

# PROPOSED HARVARD PLACE

PART OF THE NORTHWEST 1/4 OF SECTION 24, T.3N.,R.11E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

## Developer

MJC Harvard Place LLC  
46600 Romeo Plank Rd., Suite 5  
Macomb, MI 48044  
Phone: (586) 263-1203

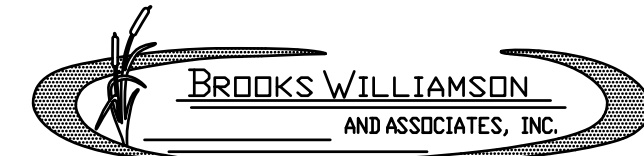
## Project Engineer

**LAND DEVELOPMENT CONSULTING SERVICES, INC.**  
46600 ROMEO PLANK, SUITE 2 PHONE: (586)868-2350  
MACOMB, MI 48044 FAX: (586)868-2351

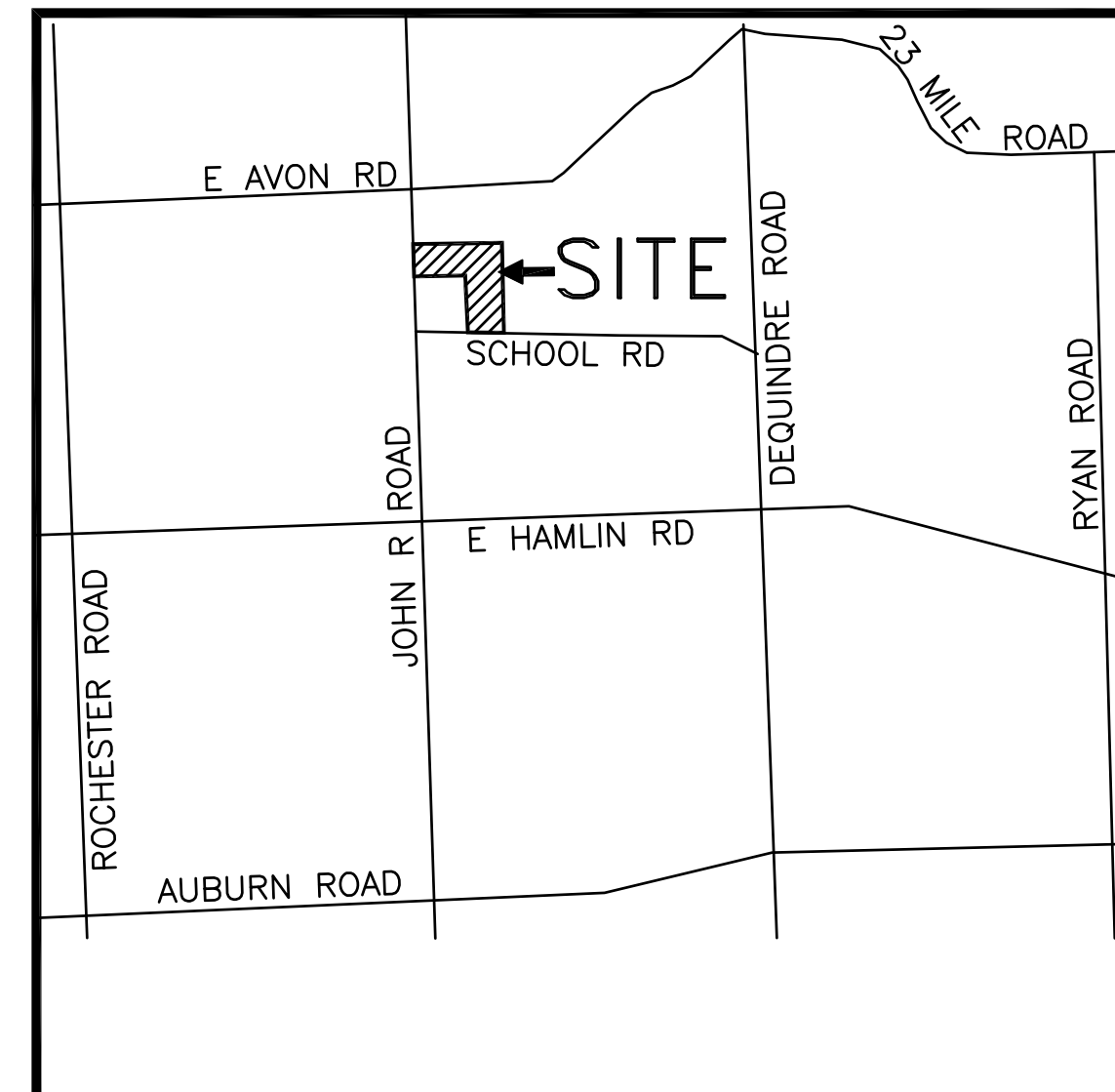
## Landscape Planner

**DesignTeam Limited**  
925 East Maple Rd., #103  
Birmingham, MI 48009  
P: 248.224.5933  
zenundesign2@gmail.com

## Wetland Consultant

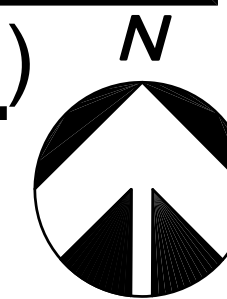


**Environmental Consulting**  
30366 BECK ROAD, WIXOM, MI 48393  
PHONE: (248)624-9100 FAX: (248) 624-3963



Location Map (NTS)

CITY OF ROCHESTER HILLS,  
OAKLAND COUNTY, MICHIGAN



### LEGAL DESCRIPTION: (TOTAL PARCEL)

PART OF THE NW 1/4 OF SECTION 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH IS S87°37'27"E, 769.35 FEET; ALONG THE EAST-WEST 1/4 LINE OF SECTION 24 AND CENTERLINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) AND N00°42'00"E, 43.02 FEET TO THE NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) FROM THE WEST 1/4 CORNER OF SECTION 24; THENCE CONTINUING N00°42'00"E, 833.35 FEET; THENCE S87°36'01"W, 720.03 FEET TO THE EAST 60 FEET R.O.W. LINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N00°00'00"E, 149.99 FEET ALONG SAID EAST 60 FEET R.O.W. LINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE S87°36'24"W, 60.05 FEET TO THE WEST LINE OF SECTION 24 AND CENTERLINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N00°00'00"E, 348.00 FEET ALONG SAID WEST LINE OF SECTION 24 AND CENTERLINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N87°36'06"E, 1326.16 FEET TO THE 1/8 LINE OF SECTION 24; THENCE S00°01'42"W, 1377.16 FEET ALONG SAID 1/8 LINE OF SECTION 24 TO THE NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.); THENCE N87°37'27"W, 555.59 FEET ALONG SAID NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) TO THE POINT OF BEGINNING. CONTAINING 25.755 ACRES.

SUBJECT TO THE RIGHTS OF THE PUBLIC AND ANY GOVERNMENTAL UNIT IN ANY PART THEREOF TAKEN, USED OR DEEDED FOR STREET, ROAD OR HIGHWAY PURPOSES.

## LIST OF DRAWINGS

### Engineering:

- C1 Cover Sheet
- C2 Preliminary Site Plan
- C3 Boundary Survey
- C4 Topographic Survey
- C5 John R Road Topographic Survey
- C6 School Road Topographic Survey
- C7 Grading Plan - North
- C8 Grading Plan - South
- C9 Utility Plan
- C10 Drainage Area
- C11 John R Road Striping Detail, Soil Map & Watershed Map

### Landscape:

- SP-1.0 Site Plan
- SP-2.0 Zoning Plan
- SP-3.0 Natural Features Plan
- SP-4.0 Open Space Plan
- T-1.0 Overall Tree Preservation Plan
- T-1.1 Tree Preservation Plan - North
- T-1.2 Tree Preservation Plan - South
- T-2.0 Tree Survey List "A"
- T-2.1 Tree Survey List "B"
- LA-1.0 Overall Landscape Plan
- LA-1.1 Landscape Replacement Plan - North
- LA-1.2 Landscape Buffer Plan - North
- LA-1.3 Landscape Replacement Plan - South
- LA-1.4 Landscape Buffer Plan - South
- LA-1.5 Unit & Playground Landscape Plan
- LA-1.6 Entrance Elevations & Cost Estimate
- LA-2.0 Specifications & Details.

### Wetland:

- 1 Boardwalk Location & Details

### Building:

- Building Elevations

DATE	REMARKS
01-21-13	SUBMITTAL TO CITY FOR FINAL PUD
02-25-13	REV. PER CITY DEPARTMENTS
03-13-13	REV. PER CITY ENGINEERING DEPARTMENT

COVER SHEET	LDCS JOB#11-02
HARVARD PLACE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI	DRAWING NO. C1

# HARVARD PLACE

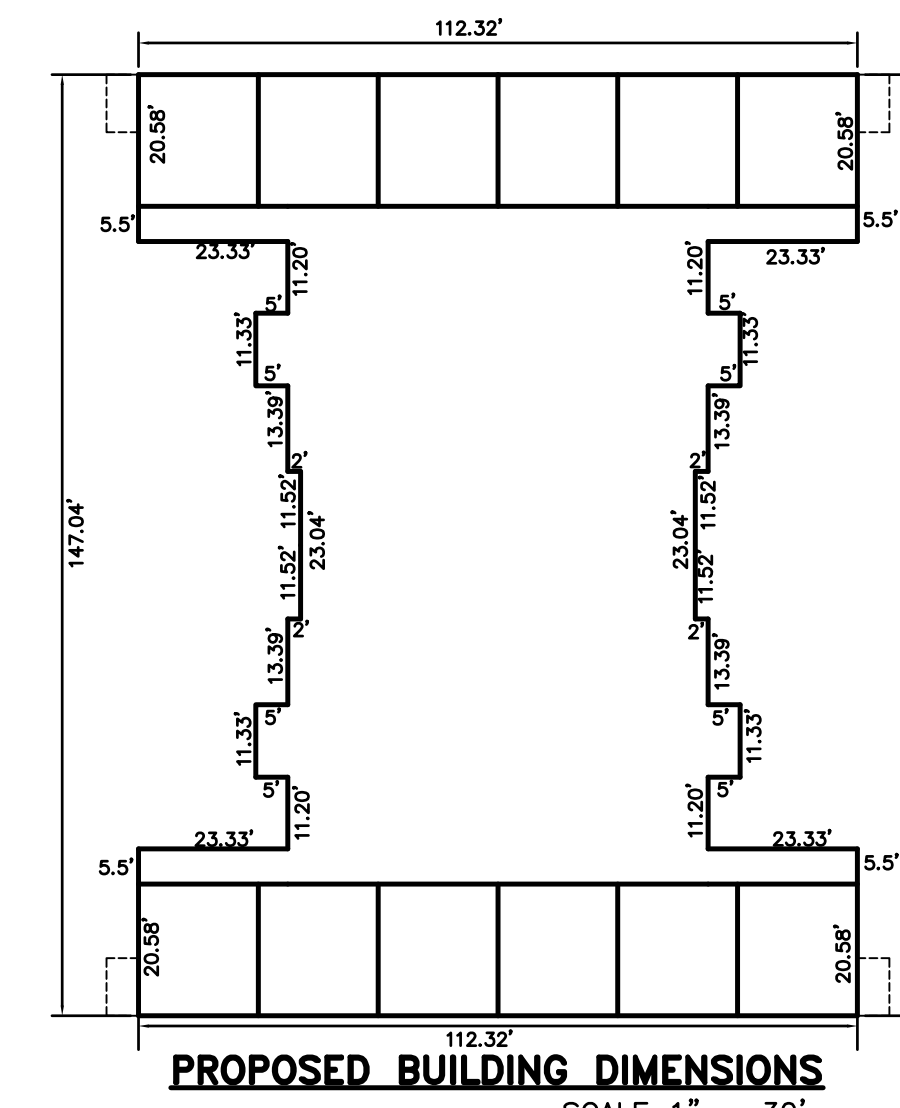
PART OF THE NW. 1/4 OF SEC 24, T3N., R11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

## LEGAL DESCRIPTION

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### ACADEMY DR. ENTRANCE NOTE:

MEDIAN ISLAND AT JOHN R. ROAD ENTRANCE MAY BE REQUIRED TO BE MODIFIED IN THE FUTURE IF THE PROPOSED CONFIGURATION CAUSES ADVERSE INGRESS/EGRESS TRAFFIC CONFLICT AT THE ENTRANCE.



### SITE DATA:

SITE ZONING: PUD  
 SITE AREA: 25.755 AC.  
 CROSS SITE AREA: 0.263 AC. ±  
 EXISTING R.O.W.: 0.216 AC. ±  
 FUTURE R.O.W.: 0.216 AC. ±  
 FUTURE R.O.W.: 0.216 AC. ±  
 NET SITE AREA (EXCLUDING R.O.W.): 25.492 AC.  
 NET SITE AREA (EXCLUDING FUTURE R.O.W.): 25.276 AC.  
 DENSITY: 6.646 DU/AC.

PROPOSED 168 UNITS (14 BLDG. x 12 UNITS)

CONSTRUCTION TYPE: 5B

AREA OF TYPICAL UNIT IN EACH BUILDING:

- 4 UNITS @ 1,441 S.F.
- 4 UNITS @ 1,508 S.F.
- 4 UNITS @ 1,651 S.F.
- EACH GARAGE = 360 S.F.

