

# CERTIFICATE OF SURVEY

**RECEIVED**

# 5783  
JAN - 5 2012  
GL7 27-140-28

CASS COUNTY SURVEYOR

**DESCRIPTION - (RECORD)**

Lot 4, Block One, ROGERS POINT, according to the recorded plat thereof on file in the office of the County Recorder, Cass County, Minnesota.

**SURVEYOR'S NOTES:**

1. Bearing Orientation: The northeasterly line of Lot 4, Block One, ROGERS POINT, being located in Section 27, Township 140, Range 28 is assumed to have a bearing of North 26 degrees 07 minutes 14 seconds West.

2. The field survey was completed on November 30, 2011.

3. Arro Land Surveyors, LLC has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.

4. Cass County Shoreland Ordinance Requirements:  
Wabedo Lake Classification - Recreational Development (RD)

Lot Standards - RD - Riparian  
Minimum Lot Area = 40,000 SqFt  
Minimum Lot Width = 150 feet  
Minimum Buildable Area = 16,000 SqFt

Setbacks - RD  
Lake Structure setback = 100 feet from ordinary highwater elevation  
Top of Bluff = 30 feet  
Dedicated Road setback = 20 feet  
Property line = 10 feet

5. Existing Conditions:  
Lot Area = 63,899 SqFt  
Buildable Area = 1,346 SqFt  
Lot Width at OHWL = 185.60 feet  
Lot Width at Lake Setback = 251.43 feet

6. Cass County Bluff Criteria:  
a. The slope shall rise at least 25 feet vertically above the toe of the bluff  
b. The grade of the slope from the toe of the bluff to a point 25 feet or more above  
c. The toe of the bluff averages 30 percent or greater  
d. The slope of the bluff must drain towards a public water  
e. Part or all of the feature is located in a shoreland area

7. Existing Elevations:  
Line 1 - Toe of slope = 1311.75; Top of slope = 1349.7; Distance 103 feet  
Line 2 - Toe of slope = 1311.65; Top of slope = 1353.1; Distance 140 feet  
Line 3 - Toe of slope = 1313.20; Top of slope = 1355.2; Distance 128 feet  
Line 4 - Toe of slope = 1310.50; Top of slope = 1351.0; Distance 143 feet  
Line 5 - Toe of slope = 1311.35; Top of slope = 1351.0; Distance 118 feet

8. Bluff Calculations:  
Line 1 - Vertical Difference = 38.0 feet; Percent of slope = 36.8%  
Line 2 - Vertical Difference = 41.4 feet; Percent of slope = 29.5%  
Line 3 - Vertical Difference = 42.0 feet; Percent of slope = 32.8%  
Line 4 - Vertical Difference = 40.5 feet; Percent of slope = 28.3%  
Line 5 - Vertical Difference = 39.6 feet; Percent of slope = 33.6%  
Average Slope = 32.2%

