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#### MATERIAL TESTING AND ANALYSIS

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

#### SUBSURFACE INVESTIGATION REPORT

ON

PROPOSED
TEST SITES FOR
STORM SEWER EFFLUENT
BINGHAMTON PHOTO PLANT
BINGHAMTON, NEW YORK

FOR

GAF CORPORATION
PURCHASING DEPARTMENT
BLDG. 43 CHARLES STREET
BINGHAMTON, NEW YORK 13902

BY

ONUNDAGA SOIL TESTING, INC. 6309 GIRDEN RUAD EAST SYRACUSE, NEW YORK 13057

#### MATERIAL TESTING AND ANALYSIS

6909 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

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4,000 psf at the bottom of the footings. Strip and/or wall footings should be a minimum of two feet [2'] wide.

In the area of test hole #7 where there does not appear to be any gravel material, it is suggested that the foundations be excavated to a depth of eight feet (8') below existing grade with compacted gravel being placed in one (1) foot lifts to a depth of four feet (4') below existing grade.

In this area, no ground water was noted and therefore should not present a problem.

### SITE "C" - North Parking Lot

Generally the site has been extensively filled with a variety of material in order to place a parking lot in this area. The fill slopes generally in an east-west direction with the maximum depth of fill at test holes #8, #11 and #14, and the minimum depth of fill at test holes #10, #13 and #16. The maximum depth of fill is at test hole #8 and is over twenty-one feet (21') below existing ground surface. The minimum depth of fill is approximately three feet.

If construction is contemplated in this area, is suggested that the structure be located near test holes #10, #13, #15 and #16 where excavations to virgin soils would be a minimum. Structures in this area should be kept relatively light and only one or two (1 or 2) stories,



#### MATERIAL TESTING AND ANALYSIS

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unless footings are carried to the dense to very dense sand and gravel layers.

Structures located at other areas of this site would require extensive foundation work, such as piling or caissons for large significant buildings or controlled compacted gravel blankets for relatively light one and two story buildings.

If you have any questions regarding the above, or if I may be of further service, please feel to contact me at your convenience.

Very truly yours,
ONONDAGA SOIL TESTING, INC.

A. Richard St. Germain, P.E.

. Kichard & Germain

RSG/6d

#### MATERIAL TESTING AND ANALYSIS

JOB NO. R-5772

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO TH-11, SITE C

PROPOSED SITE FOR STORM SEWER EFFLUENT BINGHAMTON PHOTO PLANT

CLIENT GAF CORPORATION, BINGHAMTON, NEW YORK

ELEV. AT GROUND SURFACE TECHNICIAN DAVE ROWE

DATE STARTED NOVEMBER 17, 1973 COMPLETED NOVEMBER 17, 1973

NO WATER OBSERVED AT COMPLETION

**BLOWS ON** SAMPLER DEPTH CLASSIFICATION OF & . 6" - 18" SAMPLE REMARKS 12 22-14 1'0"-2'6" DENSE FILL CONSISTING OF: SILT, FINE TO COARSE SAND, LITTLE FINE GRAVEL (TRACE WOOD & BRICK, METAL, PLASTIC) 51 (BROWN, DRY, NON PLASTIC) 6 8-8 5'0"-6'6" (BROWN, DRY, NON PLASTIC) 10' 18 32-38 10'-11'6" (BROWN, DRY, NON PLASTIC) 15' COMPACT FINE TO MEDIUM SAND, TRACE SILT 6 15'-16'6" 8-8 (DARK GRAY, MOIST, NON PLASTIC) SP 17'0" MEDIUM DENSE GRAVEL, SOME FINE TO COARSE 20' SAND, TRACE SILT 10 14-18 20'-21'6" (DARK GRAY, MOIST, NON PLASTIC) GM 21'6" BORING TERMINATED AT 21'6"

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JOB NO. R-5772

309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO. TH-10, SITE C

		11022 110.
TITLEPI	ROPOSED SITE FOR STORM SEWER EFFLUE	ENT BINGHAMTON PHOTO PLANT
	GAF CORPORATION, BINGHAMTON, NEW	YORK
	AT GROUND SURFACETECHNICIAN	
	RTEDNOVEMBER 17, 1973COMPLETED	
	NO WATER OBSERVED AT COMP	