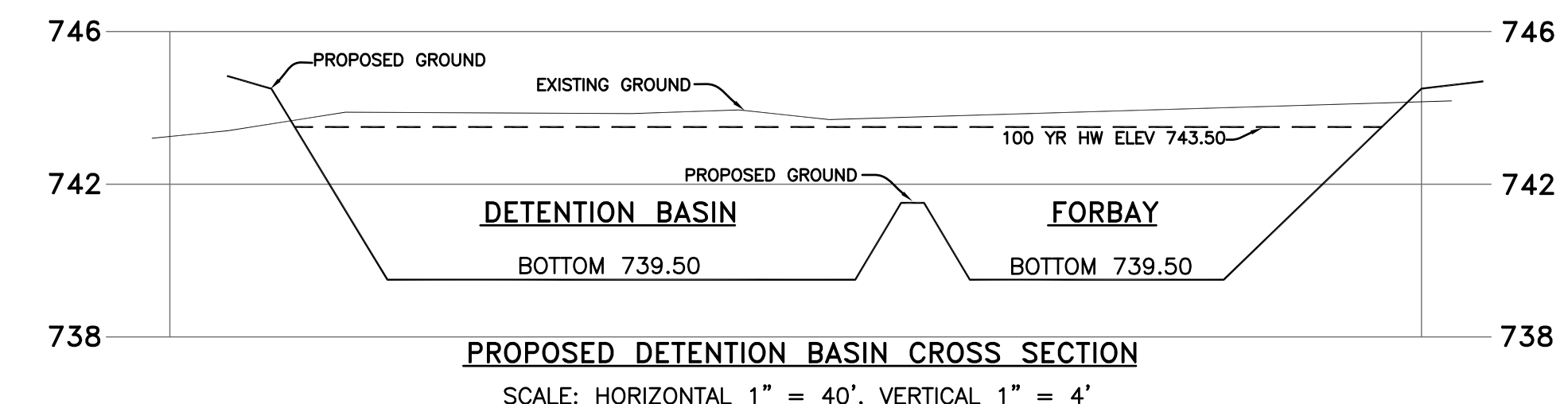
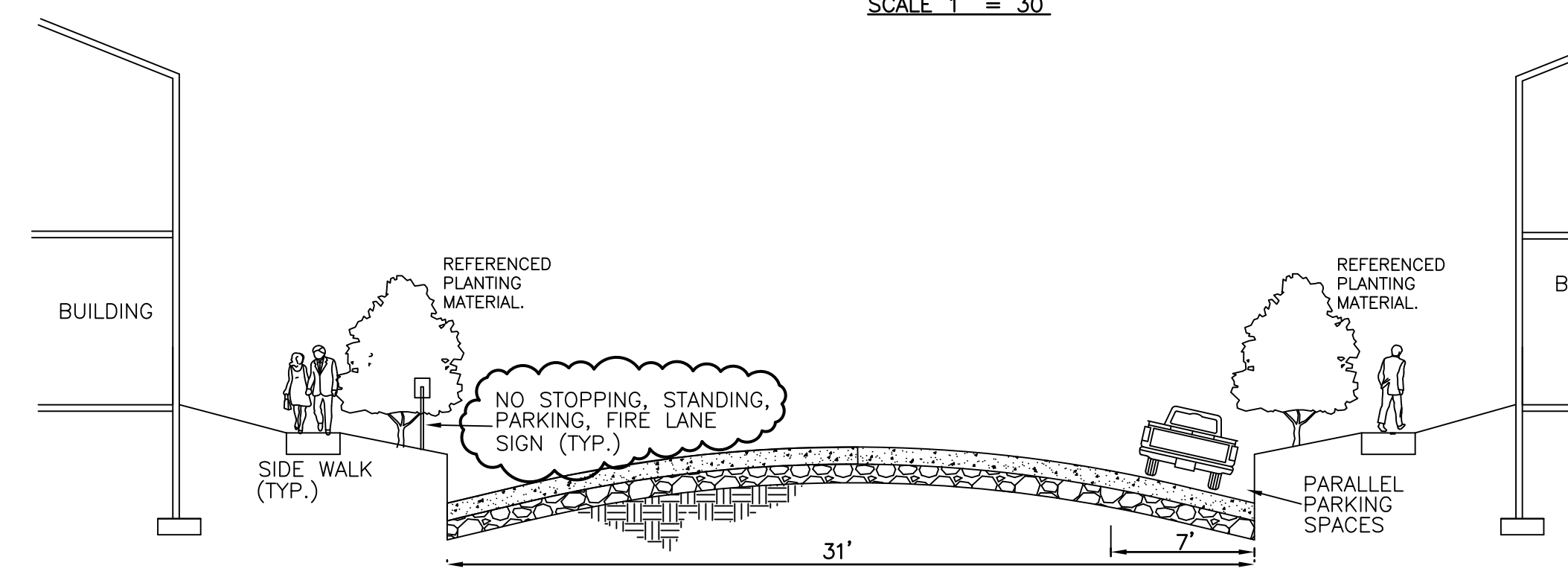
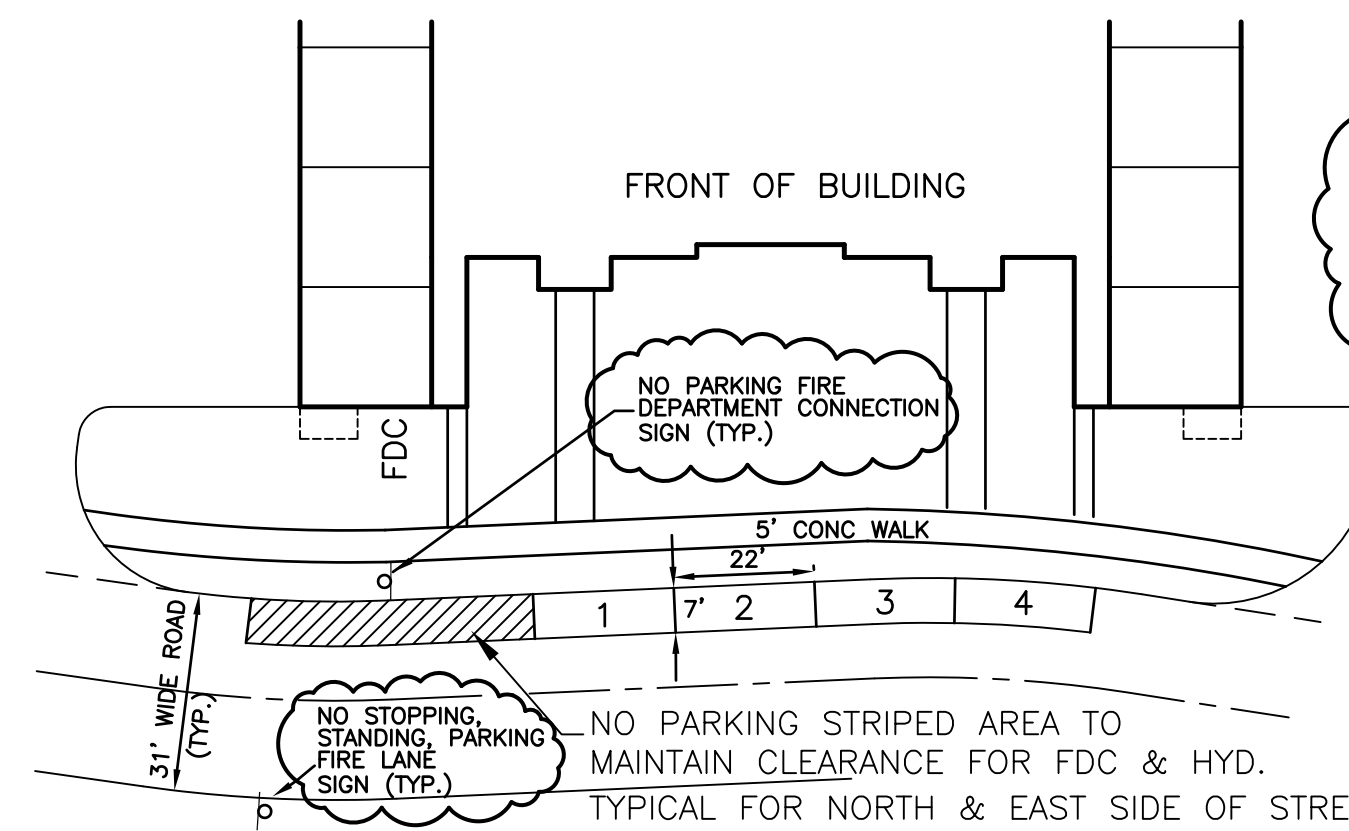
AREA OF MANAGER'S APARTMENT: 2,046 S.F.

### GENERAL NOTES:

- THIS SITE IS IN ZONED AS PUD.
- ALL UNITS WILL BE SERVED WITH PUBLIC SANITARY SEWER AND PUBLIC WATER.
- 8" WATERMAIN WILL BE PROVIDED BY CONNECTION TO THE EXISTING 12" WATERMAIN ALONG JOHN R. ROAD AND SCHOOL ROAD.
- 10" SANITARY WILL BE PROVIDED BY CONNECTION TO THE EXISTING SANITARY SEWER ALONG JOHN R. ROAD. SANITARY PUMP STATION AND FORCE MAIN WILL BE PROVIDED IN ACCORDANCE WITH CITY. THE SANITARY FORCE MAIN IS TEMPORARY AND THAT THE PUMP STATION AND FORCE MAIN WILL BE ABANDONED WHEN SANITARY SEWER BECOMES AVAILABLE IN SCHOOL ROAD. THIS WILL BE THE RESPONSIBILITY OF THE OWNER. THE SANITARY SEWER FOR THE EAST HALF OF THIS SITE WILL BE CONNECTED AS A GRAVITY-FLOW SYSTEM TO THE SCHOOL ROAD SANITARY SEWER AT THAT TIME.
- STORM SEWER SYSTEM WILL BE PROVIDED PER CITY OF ROCHESTER HILLS ENGINEERING DEPARTMENT AND OAKLAND COUNTY WATER RESOURCES COMMISSION. ON-SITE DETENTION BASIN WILL BE PROVIDED WITH PERMITTED OUTLET.
- EASEMENT WILL BE PROVIDED TO SERVE ALL PUBLIC UTILITIES AS REQUIRED BY THE ENGINEERING PLANS AND UTILITY COMPANIES.
- SOIL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE TAKEN PER OAKLAND COUNTY WATER RESOURCES COMMISSION REQUIREMENTS.
- PAVING WILL BE PROVIDED MEETING ALL THE CITY OF ROCHESTER HILLS REQUIREMENTS.
- ALL WORK WITHIN JOHN R. ROAD AND SCHOOL ROAD R.O.W. WILL BE IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS REQUIREMENTS.
- PERMIT IS REQUIRED FROM THE CITY FOR ALL WORK IN THE JOHN R. ROAD RIGHTS-OF-WAY.
- THIS PROJECT WILL ABIDE BY THE CITY OF ROCHESTER HILLS TREE PRESERVATION ORDINANCE.
- PROPOSED GRADES WILL MATCH EXISTING ELEVATIONS AT THE PROPERTY LINES UNLESS GRADING EASEMENTS ARE OBTAINED OR RETAINING WALLS PROVIDED.
- ALL HYDRANTS INCLUDING PROJECTIONS WILL BE A MINIMUM OF 5 FEET FROM THE BACK OF CURB AND 3 FEET FROM THE EDGE OF SIDE WALK.
- ANY EXISTING SEPTIC SYSTEM HOUSELEADS OR WELLS WILL BE ABANDONED IN ACCORDANCE WITH CITY AND "OCHD" REQUIREMENTS.
- IMPROVEMENT OF JOHN R. ROAD AT SOUTH OF PINE TRAIL DRIVE AND AT SCHOOL ROAD WILL BE CARRIED OUT AS CITY REQUIREMENTS.
- ALL THE BUILDINGS AT HARVARD PLACE WILL HAVE AN AUTOMATIC FIRE SUPPRESSION SYSTEM.

### FIRE DEPARTMENT NOTES:

- A KNOX KEY SYSTEM SHALL BE INSTALLED, IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE ROCHESTER HILLS FIRE DEPARTMENT AT (248) 656-4717.
- FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS, SPACED NOT MORE THAN 100' APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
- OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES.



**RUNOFF 'C' CALCULATION**

TOTAL SITE AREA	25.76	AC
AREA DRAINING TO WETLANDS	9.08	AC
AREA FOR RUN-OFF 'C' CALCULATION	16.68	AC
IMPERVIOUS AREA CALCULATION		
HIDDEN PARK DRIVE 2008 LF. 31 FT B/C	62248	SQ FT
8 NO BUILDINGS - PARKING-DRIVE		
8'21"23	168984	SQ FT
6 NO PART BUILDINGS-PARKING-DRIVE		
6'15"51	91506	SQ FT
ADDITIONAL PARKING-DRIVES		
4'15"0(20+11)	18600	SQ FT
CLUB HOUSE	2050	SQ FT
TOTAL IMPERVIOUS AREA	343388	SQ FT
TOTAL IMPERVIOUS AREA	7.88	AC
WATER SURFACE AREA (DETENTION BASIN)	0.95	AC
RUN-OFF 'C' =	0.55	

## SOIL DATA:

- 13B OSHTEMO-BOYER LOAMY SANDS 0 TO 6 PERCENT SLOPES
- 14B OAKVILLE FINE SAND 0 TO 6 PERCENT SLOPES
- 34B KIBBIE FINE SANDY LOAM 0 TO 4 PERCENT SLOPES
- 35A THETFORD LOAMY FINE SAND 0 TO 3 PERCENT SLOPES
- 42 PITS

**WATER QUALITY VOLUME REQUIRED = WQV**

A =	16.68	ACRES
C =	0.55	
WQV = 1815 * A * C	18551	CFT

**WATER QUALITY VOLUME PROVIDED (AS SEDIMENT BASIN)**

ELEVATION	AREA (A)	A1+A2	A1'A2	HT(H)	TOTAL VOLUME
739.5	6809	15805	61253764	1	7877
740.5	8996	20405	102635364	1	10179
741.5	11409				
SEDIMENT BASIN VOLUME PROVIDED =					18056

**DETENTION BASIN VOLUME REQUIRED (100 YEAR STORM EVENT)**

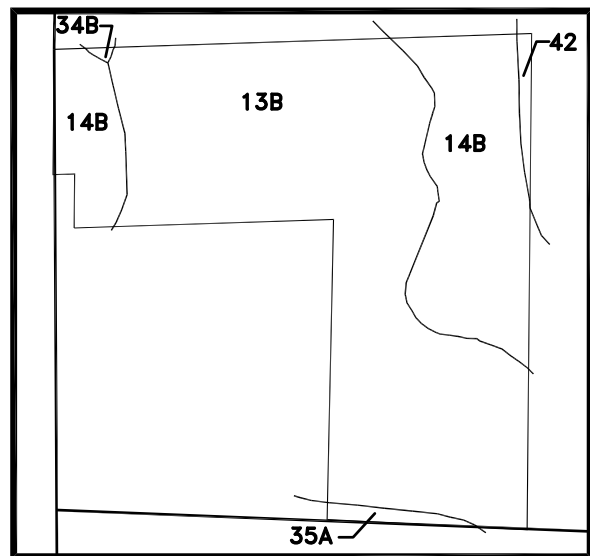
ALLOWABLE DISCHARGE =	0.20	CFS.
Q <sub>0</sub> = 0.20 X A =	3.34	CFS/AC MP.
Q <sub>0</sub> = Q <sub>0</sub> / (A X C)	0.36	CFS/AC MP.
T = + (10312.5 / Q <sub>0</sub> ) * 0.50	143.40	MINUTES
V <sub>s</sub> = (18500 X T) / (25 + 40 X T)	11964.66	CFS/AC MP.
V <sub>l</sub> = V <sub>s</sub> X A X C	109764	CFT.

**DETENTION BASIN DESIGN**

ELEVATION	AREA (A)	A1+A2	A1'A2	HT(H)	VOLUME	TOTAL VOLUME
739.5	14001	30896	236546895	1	15425	15425
740.5	16895	36910	338153425	1	18433	33858
741.5	20015	57165	743557250	1	28144	62003
742.5	37150	78893	1550752450	1	39424	101427
743.5	41743					
DETENTION BASIN VOLUME PROVIDED =					101427	
TOTAL VOLUME PROVIDED = 18056 + 101427 =					119483	

**BENCH MARKS: (U.S. & G.S. DATUM)**

- ARROW ON FIRE HYDRANT LOCATED WEST OF JOHN R ROAD AND ± 180' NORTH OF SOUTH PROPERTY LINE ELEVATION: 760.86
- ARROW ON FIRE HYDRANT LOCATED NORTH OF SCHOOL ROAD AND ± 230' EAST OF WEST PROPERTY LINE ELEVATION: 743.98



3 WORKING DAYS BEFORE YOU DIG  
 CALL MISS DIG  
 1-800-482-7171

REV. 03-13-13 PER CITY ENGINEERING  
 REV. 02-25-13 PER CITY DEPARTMENTS

CITY FILE # 04-037.2

**LAND DEVELOPMENT CONSULTING SERVICES, INC.**  
 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044  
 PHONE: (586)868-2350 FAX: (586)868-2351

**HARVARD PLACE**  
 PART OF THE NW. 1/4 OF SEC 24, T3N., R11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**PRELIMINARY SITE PLAN**

CLIENT: MJC HARVARD PLACE LLC  
 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044  
 PHONE: 586-263-1203

SCALE: AS NOTED  
 DATE: 01-21-13  
 DRAWN BY: AJAY  
 LDCS # 11-002  
 DRAWING NO. C2



**LEGAL DESCRIPTION: PARCEL 15-24-100-040 (PARCEL 1)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S88°20'40"E 769.00 feet from the West 1/4 corner; thence N00°00'00"E 1175.60 feet; thence N86°47'00"E 271.65 feet; thence S00°00'00"W 912.30 feet; thence S88°49'50"W 201.26 feet; thence S00°00'00"W 276.45 feet; thence N88°20'40"W 70.03 feet to the Point of Beginning, except the South 43 feet.

