

DESCRIPTION

PART OF THE SW1/4 OF SECTION 28, T3N, R11E, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:
 COMMENCING AT THE SW CORNER OF SECTION 28; THENCE N89°52'00"E 2121.20 FEET ALONG THE SOUTH LINE OF SECTION 28, CENTERLINE OF AUBURN ROAD (33 FEET HALF WIDTH) AND FOR A POINT OF BEGINNING; THENCE CONTINUING N89°52'00"E 314.22 FEET ALONG THE SOUTH LINE OF SECTION 28 AND CENTERLINE OF AUBURN ROAD (33 FEET HALF WIDTH); THENCE N01°10'52"W 831.96 FEET TO THE SOUTH LINE OF "NORTHFIELD INDUSTRIAL PARK NO. 2", A PART OF THE SW1/4 OF SECTION 28, T3N, R11E, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, RECORDED IN LIBER 183 OF PLATS, PAGES 8-10, OAKLAND COUNTY RECORDS; THENCE S89°51'54"W 314.40 FEET ALONG THE SOUTH LINE OF "NORTHFIELD INDUSTRIAL PARK NO. 2"; THENCE S01°11'37"E 831.96 FEET TO THE SOUTH LINE OF SECTION 28, CENTERLINE OF AUBURN ROAD (33 FEET HALF WIDTH) AND TO THE POINT OF BEGINNING. CONTAINING 261449 SQUARE FEET OR 6.0020 ACRES, MORE OR LESS.

SUBJECT TO EXISTING AUBURN ROAD RIGHT OF WAY OVER THE SOUTH 33.00 FEET OF THE ABOVE DESCRIBED PROPERTY.
 ALSO KNOWN AS 1548 AUBURN ROAD OR SIDWELL NO. 15-28-300-033.
 SUBJECT TO RESTRICTIONS, RESERVATIONS AND EASEMENTS, IF ANY.

FIRE DEPARTMENT NOTES

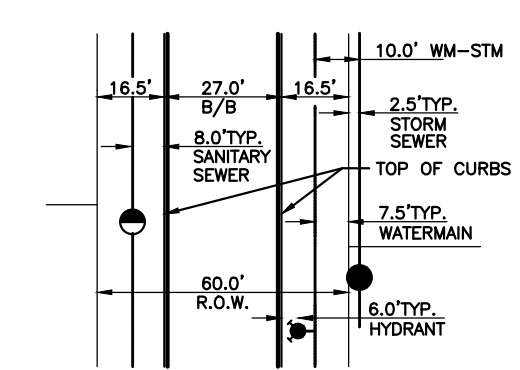
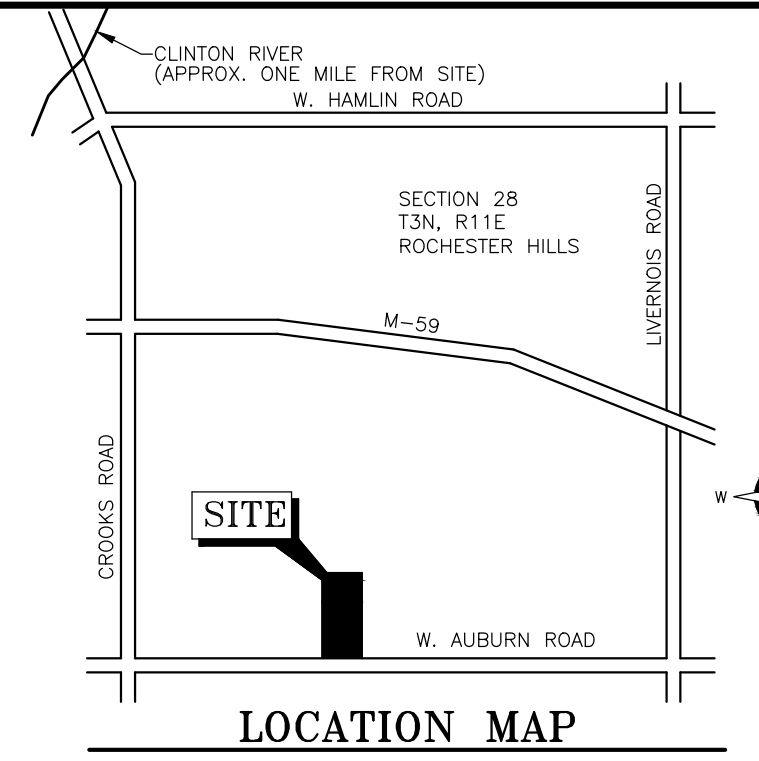
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14
- OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC 307.6.2 AND 307.6.2.3
- THE CITY HAS BEEN CONTACTED REGARDING THE PROVIDING DOCUMENTATION THAT THE WATER FLOW OF 1000 GPM IS AVAILABLE. THE FIRE DEPARTMENT WILL RECEIVE THIS INFORMATION PRIOR TO FINAL SITE PLAN APPROVAL.
- AUTOMATIC SPRINKLER SYSTEM WILL BE AN OPTION THE BUILDER WILL OFFER TO THE FUTURE HOMEOWNERS.

DEVELOPMENT NOTES

- PROPOSED GRADES WILL MATCH EXISTING ELEVATIONS AT PROPERTY LINES.
- FRONT OF HOUSE:
 UNIT ROAD
 1* CORIANDER DRIVE
 10 CORIANDER DRIVE
 * THERE SHALL BE NO ACCESS TO AUBURN ROAD FROM UNIT
- 2 PARKING SPACES ARE PROVIDED IN EACH GARAGE, ALONG WITH 2 SPACES IN EACH DRIVEWAY. 4 SPACES x 14 UNITS = 56 TOTAL PARKING SPACES PROVIDED.
- AUBURN ROAD IS M.D.O.T. JURISDICTION THEREFORE ACCESS PERMIT NEEDS TO BE SECURED FROM M.D.O.T.
- NO TRANSFORMERS CAN BE SHOWN AT THIS TIME.
- ALL PROPOSED SIGNS ARE REQUIRED TO MEET THE STANDARDS OF THE ORDINANCE AND WILL BE REQUIRED TO OBTAIN A SIGN PERMIT FROM THE CITY OF ROCHESTER HILLS BUILDING OFFICE.
- STREET TREES WILL BE PROVIDED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS REGULATIONS.
- ALL PROPOSED EASEMENT AGREEMENTS SHALL BE REVIEWED AND APPROVED BY THE CITY PRIOR TO FINISH SITE PLAN CONSIDERATION.
- THE INTENDED USE OF THE PROPOSED DEVELOPMENT IS FOR SINGLE-FAMILY RESIDENCES (TYPE 5B).
- OPEN SPACE AREAS ARE TO REMAIN UNDEVELOPED AND MAY BE USED ONLY FOR PASSIVE RECREATION.
- THE PROPERTY HAS BEEN STAKED AT EACH CORNER WITH A CLEARLY VISIBLE MARKER.
- APPROXIMATE SQUARE FOOTAGE OF HOMES IS 2,000-3,000 SQ. FT.
- OPEN CUTTING OF AUBURN ROAD IS NOT PERMITTED.
- APPLICANT WILL RECEIVE APPROVAL FROM CITY FOR STREET NAMES.

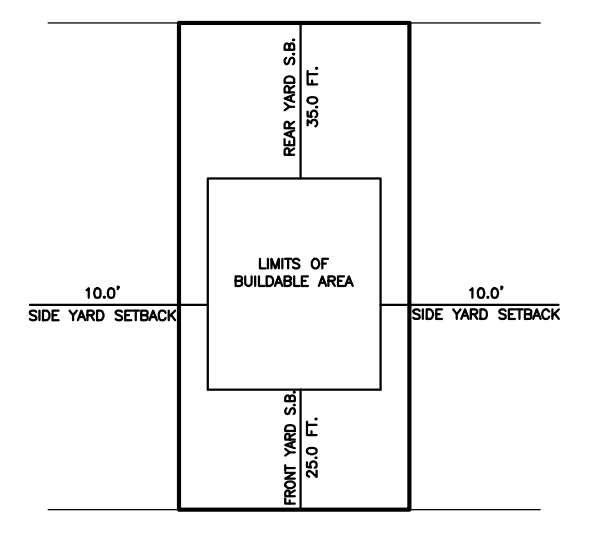
SITE DATA

ZONED	R-4
TOTAL SITE AREA	6.0020 ACRES
REQUIRED UNIT SIZE	9,600 SF, 80 FT. WIDE
DENSITY CALCULATIONS	
PROPOSED UNITS	14 UNITS
PERMITTED DENSITY (3.4 UNITS/ACRE)	20 UNITS
MAXIMUM HEIGHT = 2.5 STORIES / 30 FEET	
MAXIMUM LOT COVERAGE = 30%	
UNIT SIZES PROVIDED	
AVERAGE AREA	10,305 S.F.
MAX. AREA	12,719.00 S.F. (UNIT 1)
MIN. AREA	9,528.00 S.F. (UNIT 15)
LOT AVERAGING	
MINIMUM UNIT AREA PERMITTED	= 8,640 S.F.
MINIMUM UNIT WIDTH (INTERIOR)	= 72 FEET
(CORNER)	= 92 FEET
UNIT SETBACKS	
FRONT	25.0'
SIDE MIN.	10.0'
TOTAL SIDE	20.0'
REAR	35.0'
OPEN SPACE PROVIDED	0.60 ACRES (26,018 SQ. FT.)



LEGEND

- SANITARY MANHOLE
- SANITARY SEWER
- HYDRANT
- GATE VALVE & WELL
- WATER MAIN
- STORM CATCH BASIN (PAVT.)
- STORM CATCH BASIN (FIELD)
- STORM MANHOLE
- STORM SEWER
- ROAD SIGN
- UNIT AREA (S.F.)



PROPRIETOR

GRANDVIEW OF ROCHESTER HILLS, LLC
 2465 23 MILE ROAD
 SHELBY TOWNSHIP, MI, 48316
 CONTACT: VITO MUNACO
 PHONE: (586) 604-8088

BENCH MARK (U.S.G.S. DATUM)

BENCH MARK #1
 ARROW ON HYDRANT LOCATED 55'± WEST OF WEST PROPERTY LINE OF "NORTHBROOKE SUBDIVISION" ON SOUTH SIDE OF AUBURN ROAD. ELEV. = 816.25

BENCH MARK #2
 ARROW ON HYDRANT LOCATED 135'± WEST OF CONE AVENUE ON SOUTH SIDE OF AUBURN ROAD. ELEV. = 819.19

BENCH MARK #3
 PK. NAIL IN NW SIDE OF TREE LOCATED 870'± SOUTH OF AUBURN ROAD ON WEST SIDE OF CONE AVENUE. ELEV. = 826.10

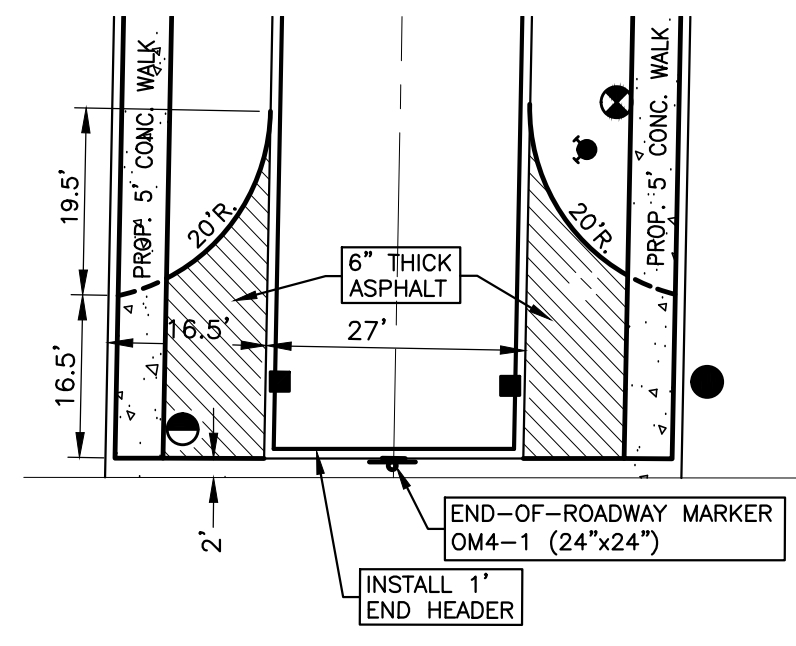
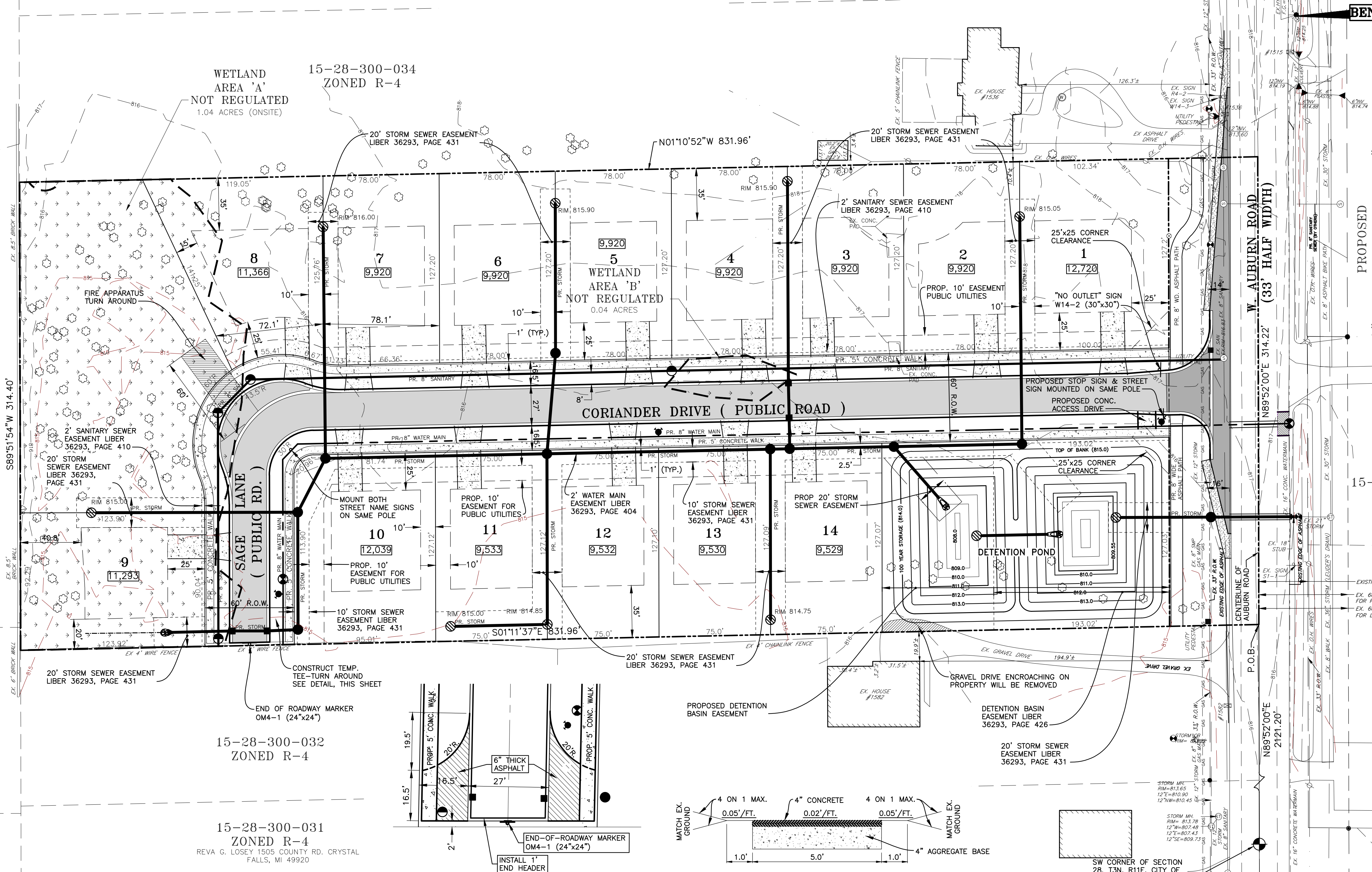
BENCH MARK #4
 ARROW ON HYDRANT LOCATED 40'± WEST OF WEST PROPERTY LINE OF "NORTHBROOKE SUBDIVISION" ON GILSAM ROAD. ELEV. = 822.30

Civil Engineers
 Surveyors
 Architects

ANDERSON, ECKSTEIN AND WESTRICK, INC.
 51301 Schoenherr Road
 Shelby Township
 Michigan 48315
 Phone 586 726 1234
 Fax 586 726 8780
 www.aewinc.com

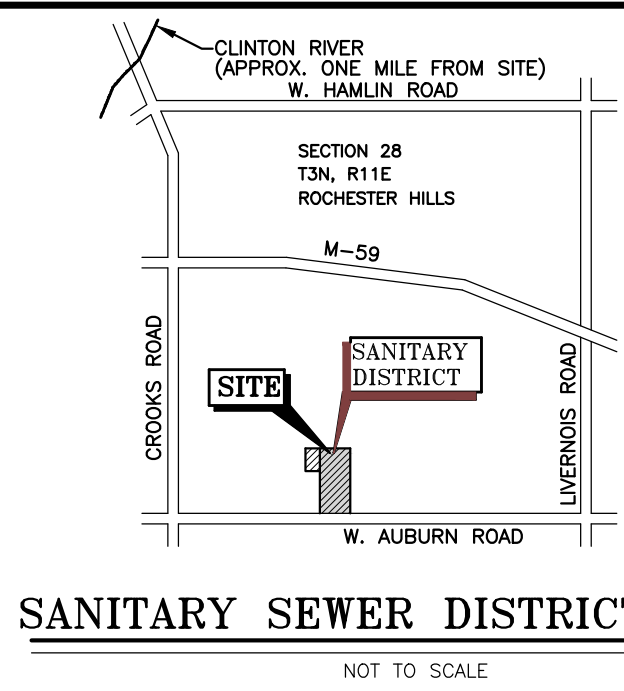
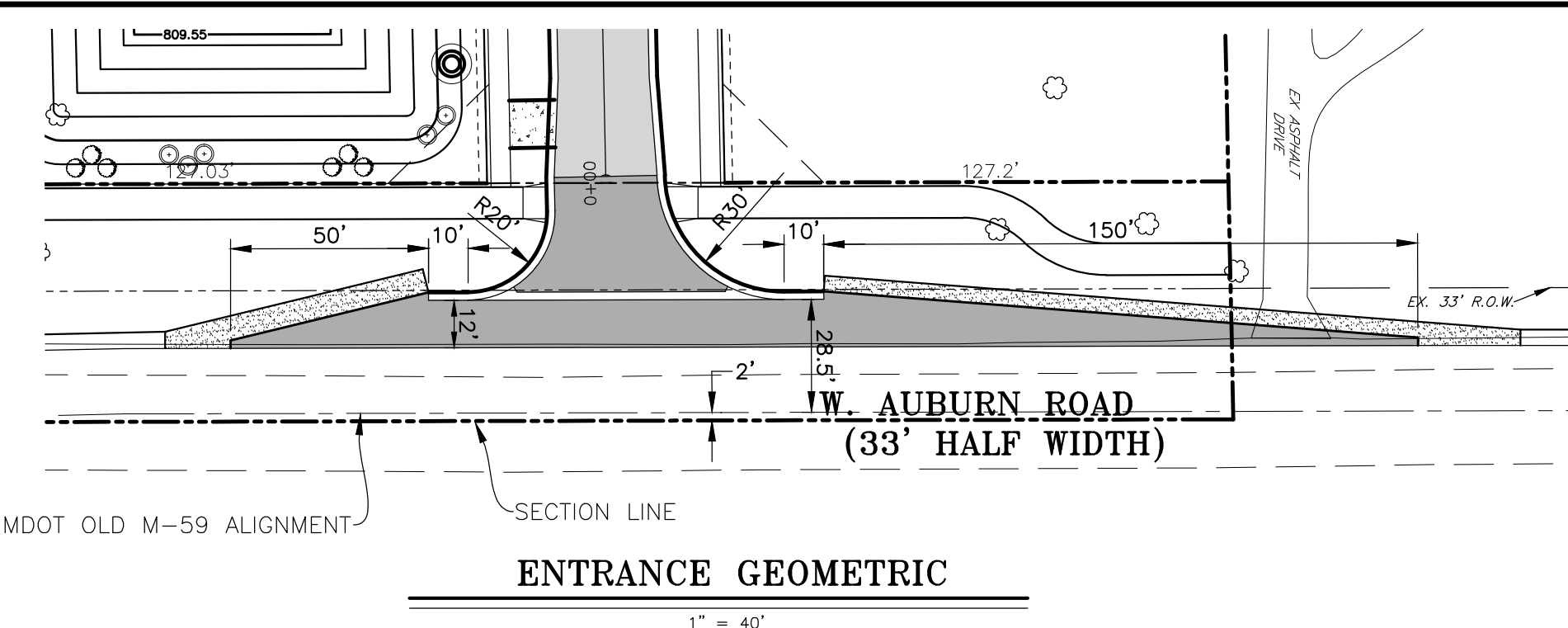
4-3-15	CITY REVIEW
DATE	SUBMITTALS/REVISIONS
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 811 (TOLL FREE)	
PROJECT NAME:	
GRANDVIEW SITE CONDOMINIUM	
SHEET TITLE:	
SITE PLAN	
CLIENT:	
GRANDVIEW OF ROCHESTER, LLC	
<input type="checkbox"/> PRELIMINARY <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> RECORD DRAWN BY: JLA CHECKED BY: GBW DATE: 4-2-13 SCALE: 1" = 40' 	
UTILITY INFORMATION, AS SHOWN, INDICATES APPROXIMATE LOCATIONS AND DEPTHS OF EXISTING FACILITIES ONLY. AS DISCLOSED BY RECORDS PROVIDED TO THIS FIRM FROM THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF.	
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DURING CONSTRUCTION, THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING NEAR ANY AND ALL OVERHEAD AND / OR BURIED UTILITIES.	
CALL MISS DIG	
PROJECT NO. 1294-0001	
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SHEET NO.	

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NOT TO BE USED AS CONSTRUCTION PLANS

CITY FILE # 02-029



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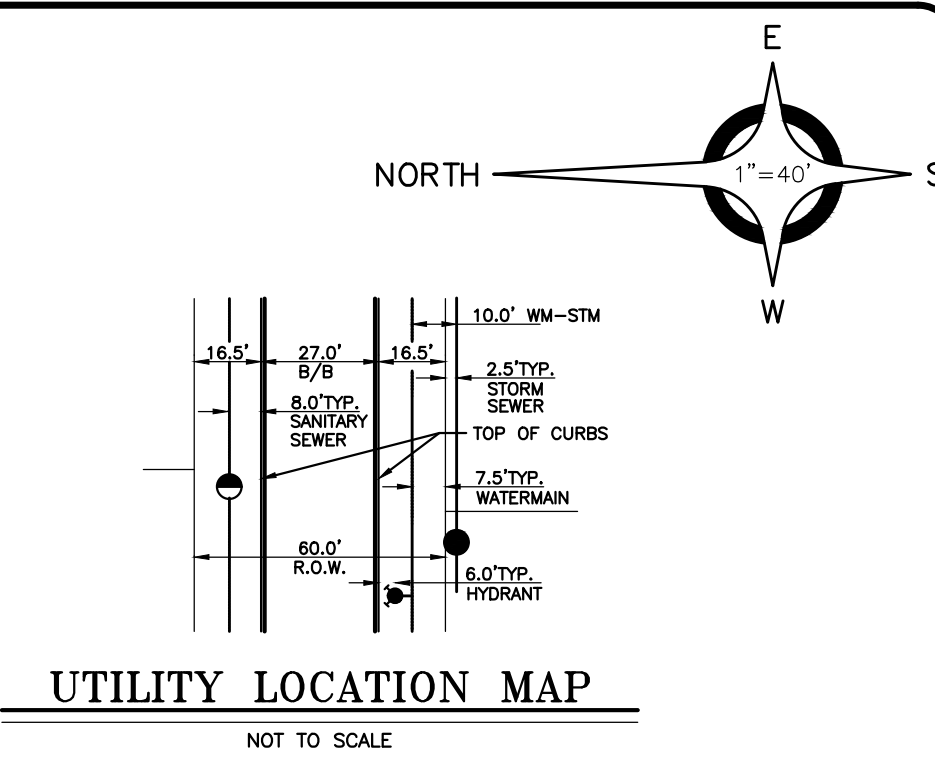
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 - ROAD SIGN



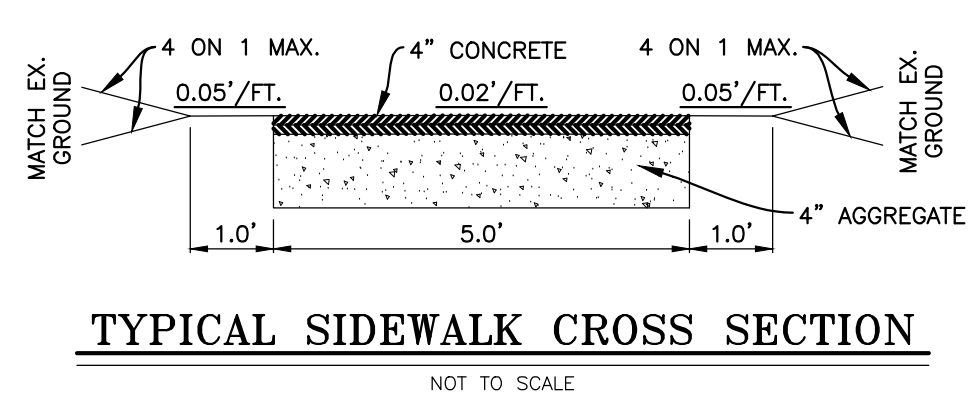
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SANITARY SEWER BASIS OF DESIGN

NO. OF UNITS = 14
POPULATION = 15 LOTS X 3.5 PEOPLE = 52.5
DESIGN FLOW = 52.5 PEOPLE X 400 GPCPD = 21,000 GPD
86,400 SEC/DAY X 7.48 GAL/C.F. = 0.032 CFS

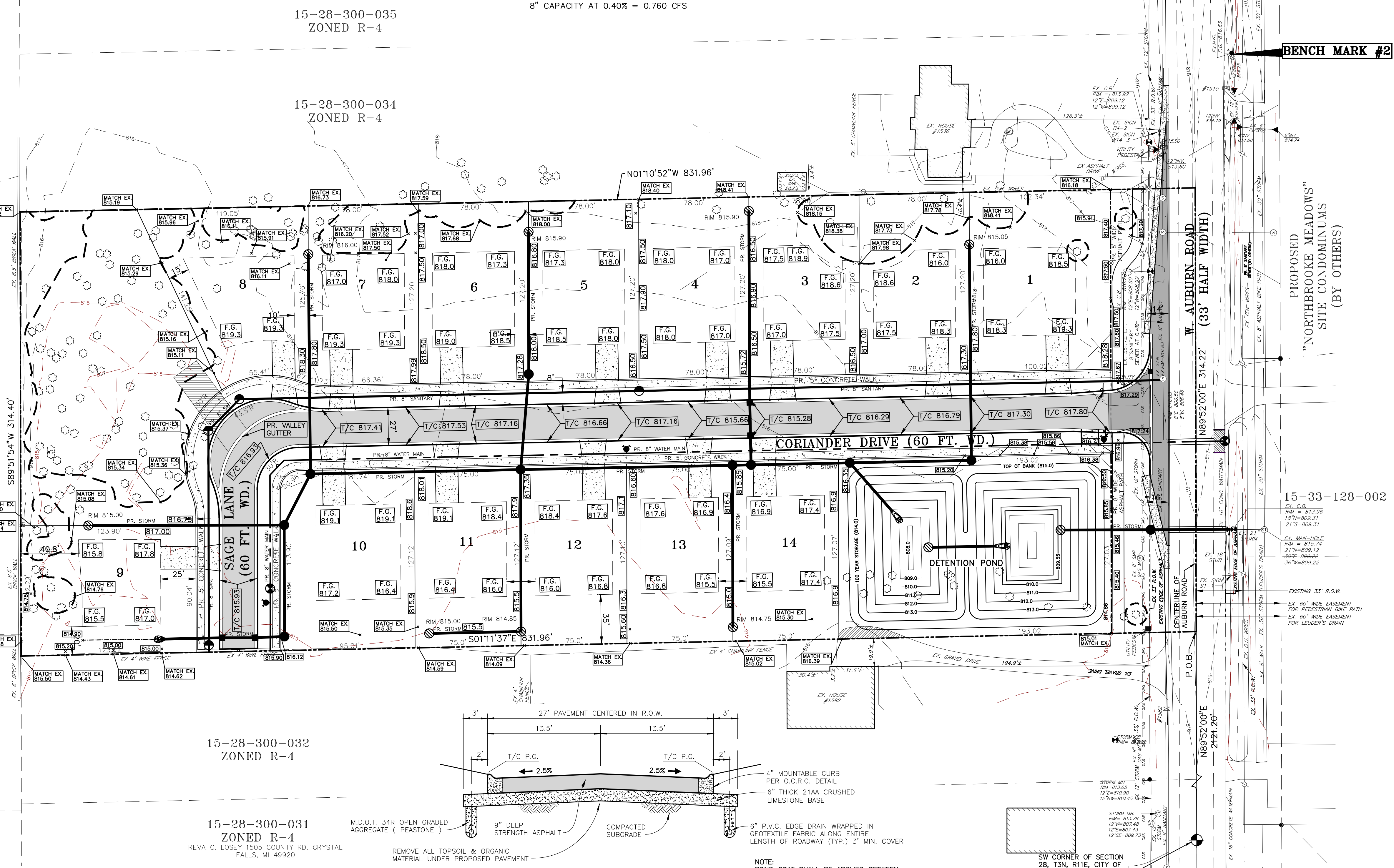
FUTURE SERVICE AREA
NO. OF UNITS = 6
POPULATION = 6 UNITS X 3.5 PEOPLE = 21.0
DESIGN FLOW = 21.0 PEOPLE X 400 GPCPD = 8,400 GPD
86,400 SEC/DAY X 7.48 GAL/C.F. = 0.013 CFS

ULTIMATE FLOW = 0.032 CFS + 0.013 CFS = 0.045 CFS
8" CAPACITY AT 0.40% = 0.760 CFS

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DETENTION BASIN CALCULATION (MACOMB COUNTY PUBLIC WORKS)

Project Name: Grandview Condominium
Project No: 1294-0001

Q ₁₀ allowable	A ₁ area	A ₂ area
C ₁ Runoff Coefficient	T ₁ Storage Time	T ₂ Storage Time
V ₁ = Storage Volume	V ₂ = Total Volume of Storage Required	

1. Recharge Volume

Recharge Volume = 1.815(A₁(C₁ - C₂)) = 4,609.95 cf

2. Fore Bay Volume - 1 Year Storm Event

Q₁ = 0.2 cfs/acre
Q₂ = 0.44 cfs/acre
T₁ = 25 + (2700/Q₁) = 53.45 minutes
T₂ = 25 + (2700/Q₂) = 53.45 minutes
V₁ = (4.320)(T₁)(Q₁) = 2055.6 cubic feet
V₂ = (4.320)(T₂)(Q₂) = 5094.1 cf

3. Channel Protection Volume (Cpv)

Bank Full Flood Volume from a 1-Yr. Storm released over 24 hours
Cpv = 6.788(A₁(C₁ - C₂)) = 17,240.98 cf

3. Flood Protection (CFF)

A. Bank Full Flood Protection - 25-year storm volume is not required since the Site discharges into County Drain based on our discussion with City of Rochester Hills

B. Extreme Flooding Protection - 100-year storm volume
Q₁ = 0.2 cfs/acre
Q₂ = 0.44 cfs/acre
T₁ = 25 + (10312.50/Q₁) = 129.34 minutes
T₂ = 25 + (10312.50/Q₂) = 129.34 minutes
V₁ = (16.500)(T₁)(40)(Q₁) = 11558.3 cf
V₂ = (16.500)(T₂)(40)(Q₂) = 2937.2 cf

Outlet Design

Riser Orifice Sizing per Cpw (24 hour release) - use higher volume
Q₁ = 0.2 cfs/acre
Q₂ = 0.44 cfs/acre
Z₁ = 814.00
Z₂ = 810.00
h₁ = 2.67 ft
h₂ = 15.28 ft
A₁ = 0.025 ft²
A₂ = 0.025 ft²
d = 4.41 in
d = 4.41 in
T = 20.4 hours

Actual Release Rate & Time

Q₁ = 0.62 x A₁ x (2 + 0.5 x h₁)^{0.5} + 0.1
T₁ = (V₁) / (Q₁ x 3600)
T₂ = 9.1 hours

Volume Provided

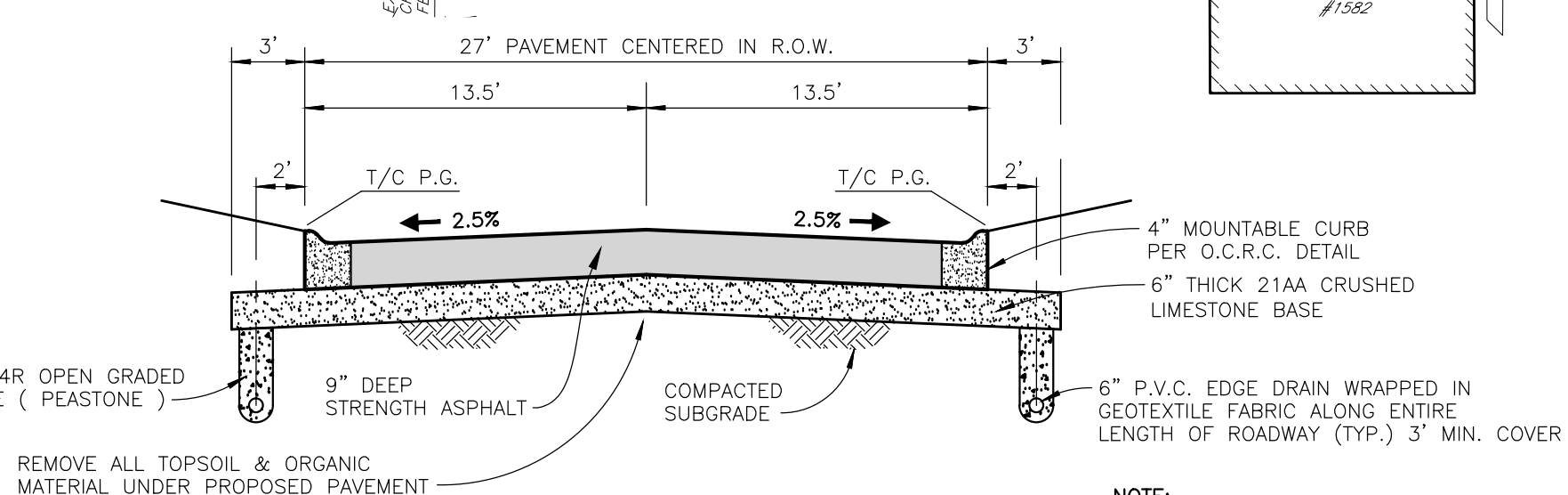
ELEVATION	AREA (SQ. FT.)	DEPTH (FT.)	VOLUME (CU. YD.)	VOLUME (CU. YD.)
814	1714.8	1.00	6718.36	248.83
813	5768.97	1.00	4891.17	181.15
812	4063.07	1.00	3327.01	123.22
811	2641.74	1.00	2486.86	92.11
810	2335.13	1.00	2486.86	92.11

Provided Detention Basin Volume = 17423.4

Detention Basin

ELEVATION	AREA (SQ. FT.)	DEPTH (FT.)	VOLUME (CU. YD.)	VOLUME (CU. YD.)
814	9262.73	1.00	8176.59	302.84
813	7136.58	1.00	6169.39	228.50
812	5250.36	1.00	4425.33	163.90
811	3648.73	1.00	2967.85	109.91
810	2335.13	0.45	936.72	34.69
809.55	1837.98	0.45	735.24	27.11

Total volume of storage
Forebay + Detention volumes = 4009.03



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SOILS MAP

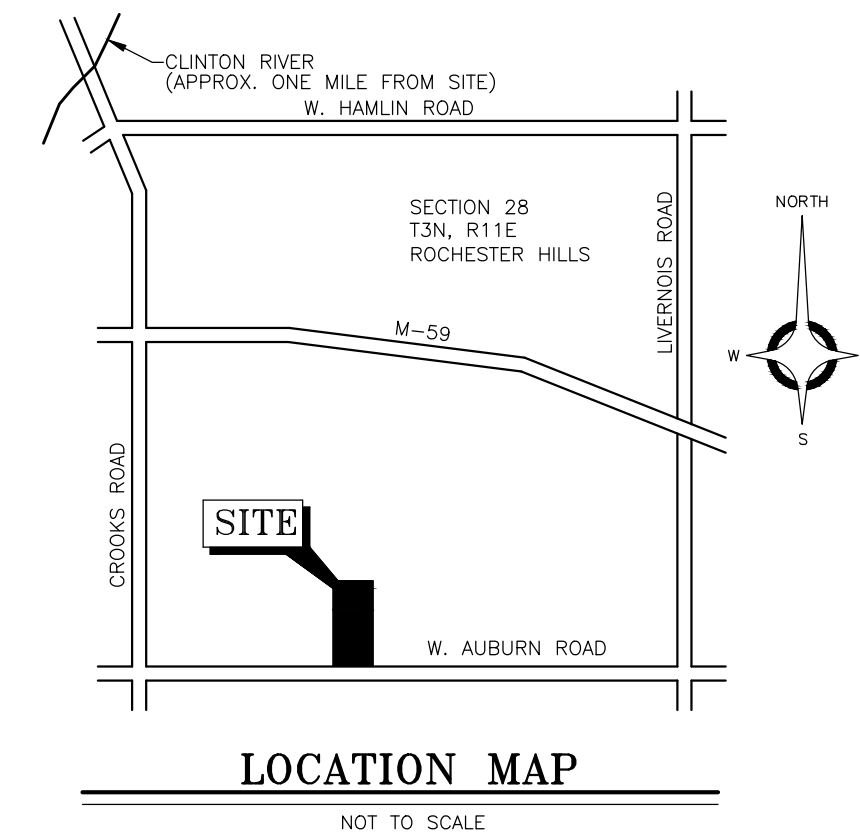
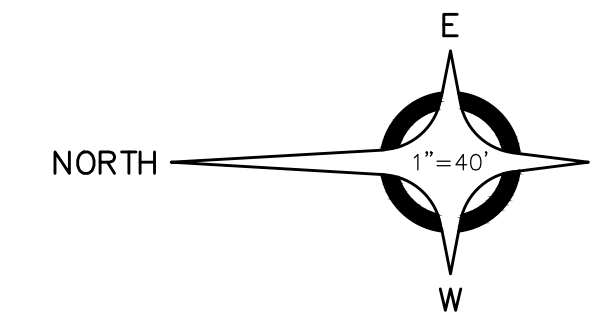
NOT TO SCALE

SOIL TYPES

- 11B Capac Sandy Loam, 0 to 4 percent slopes
- 12 Brookston and Colwood Loams
- 19 Sebewa Loam

LEGEND

●	IRON FOUND	⊗	IRON SET
○	NAIL FOUND	⊗	NAIL SET
⊙	MONUMENT FOUND	⊗	SEC. CORNER FOUND
—	WATERMAIN	—	WATERMAIN
—	SAWARY SEWER	—	SANITARY SEWER
—	STORM SEWER	—	STORM SEWER
—	FENCELINE	—	FENCE-LINE
—	OVERHEAD WIRES	—	OVERHEAD WIRES
—	680	—	CONTOUR
—	ROAD INLET	—	UTILITY POLE
—	ROAD CATCH BASIN	—	WELL
—	REAR-YARD INLET	—	SIGN
—	REAR-YARD C.B.	—	MAILBOX
—	END-SECTION	—	TREES
▨	EXISTING ASPHALT PAVEMENT	▨	PROPOSED ASPHALT PAVEMENT
▨	EXISTING CONCRETE PAVEMENT	▨	PROPOSED CONCRETE PAVEMENT
▨	EXISTING GRAVEL	▨	PROPOSED GRAVEL



Civil Engineers
Surveyors
Architects

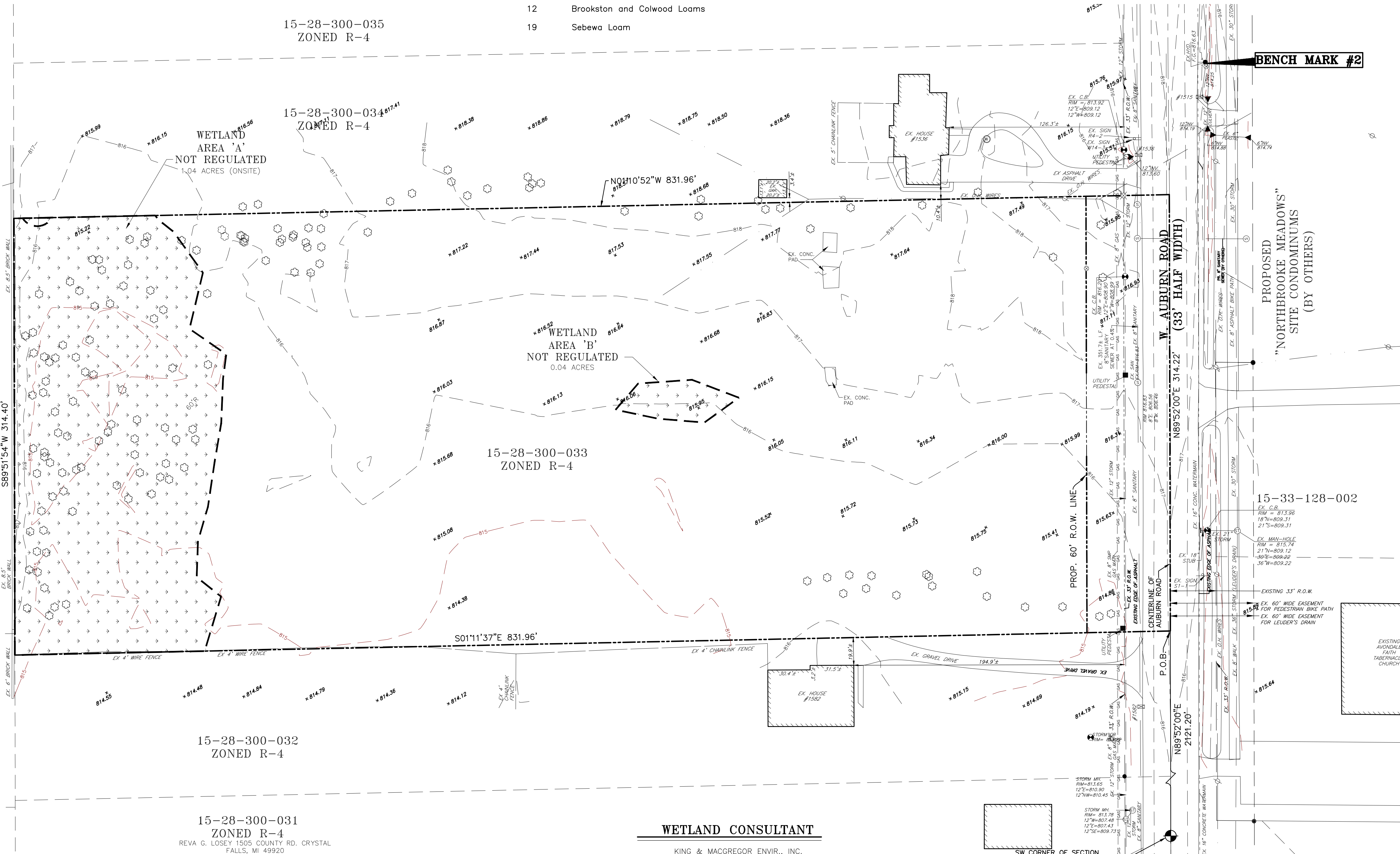
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36
NORTHFIELD INDUSTRIAL PARK NO.2 LIBER 183 PAGES 8-10
ZONED I-1 LIGHT INDUSTRIAL



WETLAND CONSULTANT

KING & MACGREGOR ENVIR., INC.
43050 FORD ROAD, SUITE 130
CANTON, MICHIGAN 48187
CONTACT: WOODY HELD
PHONE: (734) 354-0594
FAX: (734) 354-0593

DATE	SUBMITTALS/REVISIONS

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
811
(TOLL FREE)

**GRANDVIEW SITE
CONDOMINIUM**

**TOPOGRAPHICAL
AND WETLAND
SURVEY**

CLIENT:
GRANDVIEW OF ROCHESTER, LLC

PRELIMINARY
 CONSTRUCTION
 RECORD
 DRAWN BY: CHECKED BY: DATE:
 JLA GBW 4-2-13
 SCALE:
 1" = 40'
 0 20 40 80

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CALL MISS DIG

PROJECT NO. **1294-0001**
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 SHEET NO.

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- NOTE:
- NO GRADING OR FILLING IS PERMITTED WITHIN THE DRIPLINE OF TREES DESIGNATED TO BE PRESERVED.
 - GREAT CARE IS TO BE TAKEN TO ENSURE THE PRESERVATION OF TREE #2310 (LOCATED AT THE REAR OF LOT 2). IF ANY GRADING DIGGING OR TRENCHING IS TO OCCUR WITHIN OR NEAR THE DRIPLINE OF THIS TREE THE CITY OF ROCHESTER HILLS' LANDSCAPE ARCHITECT SHALL OBSERVE ANY SUCH WORK. HENCE THE CITY OF ROCHESTER HILLS' LANDSCAPE ARCHITECT SHALL BE NOTIFIED AT LEAST THREE (3) DAYS PRIOR TO THE START OF ANY SUCH WORK.
 - IF A TREE DESIGNATED FOR PRESERVATION IS DAMAGED OR REMOVED AT ANYTIME DURING THE DEVELOPMENT PROCESS THE DEVELOPER IS LIABLE FOR A FINE IN THE SUM OF \$127.00 PER CALIPER INCH FOR EACH TREE DAMAGED.
 - IF ALL THE REQUIRED REPLACEMENT TREES CANNOT BE PLANTED ON SITE, THE BALANCE WILL BE REPLACED BY PLACING A DEPOSIT IN THE TREE FUND AS SPECIFIED IN THE TREE CONSERVATION SECTION 126-399-REPLACEMENT TREE REQUIREMENTS.
 - THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FROM THE CITY OF ROCHESTER HILLS PLANNING DEPARTMENT FOR ANY REVISIONS TO THE LANDSCAPE PLAN, AS APPROVED DURING THE SITE PLAN PROCESS, DUE TO THE ENGINEERING REVIEW OF THE CONSTRUCTION DRAWINGS.

QUANTITY	KEY	SYMBOL	BOTANICAL NAME COMMON NAME	SIZE
6	PA	⊕	PICEA ABIES NORWAY SPRUCE	6' HIGH
9	MF	⊙	MALUS FLORIBUNDA FLOWERING CRABAPPLE	6' HIGH
11	BD	⊙	BUDDLEIA 'BLACK KNIGHT' BUTTERFLY BUSH	3-4' HIGH
12	CS	⊙	CORNUS SERICA 'BAILEY' REDOSIER DOGWOOD	3-4' HIGH

PLANTINGS SUMMARY:

- REPLACEMENT TREE CREDITS REQUIRED = 125 = 63 TREES @ 3" CALIPER (125 CREDITS IS CALCULATED FROM PREVIOUSLY APPROVED SITE PLAN)
- NUMBER OF TREES UNABLE TO BE PLANTED ON-SITE = 63
- 63 REPLACEMENT TREES UNABLE TO PLANT ON-SITE RESULTS IN PAYMENT TO TREE FUND. 63 X \$190/TREE.....\$11,970
- STREET TREES TO BE PLANTED BY CITY AFTER CONSTRUCTION 14 UNITS X 1 TREE/UNIT X \$200/TREE.....\$2,800
- DETENTION POND PLANTING 15 TREES X \$190/TREE + 23 SHRUBS X \$50/SHRUB.....\$4,000

NUMBER OF TREES REQUIRED TO BE SAVED 37% = 143 x 0.37 = 52.91 TREES (53)
 TOTAL NUMBER OF TREES SURVEYED 143
 TOTAL NUMBER OF TREE OFF-SITE -16
 TOTAL NUMBER OF REGULATED TREES ON SITE 127
 NUMBER OF TREES REMOVED ON SITE 23 (18.1%)
 NUMBER OF PRESERVED TREES ON SITE 102 (81.9%)

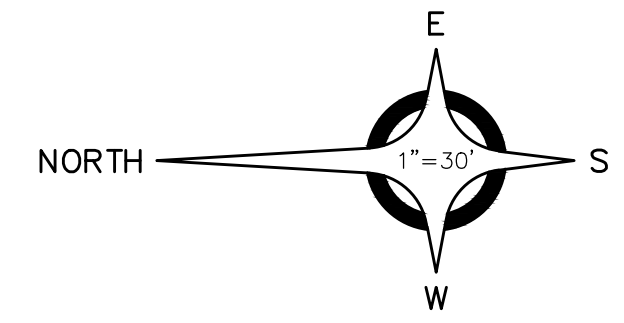
NUMBER OF REPLACEMENT TREES REQUIRED (OPTIONS)
 BASED UPON 125 REPLACEMENT CREDITS FROM PREVIOUSLY APPROVED SITE PLAN)
 2" CALIPER DECIDUOUS TREE OR 8' HEIGHT EVERGREEN (1:1) 125
 2-1/2" CALIPER DECIDUOUS TREE OR 9' HEIGHT EVERGREEN (1.5:1) 83
 3" CALIPER DECIDUOUS TREE OR 10' HEIGHT EVERGREEN (2:1) 63

DETENTION POND PLANTING

PERIMETER OF DETENTION POND = 568 FT.

REQUIRED PLANTINGS
 1.5 DECIDUOUS + 1 EVERGREEN + 4 SHRUBS FOR EVERY 100 FEET.

568 FT. / 100 x 1.5 = 9 DECIDUOUS TREES
 568 FT. / 100 x 1.0 = 6 EVERGREEN TREES
 568 FT. / 100 x 4.0 = 23 SHRUBS



Civil Engineers
Surveyors
Architects

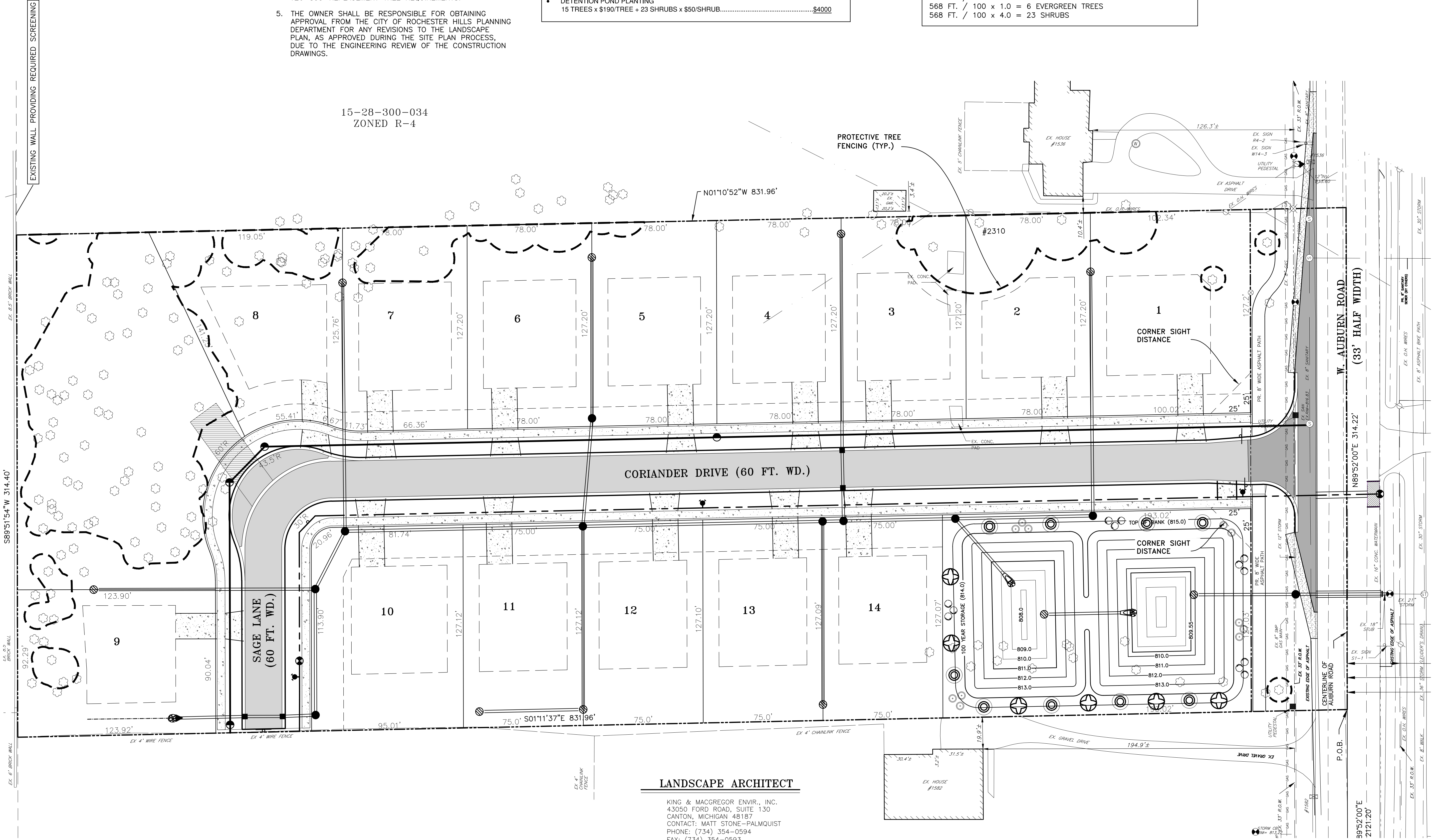
**ANDERSON,
ECKSTEIN AND
WESTRICK, INC.**

51301 Schoenherr Road
Shelby Township
Michigan 48315

Phone 586 726 1234
Fax 586 726 8780

www.aewinc.com

15-28-300-034
ZONED R-4



LANDSCAPE ARCHITECT

KING & MACGREGOR ENVIR., INC.
43050 FORD ROAD, SUITE 130
CANTON, MICHIGAN 48187
CONTACT: MATT STONE-PALMQUIST
PHONE: (734) 354-0594
FAX: (734) 354-0593

DATE	SUBMITTALS/REVISIONS
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 811 (TOLL FREE)	
PROJECT NAME:	
GRANDVIEW SITE CONDOMINIUM	
SHEET TITLE:	
LANDSCAPE PLAN	
CLIENT:	
GRANDVIEW OF ROCHESTER, LLC	
<input type="checkbox"/> PRELIMINARY <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> RECORD	<input type="checkbox"/> CHECKED BY: JLA GBW
DRAWN BY: JLA	DATE: 4-2-13
SCALE:	
1" = 30'	
UTILITY INFORMATION, AS SHOWN, INDICATES APPROXIMATE LOCATIONS AND TYPES OF EXISTING FACILITIES ONLY, AS DISCLOSED BY RECORDS PROVIDED TO THIS FIRM FROM THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF.	
PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING OVERHEAD AND UNDERGROUND UTILITIES (IN CONFLICT WITH THE CONSTRUCTION OF THESE PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. DURING THE CONSTRUCTION, THE CONTRACTOR SHALL PROTECT AND SUPPORT ALL UTILITIES THAT ARE ENCOUNTERED. (ALL COSTS FOR UTILITY LOCATION VERIFICATION, SUPPORT AND PROTECTION SHALL BE INCLUDED IN THE PROPOSED PAY ITEM CONFLICTING WITH THAT UTILITY).	
DURING CONSTRUCTION, THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING NEAR ANY AND ALL OVERHEAD AND/OR BURIED UTILITIES.	
CALL MISS DIG	
PROJECT NO.	1294-0001
M:\1294\1294-0001\DWG\CIVIL\SITEPLAN\SITEPLAN.DWG 05 Landscape-4/13/2015 2:25:56 PM	
SHEET NO.	5