¥ U ¥ E O ¥		BLOWS ON SAMPLER DEPTH CLASS		ÇLASSIFICATION &		
DEPTH BELOW SURFACE	С	0.6"	6" 18" N	SAMPLE NO.	OF SAMPLE	REMARKS
		8	10-11	1	1'0"-2'6"	BLACKTOP 0'3 MISCELLANEOUS FILL CONSISTING OF: SII SOME SAND, LITTLE GRAVEL (BROWN, DAMP, NON PLASTIC) 4'0
5'		4	4-5	2	5'0"-6'6"	LOOSE MEDIUM FINE SAND, LITTLE SILT, TRACE FINE ROUNDED GRAVEL (BROWN, DAMP, NON PLASTIC)
10'		6	5-4	3	10'-11'6"	(BROWN, DAMP, NON PLASTIC)
15'		18	24-38	4	15'-16'6"	VERY DENSE ROCK FRAGMENTS & SAND, TRAC SILT (GRAY, BROWN, DAMP, NON PLASTIC) 16'6 BORING TERMINATED AT 16'6"
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JOB NO. R-5772

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 915-656-7211

HOLE NO TH-8, SITE C

TITLE PROPOSED SITE FOR STORM SEW	ER EFFLUENT BINGHAMTON PHOTO PLANT
CLIENT GAF CORPORATION, BINGHAM	TON, NEW YORK
AT GROUND SURFACE	FECHNICIAN DAVE ROWE
DATE STARTED NOVEMBER 17, 1973	
	E 1 HOUR AFTER COMPLETION

ACE		BLOWS ON SAMPLER		M DEPTH		CLASSIFICATION
DEPTE BELON SURFA	С	0-6*	6" - 18" N	SAMPLE NO.	· OF SAMPLE	& REMARKS
		10	5-8	1	1'0"-2'6"	COMPACT MISCELLANEOUS FILL CONSISTING OF: SAND, SOME MEDIUM TO FINE ROUNDED GRAVEL, LITTLE SILT
5'		8	7-9	2	5'0"-6'6"	(DARK BROWN, DAMP, NON PLASTIC)
10'						APPARENT FILL CONSISTING OF
		3	4-4	3	10'-11'6"	LOOSE MEDIUM TO FINE SAND, LITTLE SILT TRACE FINE ROUNDED GRAVEL & ORGANIC MATTER & CINDERS (DARK BROWN, WET, NON PLASTIC)
15'		3	3-3	4	15'-16'6"	
20'		2	3-3	5	20'-21'6"	(DARK BROWN, WET, NON PLASTIC) 21'6 BORING TERMINATED AT 21'6"
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109 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

JOB NO. R-5772

HOLE NO. TH-9, SITE C

PROPOSED SITE FOR STORM SEWER EFFLUENT BINGHAMTON PHOTO PLANT CLIENT GAF CORPORATION, BINGHAMTON, NEW YORK AT GROUND SURFACE DAVE ROWE \_\_\_TECHNICIAN \_\_\_ NOVEMBER 17, 1973 NOVEMBER 17, 1973 \_\_COMPLETED NO WATER OBSERVED AT COMPLETION GROUND WATER.

¥\$0			WS ON IPLER	지 . 교	DEPTH	CLASSIFICATION	
DEPT BELO SURF/	C	0-6"	6"-18" N	SAMPLI NO.	OF SAMPLE	& REMARKS	•
		14	10-13	1	1'0"-2'6"	BLACKTOP	0'3"
5 <b>'</b>			10-13		1 0 -2 6	MISCELLANEOUS FILL CONSISTING OF: SAND & LITTLE GRAVEL, LITTLE SILT, BRICKS, TRACE ORGANIC MATTER, ETC.	. 1
		6	12-18	2	5'0"-6'6"	(DARK BROWN, DAMP, NON PLASTIC)	
10'		8	12-16	3_	10'-11'6"	(DARK BROWN, DAMP, NON PLASTIC)	: :
15'		14	18-22	4	151-1616"	DENSE SAND, LITTLE SILT, TRACE ORG MATTER & FINE LITTLE GRAVEL (DARK BROWN, DAMP, NON PLASTIC)	12'0" ANIC
					25 10 0		18'0"
20'		22	20~28	5	20'-21'6"	VERY DENSE SILT, TRACE FINE SAND (DARK BROWN, DAMP, NON PLASTIC) BORING TERMINATED AT 21'6"	21'6"
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#### MATERIAL TESTING AND ANALYSIS