**LEGAL DESCRIPTION: PARCEL 15-24-100-037 (PARCEL 2)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S02°50'24"W 850.85 feet from the Northwest section corner; thence S89°28'59"E 450.00 feet; thence S00°31'00"W 70.00 feet; thence N89°28'59"W 150.00 feet; thence S85°18'41"W 128.16 feet; thence N88°55'50"W 175.62 feet; thence N02°50'24"E 80.00 feet to the Point of Beginning.

**LEGAL DESCRIPTION: PARCEL 15-24-100-028 (PARCEL 3)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S88°20'40"E 1129.00 feet from the West 1/4 corner; thence N00°00'00"E 290.75 feet; thence S88°49'50"W 88.65 feet; thence N00°00'00"E 912.30 feet; thence N86°47'00"E 271.65 feet; thence S00°37'44"E 931.44 feet; thence N88°20'40"W 126.00 feet; thence S00°37'44"E 290.75 feet; thence N88°20'40"W 70.09 feet to the Point of Beginning, except south 43 feet taken for road.

**LEGAL DESCRIPTION: PARCEL 15-24-100-038 (PARCEL 4)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S02°50'24"W 930.85 feet from the Northwest section corner; thence S88°55'50"E 175.62 feet; thence N85°18'41"E 128.16 feet; thence S89°28'59"E 150.00 feet; thence N00°31'00"E 70.00 feet; thence S89°28'59"E 876.16 feet; thence S02°28'24"W 198.00 feet; thence N89°28'52"W 1327.43 feet; thence N02°50'24"E 118.00 feet to the Point of Beginning.

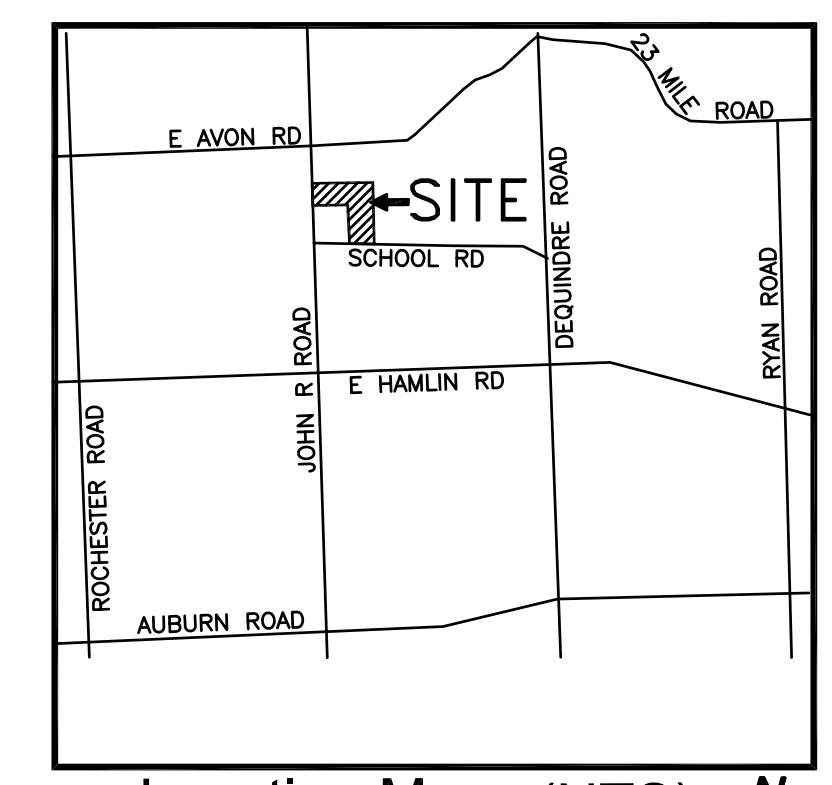
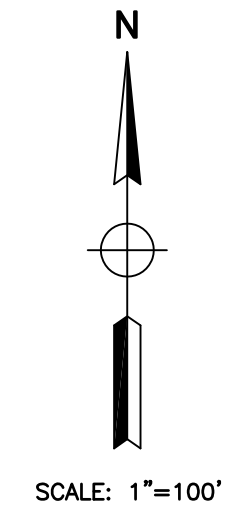
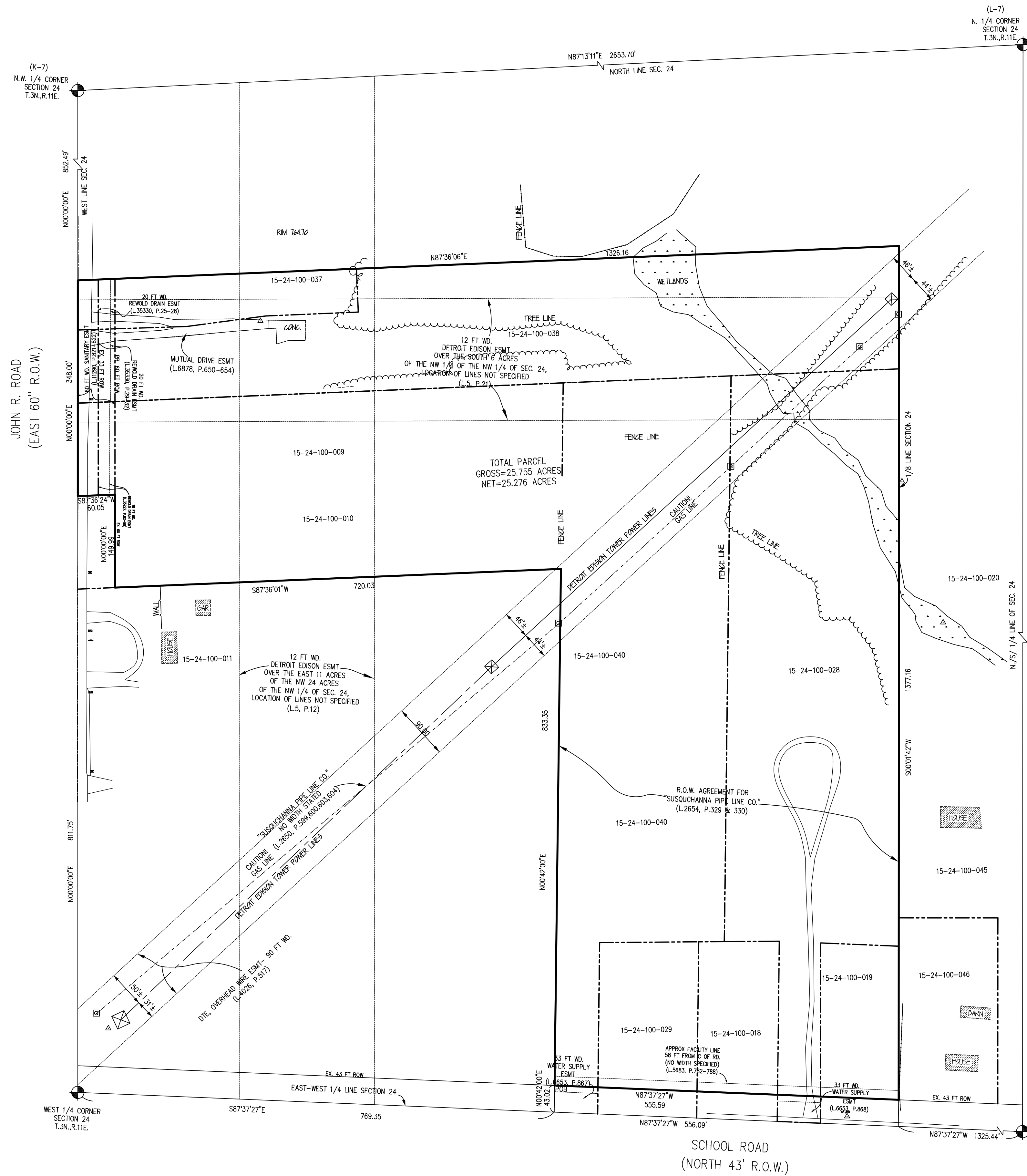
**LEGAL DESCRIPTION: PARCEL 15-24-100-018 (PARCEL 5)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Macomb County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S88°20'40"E 999.00 feet from the West 1/4 corner; thence N00°00'00"E 284.25 feet; thence N88°49'50"E 130.00 feet; thence S00°00'00"W 290.75 feet; thence N88°20'40"W 130.00 feet to the Point of Beginning, except South 43.00 feet taken for road.

**LEGAL DESCRIPTION: PARCEL 15-24-100-019 (PARCEL 6)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant N88°20'40"W 1325.90 feet from the center of Section; thence N88°20'40"W 126.00 feet; thence N00°40'20"W 290.75 feet; thence S88°20'40"E 126.00 feet; thence S00°40'20"E 290.75 feet to the Point of Beginning, except South 43.00 feet taken for road.

**LEGAL DESCRIPTION: PARCEL 15-24-100-029 (PARCEL 7)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant S88°20'40"E 839.03 feet from the West 1/4 corner; thence N00°00'00"E 276.45 feet; thence N88°49'50"E 159.91 feet; thence S00°00'00"W 284.25 feet; thence N88°20'40"W 159.97 feet to the Point of Beginning, except the south 43 feet taken for road.

**LEGAL DESCRIPTION: PARCEL 15-24-100-009 (PARCEL 8)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Avon Township, now Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant N00°00'00"E 961.75 feet from the West 1/4 corner; thence N00°00'00"E 150.00 feet; thence N87°34'50"E 784.16 feet; thence S00°00'00"W 150.00 feet; thence S87°34'50"W 780.00 feet to the Point of Beginning.

**LEGAL DESCRIPTION: PARCEL 15-24-100-010 (PARCEL 9)**  
 Part of the NW 1/4 of Section 24, T.3N., R.11E., Rochester Hills, Oakland County, Michigan, being more particularly described as follows:  
 Beginning at a point distant N00°00'00"E 811.75 feet from the West 1/4 corner; thence N00°00'00"E 150.00 feet; thence N87°34'50"E 780.00 feet; thence S00°00'00"W 150.00 feet; thence S86°48'40"W 780.08 feet to the Point of Beginning, except west 60.00 feet taken for road.



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 FAX: (586)868-2351

**HARVARD PLACE**  
 PART OF THE NW 1/4 OF SEC 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**BOUNDARY SURVEY**

CLIENT: MJC HARVARD PLACE LLC  
 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044  
 PHONE: 586-263-1203

SCALE: 1"=100'  
 DATE: 01-21-13  
 DRAWN BY: AJAY  
 LDCS # 11-002  
 DRAWING NO. C3



**CONTROL POINTS:**

NUMBER	NORTHING	EASTING	ELEVATION
2	4927.5142	6334.9651	742.13
80	5209.3988	6183.9030	745.27
81	5245.1487	5995.4235	748.01
82	5502.3907	5819.3138	751.24
89	5886.5836	5391.5164	754.31
92	5990.3420	6230.1099	747.19
93	5757.9573	6396.0587	741.85
94	5512.0843	6276.2032	748.63
213	4961.2161	6241.0966	741.87
3148	5016.1388	6187.3148	747.34
3180	5126.0055	6316.2334	746.80
3181	5103.2362	5049.2367	752.57
3206	5178.5543	6085.9869	746.23
3316	5552.5291	5812.3551	751.76
3323	5858.7521	5905.0361	754.27
3401	5548.5525	6213.8595	749.33
3445	5522.5552	6254.0763	749.11
3472	5701.5691	6254.1728	751.61
3490	5985.4236	6329.6372	748.08
3571	6400.4867	5939.0597	760.48
3631	6244.2963	5294.6683	761.79
3680	6452.6373	5426.9011	765.74
3750	5997.5582	5159.9321	758.33
3814	5722.9880	4980.7734	755.66

**PRIMARY BENCHMARK:**

3188 ARROW ON HYDRANT LOCATED ON THE WEST SIDE OF JOHN R. ROAD ± 40' FROM THE WEST 1/4 CORNER OF SECTION 24.  
ELEV: 754.17

**BENCHMARK DESCRIPTION:**

3143 ARROW ON HYDRANT LOCATED ON THE NORTH SIDE OF SCHOOL ROAD APPROXIMATELY ± 230' EAST FROM THE WEST PROPERTY LINE.  
ELEV: 743.98

3144 ARROW ON HYDRANT LOCATED ON THE NORTH SIDE OF SCHOOL ROAD APPROXIMATELY ± 20' EAST FROM THE WEST PROPERTY LINE.  
ELEV: 743.89

