

# MANISTEE CITY PLANNING COMMISSION

Meeting of Thursday, July 6, 2006  
7:00 p.m. - Council Chambers, City Hall, 70 Maple Street,  
Manistee, Michigan

## AGENDA

- I Roll Call
- II Public Hearing
  - None
- III Approval of Minutes
  - Planning Commission Meeting (6/1/06)
- IV New Business
  - 1. Alfred MacDonald, 305 Cypress Street - Driveway Permit
  - 2.
  - 3.
  - 4.
- V Unfinished Business
  - 1. Mark A. Reenders Construction, Inc. - Special Use Permit/PUD, 500 Ford Street (former Washington School property)
  - 2. Sand Products Corporation - Planned Unit Development Amendment ( Phase 3)
  - 3. Mark & Christina Chmura - Reconsideration of Denial
- VI Other Communications
  - 1. Presentation by Patty O'Donnell - *"Finding Common Ground: Lake Michigan Joint Planning options in Benzie and Manistee Counties"*
  - 2.
- VII Citizen Questions, Concerns and Consideration  
(Public Comment Procedures on the Reverse Side)
- VIII Work/Study Session
  - 1.
  - 2.
- IX. Adjournment

## Public Comment Procedures

The City of Manistee Planning Commission welcomes public comment in support of its decision-making process. To assure an orderly, fair and balanced process, the Planning Commission asks that participants at all public hearings and during the Public Comment portion of the meeting observe the following rule of procedure:

1. The Chairperson will recognize each speaker. When a speaker has the floor, he/she is not to be interrupted unless time has expired. Persons speaking without being recognized shall be out of order.
2. Each speaker shall state their name and address for the record and may present written comments for the record.
3. Speakers shall address all comments and questions to the Planning Commission.
4. Unless waived by the Planning Commission for a specific meeting or a specific speaker, public comment shall be limited to five (5) minutes per speaker, one time only. If a group of people wish to be heard on one subject, a spokesperson may be designated who may request that more than five (5) minutes be permitted for the collective comments of the group as presented by that speaker.
5. The Chairperson may request that repetitive comments be limited or abbreviated in the interest of saving time and allowing others to speak.
6. The Chairperson may establish additional rules of procedure for particular hearings as he/she determines appropriate.
7. Normal civil discourse and decorum is expected at all times. Applause, shouting, outbursts, demonstrations, name-calling or other provocative speech or behavior is not helpful to the decision-making process and may result in removal from the hearing or an adjournment.

Thank you for your interest in the work of the City of Manistee Planning Commission and for your cooperation with these rules of procedure.



## MEMORANDUM

TO: Planning Commissioners  
FROM: Denise Blakeslee   
DATE: June 29, 2006  
RE: Planning Commission Meeting July 6, 2006

Commissioners, we have a full agenda for the July Meeting. Agenda items are as follows:

1. Fred MacDonald, 305 Cypress Street - Driveway Permit. Fred MacDonald has submitted an application for a Driveway Permit at 305 Cypress Street. This is a very narrow lot and the proposed driveway has a zero setback on the south property line and a two foot setback on the north property line. The Zoning Ordinance allows the Planning Commission the option to approve a driveway that does not comply with the ordinance.
2. Mark A. Reenders Construction, Inc. - Special Use Permit/PUD, 500 Ford Street (former Washington School property). A Public Hearing was held at the June Planning Commission meeting regarding a request from Mark A. Reenders Construction for a Planned Unit Development that would allow the construction of a 33 unit condominium project. Mr. Reenders has submitted a new site which the Planning Commission will review.
3. Sand Products Corporation - Planned Unit Development Amendment (Phase 3) Sand Products Corporation has requested an Amendment to their Planned Unit Development for Phase 3. Mr. Canestraight will present a new site plan and discuss the Soil Bearing Summary that was done at the proposed development site. In addition Mr. Canestraight is requesting an extension of the August 3, 2006 dead line for decision.
4. Mark & Christina Chmura - Reconsideration of Denial. Jon Rose Community Development Director is requesting that the Planning Commission reconsider their denial of the request from Mr. & Mrs. Chmura for a Special Use Permit to construct an 8 slip marina. The request is being made in light of certified information which states Mr. & Mrs. Chmura have riparian rights.
5. Other Communications: Patty O'Donnell, Northwest Michigan Council of Governments. Ms. O'Donnell will give a presentation about "*Finding Common Ground: Lake Michigan Joint Planning Options in Benzie and Manistee Counties*".

If you are unable to attend the meeting please call me at 398.2805. See you Thursday!

:djb - Happy 4th!



PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners

FROM: Jon R. Rose   
Community Development Director

DATE: June 28, 2006

RE: Fred MacDonald - Driveway Permit

Commissioners, Mr. MacDonald owns a house at 305 Cypress Street and would like to construct a driveway. This property is within the U.S. 31 Corridor Overlay District and Mr. MacDonald has received approval from MDOT for the driveway.

This is a very narrow lot and the proposed driveway has a zero setback on the south property line and a two foot setback on the north property line. The proposed driveway does not meet the requirement under Section 511.C of the Zoning Ordinance that reads "*All driveways in every district shall be located at least three (3) feet from a side yard property line.*"

This request has been placed on the Planning Commission Agenda under Section 511.G of the Zoning Ordinance that reads "*Upon the recommendation of the Zoning Administrator, the Commission may approve a site plan that does not comply the requirements of this section where local conditions make full compliance impossible, providing the distances between the new driveway from street intersections and other driveways is the greatest possible.*"

Review of the site plan indicates that the applicant could meet the three foot setback on the south property line and does not need a zero set back. Since the parcel is only 36 feet wide and with the placement of the home the two foot setback on the north property line is reasonable.

We are forwarding the application for your review and recommendation.

JRR:djb

**Denise Blakeslee**

---

**From:** Sousa, Brian C. [BSOUSA@WadeTrim.com]  
**Sent:** Thursday, June 29, 2006 10:05 AM  
**To:** Denise Blakeslee  
**Subject:** RE: MacDonald Driveway Application

Denise,

Sorry for the late response, I left for Detroit right from Manistee on Tuesday. Got back today. Every time I go down there I am reminded of why I live in northern Michigan!

I looked over the information and site. I do not see a problem with the plan (other than the zoning issue). If the Planning Commission approves the request, there should be a note added that the paving shall be sloped so as not to direct runoff water to the street (which this is really MDOT's baby), or adjacent property. This is probably one of the reasons the 3' distance requirement from the property line was set. It would give some time for the water to infiltrate into the soil. \*

Brian

---

**From:** Denise Blakeslee [mailto:dblakeslee@ci.manistee.mi.us]  
**Sent:** Wednesday, June 28, 2006 7:53 AM  
**To:** Sousa, Brian C.  
**Subject:** MacDonald Driveway Application

Brian-

I faxed over information to you last week regarding a Driveway permit from Fred MacDonald. This item will be on the Planning Commission agenda July 6th and I will be mailing out their packets tomorrow. Did you have time to review the application? Do you have any concerns that should be noted for the Planning Commission?

Please let me know...have a wonderful day...it looks like it will be a nice one!!

Thank You.

Denise

Denise J. Blakeslee  
Planning and Zoning  
City of Manistee  
70 Maple Street, P.O. Box 358  
Manistee, MI 49660-0358  
231.398-2805  
dblakeslee@ci.manistee.mi.us

6/29/2006

# Land Use Permit Application for Driveway

Fee \$10.00

One copy of the completed application form for site plan review which shall contain at a minimum the following information (a narrative attachment is recommended in addition to the application form to sufficiently address all of the following items):

Names and address of the owner Alfred Mac Donald

PO Box 393 Manistee, Mich 49660

Phone Number(s): 7237975-~~823~~ 6458366

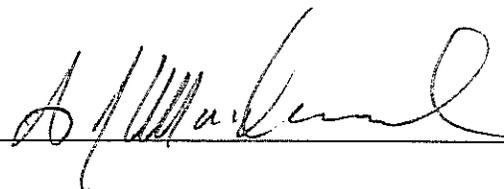
Names and address of the applicant Same

Names and address of the applicant \_\_\_\_\_

Street Address: 305 Cypress St

Present and proposed land use: Rental

By signing the application the applicant is authorizing City Staff permission to make site inspections as necessary. The undersigned affirms that the information included in this application is correct. Further if the request is approved, the applicant will comply with all of the requirements of the City of Manistee Zoning Ordinance and certifies that measures proposed to mitigate adverse impacts will be completed in a timely fashion.

Signature:  Date: 6-20-06

OFFICE USE ONLY			
Zoning District: _____	Set Back Requirements: _____	Height _____	Front _____
Date of Application: <u>6-20-06</u>	Waterfront _____	Rear _____	Side _____
Fee/Receipt # <u>\$10.00 11247</u>	Notes: <u>Received approval from MTOIT (attached)</u>		Date: _____
Approval: _____	Date: _____		

6-21-06 - Approved by Jack Carter, DPW Supervisor



Manistee, MI

Third St.

75'

50'

12'

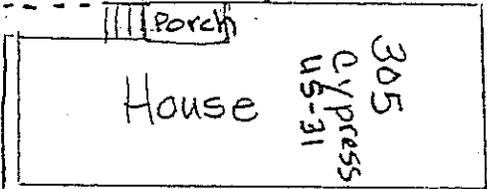
8.5'

34'

15'

36'

96'

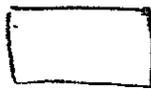


US-31 (Cypress)

Grassy Area

Sidewalk

Right of Way



To be paved w/ cement

Alfred MacDonald

P.O. Box 393

Manistee, MI 49660

Cell 231-645-8866

3

Michigan Department of Transportation  
2205 (01/06)

**INDIVIDUAL APPLICATION AND PERMIT  
FOR USE OF STATE TRUNKLINE RIGHT OF WAY**

Information required by Act 368 of P.A. 1925, Act 200 of P.A. 1969 and Act 51 of P.A. 1951 to authorize permitted activities.

MDOT Forms at: <http://mdotwas1.mdot.state.mi.us/publicwebforms/>

This permit is incomplete without "General Conditions and Supplemental Specifications."

PRINT IN INK OR TYPE.

