

**Wisconsin DNR – Lake Level Monitoring
Staff Gauge Survey Data Sheet**

Lake Information
 Lake Name Vincent Lake County Polk

Data Collectors
 Primary Data Collector _____ Email _____ Phone No. _____
 Additional Data Collector(s) _____

Reference Mark and Staff Gauge Information

Reference Mark #1 (RM1) Reference Mark Type: _____
 Latitude: 45°32'12.212" Longitude: 92°21'34.317" Mean Sea Level Yes No Elevation: 1196.21 Photograph
 Location Description: RM 1 is the North westerly corner of the westerly concrete Pad patio on lake side of house.

Reference Mark #2 (RM2) Reference Mark Type: _____
 Latitude: 45°32'12.359" Longitude: 92°21'34.156" Mean Sea Level Yes No Elevation: 1195.85 Photograph
 Location Description: RM 2 is the North westerly corner of the Easterly concrete Pad patio on Lake side of house.

Reference Mark #3 (RM3) Reference Mark Type: _____
 Latitude: 45°32'13.016" Longitude: 92°21'34.947" Mean Sea Level Yes No Elevation: 1191.06 Photograph
 Location Description: RM 3 is the Highest Point of a large rock near the OTW/M on the North easterly side of yard.

Staff Gauge
 Latitude: 45°32'13.014" Longitude: 92°21'35.718" Mean Sea Level Yes No Elevation: 1188.10 Photograph
 Location Description: Staff Gauge is located on North easterly side of Dock near the deepest end of Dock.

Date: 6-28-2019 Time: 11:46 AM/PM _____ Check one: Install Midseason Removal

Survey Stage 1 - Instrument at first height

	Reference Mark 1	Fore sight (FS1)	Calculated Elevation (CE1)
Given Elevation (GE _{RM1})	<u>1196.21</u>		
Back sight 1 (BS1)	<u>+ 1.72</u>		
Height of Instrument (HI1)	<u>1197.93</u>	<u>9.83</u>	= <u>1188.10</u>
	HI1 - Ref Mark 2	<u>2.08</u>	= <u>1195.85</u>
	HI1 - Ref Mark 3	<u>6.87</u>	= <u>1191.06</u>

Survey Equations:
 HI1 = GE_{RM1} + BS1
 CE1 = HI1 - FS1

Survey Stage 2 - Reset instrument at different height

	Staff Gauge	Fore sight (FS2)	Calculated Elevation (CE2)
Calculated Elevation1	<u>1188.10</u> ←		
Back sight 2 (BS2)	<u>+ 9.65</u>		
Height of Instrument (HI2)	<u>1197.75</u>	<u>1.54</u>	= <u>1196.21</u>
	HI2 - Ref Mark 2	<u>1.90</u>	= <u>1195.85</u>
	HI2 - Ref Mark 3	<u>6.69</u>	= <u>1191.06</u>

Survey Equations:
 HI2 = CE_{SG1} + BS2
 CE2 = HI2 - FS2

Quality Assurance Checks:

Reference Mark 1: BS1 1.72 FS1 9.83
 GE = CE2 BS2 +9.65 FS2 +1.54
1137 = 1137

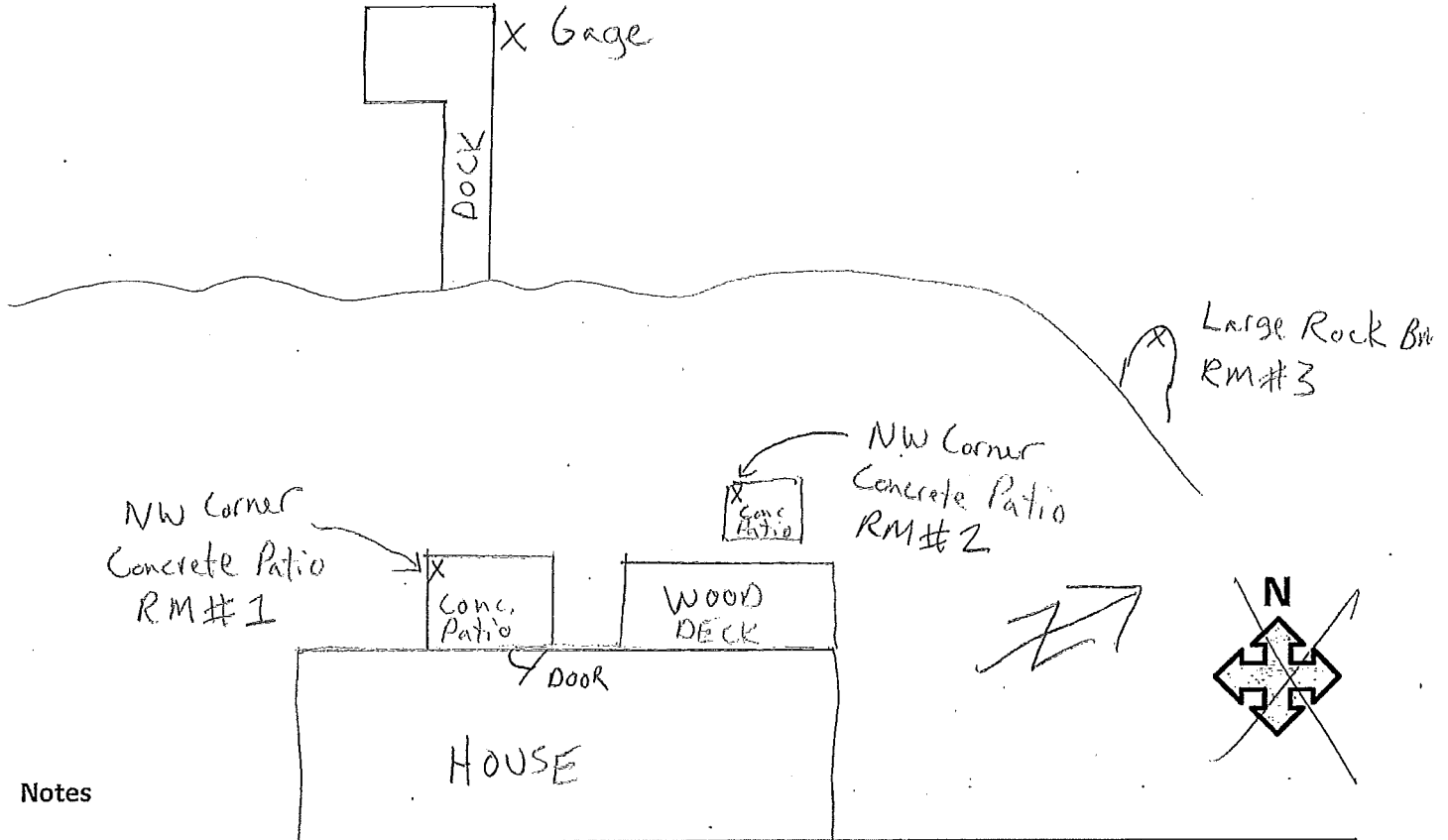
QA Equations:
 BS1 + BS2 = FS1_{SG} + FS2_{RM1}
 GE_{RM1} = CE2_{RM1}

*Accept Survey Stage 1 if QA checks within 0.01 ft. Use calculated elevations 1 for the rest of the season unless the gauge moves.

Lake Level Reading: 1.41 ft Water Elevation - 1189.48'

Staff Gauge Survey Data Sheet

Site Diagram (including Staff Gauge and Reference Marks)



Notes

Gage and Reference Marks are at residence: 957 Vincent Lake Lane

Data Management

Survey Data uploaded to SWIMS? Yes No Date: _____ Name: _____
Photographs uploaded to SWIMS? Yes No Date: _____ Name: _____
Data Sheet scan uploaded to SWIMS? Yes No Date: _____ Name: _____

Equipment Maintenance

Replace bolts/screws on staff gauge? Yes No Date: _____ Name: _____
Replace gauge plate on staff gauge? Yes No Date: _____ Name: _____
Replace post or wooden board? Yes No Date: _____ Name: _____