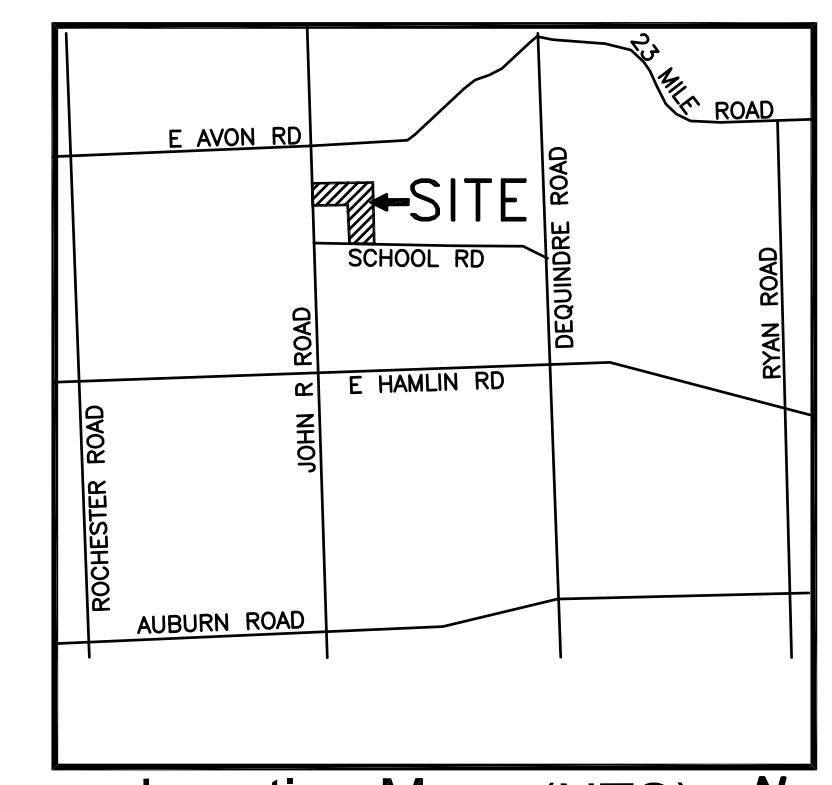
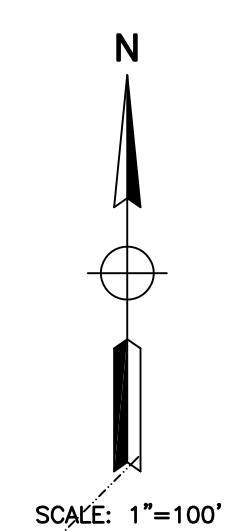
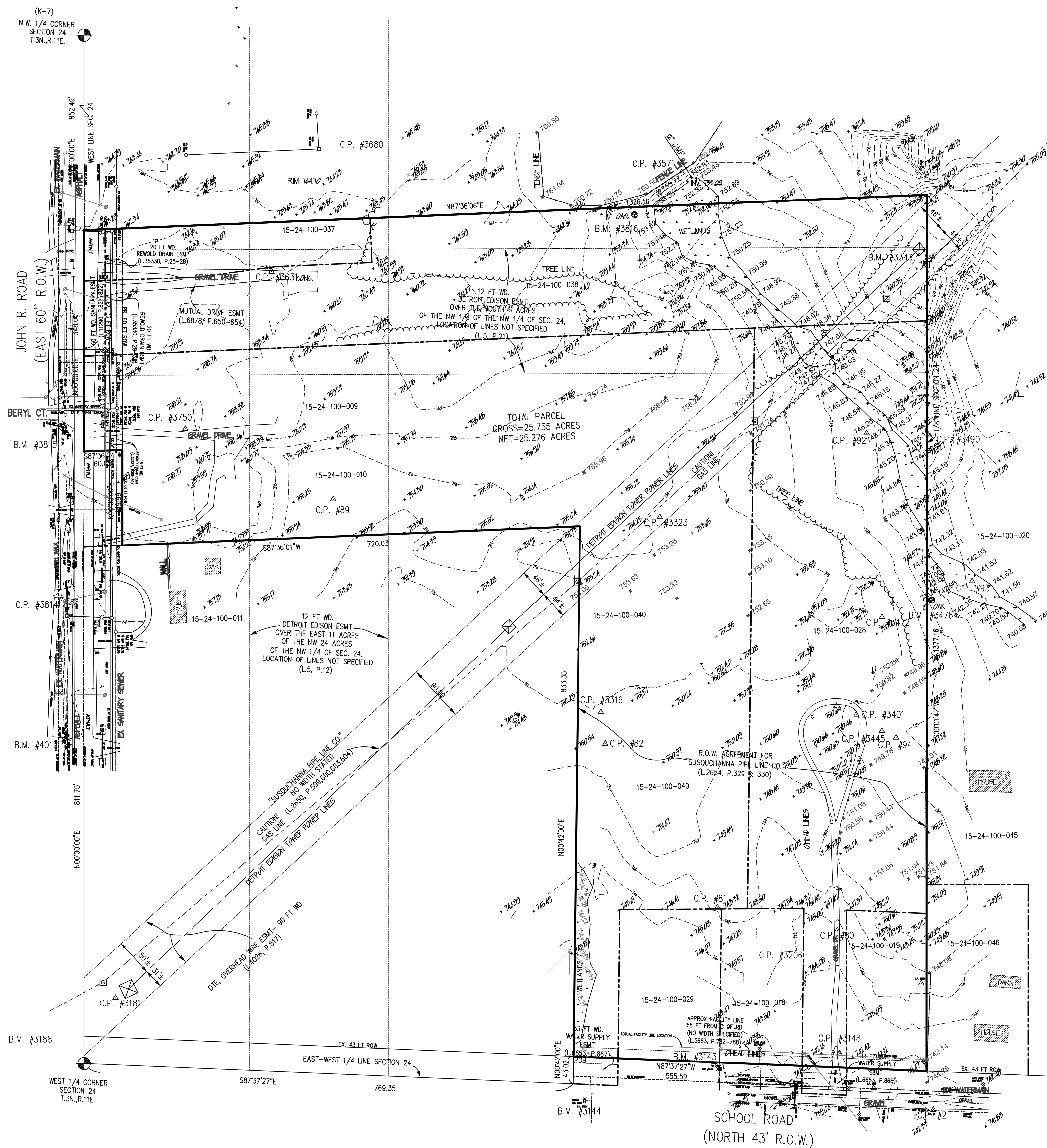
3343 TOP OF THE SOUTHWEST LOWER BRACE OF D.E. TOWER LOCATED ± 95' SOUTH FROM THE NORTH PROPERTY LINE AND ± 15' WEST FROM THE EAST PROPERTY LINE.  
ELEV: 763.99

3476 MAG NAIL IN SOUTHWEST FACE OF 19" OAK LOCATED ± 5' EAST FROM THE EAST PROPERTY LINE AND ± 640' SOUTH FROM THE NORTH PROPERTY LINE.  
ELEV: 747.15

3815 ARROW ON HYDRANT LOCATED ON THE WEST SIDE OF JOHN R. ROAD AND ± 180' NORTH FROM THE SOUTH PROPERTY LINE.  
ELEV: 760.86

3816 MAG NAIL IN SOUTHWEST FACE OF 15" OAK LOCATED ± 460' WEST FROM THE EAST PROPERTY LINE AND ± 10' SOUTH FROM THE NORTH PROPERTY LINE.  
ELEV: 757.92

4015 ARROW ON HYDRANT LOCATED ON THE WEST SIDE OF JOHN R. ROAD AND ± 300' SOUTH FROM THE SOUTH PROPERTY LINE.  
ELEV: 756.23



**Location Map (NTS)**  
CITY OF ROCHESTER HILLS,  
OAKLAND COUNTY, MICHIGAN

**LEGAL DESCRIPTION: (TOTAL PARCEL)**  
PART OF THE NW 1/4 OF SECTION 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
BEGINNING AT A POINT WHICH IS S87°37'27"E, 769.35 FEET; ALONG THE EAST-WEST 1/4 LINE OF SECTION 24 AND CENTERLINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) AND N00°42'00"E, 43.02 FEET TO THE NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) FROM THE WEST 1/4 CORNER OF SECTION 24; THENCE CONTINUING N00°42'00"E, 833.35 FEET; THENCE S87°36'01"W, 720.03 FEET TO THE EAST 60 FEET R.O.W. LINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N00°00'00"E, 149.99 FEET ALONG SAID EAST 60 FEET R.O.W. LINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE S87°36'24"W, 60.05 FEET TO THE WEST LINE OF SECTION 24 AND CENTERLINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N00°00'00"E, 348.00 FEET ALONG SAID WEST LINE OF SECTION 24 AND CENTERLINE OF JOHN R. ROAD (EAST 60 FEET WIDE R.O.W.); THENCE N87°36'06"E, 1326.16 FEET TO THE 1/8 LINE OF SECTION 24; THENCE S00°01'42"W, 1377.16 FEET ALONG SAID 1/8 LINE OF SECTION 24 TO THE NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.); THENCE N87°37'27"W, 555.59 FEET ALONG SAID NORTH R.O.W. LINE OF SCHOOL ROAD (NORTH 43 FEET WIDE R.O.W.) TO THE POINT OF BEGINNING. CONTAINING 25.755 ACRES.  
SUBJECT TO THE RIGHTS OF THE PUBLIC AND ANY GOVERNMENTAL UNIT IN ANY PART THEREOF TAKEN, USED OR DEEDED FOR STREET, ROAD OR HIGHWAY PURPOSES.

CITY FILE # 04-037.2

**LAND DEVELOPMENT CONSULTING SERVICES, INC.**  
46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044  
PHONE: (586)868-2350  
FAX: (586)868-2351

**HARVARD PLACE**  
PART OF THE NW 1/4 OF SEC 24, T3N., R11E.,  
ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

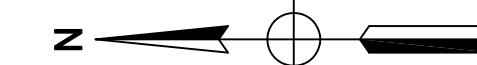
**TOPOGRAPHIC SURVEY**

CLIENT: MJC HARVARD PLACE LLC  
46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044  
PHONE: 586-263-1203

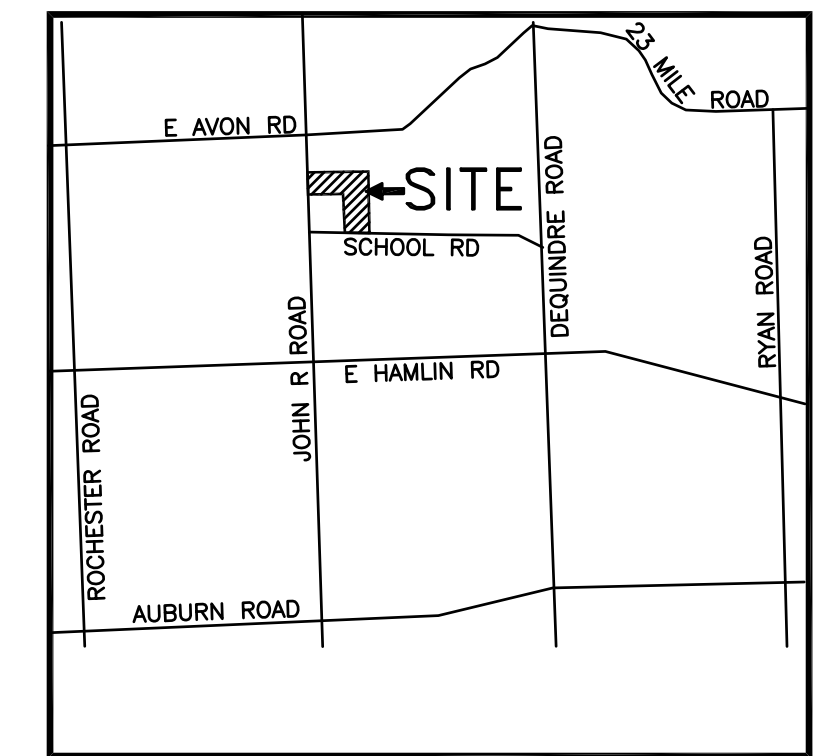
SCALE: 1"=100'  
DATE: 01-21-13  
DRAWN BY: S.T.  
LDCS # 11-002  
DRAWING NO. C4



3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
1-800-482-7171

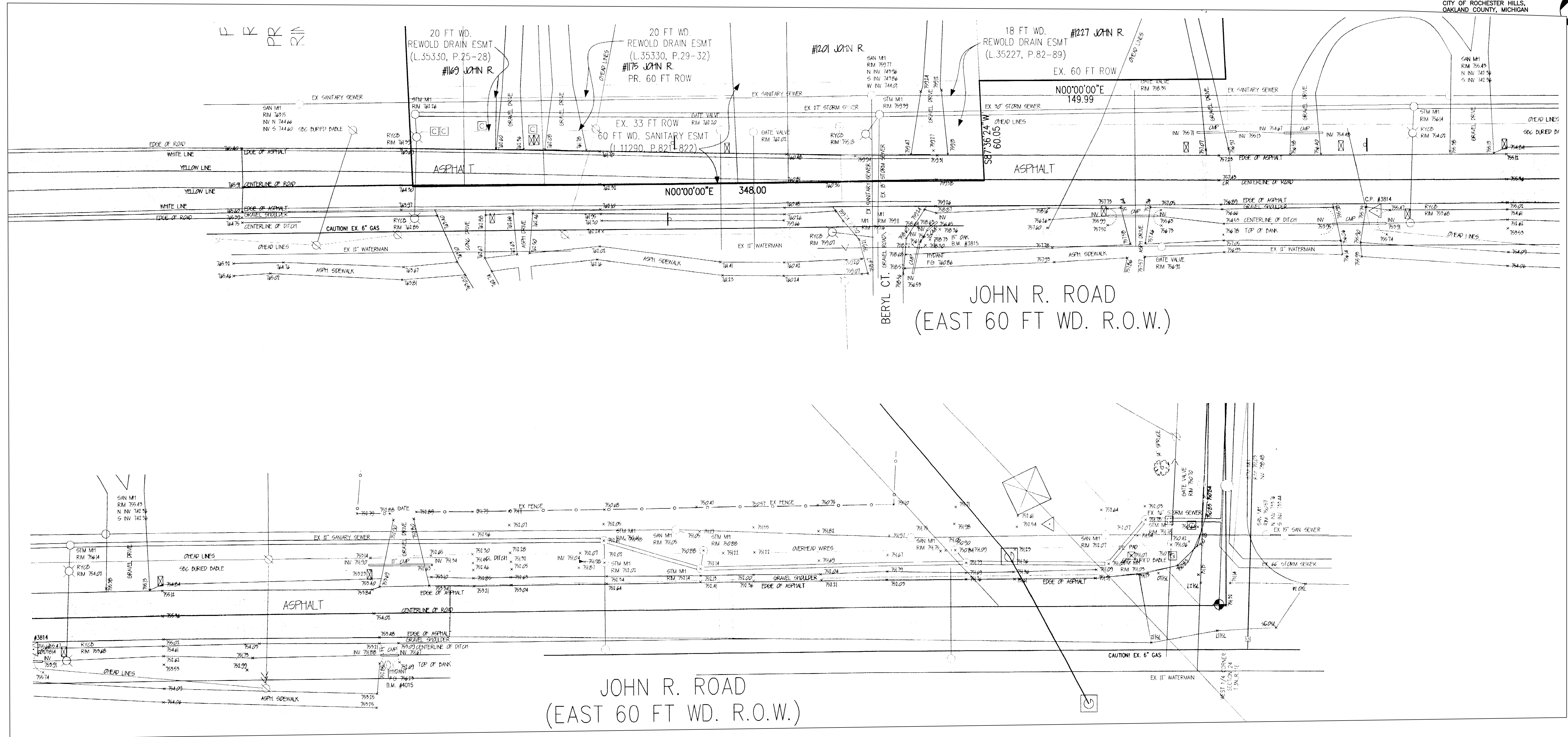


SCALE: 1"=30'



Location Map (NTS)