MDOT USE ONLY	
PERMIT NO. 51011-0010-06-0064	
ISSUE DATE 6-7-06	EXPIRATION DATE 6-7-07
FEE \$ 30.00	<input checked="" type="checkbox"/> Cash BY #311031 <input type="checkbox"/> Exempt <input type="checkbox"/> Billable
DEPT. BOND NO.	BOND AMOUNT \$

APPLICANT NAME <b>Alfred Mac Donald</b>			CONTRACTOR NAME (individual, Company, etc.) <b>Professional Construction Services - Jim Fuzzell</b>		
MAILING ADDRESS <b>P.O. Box 393</b>			MAILING ADDRESS <b>9018 Aura St.</b>		
CITY <b>Manistee</b>	STATE <b>MI</b>	ZIP CODE <b>49660</b>	CITY <b>Kaleva</b>	STATE <b>MI</b>	ZIP CODE <b>49645</b>
CONTACT'S NAME <b>Fred Mac Donald</b>		PHONE NO. <b>(231) 723-7975</b>	CONTACT'S NAME		PHONE NO.
EMAIL ADDRESS <b>macdonald@toast.net</b>		CELL PHONE NO. <b>(231) 645-8366</b>	EMAIL ADDRESS <b>www.proccs.com</b>		CELL PHONE NO. <b>(231) 510-7718</b>
REQUEST: I do hereby make application for a permit to use the right of way of the following state trunkline highway.					
STATE TRUNKLINE <b>US 31</b>	CITY OR TOWNSHIP <b>Manistee</b>	SECTION <b>12</b>	TOWN <b>T 211 N</b>	RANGE <b>R 117 W</b>	COUNTY <b>Manistee</b>
NEAREST CROSSROAD <b>3rd Street</b>	SIDE OF ROAD <b>East</b>	DISTANCE TO NEAREST CROSSROAD (in feet) <b>200'</b>	DIRECTION TO NEAREST CROSSROAD <input checked="" type="checkbox"/> NORTH <input type="checkbox"/> SOUTH <input type="checkbox"/> EAST <input type="checkbox"/> WEST		
PROPOSED START DATE <b>ASAP</b>	PROPOSED COMPLETION DATE <b>ASAP</b>		PLANS ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PURPOSE <b>To have driveway for home.</b>					

REQUISITION NO.	WORK ORDER NO.	JOB NO.
-----------------	----------------	---------

I certify that I accept the following:

- All permit and application fee are NONREFUNDABLE based on Act No. 561, of Public Acts 2002.
- Commencement of work set forth in the permit application constitutes acceptance of the permit as issued.
- Failure to object within ten (10) days to the permit as issued constitutes acceptance of the permit as issued.
- If this permit is accepted by either of the above methods, I will comply with the provisions of the permit.
- I certified that I am the legal owner of the property for which this driveway will serve, or I am the owner's authorized representative.

APPLICANT/AUTHORIZED AGENT	NAME and TITLE (Please Print or Type) <b>Alfred Mac Donald</b>	DATE <b>5-15-06</b>
If Authorized Agent - I hereby certify that I am acting as an authorized agent on behalf of the named applicant. Certificate of agency attached.	SIGNATURE <i>Alfred Mac Donald</i>	FEDERAL TAX I.D. or SOCIAL SECURITY NO. <b>077-32-1977</b>

CONTROL SECTION	TRUNKLINE	WORK TYPE CODE	ECC *	WORK METHOD	MILEPOINT FROM	MILEPOINT TO	LOCATION
51011	US-31	11 / D.7		Res. Drive	4.83	4.83	<input type="checkbox"/> L <input type="checkbox"/> M <input checked="" type="checkbox"/> R <input type="checkbox"/> T <input type="checkbox"/> L <input type="checkbox"/> M <input type="checkbox"/> R <input type="checkbox"/> T

ENVIRONMENTAL ASSESSMENT <input checked="" type="checkbox"/> CATEGORICAL EXCLUSION <input type="checkbox"/> OTHER - Describe (See form 2242)	ENDANGERED SPECIES ASSESSMENT NEEDED <input type="checkbox"/> YES (See Form 2006) <input checked="" type="checkbox"/> NO
---	---

INSPECTION TYPE <input checked="" type="checkbox"/> DEPARTMENT <input type="checkbox"/> MAINT. AGENCY <input type="checkbox"/> OTHER	INSPECTION BY <b>Manistee Co. Rd. Comm</b>	PHONE NO.	INSPECTION STATUS <input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> BILLABLE
---	---	-----------	--

SURETY TYPE <input checked="" type="checkbox"/> EXEMPT <input type="checkbox"/> CASH <input type="checkbox"/> BOND <input type="checkbox"/> CREDIT LETTER <input type="checkbox"/> RESOLUTION <input type="checkbox"/> SELF-INSURED <input type="checkbox"/> RETAINER LETTER	LIABILITY INSURANCE <input type="checkbox"/> SELF-INSURED <input checked="" type="checkbox"/> REQUIRED <input type="checkbox"/> EXEMPT
---	---

REVIEWED BY:	INT.	DATE	RECOMMENDED FOR ISSUANCE	
Constr. & Techno.			NAME <i>Russell Smith</i>	TITLE
Maintenance				DATE <b>6-6-06</b>
Traffic & Safety			APPROVED FOR MICHIGAN DEPARTMENT OF TRANSPORTATION BY	
Resource Specialist			UTILITIES PERMITS ENGINEER or REGION/TSC U.P. ENGINEER <i>[Signature]</i>	DATE <b>6-6-06</b>
Design				
Maint. Agency			WORK ACCEPTED BY (Signature)	DATE
Permits				

\* ENVIRONMENTAL CLASSIFICATION CODE

THE ATTACHMENTS AND SPECIAL CONDITIONS MARKED BELOW ARE A PART OF THIS PERMIT.

### ATTACHMENTS

- Special Conditions for Underground Construction (Form 2205C).
- Special Conditions for Seismic Explorations (Form 2251).
- Special Conditions for Discharge of Treated Effluent (Form 2252).
- Special Conditions for Monitoring Wells (Form 2253).
- Special Conditions for Transverse Crossings (Form 2254).
- Special Conditions for Excavating in Contaminated Site Closure Areas (Form 2257).
- Special Conditions for Contaminated Site Closure (Form 2259).
- Special Conditions for Alternate Environmental Cleanup Methods (Form 2475).
- Bore and Jack Special Provision (GP-1, DD- \_\_\_\_\_, JP- \_\_\_\_\_).
- Utility Cuts, Trenches and Pavement Replacement (PA - 01).
- Permit Plan for Rural and Urban Residential Driveways (PA-09).
- Commercial Driveway, (PA -) - \_\_\_\_\_
- Traffic Control Details: M-017e
- OTHER: \_\_\_\_\_
- OTHER: \_\_\_\_\_
- OTHER: \_\_\_\_\_

### SPECIAL CONDITIONS

- The Department of Transportation does not, by issuance of this permit, assume any liability claims or maintenance costs resulting from the drive facility placed by this permit. The Department reserves the right to require removal of all or any portion of this facility as needed for highway maintenance or construction purposes without replacement or reimbursement of any costs incurred by the permitted or other party. The permitted will defend, indemnify and hold harmless the Department for any claims whatsoever resulting from the construction or the removal of the drive authorized by this permit.
- All disturbed areas within the right of way shall be top-soiled, seeded and mulched to match existing areas per current MDOT standards and specifications.
- Upon completion of the work, the permitted shall furnish the Department with a set of as-built construction plans covered by this permit.
- no development inside of right of way except for drive
-



PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners

FROM: Jon R. Rose   
Community Development Director

DATE: June 28, 2006

RE: Mark A. Reenders Construction, Inc.

Commissioners, we have received a new site plan from Mark A. Reenders Construction, Inc. for the former Washington School property. The Fire Chief review is attached.

Preliminary review of the site plan shows the following:

- ▶ Density remains unchanged and previous comments apply.
- ▶ Along Ford Street the driveway and garages have been moved to the rear of the buildings. This has, through the use of Church Avenue eliminated all curb cuts on Ford Street.
- ▶ The new configuration along Third Avenue does provide two on-street parking spaces in front of the development.
- ▶ The moving and combination of driveways along Short Street has greatly increased the availability of on-street parking in front of the development.
- ▶ On Short Street front yard setbacks are now 40 to 50 feet.
- ▶ It has been suggested that Section 1870 Planned Unit Development, Subsection B Statement of Intent, would preclude this application being treated as a Planned Unit Development because it is not "...combining more than one primary land use...". I leave this to the Commissioners to determine.

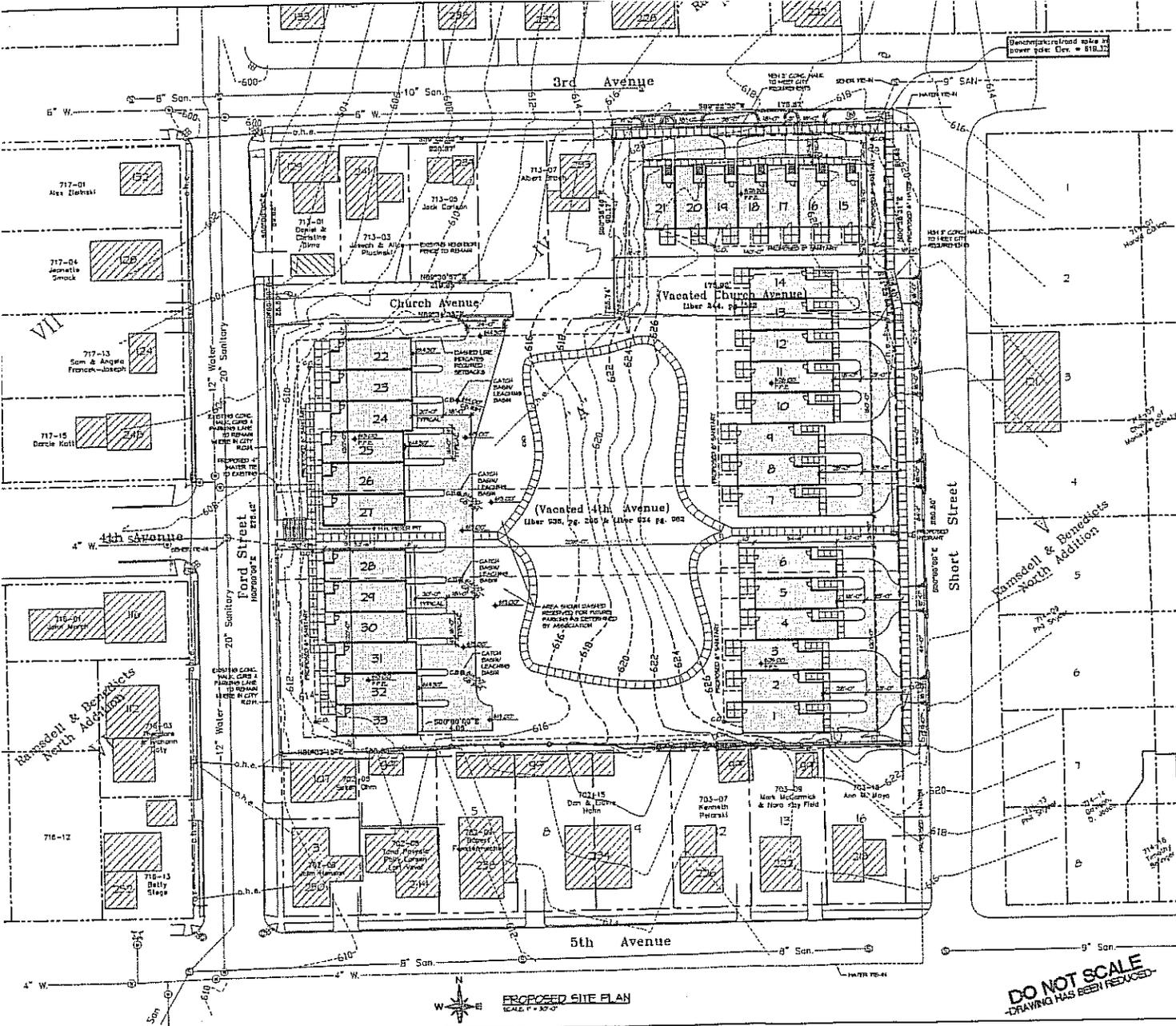
JRR:djb

MEMO TO: Jon Rose and the Planning Commission  
FROM: Sid Scrimger, Fire Chief   
DATE: June 28, 2006  
SUBJECT: Washington Square Condominiums

I have received and reviewed the revised plans for Washington Square Condominiums. The units on Short Street appear to fall short of the requirement for aerial access. However, it would still be impossible to place a ground ladder on individual units without placing the ladder in front of a door. This situation compromises firefighter safety and occupant safety and is not desirable. In addition, the units have been moved so far from the street that aerial access is impossible.

