

BENZIE - LEELANAU DISTRICT HEALTH DEPARTMENT

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June 12, 2003

Mr. Chris G. McCrumb
McKeough Land Company, Inc.
104 South Union Street, Suite 212
Traverse City, MI 49684

*Re: Proposed Site Condominium of "Bingham Ridge", part of Section 31, T29N, R11W,
Bingham Township, Leelanau County, Michigan*

Dear Mr. McCrumb:

In accordance with Section 71a of Act 59, Public Acts of 1978, as amended, the subject proposed condominium subdivision has been reviewed and is granted preliminary Health Department approval. This approval is conditioned on the restrictions and conditions contained in this correspondence.

As proposed, this condominium subdivision consists of (24) twenty-four single family residential units on 26.9 acres. Unit sizes range from 0.52 acres to 1.01 acres. The approximate distance to the nearest public water system is seven miles, and the nearest public sewer system is six miles. It has been confirmed that these public systems will not be available to service this proposal in the foreseeable future. Individual units will be entirely dependent on individual on-site water supply and individual on-site sewage treatment and disposal systems. Soils data submitted by the project engineer, Alex Yockey of Wells/Mansfield, Inc., has been reviewed and confirmed as to accuracy by this Department. On April 23, 2002, May 1, 2002, April 24, 2003 and April 28, 2003 a total of 69 backhoe excavations or hand borings were made on the property. Most test holes showed loamy sand and medium sand conditions. Some test holes did show heavier sandy loam soils. Soil conditions are considered suitable for on-site sewage disposal, subject to the system design requirements below. The greatest difficulty with on-site sewage disposal on these proposed units is construction of drainbeds or drainfields on steep slopes.

You have known from the time of our site survey on September 28, 2001, that slopes on this property would pose difficulty for on-site sewage disposal. State rules say that slopes greater than 12% pose difficulty for drainbeds and drainfield placement and construction.

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Your first plan that we reviewed proposed trench drainfields on sites with greater than a 12% slope. Because a number of these sites were significantly higher than 12%, our Department had concerns over the ability to do construction on steep slopes and accessibility without having to cross adjacent property lines. After a site visit by John Long and John Gohlke of the Michigan Department of Environmental Quality we required that five trench systems be installed prior to project approval or do site preparation work under an approved plan. You chose to change your plans to show cutting and grading to the extent necessary to produce drained areas with a few remaining trench systems. You also requested not to do site preparation prior to approval. After a number of letters, conversations and a meeting, it was agreed that the plans would be revisited to see if any drained re-positionings would place them in areas closer to the 12% slope criteria. These specific drainbeds would be staked and measured and slope calculations made. Our Department would then evaluate each site to determine if prior site preparation would be required. On April 24, 2001 Bill Crawford, Alex Yockey of Wells/Mansfield, Inc., Chuck Grant and yourself met on the site. It was determined that the following drained areas would be prepared prior to site condo approval: Unit 7 (initial and reserve); Unit 16 (initial); and Unit 19 (initial). Bill Crawford made the decision not to require site preparation for the following units: Unit 8 (initial); Unit 15 (initial); Unit 16 (reserve); and Unit 19 (reserve). Chuck Grant and Bill Crawford were in agreement that prior site preparation is not required on Units 14, 20, 21, 22, 23 and 24. Chuck Grant approved Units 2 and 4 for no prior site preparation. On June 4, 2003, a trench drainfield was completed on Unit 18. This served to demonstrate that future trench drainfields could be constructed on Units 3, 8, 12, 15, 17 and 24 as per restriction number 12.

An assessment of the suitability of proposed on-site water supplies has been provided by the project engineer. A total of six (6) water samples were taken from existing residential water wells within the vicinity of the proposed site condominium by Wells/Mansfield, Inc. Nitrate test results were 5.4 mg/l, 4.2 mg/l, 4.0 mg/l, 2.7 mg/l, 1.4 mg/l, 1.0 mg/l. Two arsenic test results were <0.01 mg/l. Because of the nitrate result greater than 5.0 mg/l, a test well was required. On December 17, 2002, a test well was completed on proposed Unit 1 to 295'. A water sample collected by the Health Department on December 19, 2002, showed nitrate less than 0.5 mg/l. The elevation of the well head is 715.5 feet above sea level. All wells in the site condominium will be required to be drilled to 420 feet above sea level or deeper using U.S.G.S. data. We have no knowledge of water quantity being a problem in the area.

In accordance with administrative rules applicable to this proposal under the authority of Section 71a, Act 59, Public Acts of 1978, as amended, the preliminary condominium

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subdivision of Bingham Ridge is approved by this Department subject to the following restrictions which are to be made part of the master deed:

1. No unit shall be used for other than single family residential use. The homes shall have four (4) bedrooms maximum unless otherwise approved by the Health Department.
2. Permits for the installation of sewage disposal systems and wells shall be obtained from the Health Department prior to any construction.
3. All dwellings shall be serviced by a potable water supply system. All wells on individual units shall be drilled by a well driller licensed by the State of Michigan to a depth of 420 feet above sea level using U.S.G.S. data. A complete well log form for each well shall be submitted to the Health Department within 60 days following completion of such well.
4. The site development plan approved by the Health Department, with an approval date of June 12, 2003, shows initial and replacement drainbed or drainfield locations for each unit. The drawing also shows grading plans for drainbed areas and trench elevations for drainfields. This drawing will be used in issuing future well and septic permits, along with the design requirements as stated below in restrictions numbered 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17.
5. Units 2, 4, 8, 9, 11, 13, 14, 15, 20, 21, 22, 23 and 24 will need drainbed areas prepared as shown on the site drawing.
6. Unit 5 initial and reserve drainbed areas have had site preparation completed. Drainbeds will be placed in these areas. Unit 5 (initial) will need over-excavation of soils to medium sand and stone at approximately 8'. Unit 5 (reserve) will need over-excavation to medium sand and stones at approximately 7' in the western one-half. Sand fill will be added to keep drainbeds shallow.
7. Unit 6 initial and reserve drainbed areas have had site preparation completed. Drainbeds will be placed in these areas. Unit 6 (initial) will need over-excavation of soils to medium sand at approximately 9'. Unit 6 (reserve) will need over-excavation to medium sand at approximately 11'. Sand fill will be added to keep drainbeds shallow.
8. Unit 7 initial and reserve drainbed areas have had site preparation completed. Drainbeds will be placed in those areas.
9. Unit 11 (initial) drainbed area will need soils over-excavated to approximately 4'.
10. Unit 16 (initial) drainbed area has had site preparation completed. A drainbed will be placed in this area. Soils will need to be over-excavated 3' below the drainbed stone and replaced with sand. Unit 16 (reserve) drainbed area will need 3 - 2' wide cross trenches to approximately 8' that will be filled with sand.

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11. Unit 17 (initial) drainbed area will need soils over-excavated to approximately 5'.
12. Unit 18 has a trench drainfield installed to service a four bedroom home maximum. This drainfield will be used with the installation of a septic tank.
13. Unit 19 (initial) drainbed area has had site preparation completed. A drainbed will be placed in this area. Test holes showed some buried topsoil that will need to be removed at the time of drainbed installation.
14. Unit 20 (initial) drainbed area will need to be over-excavated to approximately 6'.
15. Units 3 (reserve), 8 (reserve), 12 (initial and reserve), 15 (reserve), 17 (reserve), 18 (reserve) and 24 (reserve) have trench drainfields. Trenches shall be placed in the location and at the elevations shown on the approved site plan. At the time of permit issuance, and applicant will be responsible for staking the trenches following the contours. Small equipment and/or hand labor may be required for installation.
16. Some units may need low pressure distribution to get sewage effluent from the home to the drainbed or drainfield.
17. Stormwater movement or retention on each unit shall not interfere with initial and reserve drainbed areas.

The above restrictions must run in perpetuity and may only be waived by this Department. **A copy of the proposed master deed, incorporating the above restrictions must be submitted to this Department for review and approval as to form and content prior to recording. Upon recording of the approved master deed, final approval can then be granted by this Department.**

Should you have further questions regarding this approval, please do not hesitate to contact this office at your earliest convenience.


Sincerely,



William A. Crawford, R.S., M.S.A.
Health Officer



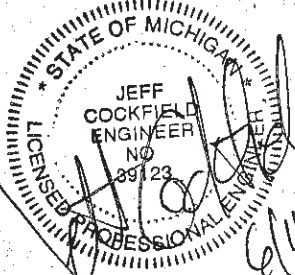
Charles E. Grant, R.S.
Environmental Sanitarian

~~605~~
 613.2
~~613.5~~
 613.0

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GROUND CONTOUR
 SPOT ELEVATION
 TOP OF CURB ELEVATION
 PAVEMENT (OR GUTTER FLOW LINE) ELEVATION
 CATCH BASIN
 C/L OF DRAINAGE DITCH OR WATER LINE
 DIRECTION OF SURFACE FLOW
 DRAINAGE HIGH POINT
 DRAINAGE LOW POINT
 SOIL EROSION CONTROL MEASURE
 (MICHIGAN UNIFIED KEYING SYSTEM)
 P = PERMANENT T = TEMPORARY

PLAN INDEX

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 JEFF COCKFIELD
 ENGINEER
 NO. 39123
 6/1/03

MCKEOUGH LAND COMPANY, INC.
 BINGHAM RIDGE
 COVER SHEET
 SECTION 31, TOWN 29 NORTH, RANGE 11 WEST
 BINGHAM TOWNSHIP, LEELANAU COUNTY, MICHIGAN

P.M.: JAC

DRG.:	CRD.:	CREATED:
RKC	JAC	03.17.02

ISSUED FOR:	DATE:
30% Review	
60% Review	
90% Review	
Bids	
Construction	

JOB NO.: 2701311

SHT 1 OF 8

C.

PUBLIC AGENCIES AND UTILITIES

LEELANAU COUNTY ROAD COMMISSION

County Road
Comm. Engineer - James Johnson
Address - 10550 E. Eckerie Rd., Sultons Bay
Telephone - 271-3993

LEELANAU COUNTY SOIL EROSION & SEDIMENTATION CONTROL

Director
Address - Steve Christensen
- 208 W. Main St., Lake Leelanau
Telephone - 256-9783

CHERRYLAND ELECTRIC COOPERATIVE

Systems Engineer - Martin Mafarkowski
Address - US 31 South, P.O. Box 298, Crown
Telephone - 943-8377

CONSUMERS POWER COMPANY (C.P.)

Area Engineer - James Gray or Chuck Walukonis
Address - 821 Hastings St., Traverse City
Telephone - 929-6242

AMERITECH

Area Engineer - Dale Goddard or Kathy Dohm-Beisler
Address - 142 E. State St., Traverse City
Telephone - 946-2717 & 941-2734

MICHIGAN CONSOLIDATED GAS COMPANY (M.C.G.)

Area Manager - Linda Young
Address - 1011 Hastings St., Traverse City
Telephone - 932-2823 or 1-877/610-3137

MICHIGAN DEPARTMENT OF STATE HIGHWAYS (M.D.O.T.)

District Operation
Engineer - Greg Swanson
Address - 2084 N US31 South, Traverse City
Telephone - 941-1986

CHARTER COMMUNICATIONS (C.A.T.V.)



Wells/Mansfield, Inc.

Civil Engineers, Surveyors, Architects
& Land Use Consultants

1212 Veterans Drive • Traverse City, MI • 49684

Ph: (231) 946-9310 • Fax: (231) 946-8926

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