CITY OF ROCHESTER HILLS,  
OAKLAND COUNTY, MICHIGAN

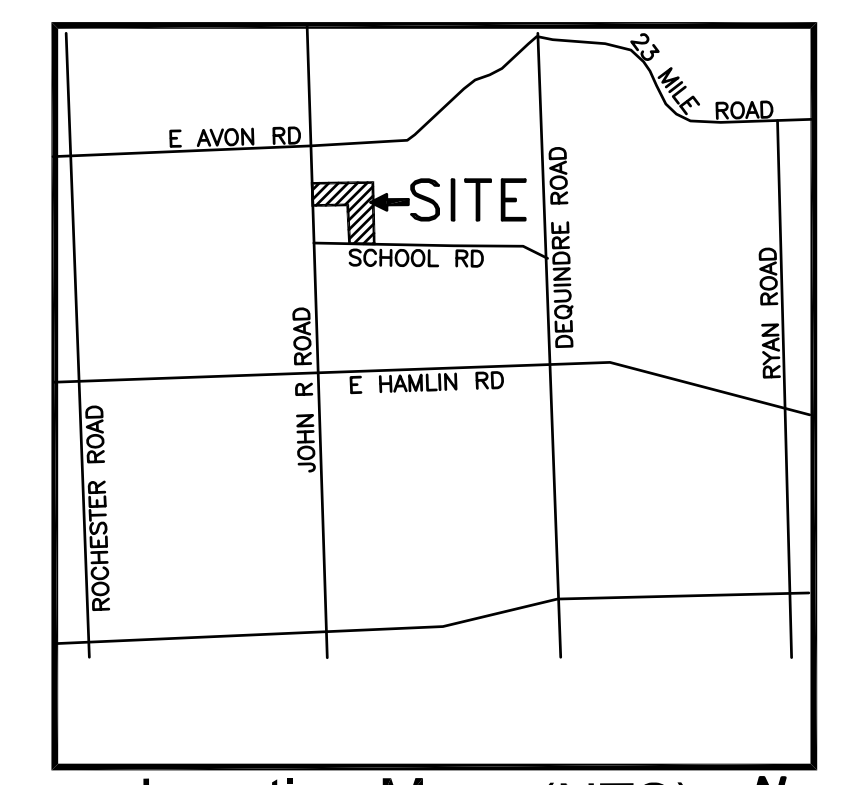
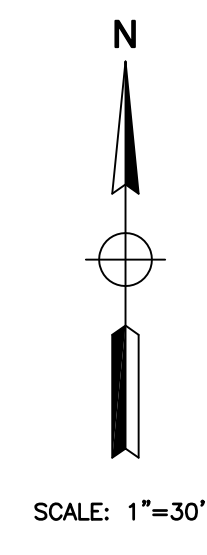


CITY FILE # 04-037.2

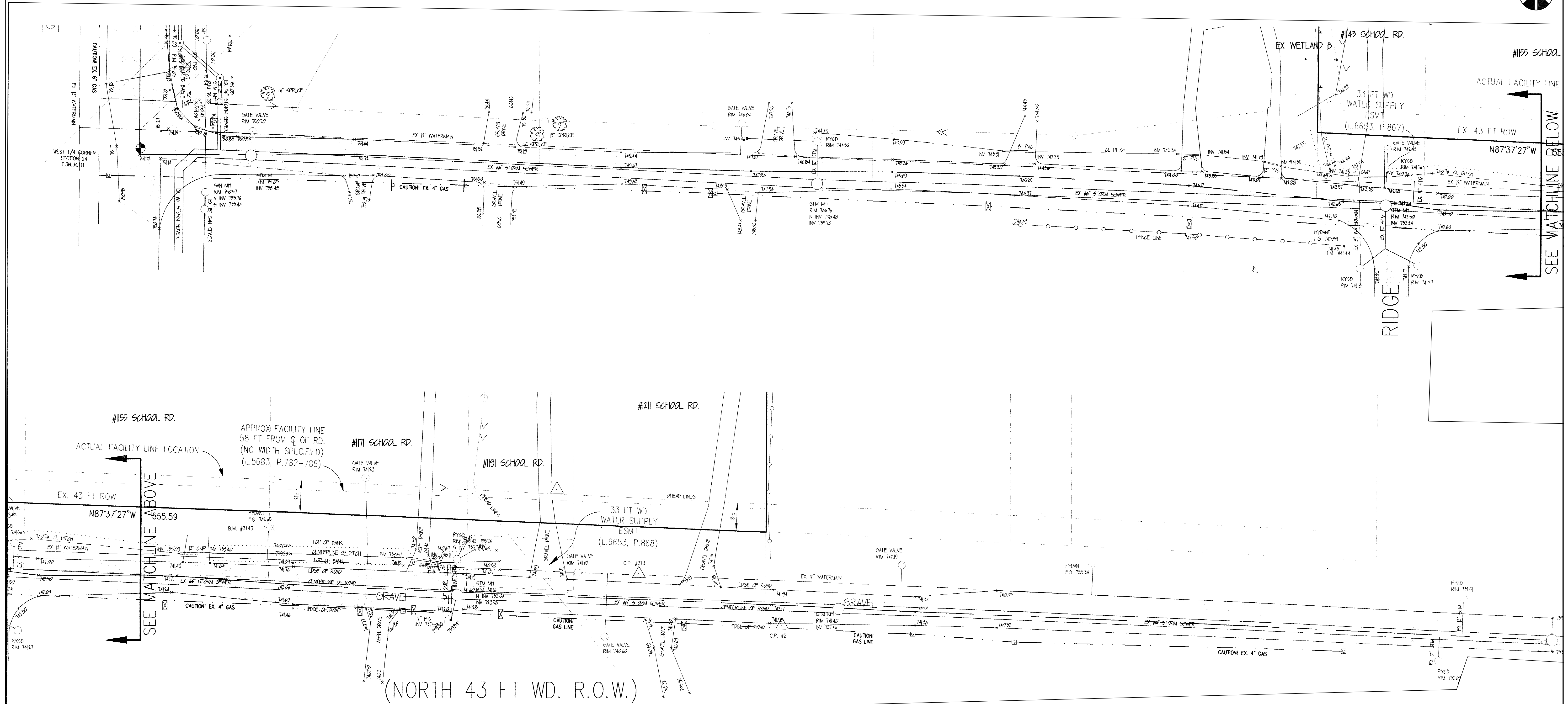
	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	<b>HARVARD PLACE</b> PART OF THE NW 1/4 OF SEC 24, T3N., R11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN	
<b>JOHN R ROAD TOPOGRAPHIC SURVEY</b>		SCALE: 1"=30' DATE: 01-21-13 DRAWN BY: S.T. LDCS # 11-002
CLIENT: MJC HARVARD PLACE LLC 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203		DRAWING NO. C5



3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
1-800-482-7171

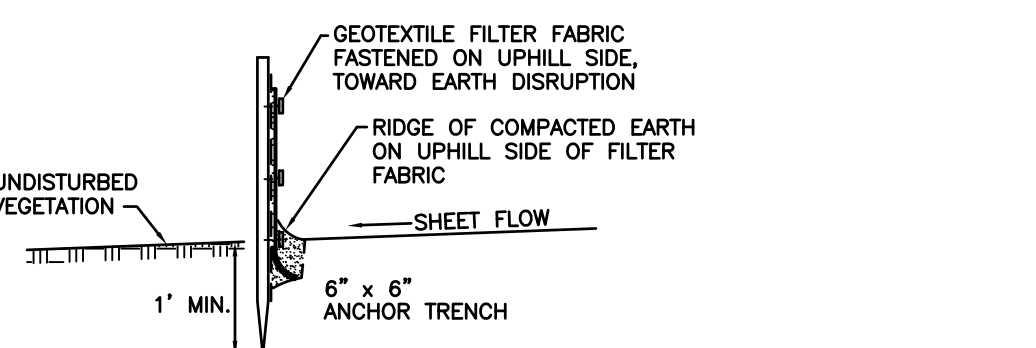
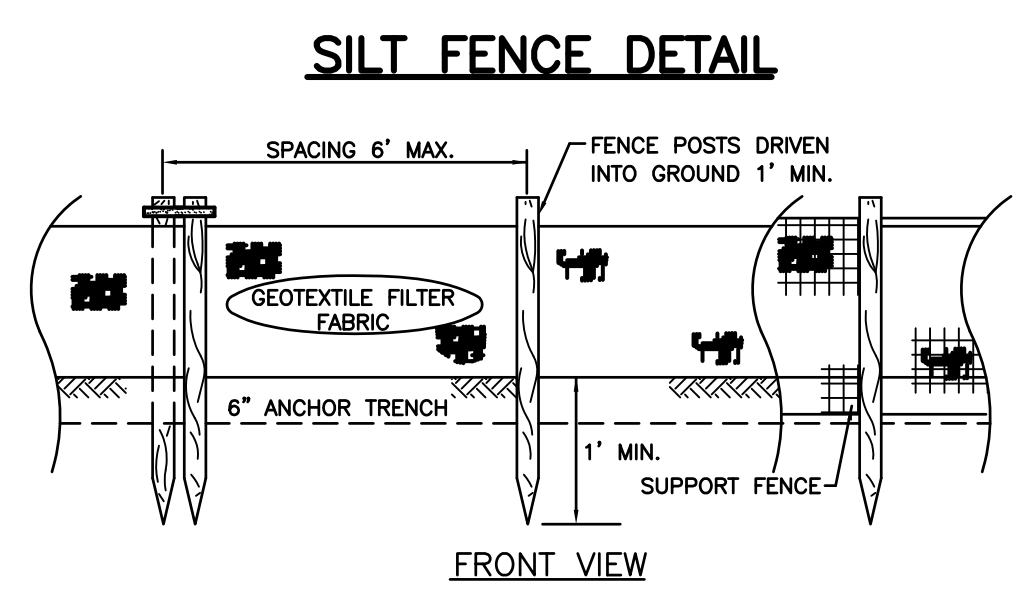
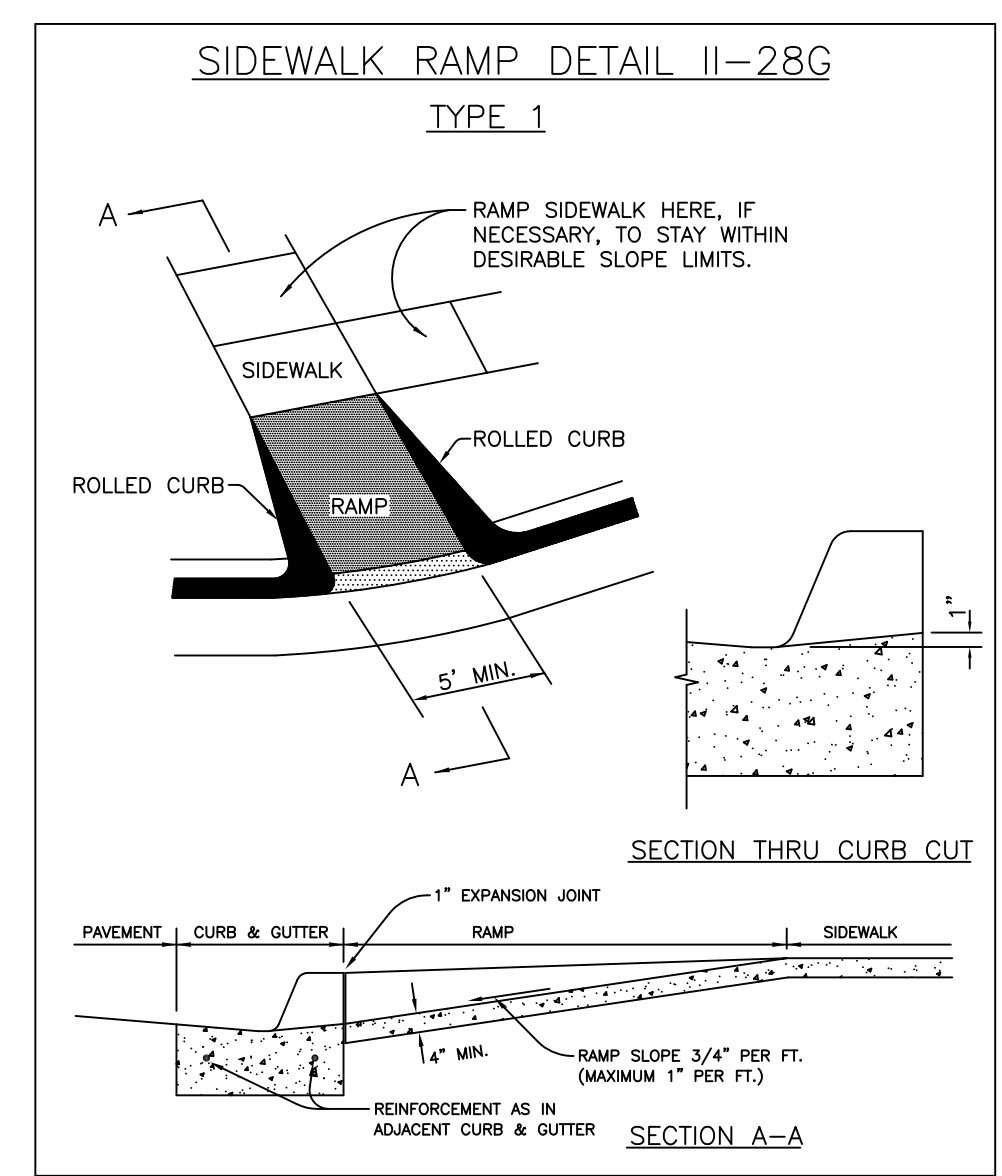
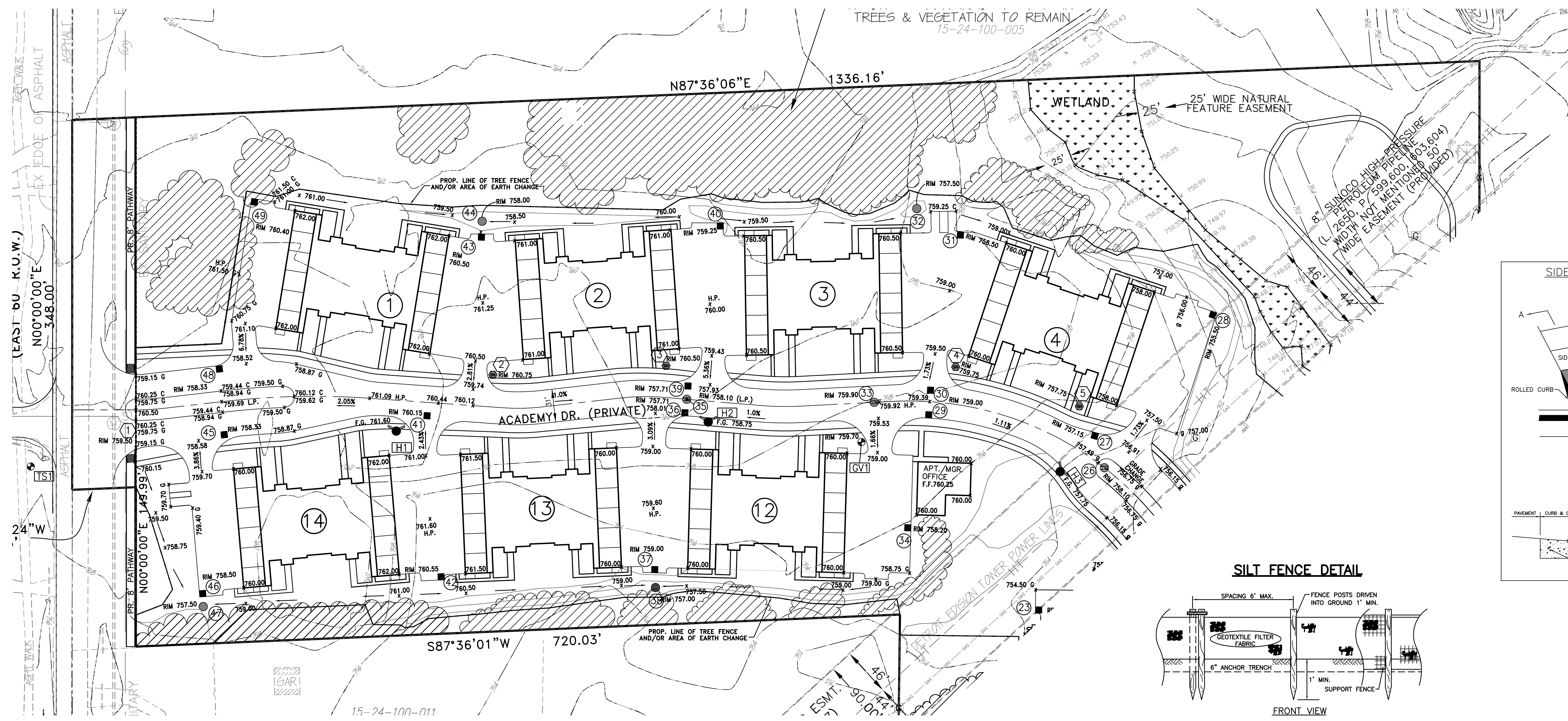


