commission meeting and this should satisfy the needs of the planning commission.

We will steadfastly attempt to complete the site design plans as soon as possible, but we acknowledge that the City approval can not be secured by the September 15, 1997 Council meeting.

We should be able to provide sufficient data to allow for the Owner to start foundation construction on the building. This of course is contingent on the Owner being able to secure the necessary emergency/suspension clauses on legislation.

Please let us know if you feel that this scenario is not workable and we would be glad to meet with you to discuss.

Sincerely,

T. R. WORLINE & ASSOCIATES, INC.

Timothy R. Worline, P.E., P.S.
President

k:\1174\0001\doc\7904adho.ltr

Engineers	•	Surveyors	•	Designers	•	Planner
-----------	---	-----------	---	-----------	---	---------

A Total Quality Commitment



City of NAPOLEON, OHIO

255 WEST RIVERVIEW AVENUE, P.O. BOX 151
NAPOLEON, OHIO 43545-0151
(419) 592-4010
FAX (419) 599-8393

August 21, 1997

Mayor
Donald M. Stange

Attn. Regina Beck
Napoleon Engineering & Surveying
1044 Chelsea Ave.
Napoleon, Ohio 43545

Members of Council
Michael J. DeWit, President
Dennis Filgor
James Hershberger
Glenn A. Miller
Travis B. Sheaffer
Char Weber
Terri A. Williams

City Manager
Marc S. Gerken, P.E.

Finance Director
Gregory J. Heath

Law Director
David M. Grahm

City Engineer
Adam C. Hoff, P.E.

Re. Proposed Holiday Inn Express
Bonaparte Dr. Napoleon

Dear Regina

This letter is a followup/update on what has transpired since our last discussions on the subject project. I have scheduled a Planning Commission hearing for September 9, 1997 @ 5:00 PM. I have communicated the zoning problems to the architect (Rick Schwarz) and he has made the necessary changes to the site plan. As you are well aware this project is on a major fast track. Once the Planning Commission approves the proposal, I intend to pass it on to City Council for their September 15, 1997 meeting. Please understand in order for us to meet the proposed construction start up date of September 16, 1997 (as conveyed to me by Mr. Patel) City Council would need to pass the conditional use permit legislation on suspension & emergency. This is very unlikely to happen unless City staff has approved the construction plans prior to the Council meeting date. We will need a minimum of two weeks to review construction plans for this proposed project. It will still be at City Councils discretion regarding suspension & emergency passage.

We are doing our best to keep this project on track and it will take full cooperation of all parties involved to keep it from derailing. Please inform me of your design completion schedule as soon as possible.

Please call me as the need arises.

Sincerely

Brent N. Damman
Zoning Administrator

cc. Adam C. Hoff, Marc S. Gerken, Jeff Marlburgh, Rick Barnes, Rick Schwarz, Denny Meyer, Rahee Hospitalities Inc.



August 20, 1997

Mr. Rick Schwarz
Schwarz Associates - Architects
816 South 9th Street
Lafayette, IN 47905

**Re. Proposed Holiday Inn Express
Bonaparte Dr. Napoleon**

Upon review of the site drawing submitted to my office on August 19, 1997 by Napoleon Engineering & Surveying the following changes are necessary.

1. Remove the north/south division lines which would imply there are three separate lots, it is currently only one lot (450 wide x 350 deep).

2. Show a 10 foot wide green belt on the west & east sides of the facility.

3. Show a 15 foot wide green belt along the front lot line along Bonaparte R/W.

As you may recall I discussed with you the possibility of acquiring zoning variance to the green belt provisions, however due to the fact this is one large lot not three as is implied by the current site plan it does not qualify for such.

Sincerely

Brent N. Damman
Zoning Administrator
UDOCZONING@OLDFORD.SAM

NGTH	PIPE SLOPE	PIPE "n"	FULL CAPACITY	FULL VELOCITY	ENTERING	SUMMATION	TIME OF CONC.	"I"	RUNOFF	% FULL	% FULL	VELOCITY	FPS	FLOW TIME	INVERT ELEVATIONS	T	ALLOWABLE METERED OUTLET FLOW = 2.727															
																	CFS	FPS	CA	OF CA	MIN	IN/HR	CFS	% FULL	CAPACITY	% FULL	RUNOFF VELOCITY	MIN	UPPER END	LOWER END		
																		0.221	0.012	0.615	1.77	0.192	0.192	20.00	3.30	0.615	100	116	1.76	0.73	677.30	677.10
																		0.105	0.012	1.253	1.92	0.181	0.373	20.73	3.20	1.253	100	116	1.60	1.20	676.77	676.60
																		0.186	0.012	3.019	2.96	0.434	0.807	21.93	3.00	3.019	100	116	2.46	0.51	676.35	676.60
																		0.172	0.012	2.906	2.85	0.881	0.881	20.00	3.30	2.906	100	116	2.37	0.96	673.84	676.60
																		0.104	0.012	2.256	2.21	0.784	0.784	20.00	3.30	2.256	100	116	1.84	0.84	673.65	673.51
																		0.499	0.012	2.727	4.18	0.238	2.710	22.89	2.75	8.936	328	116	11.38	0.38	673.51	672.96