The units on Third Avenue appear to be tall enough to require aerial apparatus access. City codes call for aerial apparatus access to be not less than 15 nor more than 30 feet from the buildings. The distance from the buildings to the street appears to be in excess of 30 feet. This is not acceptable.

The units on Ford Street will also require aerial apparatus access. If the aerial access is to be Ford Street, the units are much too far from the street to be acceptable. If the aerial access is to be the drive behind the units, the drive appears to fall short of a number of the requirements for aerial access. If there is a desire to use the drive behind the units for aerial access, I would suggest that someone meet with me to discuss all the requirements that would need to be met.



- SHEET INDEX:**
- 002 WORKING & ASSOCIATES, INC. DRAWING AS PREVIOUSLY IDENTIFIED FOR ADDITIONAL INFORMATION
  - 004 PROPOSED SITE PLAN, SITE PLAN NOTES
  - 005 PROPOSED LANDSCAPE PLAN, LANDSCAPE NOTES
  - A01 SHORT STREET BUILDING ELEVATIONS
  - A02 THIRD AVENUE BUILDING ELEVATIONS
  - A03 FORD STREET BUILDING ELEVATIONS

**GENERAL SITE NOTES:**

EXISTING GRADE CONDITIONS TO BE MAINTAINED OR RESTORED AS NECESSARY TO EXISTING CONDITIONS EXCEPT AS SPECIFIC ELEVATIONS AS NOTED ON PLAN.

STREET ADDRESSES TO BE POSTED AT EACH CORNER DIRECTLY ABOVE OR CLOSEST POINT THERE TO NEAR CORNER OR GARAGE.

A NUMBER OF TWO OFF-STREET PARKING SPACES ARE PROVIDED AT EACH END OF THE LOT. ONE SPACE OF ONE CAR OR MORE IS PROVIDED AT CORNER OF GARAGE.

A TOTAL OF 10 GRID CUTS ARE PROVIDED FOR THIS DEVELOPMENT. NOTES ON PAGES FIVE ON SHORT, FOUR ON THIRD, ONE ON CHURCH, TWO ON VACATED CHURCH, ONE ON VACATED 4TH AND ONE ON FORD STREET. THE NUMBER OF PROPOSED GRID CUTS IS FEWER THAN THAT REQUIRED BY A TYPICAL CITY BLOCK.

**PROPERTY DESCRIPTION:**

The East 44 ft. of Lot 3 and all of Lot 3 of Block 4 of Hamlet of Hamlet North Addition to the City of Hamlet and also the North 1/2 of the West 1/2 of Lot 3 of Block 4 of Hamlet North Addition to the City of Hamlet, and also Lots 1 and 2 of Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 2, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 3, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 4, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 5, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 6, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 7, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 8, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 9, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 10, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 11, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 12, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 13, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 14, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 15, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 16, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 17, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 18, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 19, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 20, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 21, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 22, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 23, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 24, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 25, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 26, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 27, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 28, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 29, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 30, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 31, Block 4 of Hamlet North Addition to the City of Hamlet, and also the West 1/2 of Lot 32, Block 4 of Hamlet North Addition to the City of Hamlet.

- GRADING RECORD:**
- 620--- EXISTING CENTER LINES INDICATE REPROPOSED ELEVATION
  - 620--- EXISTING 10 FT. CENTER ELEVATION TO REMAIN AS IS
  - 620--- EXISTING 2 FT. CENTER ELEVATION TO REMAIN AS IS
  - ▲620.02 NEW SPOT ELEVATION

**SITE AREA & ZONING NOTES:**

TOTAL SITE AREA: 3.04 ACRES (132,542 SQ. FT.)

PLANNED UNIT DEVELOPMENT (PUD) ZONING: R-10

OPEN AREA: 1.20 ACRES (52,000 SQ. FT.)

RESERVED OPEN SPACE: 0.84 ACRES (36,542 SQ. FT.)

RESERVED OPEN SPACE: 0.84 ACRES (36,542 SQ. FT.)

RESERVED OPEN SPACE: 0.84 ACRES (36,542 SQ. FT.)

**UTILITY NOTES:**

CONTRACTOR TO VERIFY UTILITY AVAILABILITY & CONNECTION REQUIREMENTS WITH UTILITY PROVIDER.

ELECTRIC, TELEPHONE & CABLE CONDUITS TO BE BY UTILITY PROVIDER, UTILITIES TO BE PLACED UNDERGROUND AS FEASIBLE.

WATER & SEWER LATERALS BY DEVELOPER. VERIFY CITY OF HAMLET REQUIREMENTS. SANITARY & WATER LINES TO BE MAINTAINED BY ASSOCIATE.

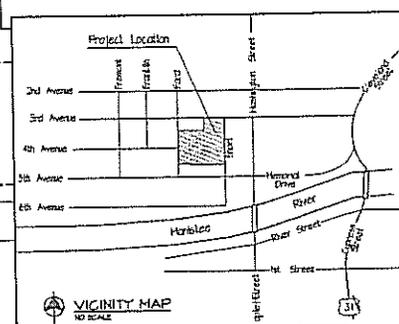
**PROPOSED FINISHING:**

FLOOR FINISH: POLISHED CONCRETE

WALL FINISH: GYP. BOARD

CEILING FINISH: GYP. BOARD

ROOF FINISH: BURR



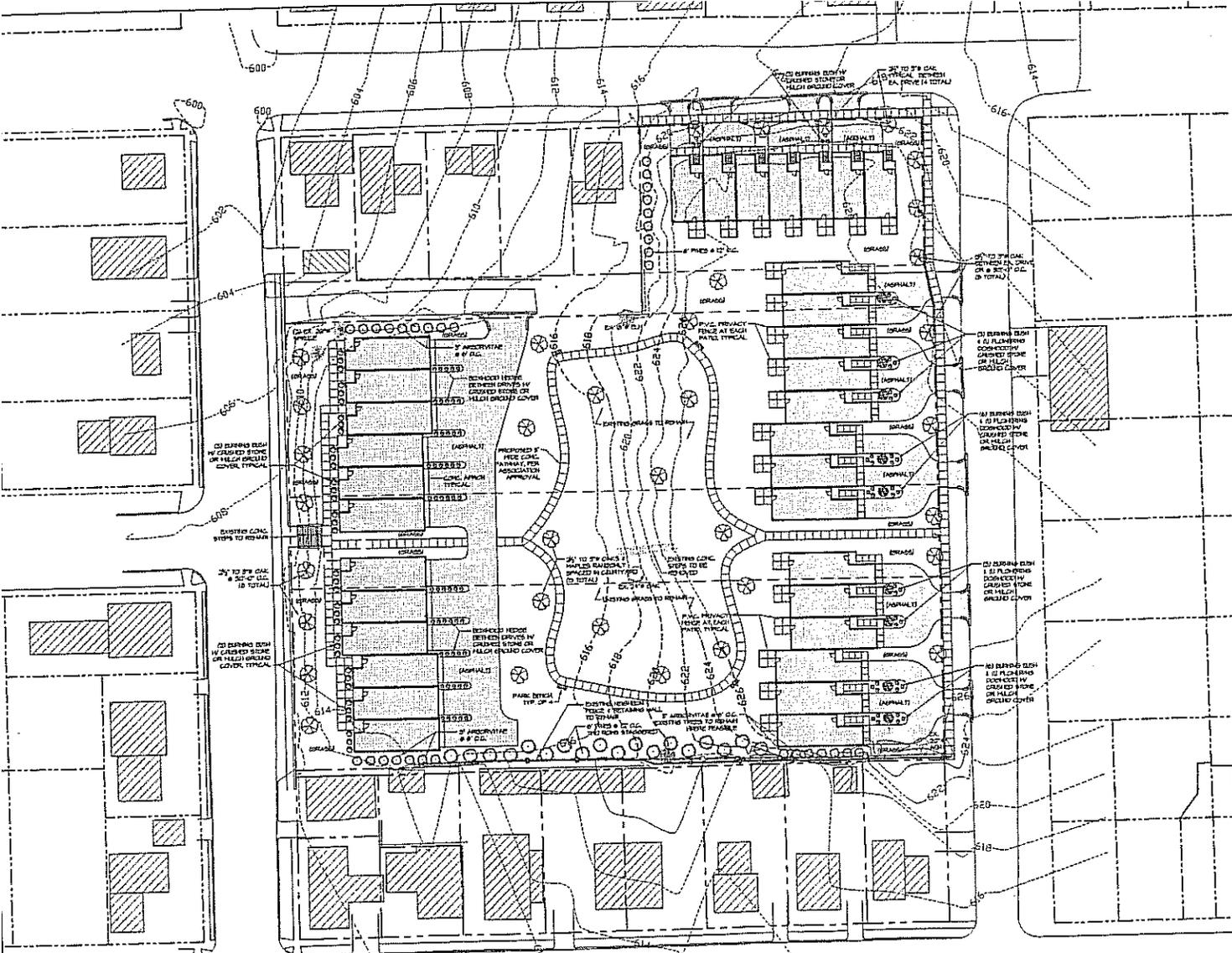
**BOSMA ARCHITECTS & ASSOCIATES, P.C.**  
 MUSKOGEE, MI 49440  
 557 WEST WESTERN AVENUE  
 PHONE: (231) 726-9519  
 FAX: (231) 726-0415

**WASHINGTON SQUARE CONDOMINIUMS**  
 MICHIGAN  
 MANISTEE

DATE: 04/19/06
REVISED: 06/22/06
FILE: 968-06
DRAWN: CD
<b>SP1</b>

**DO NOT SCALE**  
 -DRAWING HAS BEEN REDUCED-

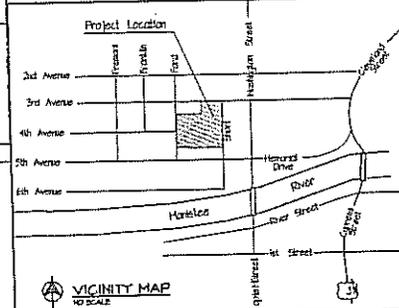
**PROPOSED SITE PLAN**  
 SCALE: 1" = 30'-0"



**PROPOSED LANDSCAPE PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL LANDSCAPE NOTES:**  
LANDSCAPING CONTRACTOR TO VERIFY PLANT SPECIES WITH SUPPLIER.  
THE ABOVE SPECIFIED SPECIES MAY BE SUBSTITUTED FOR PLANTS OF  
SIMILAR SIZE & CHARACTERISTICS AT GENERAL CONTRACTOR'S  
DISCRETION DUE TO RESTRICTIONS IN AVAILABILITY. (CSP) & SITE  
HYDRAULICITY.