Location Map (NTS)  
CITY OF ROCHESTER HILLS,  
OAKLAND COUNTY, MICHIGAN

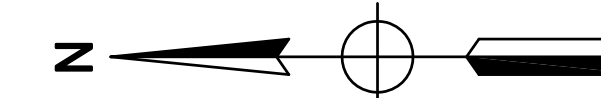


CITY FILE # 04-037.2

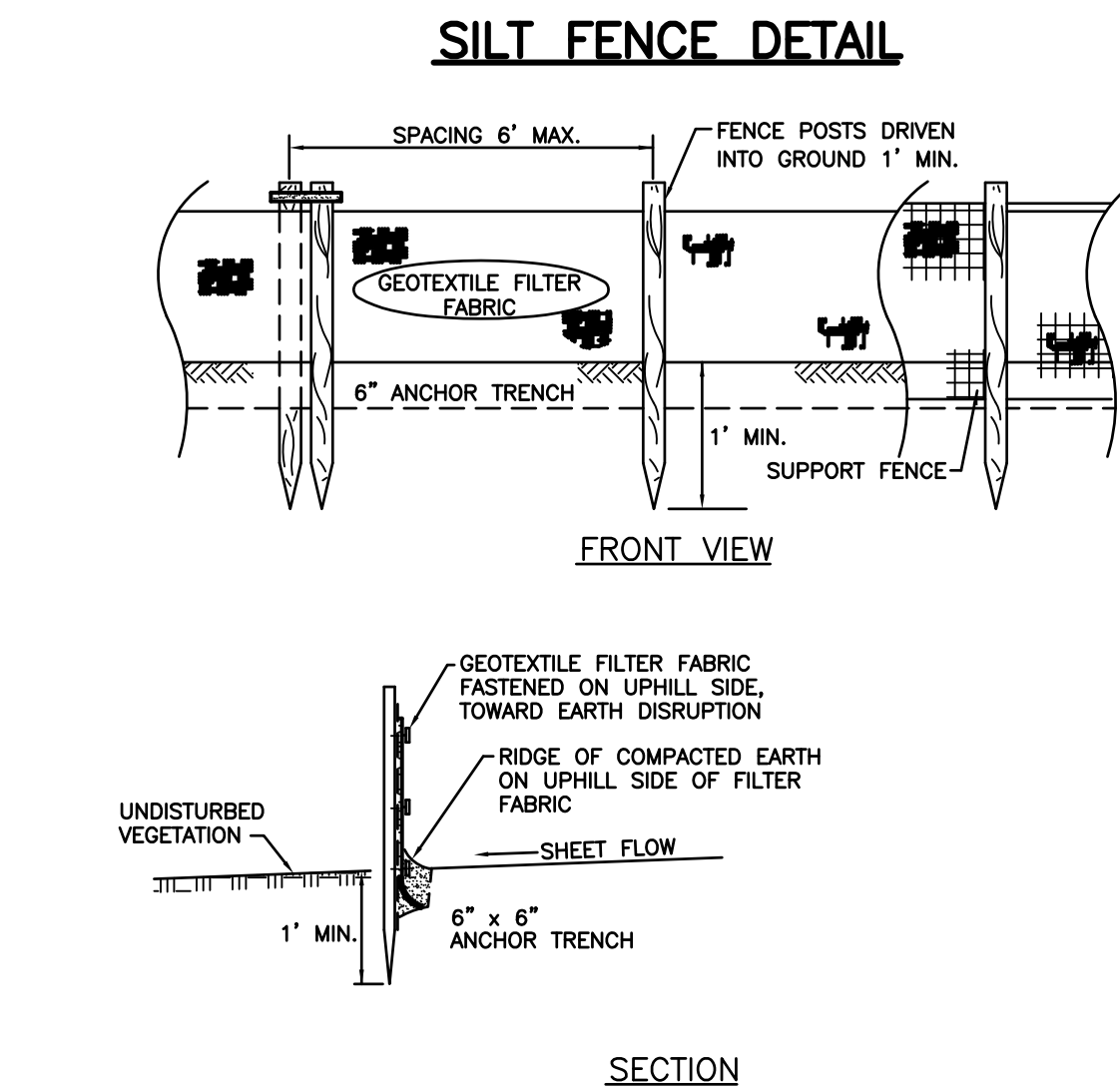
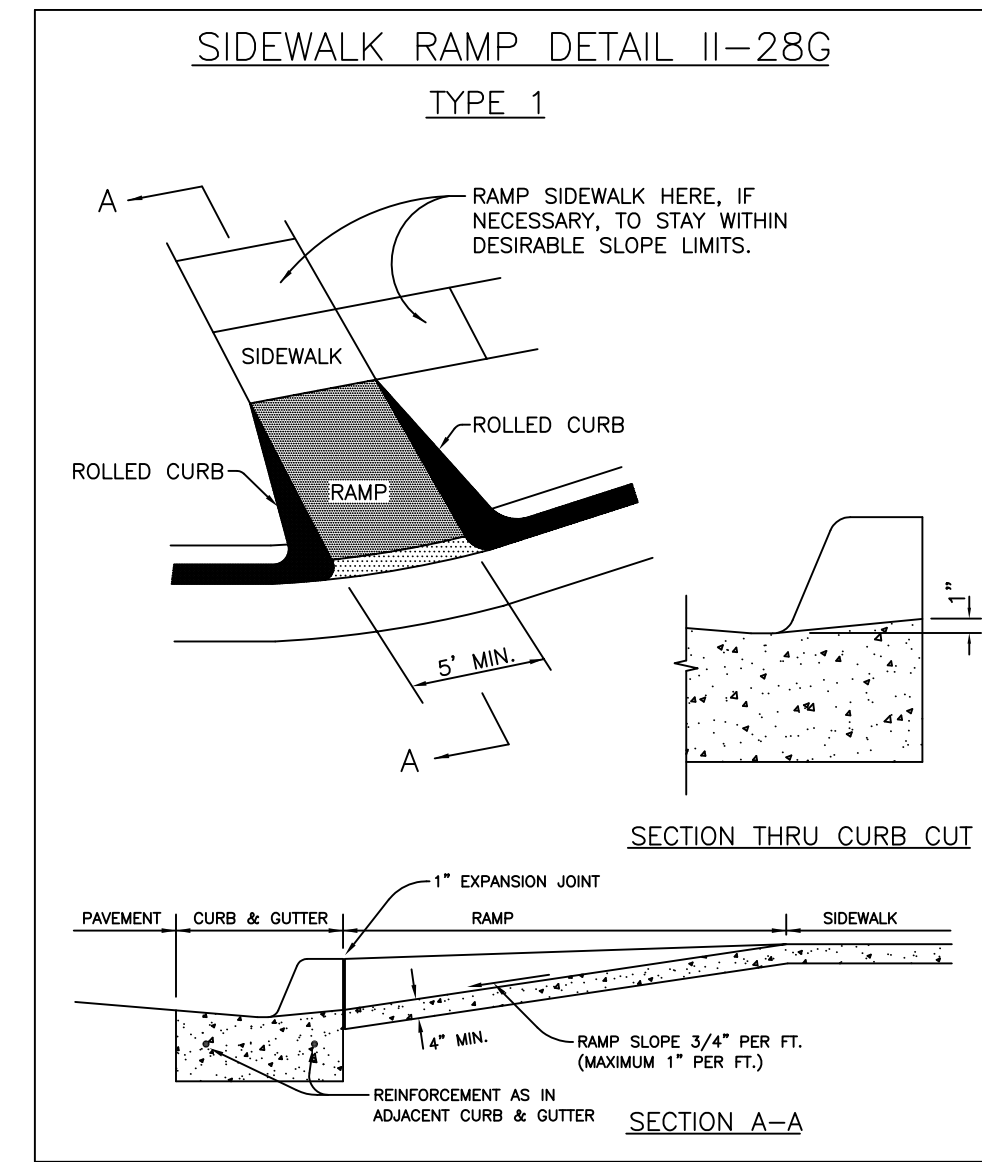
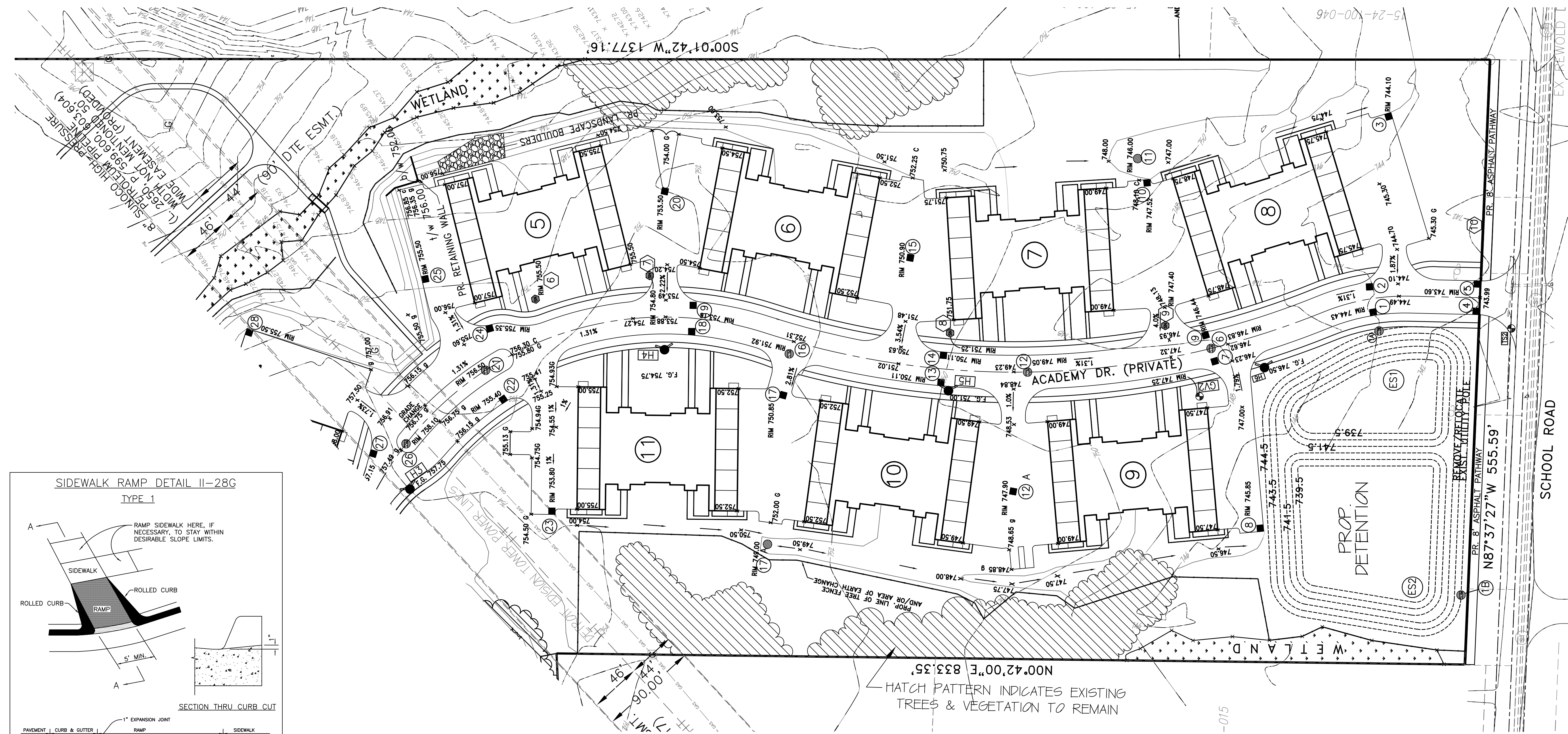
	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	<b>HARVARD PLACE</b> PART OF THE NW 1/4 OF SEC 24, T3N., R11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN <b>SCHOOL ROAD TOPOGRAPHIC SURVEY</b>	
CLIENT: MJC HARVARD PLACE LLC 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203	SCALE: 1"=30' DATE: 01-21-13 DRAWN BY: S.T. LDCS # 11-002 DRAWING NO. C6	



	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	HARVARD PLACE PART OF THE NW 1/4 OF SECTION 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN,	
<b>GRADING PLAN - NORTH</b>		SCALE: 1" = 50' DATE: 01-21-13 DRAWN BY: S.T.
CLIENT: HARVARD PLACE, L.L.C. 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203		LDCS # 11-002 DRAWING NO. C7



SCALE: 1" = 50'

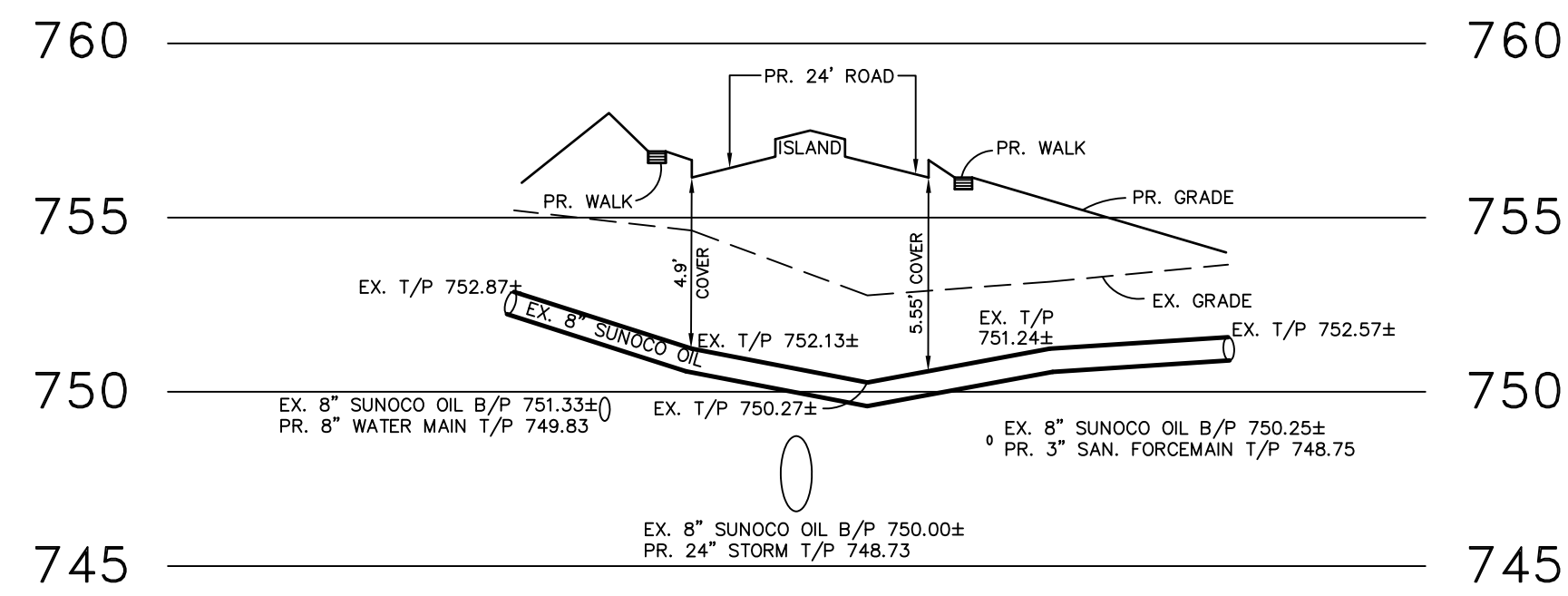


N00°42'00\"/>

-015

	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	HARVARD PLACE PART OF THE NW 1/4 OF SECTION 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN,	
<b>GRADING PLAN - SOUTH</b>		SCALE: 1" = 50' DATE: 01-21-13 DRAWN BY: SHAMIK LDCS # 11-002
CLIENT: HARVARD PLACE, L.L.C. 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203		DRAWING NO. C8





EXISTING SUNOCO OIL PIPE CROSSING DETAIL

SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.