OPTIMUM SLOPE CALCULATIONS FOR THE PROPOSED PIPE SIZES									
A^2	R	R^(4/3)	n	n^2	1.486	(1.486)^2	%		
(FEET)^4	FEET	(FEET)^(4/3)							
0.1218	0.1667	0.0917	0.012	0.000144	1.486	2.208196	0.221	0.105	0.186
0.6169	0.2500	0.1575	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186
1.5060	0.3125	0.2121	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186
1.5060	0.3125	0.2121	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186
1.5060	0.3125	0.2121	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186
0.6169	0.2500	0.1575	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186
0.1218	0.1667	0.0917	0.012	0.000144	1.486	2.208196	0.104	0.172	0.186

VOLUME		AREA	VOLUME	SQ. FEET	CU. FEET
		31.416	125.664	0.7854	128.854
		0.3491	1.2272	0.7854	1.2272
		233.165	1.2272	159.534	1.2272
		86.394	0.7854	86.394	0.7854
TOTAL VOLUME =		765.027			

REQUIRED RETAINAGE VOLUME = 7,447.320 CF
AVAILABLE PIPE VOLUME = 765.027 CF
ADDITIONAL VOLUME REQ. = 6,682.293 CF
POST DEVELOPMENT "Q5" = 8.936
EXISTING DISCHARGE "Q2" = 2.727
REQUIRED RETAINED "Q" = 6.209
EXISTING DISCHARGE "Q2" = 2.727
PROPOSED OVERLAND FLOW TO DITCH = 0.000
DISCHARGE ALLOWED FROM STORM SEWER = 2.727

ALCULATED BY: CHAD E. LULFS, ENGINEER

OPTIMUM SLOPE CALCULATIONS FOR THE PROPOSED PIPE SIZES									
	A ²	R	R ⁿ (4/3)	n	n ²	1.486	(1.486) ⁿ²	%	
EET	(FEET) ⁴	FEET	(FEET) ^{4/3}						
31	0.1218	0.1667	0.0917	0.012	0.000144	1.486	2.208196	0.382	
54	0.2975	0.2083	0.1235	0.012	0.000144	1.486	2.208196	0.484	
74	3.1228	0.3750	0.2704	0.012	0.000144	1.486	2.208196	0.125	
91	0.1218	0.1667	0.0917	0.012	0.000144	1.486	2.208196	0.461	
91	0.1218	0.1667	0.0917	0.012	0.000144	1.486	2.208196	0.608	

[illegible]

ALCULATED BY: CHAD E. LULFS, ENGINEER

SURVEYING, INC.

JUDGING WEST OUT

[illegible]

EXAMPLE FILTERED COLEF FLOW FOR C.B. #4 (0.889 + 1.021 + 1.001) =

OVERLAND FLOW FROM SWALES ENTERING DIRECTLY INTO C.B. #4 = 1.001

[illegible][illegible]

0.608	0.612	3.64	0.181	0.373	20.56	3.20	1.651	100	116	3.03	0.63	674.54
-------	-------	------	-------	-------	-------	------	-------	-----	-----	------	------	--------

TEST	%	"	"	CFS	FPS	CA	OF CA	MIN	IN/HR	CFS	% FLOW	RUNOFF VELOCITY	FLOW TIME	INVERT ELEVATIONS
------	---	---	---	-----	-----	----	-------	-----	-------	-----	--------	-----------------	-----------	-------------------

[illegible]RECOLATED BY: CHAD E. LUTFS, ENGINEERRESPONDING STORMS

LIBRARY WEST COAST
LIBRARY INC

[illegible]

HOLIDAY INN	(Q25)
-------------	-------

STORAGE	PIPE	DETENTION	DETENTION	DEVELOP	(01)	(01)
---------	------	-----------	-----------	---------	------	------

LOT	EXISTING	DISCHARG	POST	REQUIRED	REQUIRED	AVAILABLE	ADDITIONAL
-----	----------	----------	------	----------	----------	-----------	------------

DETENTION REQUIREMENTS

606'0	06/06/7
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