**DO NOT SCALE**  
**DRAWING HAS BEEN REDUCED.**

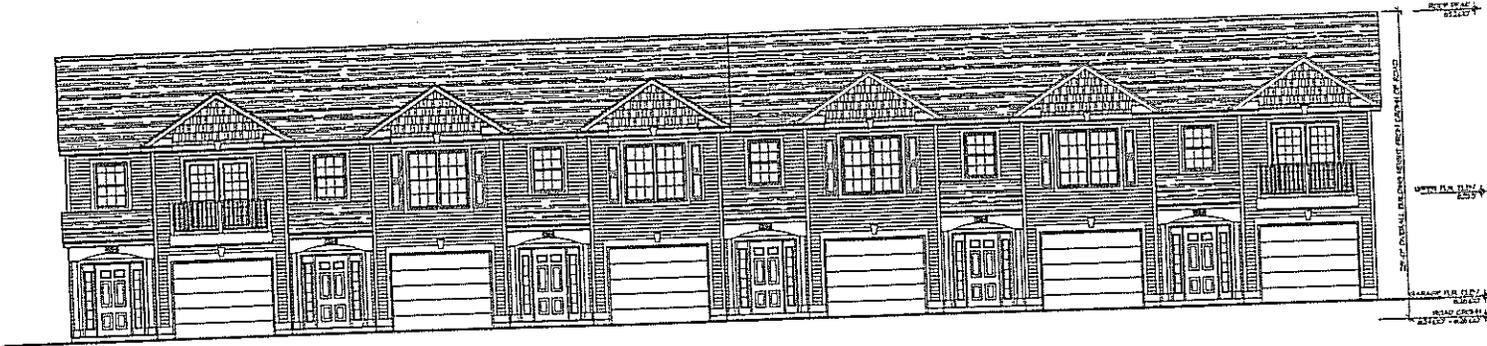


**BOSMA ARCHITECTS & ASSOCIATES, P.C.**  
MUSKOGEE, MI 49440  
557 WEST WESTERN AVENUE  
PHONE: (231) 726-9519  
FAX: (231) 722-0413

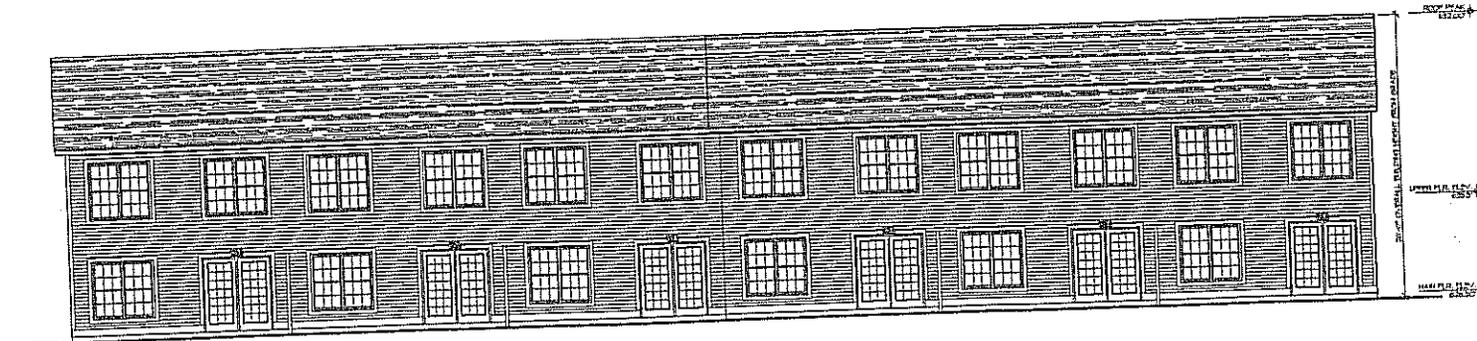
**WASHINGTON SQUARE CONDOMINIUMS**  
MICHIGAN  
MARINETTE

DATE: 04/19/08  
REV: 06/22/08  
FILE: 986-08  
DATE: 03

**SP2**



FRONT BUILDING ELEVATION  
SCALE: 3/8" = 1'-0"



REAR BUILDING ELEVATION  
SCALE: 3/8" = 1'-0"

**DO NOT SCALE**  
-DRAWING HAS BEEN REDUCED-

**PRELIMINARY**  
-NOT FOR CONSTRUCTION-

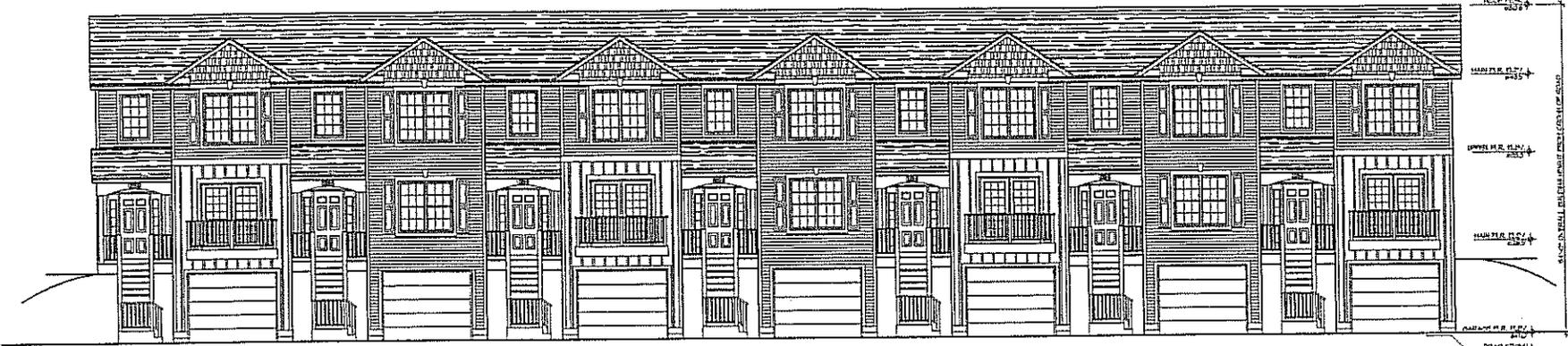
**BOSMA ARCHITECTS & ASSOCIATES, P.C.**  
MUSKEGON, MI 49446  
PHONE: (231) 728-9519  
FAX: (231) 722-0411

SHORT STREET CONDO MODELS:  
**WASHINGTON SQUARE CONDOMINIUMS**  
MANISTEE

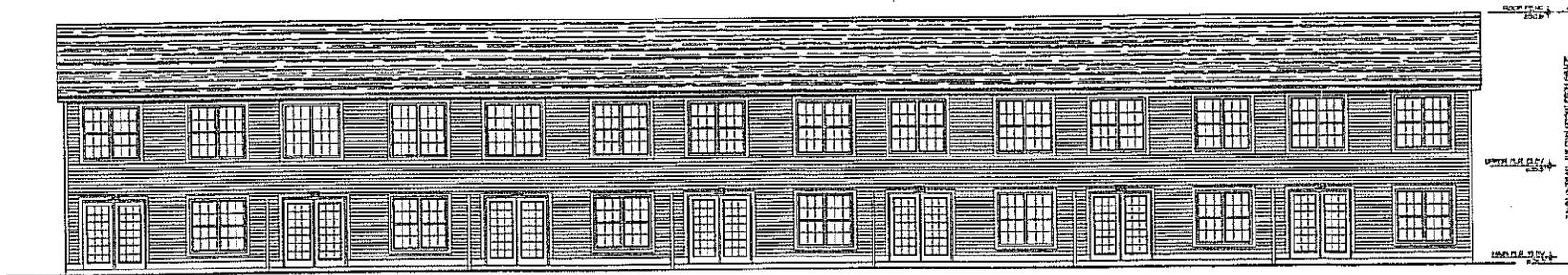
DATE: 03/20/06  
REVD: 05/22/06  
FILE: 866-06  
DWG: CD

**A2.1**





FRONT BUILDING ELEVATION  
SCALE: 3/8" = 1'-0"



REAR BUILDING ELEVATION  
SCALE: 3/8" = 1'-0"

BOSMA ARCHITECTS & ASSOCIATES, P.C.

557 WEST WESTERN AVENUE MUSKEGON, MI 49440  
PHONE: (231) 728-9519 FAX: (231) 722-0413

THIRD AVENUE CONDO MODELS:  
WASHINGTON SQUARE CONDOMINIUMS  
MANISTEE

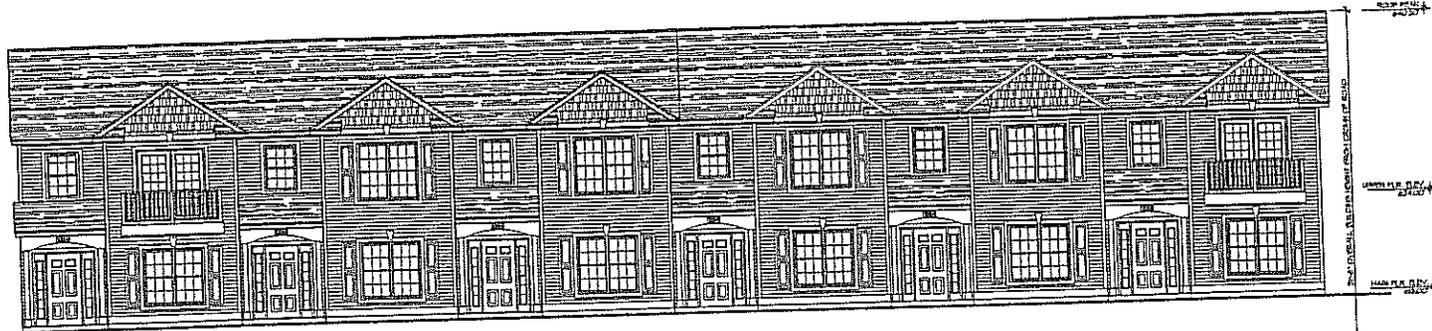
DATE: 03/20/06  
REV'D: 06/22/06  
FILE: 666-06  
DWG: CD

A2.2

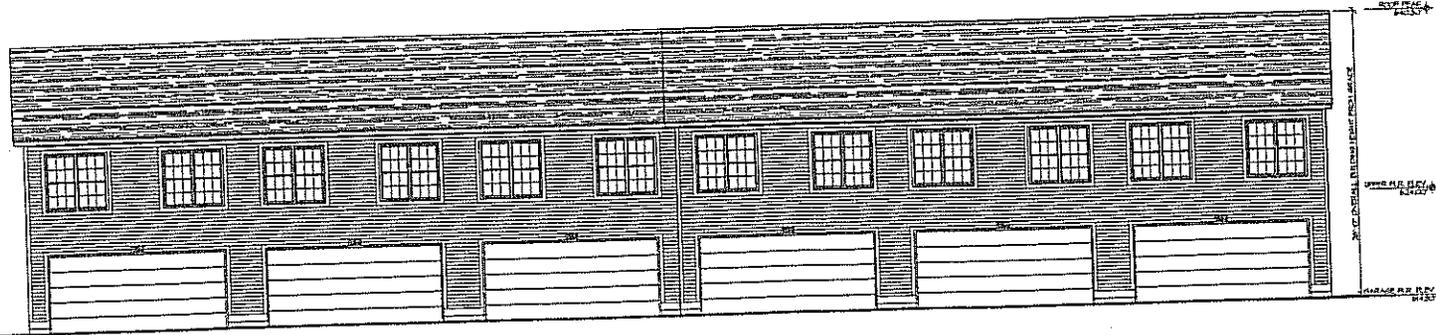


DO NOT SCALE  
-DRAWING HAS BEEN REDUCED-

PRELIMINARY  
-NOT FOR CONSTRUCTION-



FRONT BUILDING ELEVATION  
SCALE 3/8" = 1'-0"