**SANITARY SEWER NOTES:**

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL UNIT OF GOVERNMENT AND THE OAKLAND COUNTY DRAIN COMMISSIONER (OCDC). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY A STATE OF MICHIGAN LICENSED PROFESSIONAL ENGINEER PROVIDED BY, OR CAUSED TO BE PROVIDED BY, THE LOCAL UNIT OF GOVERNMENT.
- AT ALL CONNECTIONS TO OCDC SEWERS OF EXTENSIONS, AND BEFORE START OF CONSTRUCTION, THE CONTRACTOR MUST OBTAIN A SEWER INSPECTION PERMIT ISSUED BY OCDC. GRAVITY SEWER PERMIT CHARGES ARE \$250 FOR EACH CONNECTION PLUS \$25 FOR EACH MANHOLE CONSTRUCTED. PRESSURE SEWER PERMIT CHARGES ARE \$250 PER 2,460 L.F. OF FORCE MAIN WITH A MINIMUM PERMIT FEE OF \$250. FAILURE TO PASS ANY TEST SEGMENT WILL RESULT IN AN ADDITIONAL CHARGE TO THE CONTRACTOR FOR EACH RETEST, IN ACCORDANCE WITH THE ABOVE PERMIT SCHEDULE. THE CONTRACTOR SHALL ALSO HAVE POSTED WITH OCDC A \$5,000 SURETY BOND AND \$500 CASH DEPOSIT. THE CONTRACTOR SHALL NOTIFY THE LOCAL UNIT OF GOVERNMENT AND OCDC (248-858-1110) 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. FINAL ACCEPTANCE TESTS MUST BE WITNESSED BY COUNTY PERSONNEL AND MUST BE SCHEDULED BY MUNICIPALITY OR IT'S CONSULTANT IN ADVANCE WITH 24 HOUR NOTICE AT 248-858-1110.
- NO SEWER INSTALLATION SHALL HAVE AN INFILTRATION EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE IN A 24 HOUR PERIOD, AND NO SINGLE RUN OF SEWER BETWEEN MANHOLES SHALL EXCEED 100 GALLONS PER INCH DIAMETER PER MILE. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE OAKLAND COUNTY DRAIN COMMISSIONER STANDARDS. ONLY PIPE AND JOINTS APPROVED BY OCDC MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
- LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING OCDC SEWER, OR EXTENSION THERE TO, A TEMPORARY 12-INCH DEEP SUMP SHALL BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY ACCEPTANCE TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL. A WATER TIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE SUMP MANHOLE.
- AT ALL TIMES WHEN LAYING OF NEW PIPE IS NOT ACTUALLY IN PROGRESS, THE UPSTREAM OPEN END OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATER TIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL THE DANGER OF WATER ENTERING THE PIPE HAS PASSED.
- ALL BUILDING LEADS AND RISERS SHALL BE SIX INCH SDR 23.5 ABS PIPE WITH CHEMICALLY FUSED JOINTS OR AN APPROVED EQUAL PIPE AND JOINT. BUILDING LEADS TO BE FURNISHED WITH REMOVABLE AIR TIGHT AND WATER TIGHT STOPPERS.
- ALL RIGID SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER. ALL FLEXIBLE, SEMI-FLEXIBLE, OR COMPOSITE SEWER PIPE SHALL BE INSTALLED IN CONFORMANCE TO OCDC SPECIFICATIONS.
- ALL NEW MANHOLES SHALL HAVE OCDC APPROVED FLEXIBLE, WATER TIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF PRE CAST SECTIONS WITH MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS. PRE CAST MANHOLE CONE SECTIONS SHALL BE OCDC APPROVED MODIFIED ECCENTRIC CONE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATER TIGHT COVERS.
- AT ALL CONNECTIONS TO MANHOLES ON OCDC SEWERS, OR EXTENSIONS THERE TO, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
- TAPS TO EXISTING MANHOLES SHALL BE MADE BY CORING. THE CONTRACTOR SHALL PLACE A KOR-N-SEAL BOOT (OR OCDC APPROVED EQUAL) AFTER CORING IS COMPLETED. BLIND DRILLING WILL ONLY BE PERMITTED IN LIEU OF CORING WITH PRIOR OCDC APPROVAL.
- MANHOLES CONSTRUCTED DIRECTLY ON OCDC SEWERS SHALL BE PROVIDED WITH COVERS READING "OAKLAND COUNTY DRAIN COMMISSIONER-SANITARY" IN RAISED LETTERS.
- NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL TELEPHONE MISS DIG (800-482-7171) FOR THE LOCATION OF UNDERGROUND PIPELINE AND CABLE FACILITIES AND SHALL ALSO NOTIFY REPRESENTATIVES OF OTHER UTILITIES LOCATED IN THE VICINITY OF THE WORK.
- AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND WATER MAIN.
- NEW MANHOLES BUILT OVER AN EXISTING SANITARY SEWER SHALL HAVE MONOLITHIC POURED BOTTOMS.

**General Restrictions**

Sunoco Pipeline L.P.

- Detailed plans for proposed construction must be submitted to Sunoco Pipeline L.P.'s Engineering Department for review to determine to what extent, if any, the pipeline or right-of-way will be affected by the proposed construction and/or development.
- A driveway or roadway may cross the right-of-way and pipeline perpendicularly, but at no time will it be parallel to, over and within the right-of-way.
- Buildings, swimming pools, sheds, decks, trees, shrubs or any obstruction of a permanent nature shall not be constructed, planted or placed within the right-of-way and easement. The width of the easements vary, but typically structures closer than (25') feet to any existing pipeline (50' easement) are not permitted. You must contact Sunoco Pipeline L.P.'s Right-of-Way Department at (610) 670-3200 to determine the easement width for a specific well, teach beds, cesspools or sewer systems of any type shall not be placed within the right-of-way.
- All underground facilities crossing the right-of-way shall cross under the existing pipeline with a minimum of one-foot clearance. This includes sewer drain lines.
- The earth cover over the pipelines shall be maintained and never changed in any manner without the express permission of Sunoco Pipeline L.P.
- Any parking area placed over the pipeline with permission of Sunoco Pipeline L.P. shall be subject to an amendment to agreement entered into by subject parties prior to construction of same.
- If heavy equipment is to cross the existing pipeline for any reason, it will be necessary for the owner to provide a ramp of sufficient material to protect said pipeline. Sunoco Pipeline L.P. will make the decision as to how much fill and what other type of protective structure, if any, will be required for the ramp. Upon completion of construction and discontinuation of heavy equipment passage over the pipeline, the ramp may be removed.
- A Sunoco Pipeline L.P. inspector must be present at the time that any work is done within Sunoco Pipeline L.P.'s right-of-way.
- No blasting is permitted within 300 feet of the pipeline. Anything less than 300 feet must have the approval of and instruction from Sunoco Pipeline L.P.'s Engineering Department.
- Should you have any questions or need additional information on the aforementioned Paragraphs 1 through 10, please call Sunoco Pipeline L.P.'s Right-of-Way Department at (610) 670-3200. (Call COLLECT if outside (610) area code)
- State law requires you to contact your State One Call Center as listed below, at least two or three days in advance, as required by your state, prior to any construction activity.
  - PA One Call System (POCS) - (800) 242-1776, New Jersey One Call - (800) 962-1000, Dig Safety New York - (800) 962-7962, Ohio Utilities Protection Service - (800) 362-2764 and Michigan Miss Dig System, Inc. - (800) 482-7171.
- In addition to the legally required notice referenced above and to schedule a pipeline inspector to witness work in the vicinity of the pipeline, please call the selected Sunoco Pipeline office below. Note: CONTACTING SUNOCO DIRECTLY DOES NOT RELIEVE YOU OF THE LEGAL OBLIGATION TO NOTIFY YOUR STATE ONE CALL CENTER. (Please call COLLECT if outside the area code)
  - AKRON (330)374-0570, ALTONA/ELSDORADO (814)947-8300, BIG FLATS (607)562-8431, CALEDONIA (585)538-6160, FORT MIFFLIN (215)365-6501, GREENSBURG (724)834-2450, ICEDALE (610)942-7906, INKSTER (313)292-8850, MONTELEO (610)670-3250, TOLEDO (419)891-4554 AND TRENTON (609)586-1522.
- SPLP EMERGENCY TELEPHONE NUMBER - 1-800-786-7440, SPLP FILE NUMBER \_\_\_\_\_ & SPLP INKSTER FIELD OFFICE TELEPHONE NUMBER (313)292-8850.
- NO WORK IS PERMITTED IN THE SPLP RIGHT-OF-WAY OR ADJACENT TO OUR PIPELINE WITHOUT THE PRESENCE OF A SPLP INSPECTOR.
- Material stockpile, equipment and staging areas must remain outside of the SPLP right-of-way.
- During backfill operations in the vicinity of SPLP's pipeline, a SPLP representative must be present. The excavation shall be compacted thoroughly under the pipeline to avoid differential settlement of the pipeline. Special care should be taken not to damage the coating during this procedure. Screenings or sand shall be installed around the pipeline (minimum one foot (1') thickness around the pipeline). The remainder of the excavation shall be backfilled with suitable excavated material or select fill, as appropriate.
- Temporary construction items such as swales, silt fencing, gates, signs, etc. must meet SPLP's clearance requirements.
- Trenching and boring activities must be designed in such a way to avoid adversely affecting the integrity of the pipeline and the stability of the pipeline trench.
- The contractor cannot place any cranes within the SPLP right-of-way, unless prior approval from an authorized SPLP representative is given.
- Construction crossings must be indicated on the drawings and must meet minimum cover requirements. The contractor may be required to provide additional cover to protect the pipeline. The duration of construction activities. The contractor should supply equipment information such as vehicle weights, contact areas-tracks or tire footprints, prior to commencing construction. Note: Sunoco Pipeline L.P. ("SPLP") is formerly Sun Pipe Line Company. In New Jersey, SPLP operates the Harbor 16 Pipeline from Woodbury to Linden.
- Fill over pipeline to be placed via track dozer (no pangs).
- Pavement shall be placed by track sloopform paving machine. The sloopform machine planned to be used has a weight of 100,000 lbs distributed over four (4) tracks with dimensions of 16" wide by 84" ground contact. If machinery changes, the same information for the replacement machine must be provided to SPLP prior to use.
- Construction traffic will not be permitted over unprotected pipelines. Road plates (3/4" thick minimum) must be placed over the pipelines in a manner that distributes the loading over the entire plate, two placed side by side (minimum for each crossing, enabling the vehicle to cross with one set of wheels on each plate.
- No vibratory rollers will be permitted within 10' of either side of the pipelines; compaction is to be done by hand operated machinery only.

**WATER MAIN NOTES:**

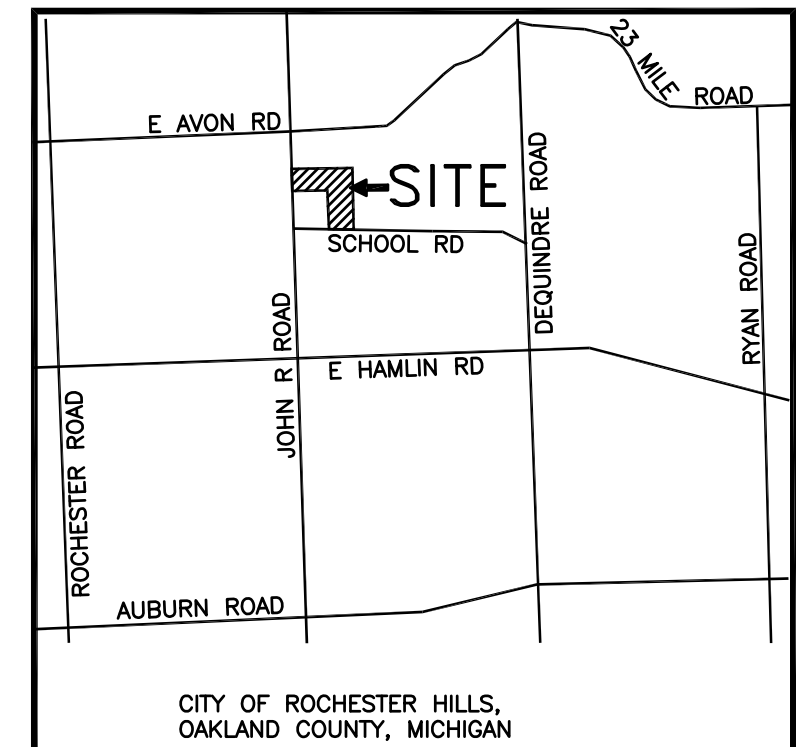
- All water mains shall be installed with a minimum cover of 6 ft.
- All necessary tees, crosses and bends required to construct the proposed water mains are to be incidental to the job.
- Proposed hydrant elevations shown are finished ground elevations.
- All gate valves shall be City of Rochester Hills standard.
- Maintain 1.50 ft. vertical clearance between water main and sewers.
- Where water mains must dip to pass under a storm sewer, the sections which are deeper than normal shall be kept to a minimum length by the use of vertical 11-1/4" bends properly anchored.
- See water main details for additional notes.
- Do not break joints in pipe for deflections, use fitting necessary.
- Fire hydrants are to be located 6 ft. from back of curb and 3 feet from the edge of sidewalk.
- Watermains shall be cement-lined (double thickness), ductile iron pipe, class 54. Polywrap may be required depending on subsurface soil conditions encountered onsite.
- Gate valves shall be resilient wedge or seated type gate valves (E.I.W. or U.S. Pipe), left hand open.
- Restrained joints shall be used at all vertical bends. The number of restrained joints required shall be determined by the manufacturer, subject to approval by the city engineer.