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

JOB NO. R-5772

HOLE NO. TH-12, SITE C

PROPOSED SITE FOR STORM SEWER EFFLUENT BINGHAMTON PHOTO PLANT

CLIENT GAF CORPORATION, BINGHAMTON, NEW YORK

AT GROUND SURFACE TECHNICIAN DAVE ROWE

NOVEMBER 17, 1973 COMPLETED NOVEMBER 17, 1973

GROUND WATER OBSERVED AT COMPLETION

ACE ACE			WS ON IPLER	H.	DEPTH	CLASSIFICATION
BELOV	С	0 - 6"	6"-18" N	SAMPLE NO.	OF SAMPLE	& REMARKS
		18	22-19	1	1'0"-2'6"	BLACKTOP 0'3"
51		10	19-24	2	5'0"-6'6"	DENSE FILL CONSISTING OF: SILT, FINE SAND, SOME COARSE SAND, LITTLE FINE GRAVEL, TRACE BRICK (BROWN, MOIST, NON PLASTIC)  SOME MEDIUM TO COARSE GRAVEL NOTED
10'						I I COLLED GRAVEL NOIED
		12	18-14	3_	10'-11'6"	(BROWN, MOIST, NON PLASTIC)
15'						
		14	8-8	4	15'~16'6"	(BROWN, MOIST, NON PLASTIC) 16'0"
20'						FIRM SILT, TRACE FINE SAND & ORGANIC MATTER (ROOTS NOTED)
		6	6-8	5	20'-21'6"	(GRAY, DAMP, NON PLASTIC) 21'6"  BORING TERMINATED AT 21'6"
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### MATERIAL TESTING AND ANALYSIS

JOB NO. R-5772

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO. TH-13, SITE C

TITLE	PROPOSED SITE FOR STORM	SEWER EFFL	UENT BINGHAMTON P	HOTO PLANT
CLIENT.	GAF CORPORATION, BING	HAMTON, NE	W YORK	
ELEV	AT GROUND SURFACE	_TECHNICIAN	DAVE ROWE	
	NOVEMBER 17, 1973			1973
	NO WATER OBSERVED	፡ እጥ ሮረነ መጀመር		the second of the

AV AV AV			LOWS ON BAMPLER		DEPTH	CLASSIFICATION	
DEPTH BELOV SURFAC	С	0 - 6"	6" - 18" N	SAMPL NO.	OF SAMPLE	& REMARKS	
		10	14-22	1	1'0"-2'6"	BLACKTOP 0'4"  SEE NOTE "A" 3'0"	
51		12	18-15	2	5'0"-6' <b>6</b> "	DENSE TO VERY DENSE SAND & GRAVET.	
10'		18	29-35	3	10'-11'6"	(BROWN, DAMP, NON PLASTIC)	
15'		15	23-42	4	15'-16'6"	(BROWN, DAMP, NON PLASTIC) 16'6" BORING TERMINATED AT 16'6"	
-						NOTE "A": MISCELLANEOUS GRAVEL, SAND SILT FILL (BROWN, DAMP, NON PLASTIC)	
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### MATERIAL TESTING AND ANALYSIS

JOB NO. R-5772

6309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO. TH-14, SITE C

TITLE	ED SITE FOR STORM	SEWER EFFLUE	NT BINGHAMTON	PHOTO	PLANT
CLIENT GAF	CORPORATION, BING	SHAMTON, NEW	YORK		
ELEV. AT (	GROUND SURFACE	_TECHNICIAN_	DAVE ROWE		_
DATE STARTEDNO	OVEMBER 17, 1973	<del>-</del>		1973	
	NO WATER OBSERVE			* 1 - 4 - 1 - 2	. N. A. 3.**

FOX MAC MAC MAC MAC MAC MAC MAC MAC MAC MAC	c	BLOWS ON SAMPLER		n .	DEPTH	CLASSIFICATION	
DEPTH BELOW SURFACE		0-6-	6"-18" N	SAMPLE NO.	OF SAMPLE	& REMARKS	
		12	10-8	1	1'0"-2'6"	OF: COARSE TO FINE SAND, LITTLE	
<u>5 ¹</u>		4	6-9	2	5'0"-6'6"	MEDIUM TO FINE GRAVEL & SILT, TRACE ORGANIC MATTER (WOOD) (BROWN, MOIST, NON PLASTIC)	
10'		6	8-8	3	101-11160	(DDOLDI MOTOR MOTOR DESCRIPTION	
15'					10 -11 0	(BROWN, MOIST, NON PLASTIC)	
15		8	10-10	4	15'-16'6"	(BROWN, MOIST, NON PLASTIC) 16'0" MEDIUM DENSE SILT, SOME COARSE TO FINE SAND	
20'		6	8-14	5	201-211611	(BROWN, DAMP, NON PLASTIC)	
			0.11		2051.0	(BROWN, DAMP, NON PLASTIC) 21'6" BORING TERMINATED AT 21'6"	
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JOB NO. R-5772

5309 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO. TH-15, SITE C

TITLE PROPOSED SITE FOR STORM SEWER EFFLUENT BINGHAMTON PHOTO PLANT CLIENT GAF CORPORATION, BINGHAMTON, NEW YORK ELEV. AT GROUND SURFACE \_\_\_TECHNICIAN\_\_\_DAVE\_ROWE DATE STARTED NOVEMBER 16, 1973 COMPLETED NOVEMBER 16, 1973

GROUND WATER NO WATER OBSERVED AT COMPLETION

¥ V V V V	BLOWS ON SAMPLER JO NZ	BLOWS ON SAMPLER		m .	DEPTH	CLASSIFICATION	
DEPTH BELOW SURFACE		OF SAMPLE	& REMARKS				
		14	35-42	1	1'0"-2'6"	MEDIUM FINE SAND, LITTLE SILT, TRACE	
5'	-	6	8-12	2	5'0"-6'6"	FINE GRAVEL   (ANGULAR ROCK FRAGMENTS NOTED)	
10'		8	10-10	3	10'-11'6"	(BROWN, DAMP, NON PLASTIC) SP/GM 9'0"	
			10-10	3	10,-11,9,,	MEDIUM DENSE TO VERY DENSE SAND & GRAVEL, SOME ROCK FRAGMENTS, TRACE SILT (BROWN, DAMP, NON PLASTIC)	
15'			100=6"	4	15'-15'6"	(BROWN, DAMP, NON PLASTIC)	
20'			150=6"	5	20'-20'6"	(BROWN, DAMP, NON PLASTIC) 20'6" BORING TERMINATED AT 20'6"	

#### MATERIAL TESTING AND ANALYSIS

JOB NO. R-5772

3909 GIRDEN RD., SYRACUSE, N.Y. 13057 - 315-656-7211

HOLE NO. TH-16, SITE C

	AT GROUND SURFACE TECHNICIAN DAVE ROWE  NOVEMBER 16, 1973 NOVEMBER 16, 1973  NO WATER OBSERVED AT COMPLETION  GROUND WATER									
¥ J	c		NS ON	M T	DEPTH	CLASSIFICATION				
SURFACE		0 - 6"	6″ - 18″ N	SAMPLI NO.	OF SAMPLE	& REMARKS				
		12	8-10	1	1'0"-2'6"	BLACKTOP 0'				
		18	15-16	2	5'0"-6'6"	SEE NOTE "A"  DENSE FILL CONSISTING OF: SAND, GRAV. LITTLE SILT, TRACE WOOD FRAGMENTS (BROWN, DAMP, NON PLASTIC)  8'				
•		8	6-5	3	10'-11'6"	COMPACT FINE SAND, SOME SILT, TRACE				
1		14	8-11	4	15'-16'6"	(BROWN, DAMP, NON PLASTIC) SM				
,		10	10-11	5	20'-21'6"	(BROWN, DAMP, NON PLASTIC) SM 21' BORING TERMINATED AT 21'6"				
-						NOTE "A": MISCELLANEOUS FILL CON- SISTING OF: SAND, GRAVEL, LITTLE SIL (BROWN, MOIST, NON PLASTIC)				