REAR BUILDING ELEVATION  
SCALE 3/8" = 1'-0"

**DO NOT SCALE**  
-DRAWING HAS BEEN REDUCED-

**PRELIMINARY**  
-NOT FOR CONSTRUCTION-

**BOSMA ARCHITECTS & ASSOCIATES, P.C.**  
MUSKOGEE, MI 49840  
557 WEST WESTERN AVENUE  
PHONE: (231) 728-9519  
FAX: (231) 722-0413

FORD STREET CONDO MODELS:  
**WASHINGTON SQUARE CONDOMINIUMS**  
MANISTEE

DATE: 03/20/05  
REV: 06/22/05  
FILE: 966-05  
DWG: CD

**A2.3**



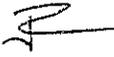


PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners

FROM: Jon R. Rose   
Community Development Director

DATE: June 28, 2006

RE: Sand Products Corporation

Commissioners, enclosed is a revised Site Plan from Sand Products Corporation for their Planned Unit Development and a Soil Bearing Summary. Mr. Canestraight's letter includes a proposal for an extension from the current August 3, 2006 deadline.

This item has been placed on the agenda under unfinished business.

JRR:djb



## SAND PRODUCTS CORPORATION

MINERS AND SHIPPERS

Mr. Roger Yoder, Chairman  
Planning Commission  
City of Manistee  
70 Maple Street  
Manistee, Michigan 49660

June 26, 2006

RE: Man Made Lake Site Plan and Soil Bearing Summary

Dear Mr. Yoder,

Please find attached Man Made Lake Phase 3 Site Plan as well as Abonmarche Group's June 2, 2006 report on soil bearing capacity.

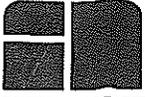
In our last visit before your commission, we briefly presented a similar Site Plan for conceptual review and comment during work session. In light of the favorable response, we would like to officially present this alternative plan offering up substantial perimeter use of Man Made Lake.

In addition to presenting the attached materials during your July 6, 2006 meeting, we would also like to propose an extension of the current August 3, 2006 deadline for the planning commission's official consideration on this matter.

Very truly yours,

Chuck Canestraight  
President  
Sand Products Corporation

Cc: Mr. Jon Rose- City of Manistee Community Development



June 2, 2006

Chuck Canestraight, President  
Sand Products Corporation  
63 Kercheval, Suite 200  
Grosse Pointe, Mi. 48236

RE: Man Made Lake, Phase III  
Manistee, Michigan

Dear Mr. Cainstraight,

Upon your request, we have complete hand auger soil borings and soil bearing capacity testing within the Phase III portion of your development. The fieldwork was completed on May 19<sup>th</sup> and 22<sup>nd</sup>, 2006. At each of the four proposed building sites between Lake Michigan and Man Made Lake, we performed soil borings to a depth of four feet, completed a bearing capacity test at that depth, then proceeded with the soil borings to a depth of eight feet, where we completed an additional bearing capacity test. A set of tests was completed to a depth of four feet at five locations along the approximate alignment of the proposed roadway, north and west of the Man Made Lake shoreline. The results were as follows:

Each location contained granular sand, with trace gravel encountered at various locations for the full depth of the boring. Please refer to the attached drawing for location reference.

#### ROADWAY

Location #1 -	4ft = 2625lbs/sft
Location #2 -	4ft = 3145lbs/sft
Location #3 -	4ft = 4190lbs/sft
Location #4 -	4ft = 3670lbs/sft
Location #5 -	4ft = 4450lbs/sft

#### BUILDING SITES

Location #7 -	4ft = 2625lbs/sft	8ft = 2885lbs/sft
Location #8 -	4ft = 2365lbs/sft	8ft = 3670lbs/sft
Location #9 -	4ft = 2100lbs/sft	8ft = 2885lbs/sft
Location #10 -	4ft = 2365lbs/sft	8ft = 4190lbs/sft



Sand Products  
Man Made Lake  
June 2, 2006  
Page 2 of 3

A review of the results with our engineers indicates no concerns for standard construction of the roadway. Should "soft spots" be encountered during construction, standard practices such as mechanical compaction and/or use of geotextiles could be utilized for remedy.

Our local Architect indicates that standard foundation design for single-family homes require a minimum of 2000 lbs/sft of bearing capacity. Each of the tests indicates bearings exceeding this level. Additional tests are recommended before construction of each building. Should a reading be found lower than 2000 lbs/sft, standard practices to address the area could include compaction or widening of the footing.

Thank you for this opportunity to be of service. Please contact us should you have any questions or comments.

Sincerely,

ABONMARCHE CONSULTANTS, INC.



Jeffrey W. Mikula  
Vice President-Manistee Division

Attachment

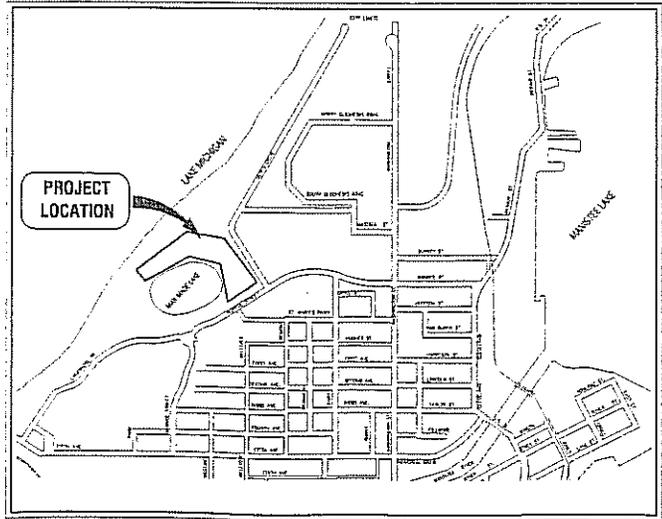
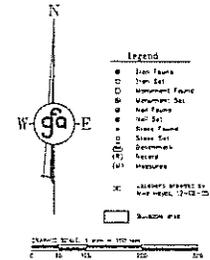
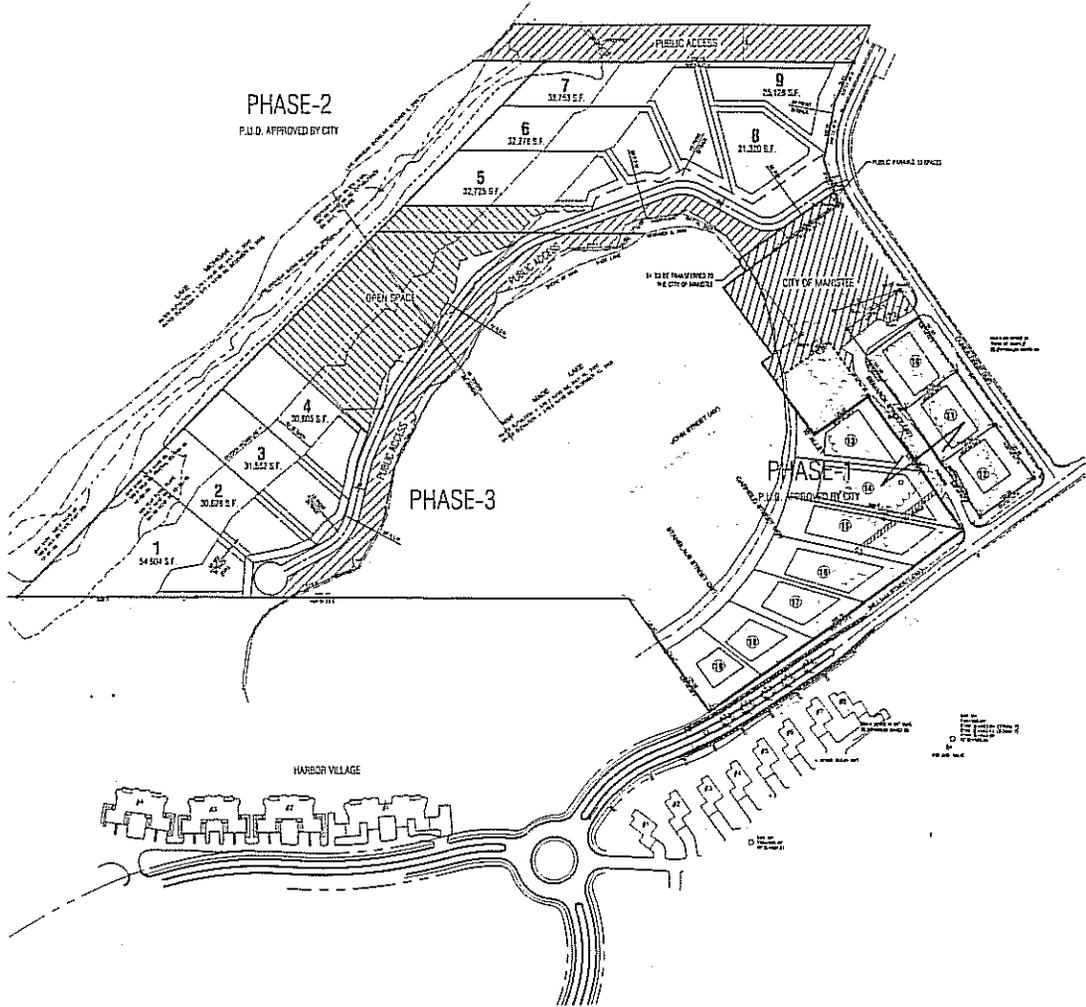
JWM





**NOTES**

- PHASE 3 DENSITY CALCULATION:  
 GROSS AREA= 6.74 ACRES  
 R.O.W. AREA= 1.23 ACRES  
 OPEN SPACE AREA= 1.23 ACRES  
 NET AREA= GROSS - R.O.W. - OPEN SPACE  
 NET AREA= 4.27 - 1.23 - 1.23  
 NET AREA= 1.81 ACRES (13,842 ACRES/SQ. FT.)  
 NET AREA= 156,122 SQ. FT.  
 DENSITY OF 18,000 SQ. FT. UNITS= 156,122 SQ. FT./ 18,000 SQ. FT.= 8.78 UNITS
- SANITARY, SEWER, WATER, GAS, ELECTRIC, PHONE AND CABLE UTILITIES WILL BE WITHIN RIGHT-OF-WAY. UTILITIES SHALL CONNECT TO EXISTING UTILITIES AT SOME POINT, SIMILAR TO APPROVED P.U.D. PHASE-2.
- SURFACE AND UNDERSPACE STORM WATER DRAINAGE SHALL BE DEVELOPED WITHIN RIGHT-OF-WAY AND OPEN SPACE TO MEET THE CURRENT STORMWATER CONTROL ORDINANCE. APPROPRIATE DRAINAGE FACILITIES TO BE PROVIDED.
- PILE SOILS ARE GENERALLY FINE TO COARSE GRAINED SAND. CONSTRUCTION PROCEDURES WILL MEET REQUIREMENTS OF THE CURRENT SOIL EROSION CONTROL ORDINANCE.



PR 2011463  
 102 2011463  
 www.gourdiofraser.com  
 1011 W. New York  
 Council Bluffs, IA 51503

NO.	DATE	DESCRIPTION
1	10/1/11	PRELIMINARY PLAN
2	10/1/11	REVISIONS
3	10/1/11	REVISIONS
4	10/1/11	REVISIONS
5	10/1/11	REVISIONS
6	10/1/11	REVISIONS
7	10/1/11	REVISIONS
8	10/1/11	REVISIONS
9	10/1/11	REVISIONS
10	10/1/11	REVISIONS
11	10/1/11	REVISIONS
12	10/1/11	REVISIONS
13	10/1/11	REVISIONS
14	10/1/11	REVISIONS
15	10/1/11	REVISIONS
16	10/1/11	REVISIONS
17	10/1/11	REVISIONS
18	10/1/11	REVISIONS
19	10/1/11	REVISIONS
20	10/1/11	REVISIONS
21	10/1/11	REVISIONS
22	10/1/11	REVISIONS
23	10/1/11	REVISIONS
24	10/1/11	REVISIONS
25	10/1/11	REVISIONS
26	10/1/11	REVISIONS
27	10/1/11	REVISIONS
28	10/1/11	REVISIONS
29	10/1/11	REVISIONS
30	10/1/11	REVISIONS

SAND PRODUCTS CORPORATION  
 MAN-MADE LAKE  
 PHASE-3 SITE PLAN - ALTERNATIVE  
 SECTION 2, PARCELS 21 THROUGH 31, MARSHTEE WEST  
 CITY OF MARSHTEE, MARSHTEE COUNTY, ILLINOIS

D211463  
 DTG 1 OF 1

These documents are prepared in accordance with the contractual terms and conditions for this project.



PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners

FROM: Jon R. Rose   
Community Development Director

DATE: June 28, 2006

RE: Mark & Christina Chmura - Special Use Permit request

Commissioners, during the June 1, 2006 Planning Commission meeting the Planning Commission denied the request from Mark & Christina Chmura for an 8 slip marina but strongly encouraged the applicant to return and resubmit an application that includes signage and a fish cleaning station once clear title is obtained.

We received a letter from James T. Nordlund, Sr. P.E., Registered Land Surveyor stating that Lot 42 of Green & Milmo's Addition to the City of Manistee has riparian rights. The request is being made in light of certified information which states Mr. & Mrs. Chmura have riparian rights.

I am recommending that the Planning Commission reconsider their motion to deny the request now that clear title has been obtained. Mr. Chmura has submitted a Site Plan which includes the location of the Fish Cleaning Station and signage as requested by the Planning Commission.

Any member of the Planning Commission who voted with the majority to deny the request from Mr. Chmura would be able to make a motion to reconsider the motion at the July 6, 2006 meeting.

We have placed this item on the July Planning Commission Agenda for reconsideration by the Commissioners.

JRR:djb

Captain Mark Chmura  
14051 Lakeside Avenue  
Bear Lake, MI 49614

## SURVEYOR'S CERTIFICATE

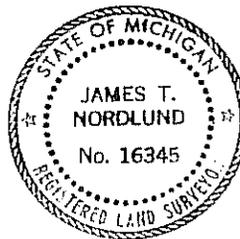
Re: Marina, Manistee River  
Manistee, MI

In response to your request as to the ownership of accreted land that is adjacent to the northerly (Riverside) boundary of Lot 42 of Green and Milmo's Addition to the City of Manistee, we have the following:

The Plat which was completed in 1872 does not mention riparian rights. The Plat does graphically show the northerly boundary as being irregular and the notation "Manistee River" is permanently displayed adjacent to the northerly plat boundary.

The deed to Walter R. Green and Holden N. Green recorded in Liber 8, page 278, specifically states that the northerly boundary of their lands in Lot 1, Section 12, T21N, R 17W is the thread of the Manistee River.

It is my opinion that said Lot 42 has riparian rights. If Lot 42 has riparian rights it then follows that any land deposited between the northerly plat boundary and the waters edge of the Manistee River is owned by the entities who have ownership of said lot.



FILE: 9179-1  
DATE: 6-22-2006

*James T. Nordlund*  
Registered Surveyor



Providing Complete  
Engineering & Surveying  
Services since 1972

Nordlund & Associates Inc.

013 E. Ludington Ave.      267 River Street  
Ludington, MI 49451      Manistee, MI 49860  
(231) 843-3485      (231) 723-6480  
(231) 843-7870 fax number

FRONT ALLOWED.

54 SQ. FT.

SIDE ALLOWED.

133½ SQ. FT.

SIDE SIGN

PIER PRESSURE MARINA

32 SQ. FT.

---

HOME OF

BACK SIGN

PIER PRESSURE CHARTER'S.

WORLD CLASS

SPORT FISHING.

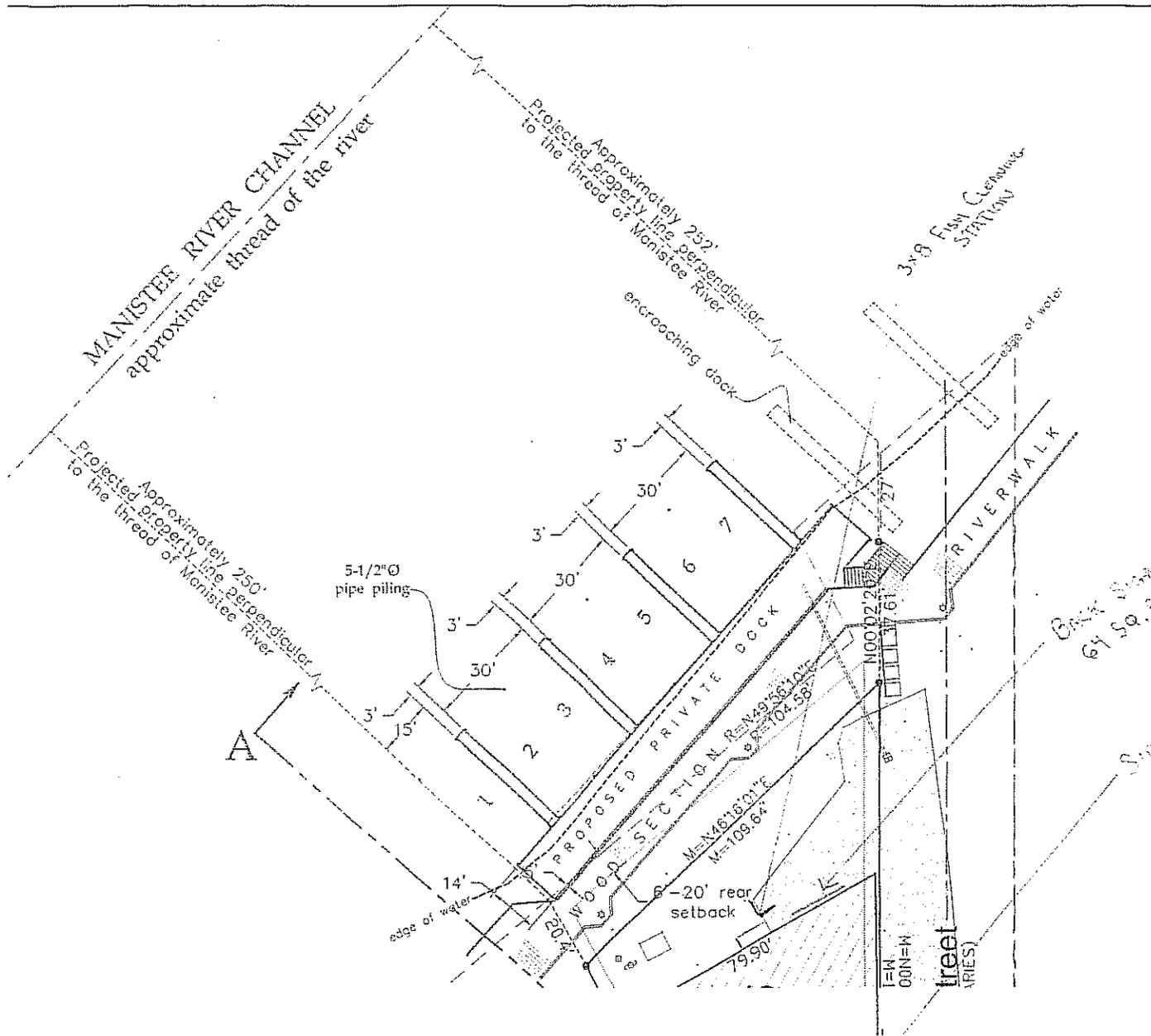
64 SQ. FT.

PIER PRESSURE TOTAL

96 SQ. FT.

ON SIDE AND BACK.

SIGN LOCATIONS  
+ FISH STATION



BRICK DRIVE  
64 SQ. FT.

PAVED DRIVE  
32 SQ. FT.

MARK CAWVER  
308 RIVER ST.



PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners

FROM: Jon R. Rose   
Community Development Director

DATE: June 28, 2006

RE: Presentation on "*Finding Common Ground: Lake Michigan Joint Planning Options in Benzie and Manistee Counties*"

Commissioners, we have received a request from Patty O'Donnell, Northwest Michigan Council of Governments to be placed on the July Planning Commission Agenda. We have put Ms. O'Donnell under Other Communications on the Agenda. Ms. O'Donnell will give a presentation about "*Finding Common Ground: Lake Michigan Joint Planning Options in Benzie and Manistee Counties*" (see attached handout).

Ms. O'Donnell will be giving her presentation at the Manistee Township Planning Commission Meeting at 7:00 and will try to be at City Hall around 8:00 p.m. We have placed her at the end of the agenda to accommodate her schedule.

JRR:djb



## Finding Common Ground: Lake Michigan Joint Planning Options in Benzie and Manistee Counties

The *Northwest Michigan Council of Governments* has been awarded a grant from the Michigan Coastal Management Program, Michigan Department of Environmental Quality, through a grant from the National Oceanic and Atmospheric Administration. This grant is to implement the *Lake Michigan Joint Planning Options in Benzie and Manistee Counties* project and will inform the master planning and zoning process by educating and working with local officials about planning options for water resources protection.

The foundation for this project is the recommendations from the Michigan Land Use Leadership Council and Michigan Public Act 226 of 2003, the Joint Municipal Planning Act. This Act provides for joint land use planning by cities, villages, and townships. This new tool will help with coordinating planning for the "big picture" issues that cross jurisdictional boundaries while maintaining local control of land use issues. This project includes working with the eight (8) townships, two (2) cities, and three (3) villages bordering Lake Michigan. The framework for this joint planning project is a facilitated, guided exploration process, combined with technical assistance.

The Northwest Michigan Council of Governments will be hosting six (6) workshops for the townships, city and villages within the two counties bordering Lake Michigan. The local units of governments include the townships of Lake, Crystal Lake, Gilmore, Blaine, Arcadia, Onekama, Manistee, and Filer; the cities of Frankfort and Manistee, and the Villages of Elberta, Onekama, and East Lake. The units of government will focus on community issues such as water quality and watershed planning. This grant project is to facilitate the implementation of sound land use and environmental policies and practices based on science, local priorities, and local interest needs. Follow-up sessions will also be held to bring all the entities together to share what they have developed.

The regional workshop sessions will include:

- 1) **Training session:** training on the legislative options and opportunities for the townships, city; and villages; the presentation of scientific data and facts (local nonprofit, environmental organization staff); maps of the sub-region; and local ordinance assessment.
- 2) **Work session:** a facilitated strategy session on local ordinance assessment, technical assistance; and capacity building
- 3) **Action session:** development of action strategies; discussion regarding potential model ordinances, joint planning amendments, and/or overlay districts

Some of the planning options that local governments may consider:

- ☞ Individual units of government modifying their ordinances simultaneously to include language that would incorporate aspects of natural resource protection
- ☞ Developing an overlay zoning district that would cross jurisdictional boundaries that would be incorporated into existing units of government's zoning ordinances
- ☞ Forming a new joint (multi-jurisdictional) planning commission or zoning board
- ☞ Moving towards permitting on a watershed basis
- ☞ Sharing zoning administration
- ☞ Sharing enforcement activities

The northwest, lower Michigan region has gathered many tools over the years to protect the water resources of the Lake Michigan watershed. They are being brought together with the *Lake Michigan Joint Planning Options in Benzie and Manistee Counties* project. Workshop participants will be able to review and utilize the tools that are available to provide a solid background and opportunity for action.

Examples of a few of the tools include:

- Watershed Management Plans:**
  - Betsie River
  - Herring Lake
  - Little Manistee River
  - Manistee River including Bear Creek
  - Platte River
- Benchmarks Northwest – Quality of Life Indicators and Community Assessment Tool**
- Preserving Michigan Wetlands: Options for Local Governments**
- Protecting Water Resources with Smart Growth**
- Opportunities for Water Resource Protection in Local Plans, Ordinances, and Programs**
- U.S. Environmental Protection Agency, Lake Michigan Lakewide Management Plan (LaMP)**
  - Watershed Academy and Lake Michigan Habitat and Land Use Management Tool Box

Recent studies and surveys have shown that the protection of our quality of life is in the minds and hearts of the region residents. The goal of this project is to gently bring together elected and appointed officials in the region to explore ways to jointly plan for issues that cross the many jurisdictional boundaries.

For more information, please contact: Patty O'Donnell, Regional Planner at (231) 929-5039 or via email at [podonnel@nwm.cog.mi.us](mailto:podonnel@nwm.cog.mi.us).

# Lake Michigan Joint Planning Options Project in Benzie and Manistee Counties



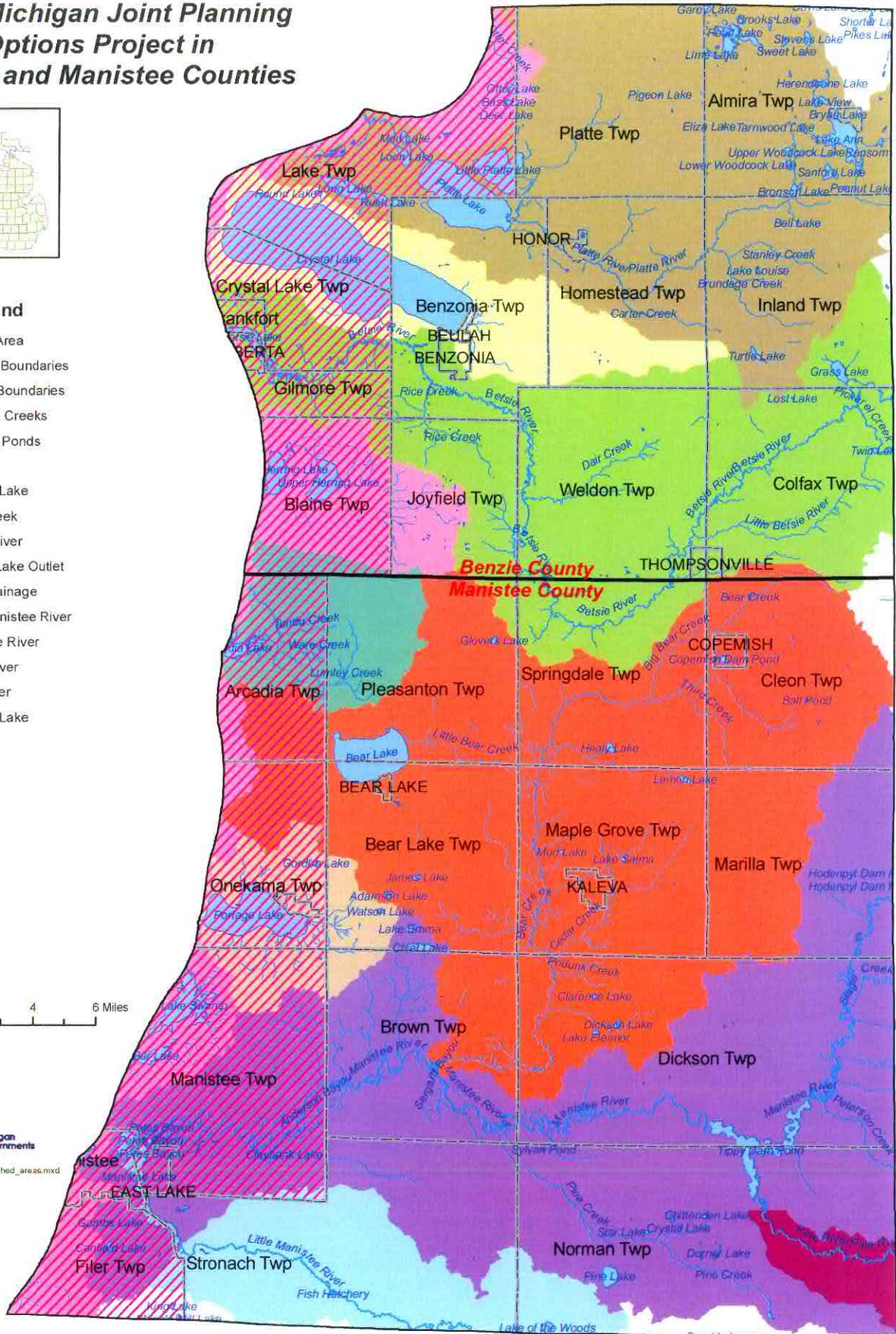
## Legend

- Project Area
  - Political Boundaries
  - County Boundaries
  - Rivers & Creeks
  - Lakes & Ponds
- ### Watersheds
- Arcadia Lake
  - Bear Creek
  - Betsie River
  - Crystal Lake Outlet
  - Lake Drainage
  - Little Manistee River
  - Manistee River
  - Platte River
  - Pine River
  - Portage Lake



0 1 2 4 6 Miles

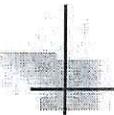
Map produced by:  
 Northwest Michigan Council of Governments  
 Map Date: 20 April 2006  
 Project: Ben\_Man\_watershed\_areas.mxd





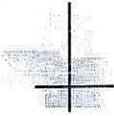
## **Finding Common Ground: Exploring Opportunities for Joint Planning**

- Northwest Michigan Council of Governments has been awarded a Coastal Management Program grant from the Michigan Department of Environmental Quality to help educate and work with local officials about planning options for water resource protection.
- Working with the eight (8) townships, two (2) cities, and three (3) villages bordering Lake Michigan as a pilot project - townships of Lake, Crystal Lake, Gilmore, Blaine, Arcadia, Onekama, Manistee, and Filer; the cities of Manistee and Frankfort; and the villages of Elberta, Onekama, and Eastlake



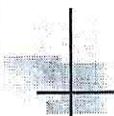
## **Foundation for this Project**

1. Recommendations from the Michigan Land Use Leadership Council
2. Michigan Public Act 226 of 2003, the Joint Municipal Act. Provides for joint land use planning by townships, villages, and cities even across county lines.
3. Build awareness of options; present tools for implementation; and to provide technical assistance and support for implementation.



## **Essential Elements of the Project**

**Six (6) workshops will be held with three (3) sessions in each county with a full region follow-up meeting.**

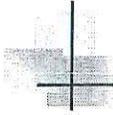


## **Workshop Sessions**

Training session: training on the legislative options and opportunities for the townships, cities, and villages; the presentation of scientific data and facts (local non-profit and agency staff); maps of the region.

Work session: a facilitated strategy session on the local ordinance assessment; technical assistance; and capacity building.

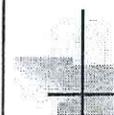
Action session: development of action strategies around the common issues; sample model ordinances, joint planning amendments, and/or overlay districts.



## **Many Tools Brought Together**

Review and utilize the tools that are available to provide a solid background and opportunity for action: Examples:

- Manistee River Watershed Initiative
- EnVision Manistee Topic Priorities
- Platte River Watershed Management Plan
- Benchmarks Northwest – Quality of Life Indicators and Community Assessment Tool
- Filling the Gaps: Environmental Protection Options for Governments
- Lake Michigan Lakewide Management Plan



## **Coming Together for Education and Action**

- Provide a facilitated, guided exploration process, combined with technical assistance
- Provide an assessment of master plans and zoning ordinances pertaining to water resources protection
- Work with neighboring governments to learn and share concerns, issues, and solutions while maintaining local authority and control
- Start the process to plan together – who would participate: Planning Commissioners, Staff, and Board members

Population by County, Township, City, Village  
 (2005 Population Estimate Source: Population Division, U.S. Census Bureau; Release Date: June 21, 2006)

	Population 1970 Census	Population 1980 Census	Population 1990 Census	Population 2000 Census	Population 2005 Estimate	Change 1970-1980	Change 1980-1990	Change 1990-2000	Change 2000-2005
<b>MANISTEE COUNTY</b>	<b>20,094</b>	<b>23,019</b>	<b>21,265</b>	<b>24,527</b>	<b>25,226</b>	<b>2,925</b>	<b>-1,754</b>	<b>3,262</b>	<b>699</b>
Arcadia Township	592	641	553	621	633	49	-88	68	12
Bear Lake Township	1,444	1,658	1,419	1,587	1,642	214	-239	168	55
Brown Township	390	631	588	712	730	241	-43	124	18
Cleon Township	555	764	713	932	975	209	-51	219	43
Dickson Township	627	777	735	929	989	150	-42	194	60
Filer Township	1,921	2,143	1,966	2,208	2,234	222	-177	242	26
Manistee city	7,723	7,665	6,734	6,586	6,656	-58	-931	-148	70
Manistee Township	2,875	3,209	2,952	3,764	4,006	334	-257	812	242
Maple Grove Township	750	1,071	1,123	1,285	1,287	321	52	162	2
Marilla Township	213	266	268	362	389	53	2	94	27
Norman Township	678	944	1,189	1,676	1,694	266	245	487	18
Onekama Township	1,128	1,444	1,266	1,514	1,521	316	-178	248	7
Pleasanton Township	486	627	573	817	828	141	-54	244	11
Springdale Township	199	452	498	730	793	253	46	232	63
Stronach Township	513	727	688	804	849	214	-39	116	45
Villages:									
--- Bear Lake	376	388	339	318	331	12	-49	-21	13
--- Copemish	237	287	222	232	226	50	-65	10	-6
--- Eastlake	512	514	473	441	569	2	-41	-32	128
--- Kaleva	377	445	484	509	502	68	39	25	-7
--- Onekama	638	582	515	647	634	-56	-67	132	-13