**STORM SEWER NOTES:**

- All workmanship and materials shall be in accordance with the current standards and specifications of the City of Rochester Hills.
- All storm sewer to be placed on Class "B" bedding or better.
- All drainage structures to be Michigan State Highway Department Standards. Standard Manhole - MDOT 1A or EJJW 1040A or approved equal.
  - \* Catch Basin - MDOT 1004 or EJJW 7066 or approved equal.
  - \* Inlet - MDOT 904 or MDOT 12040 or EJJW 7066 or approved equal. Rear Yard Catch Basin - MDOT 9E or EJJW 1040-0 or approved equal. Standard Manhole w/Catch Basin Cover - MDOT 1E or EJJW 5105 or approved equal.
- Edge drain, where shown on detail, shall be 6" perforated CMP, Armo A-2000 PVC or an approved equal.
- Storm sewer pipe joints to be Modified Groove Tongue Rubber Joints (Premium Rubber Joints).
- Additional edge drains may be required other than those shown on the detail. This will be determined during construction by the City of Rochester Hills engineer.
- Exact grades and depths of sewers and water main are to be checked closely with the field engineers prior to installation.
- It is the responsibility of the storm sewer contractor to provide all tees and leads in storm sewer or in storm sewer structures where service lead for sump pump is not serviced by drain tile.
- It is the responsibility of the front/rear yard drainage contractor to install tees and leads into drain tile.
- Ends of leads shall be 3 ft. below finish ground elevations.
- All catch basins, pavement catch basins and manholes with catch basin covers are to have 2 ft. sumps.
- See storm sewer detail sheet for additional notes.
- Use EJJW 7065 casting for curb structures in mountable curb.
- Lump sum price for the proposed water basin shall include all excavation, grading, seeding and mulching, erosion mat and access road.
- Point up all 30" and larger concrete storm pipe.
- Castings which are within Type B-2 Curb will be MDOT Type J (EJJW 7085 or equal).
- All drainage structures are 4' in dia. unless otherwise noted.

**PAVING NOTES:**

- All workmanship and materials shall be in accordance with the current standards and specifications of the City of Rochester Hills.
- Pavement throughout subdivision to be 24" back to back.
- Pavement to be one course plain 8" uniform concrete with a 4" mountable curb placed on 4" 21AA gravel subgrade unless otherwise noted. Paving alternate for all locations shall be 9" deep strength asphalt with 4" mountable curb and gutter section.
- All top of curb elevations as shown on the plan and profile are calculated for a 4" mountable curb unless otherwise noted.
- The Oakland County Road Commission and/or the City of Rochester Hills shall furnish and place all permanent street signs with monies paid by developer.
- All muck marl, topsoil, slumps and all other unstable material found within the road right-of-way are to be removed and replaced granular material class III, approved by the engineer, acceptable to the City of Rochester Hills, and compacted to 95% modified proctor density.
- It shall be the responsibility of the paving contractor to adjust the top of all existing structures (sewer manholes, catch basins, gate wells, etc., but not including hydrants) within the street right-of-way within 10 ft. adjacent to the street right-of-way to the final grade as required by the City of Rochester Hills. All such adjustments (to a maximum of 6") are to be incidental to the job.
- All areas from back of curb to right-of-way limits are to be graded, topsoil applied, and seeded and mulched or sodded.
- Stabilization of existing sanitary sewer and storm sewer trenches must be accomplished prior to paving.
- The proprietor shall insure that open discharge of sump pumps to the road right-of-way does not occur.
- Expansion joints shall be placed at ends of all curbed roads. Plans of weakness joints to be sawcut and sealed at 15 ft. intervals (No dummy or paper joints). Expansion joints to be placed at 500 ft. intervals.
- Sawcut traverse joints directly over storm sewer crossing between inlet and catch basins.
- Install curb cuts for sidewalk ramps with the street paving.
- Detectable warning strips are required on all handicap access ramps.



CITY FILE # 04-037.2

	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	<b>HARVARD PLACE</b> PART OF THE NW, 1/4 OF SEC 24, T3N., R11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN	
<b>UTILITY PLAN</b>		
CLIENT: MJC HARVARD PLACE LLC 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203		SCALE: AS NOTED DATE: 01-21-13 DRAWN BY: AJAY LDCS # 11-002 DRAWING NO. C9

REV. 02-25-13 PER CITY DEPARTMENTS

3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
1-800-482-7171

**BENCH MARKS: (U.S. & G.S. DATUM)**

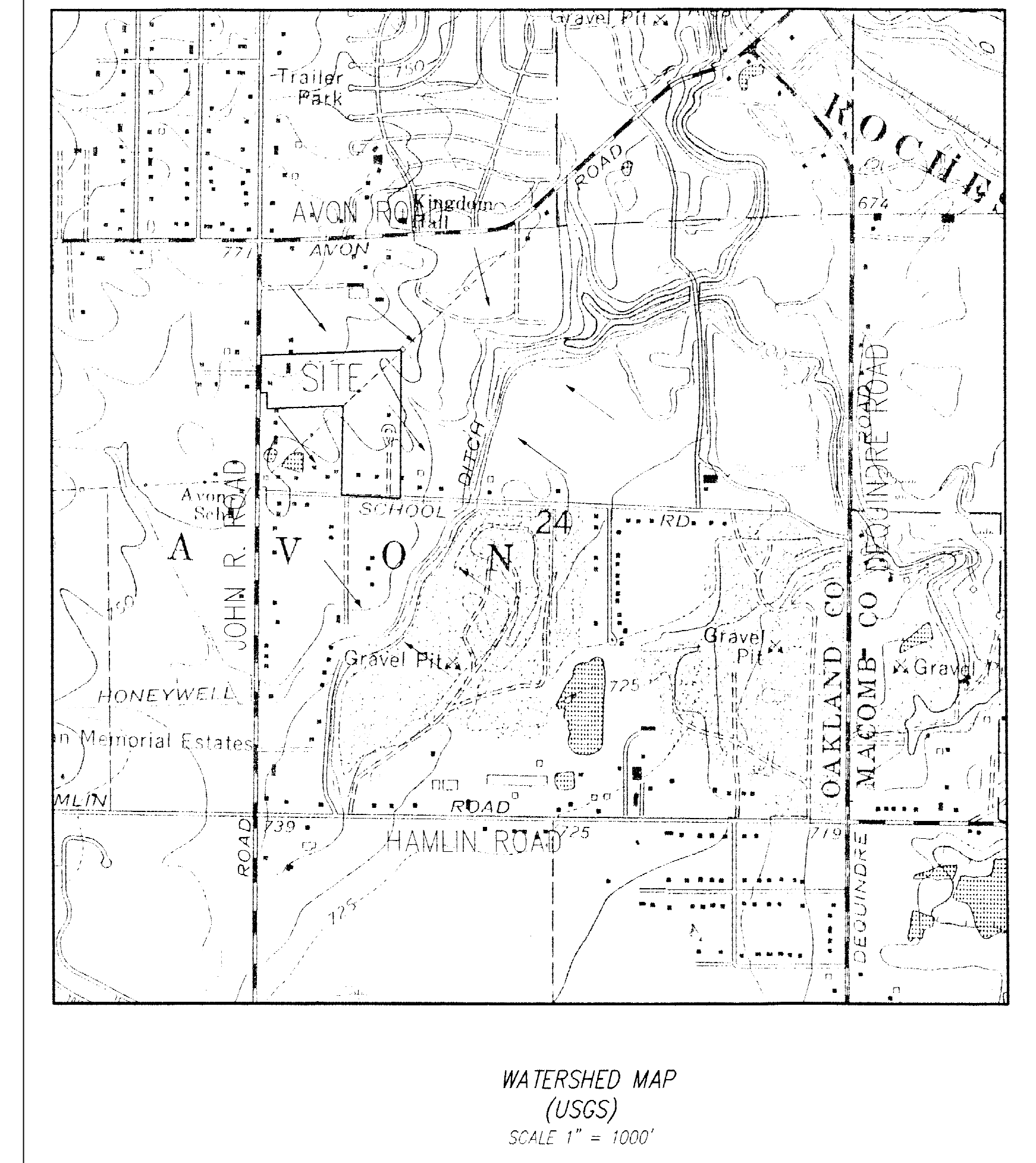
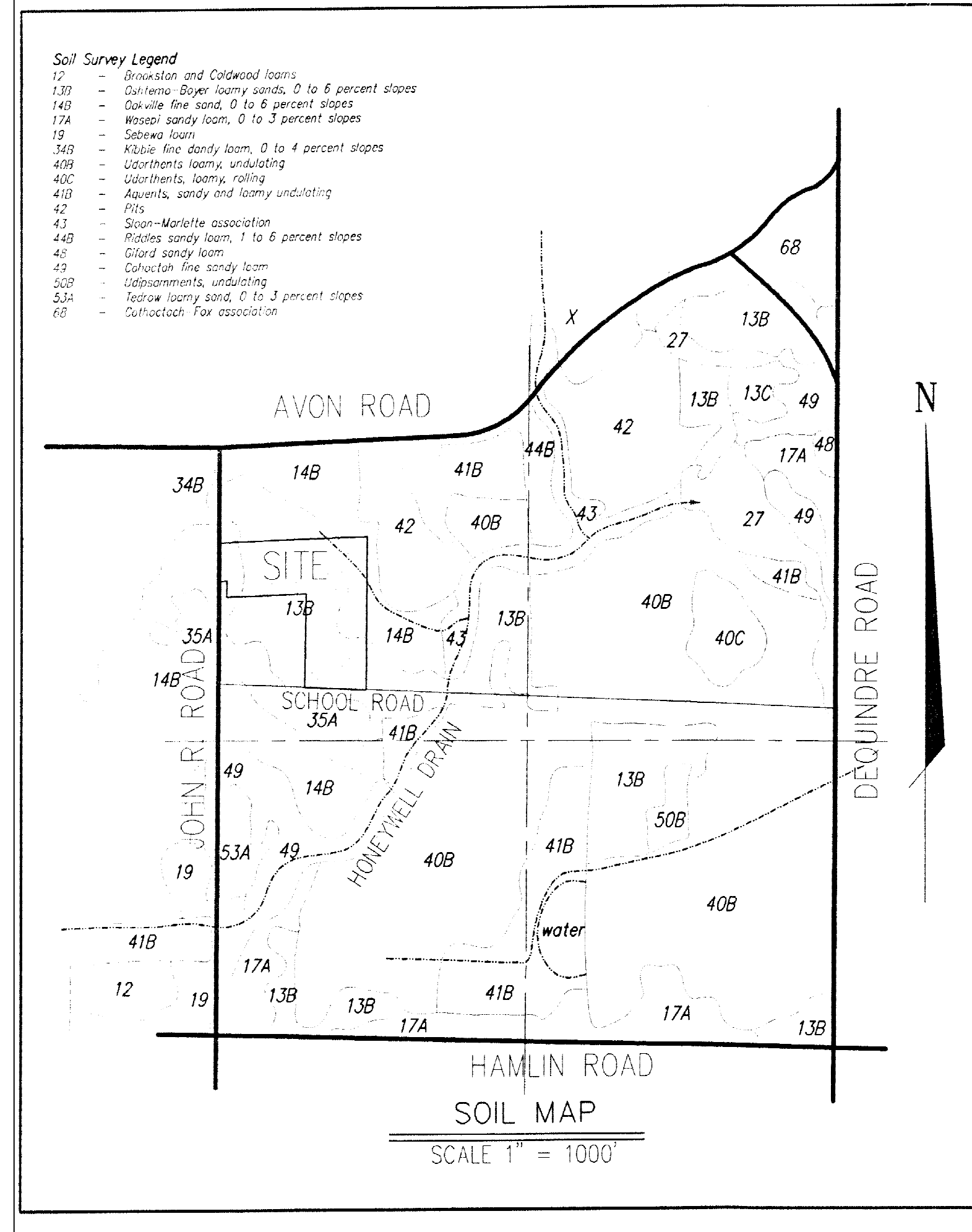
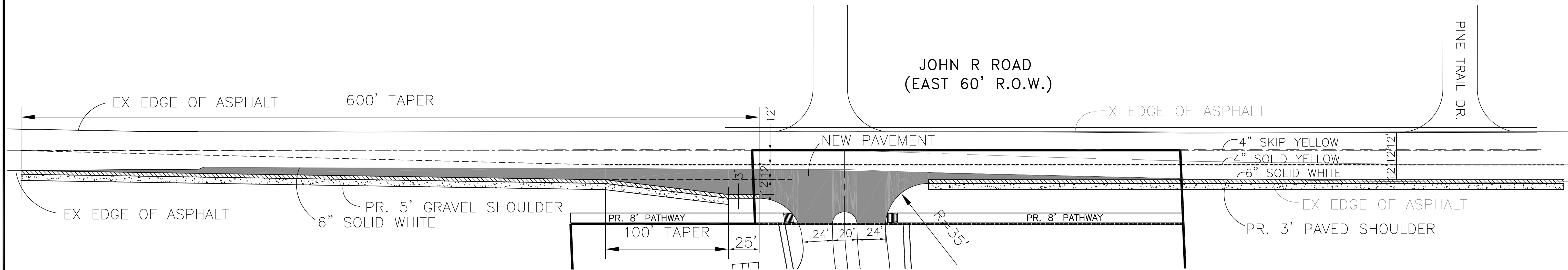
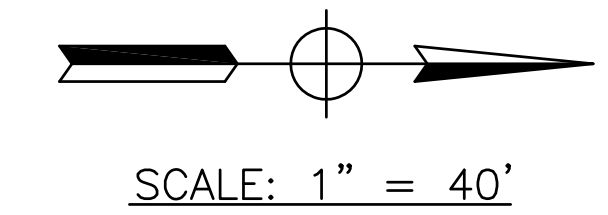
- ARROW ON FIRE HYDRANT LOCATED WEST OF JOHN R ROAD AND ± 180' NORTH OF SOUTH PROPERTY LINE  
ELEVATION: 760.86
- ARROW ON FIRE HYDRANT LOCATED NORTH OF SCHOOL ROAD AND ± 230' EAST OF WEST PROPERTY LINE  
ELEVATION: 743.98







- NOTES:**
- GRIND AND REMOVE OLD PAVEMENT MARKINGS FOR JOHN R ROAD PRIOR TO PLACEMENT OF NEW THERMA-PLASTIC PAVEMENT MARKING. NEW PAVEMENT MARKINGS SHALL BE HOT APPLIED THERMOPLASTICS IN ACCORDANCE WITH CITY OF ROCHESTER HILLS STANDARDS & SPECIFICATIONS.
  - A CORRUGATED BITUMINOUS DIVIDER WILL BE PROVIDED FOR THE PROPOSED TAPER FROM A TWO LANE STRIPED ROAD TO A THREE LANE STRIPED ROAD.



	<b>LAND DEVELOPMENT CONSULTING SERVICES, INC.</b> 46600 ROMEO PLANK, SUITE 2 MACOMB, MI 48044	PHONE: (586)868-2350 FAX: (586)868-2351
	<b>HARVARD PLACE</b> PART OF THE NW 1/4 OF SECTION 24, T.3N., R.11E., ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN,	
<b>STRIPING DETAIL, SOIL MAP &amp; WATERSHED MAP</b>		SCALE: AS SHOWN DATE: 01-21-13 DRAWN BY: SHAMIK LDCS # 11-002
CLIENT: HARVARD PLACE, L.L.C. 46600 ROMEO PLANK, SUITE 5, MACOMB, MI 48044 PHONE: 586-263-1203		DRAWING NO. C11