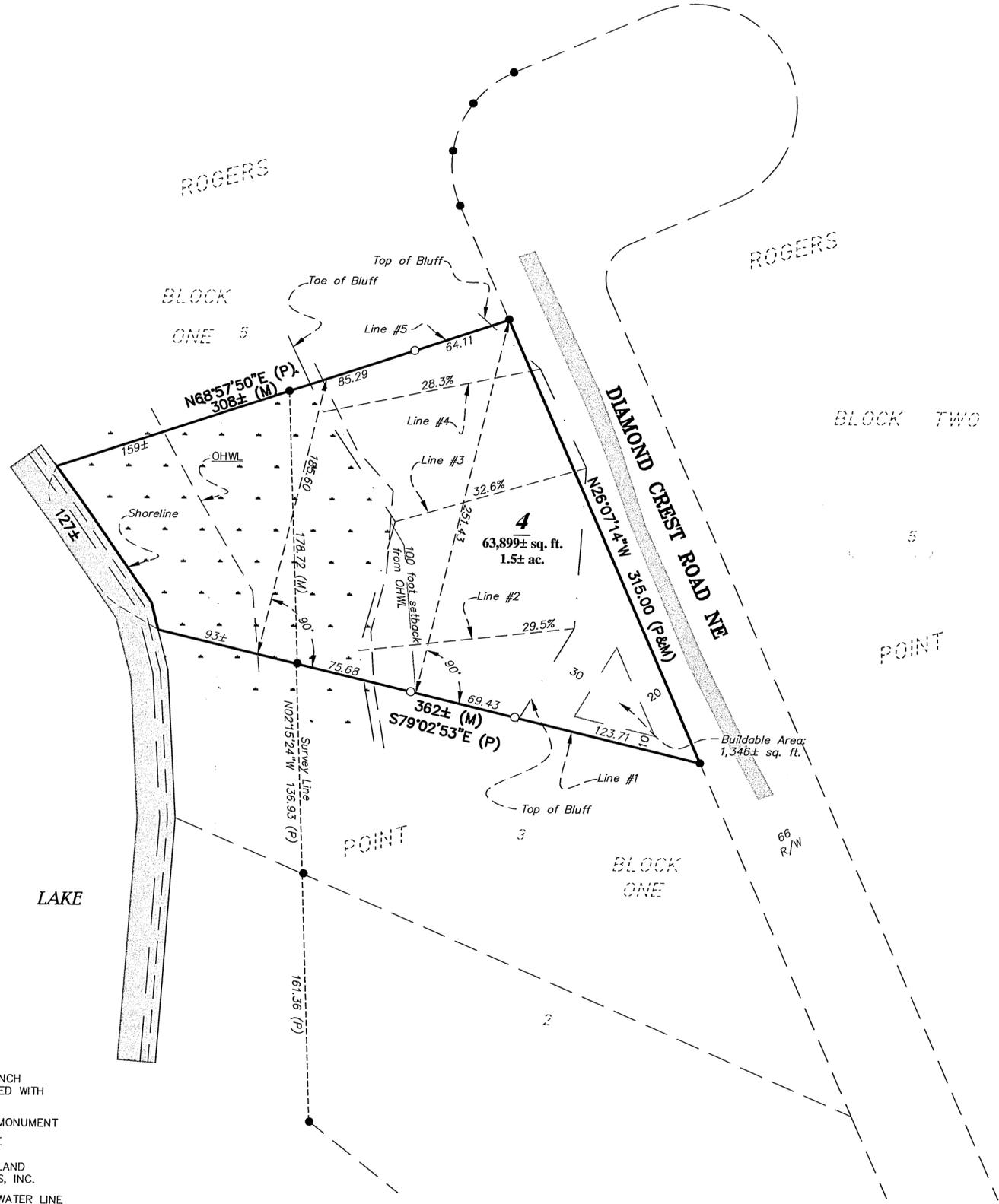
I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly licensed land surveyor under the laws of the state of Minnesota.  
Dated this 20th day of January, 2012  
By: *Bruce W. Skipton*  
Bruce W. Skipton, Minnesota License No. 17768



**BOUNDARY SURVEY**  
Lot 4, Block 1, ROGERS POINT,  
Part of Sec. 27, T. 140, R. 28,  
Cass County, Minnesota

**CLIENT:**  
**AUDREY & GEORGE HAYES**  
15388 County Road 30  
Elk River, MN 55330

DRAWN BY:	CHECKED BY:	DATE	JOB NUMBER	REVISION DESCRIPTION



- LEGEND**
- DENOTES 1/2 INCH x 14 INCH IRON PIPE SET AND MARKED WITH RLS 17768 CAP.
  - DENOTES FOUND SURVEY MONUMENT
  - ▨ DENOTES GRAVEL SURFACE
  - DENOTES DELINEATED WETLAND BY AQUATIC ECOSOLUTIONS, INC.
  - OHWL DENOTES ORDINARY HIGH WATER LINE
  - (P) DENOTES MEASUREMENT PER PLAT OF ROGERS POINT
  - (M) DENOTES MEASUREMENT PER ARRO LAND SURVEYORS, LLC.