Population by County, Township, City, Village  
 (2005 Population Estimate Source: Population Division, U.S. Census Bureau; Release Date: June 21, 2006)

	% Change 1970-1980	% Change 1980-1990	% Change 1990-2000	% Change 2000-2005	Average Annual % Change 1970-1980	Average Annual % Change 1980-1990	Average Annual % Change 1990-2000	Average Annual % Change 2000-2005
<b>MANISTEE COUNTY</b>	<b>14.6%</b>	<b>-7.6%</b>	<b>15.3%</b>	<b>2.8%</b>	<b>1.5%</b>	<b>-0.8%</b>	<b>1.5%</b>	<b>0.6%</b>
Arcadia Township	8.3%	-13.7%	12.3%	1.9%	0.8%	-1.4%	1.2%	0.4%
Bear Lake Township	14.8%	-14.4%	11.8%	3.5%	1.5%	-1.4%	1.2%	0.7%
Brown Township	61.8%	-6.8%	21.1%	2.5%	6.2%	-0.7%	2.1%	0.5%
Cleon Township	37.7%	-6.7%	30.7%	4.6%	3.8%	-0.7%	3.1%	0.9%
Dickson Township	23.9%	-5.4%	26.4%	6.5%	2.4%	-0.5%	2.6%	1.3%
Filer Township	11.6%	-8.3%	12.3%	1.2%	1.2%	-0.8%	1.2%	0.2%
Manistee city	-0.8%	-12.1%	-2.2%	1.1%	-0.1%	-1.2%	-0.2%	0.2%
Manistee Township	11.6%	-8.0%	27.5%	6.4%	1.2%	-0.8%	2.8%	1.3%
Maple Grove Township	42.8%	4.9%	14.4%	0.2%	4.3%	0.5%	1.4%	0.0%
Marilla Township	24.9%	0.8%	35.1%	7.5%	2.5%	0.1%	3.5%	1.5%
Norman Township	39.2%	26.0%	41.0%	1.1%	3.9%	2.6%	4.1%	0.2%
Onkama Township	28.0%	-12.3%	19.6%	0.5%	2.8%	-1.2%	2.0%	0.1%
Pleasanton Township	29.0%	-8.6%	42.6%	1.3%	2.9%	-0.9%	4.3%	0.3%
Springdale Township	127.1%	10.2%	46.6%	8.6%	12.7%	1.0%	4.7%	1.7%
Stronach Township	41.7%	-5.4%	16.9%	5.6%	4.2%	-0.5%	1.7%	1.1%
Villages:								
--- Bear Lake	3.2%	-12.6%	-6.2%	4.1%	0.3%	-1.3%	-0.6%	0.8%
--- Copemish	21.1%	-22.6%	4.5%	-2.6%	2.1%	-2.3%	0.5%	-0.5%
--- Eastlake	0.4%	-8.0%	-6.8%	29.0%	0.0%	-0.8%	-0.7%	5.8%
--- Kaleva	18.0%	8.8%	5.2%	-1.4%	1.8%	0.9%	0.5%	-0.3%
--- Onkama	-8.8%	-11.5%	25.6%	-2.0%	-0.9%	-1.2%	2.6%	-0.4%



PLANNING AND ZONING  
COMMUNITY DEVELOPMENT  
231.398.2805  
FAX 231.723-1546  
www.ci.manistee.mi.us

## MEMORANDUM

---

TO: Planning Commissioners  
FROM: Denise Blakeslee   
DATE: June 21, 2006  
RE: Information

Commissioners, we do not have a Worksession scheduled this month so I did not send out a packet for that. Your July meeting packet will be mailed at the end of next week. We have received some information in the interim and I am forwarding it to you for your review.

Enclosed is a copy of "*Lake Michigan Level Comparisons*" submitted by Bob Strohs.

This month's copy of Planning & Zoning News covers the changes of PA 110 of 2006: Michigan Zoning Enabling Act. This is the topic of the workshop on July 13<sup>th</sup>.

Harlo Haines is the newest member of the Planning Commission. We will welcome him at the July Meeting!

I hope everyone is enjoying their summer!

:djb

cc: City Council

June 6, 2006

Mr. Roger Yoder, Chair  
and Members of the Planning Commission  
City of Manistee  
70 Maple Street  
Manistee, MI 49660

Dear Chairman Yoder and Commissioners:

Please consider the following factual statistical data in making a decision on Sand Products, Phase III/Man Made Lake.

For your review, enclosed are historical pictures of some past damage caused by various Lake Michigan levels from 1951 through 1990. All pictures include U. S. Corps of Engineers lake levels at time of picture vs. June 2006 levels. I'm sure further research would reveal more News Advocate pictures of damage on high water cycles.

CURRENT LAKE MICHIGAN LEVELS ARE 4.1 FEET BELOW 1986 HIGHS.

Index

<u>TAB A</u>	1951 Pictures. News Advocate 5 <sup>th</sup> Avenue Bathhouse (water 2.56 feet higher than 6/06).
<u>TAB B</u>	Man Made Lake Breach 1985 & 1986 (water 3.61 feet higher in 1985 than 6/06).
<u>TAB C</u>	Aerial view Man Made Lake 1990 (water 1.25 feet higher than 6/06).
<u>TAB D</u>	2006 Pictures. Northeast corner Man Made Lake.
<u>TAB E</u>	U. S. Corps of Engineers. Current month June 2006 Lake Michigan water levels.
<u>TAB F</u>	U. S. Corps of Engineers. Lake Michigan levels 1918 through 2005.

## Lake Michigan Level Comparisons

In June 2006 we are 1.6 feet below the long term average and 4.1 feet below the high of 1986 (refer to TAB E).

For an excellent view of lake level cycles please refer to TAB F. Observing the damage caused by wind and high water in 1951 (TAB A), at which time lake level was 580.26, I have highlighted all years in which lake levels were 580.00 or greater in the month of July. An interesting pattern is evident clearly showing lake level cycles.

As a responsible community we must consider the horrible consequences future generations will face by betting against our fickle, wonderful Lake Michigan.

In light of the data available to us from the Corps of Engineers the following looks like a BAD BET. For the gain of taxes on 4 or 5 lots on the Lake Michigan shore, we are betting that history will not repeat itself. However, we have data from 1918 through 2006 that says we have cycles in water levels that clearly threaten anything on the Sand Products, Phase III site.

We must DO THE RIGHT THING!

Sincerely,



Bob Strohs  
332 Lakeshore Drive  
231-723-4659  
cell 248-505-3524

cc: Jon Rose  
Mitch Deisch  
Mayor Goodspeed  
City Council members

7-26-51

DELIVERED BY AIRPLANE AND MOTOR TRUCK IN THE MANISTEE AREA

# The Manistee

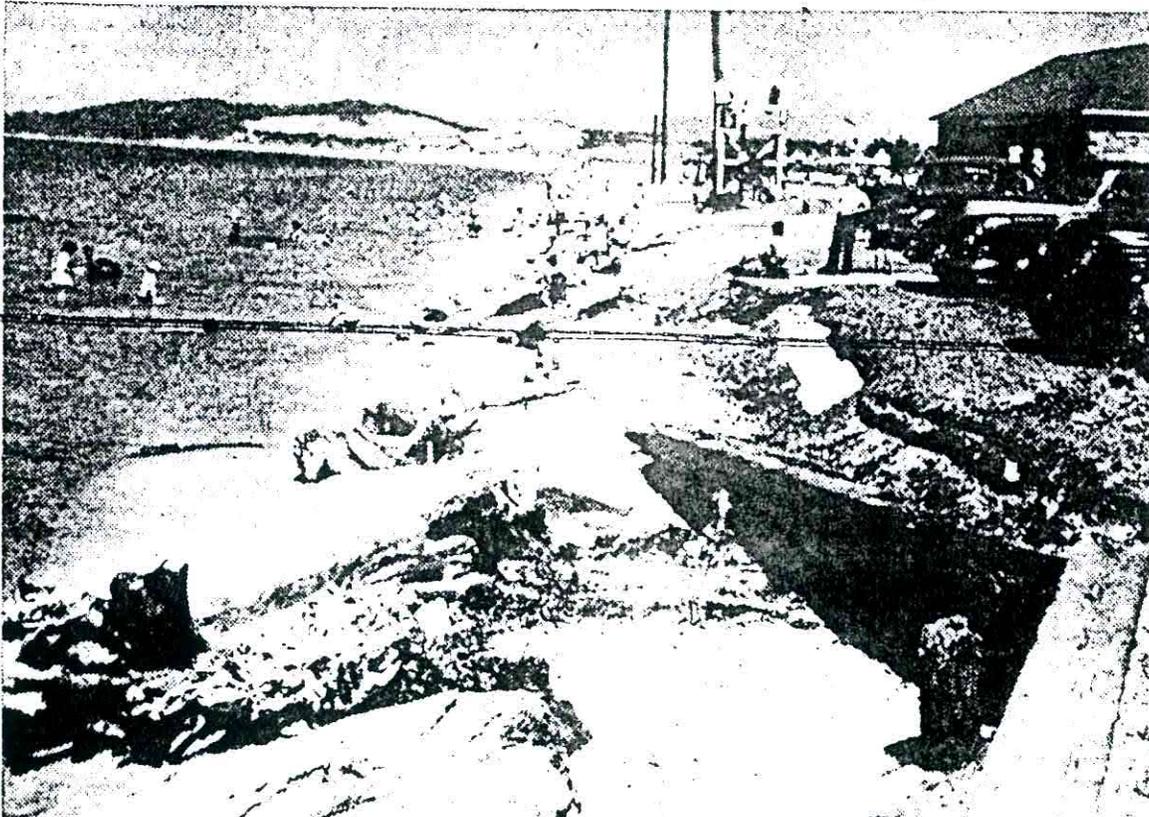
FIFTY-SEVENTH YEAR, NO. 251

U. P. FULL LEASED WIRE

MANISTEE, MICH.

## CEASE-FIRE AGENDA

### Storms Play Havoc With Local Beaches



WHEN THIS OCCURRED LAKE WAS 2.56' HIGHER THAN JUNE 2006

7-26-51 LAKE LEVEL 580.26

LAKE LEVEL JUNE 2006 577.7

2.56 FT. HIGHER THAN JUNE 2006

### PRES. TRUMAN DEFENDS U.S. POSITION ON KOREAN ACTION

#### Decision to Oppose "Barbarous" