

BENCH MARK
NORTH EDGE OF SANITARY MH LOCATED 15' NORTH OF NORTH PROPERTY LINE AND 70' WEST OF THE CENTERLINE OF ROCHESTER ROAD. U.S.G.S. DATUM ELEVATION 811.50

NOTE:
150 S.F. OF ISLAND LANDSCAPING FOR EVERY 10 PARKING SPACES OR FRACTION THEREOF

THEREFORE
18 PARKING SPACES = 300 S.F. OF ISLAND LANDSCAPING REQUIRED
TOTAL OF 481 S.F. OF ISLAND LANDSCAPING PROVIDED

PARKING SPACE AND DRIVEWAY DIMENSIONS ARE MEASURED TO THE FACE OF CURB

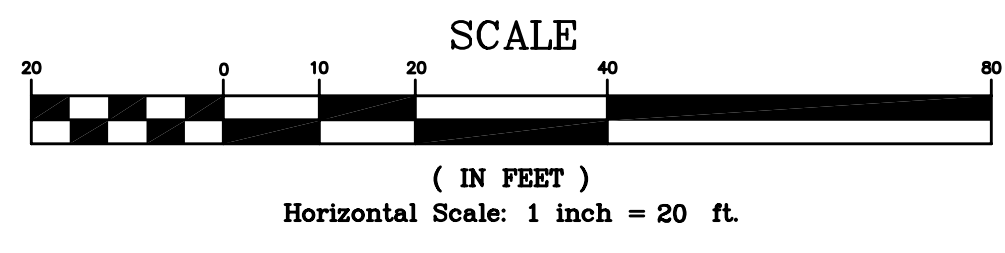
LIGHT POLE AND FIXTURE WILL BE CONSISTANT WITH THE EXISTING LIGHT POLES AND FIXTURES

LIGHT POLE WILL BE 13.5 FEET IN HEIGHT

FIRE DEPARTMENT NOTES:

- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH UFC ART 87, SECTION 8701.
- OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 1102.6.1

APPLICANT
FINSILVER/FRIEDMAN
VENTURE 1
304975 W. 12 MILE ROAD
FARMINGTON, MICHIGAN
48331
248.310.1001



PARKING REQUIREMENTS:

Existing Parking Lot	
Standard Spaces	78
Handicapped Spaces	5
Van Accessible	0
Total	83
Proposed Changes to the Existing Parking Lot	
Standard Spaces	77
Handicapped Spaces	4
Van Accessible	1
Total	82
Proposed Parking Lot (New Construction)	
Standard Spaces	18
Handicapped Spaces	0
Van Accessible	0
Total	18
Summary Proposed	
Standard Spaces	95
Handicapped Spaces	4
Van Accessible	1
Total	100

LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	PAVEMENT (ASPHALT)
[Symbol]	[Symbol]	SIDE WALK (CONCRETE)
[Symbol]	[Symbol]	MOUNTABLE CURB
[Symbol]	[Symbol]	MDOT B2 CURB (REVERSE GUTTER)
[Symbol]	[Symbol]	MDOT B2 CURB
[Symbol]	[Symbol]	STORM SEWER
[Symbol]	[Symbol]	SANITARY SEWER
[Symbol]	[Symbol]	WATER MAIN
[Symbol]	[Symbol]	MANHOLE
[Symbol]	[Symbol]	CATCH BASIN
[Symbol]	[Symbol]	END SECTION
[Symbol]	[Symbol]	GATE VALVE
[Symbol]	[Symbol]	HYDRANT
[Symbol]	[Symbol]	WETLANDS
[Symbol]	[Symbol]	WETLAND BUFFER
[Symbol]	[Symbol]	CONTOURS
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	1000.00 T/C
[Symbol]	[Symbol]	SURFACE DRAINAGE
[Symbol]	[Symbol]	SILT FENCE
[Symbol]	[Symbol]	TREE FENCE

DETERMINE "C" FACTOR

0.137 AC. @ 0.9	=	0.123
0.150 AC. @ 0.2	=	0.030
TOTALS		0.153
0.153 DIVIDED BY 0.287	=	0.534
USE		0.534 "C" FACTOR

DRAINAGE TRIBUTARY TO CB 1 = 0.167 AC.
C = 0.867
I = 4.36, T = 15 MIN.
Q = 0.167 x 0.867 x 4.35
= 0.63 C.F.S. AN E.J.L.W.
7045 COVER HAS A CAPACITY OF 2.0 C.F.S. THEREFORE INLET CAPACITY IS SUFFICIENT.

OAKLAND COUNTY DETAIL SO-2 CALCULATIONS

Volume Required
 V_r = (4320 x (onsite C x A + Restricted outlet from existing)) / V_r = 662 C.F. Required
 712 C.F. Provided at Elevation 802.0

Median Surface Area Required
 A_m = V_r / Depth of Storage
 V_r = 662
 Depth = 1.20
 A_m = 552 s.f.

Orifice Area Required
 On site
 Area = (0.398h) x (A_m) x (square root of depth of storage) / 172.800
 Area = 0.001394851 s.f. Required for On-site
 Diameter = 0.042142365 ft. (one 1/2" diameter opening)

Existing
 Reduce allowable out flow to 1/3 (0.067cfs * 1.72cfs/AC)

Totals
 On Site 0.00139 s.f.
 Existing 0.02110 s.f.
 0.02249 s.f.

Use 4 - 1" Diameter Openings

DETERMINE DETENTION REQUIRED (10-YEAR STORM)

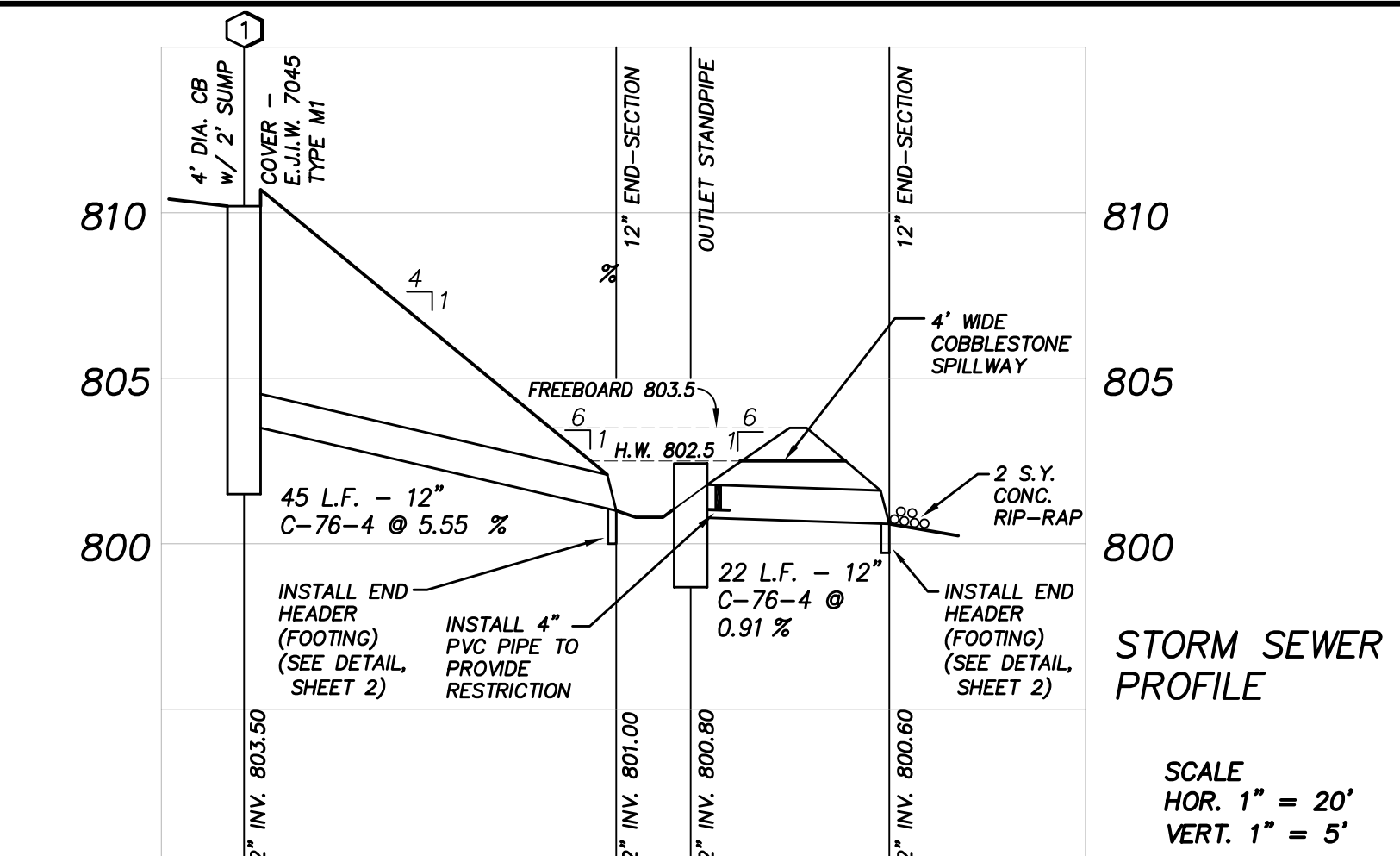
Q _{all} = 0.057 cfs (0.2 cfs/AC)	
AC = 0.287 (AREA TRIBUTARY TO THE DETENTION BASIN)	
C = 0.534	
Q _o = Q _{all} / (AC x C) = 0.37	
T = -25 + SQRT(6562.5/Q _o) = 107.37 min.	
V _s = ((10500 x T)/(T + 25)) - (40 x Q _o x T) = 6908.38 C.F./AC. imp.	
V _t = V _s x AC x C = 1058.765 C.F.	
TOTAL DETENTION VOLUME REQUIRED = 1059 C.F.	

DETERMINE OUTLET SIZE

TOTAL Q _{all} = 0.40 (0.057 cfs) Plus (0.344 cfs From Existing Detention Basin)	
h = 1.87 feet	
Area = 0.06 S.F.	
Dia. = 3.28 in.	
USE 4 in Dia. Outlet	

DETECTION BASIN VOLUME REQUIRED

ELEVATION AREA (S.F.)	VOLUME (C.F.)
802.5	1437
801	202
TOTAL	1229.25



SCALE
HOR. 1" = 20'
VERT. 1" = 5'

1812 OFFICE PARK
SECTION 22, TOWN 3 NORTH, RANGE 11 EAST
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

REVISIONS

NO.	ITEM	DATE
1.	REVISED PER OWNER	08-24-04
2.	REVISED PER CITY REVIEW	07-12-04
3.	REVISED PER CITY REVIEW	07-30-04
4.	REVISED PER CITY REVIEW	08-11-04

ENGINEER'S SEAL

DATE: 09-11-02 DESIGNED BY: RGP CHECKED BY: SWN
JOB NUMBER: 02-065

**EXHIBIT "D" - SITE PLAN ADDENDUM
PARKING LOT ADDITION**

SEIBER, KEAST & ASSOCIATES, INC.
CONSULTING ENGINEERS
40399 GRAND RIVER AVENUE • SUITE 110 • NOV, MI • 48375-2123
248.473.7880

MILLETICS AND ASSOCIATES
LAND SURVEYORS

SHEET 1 OF 2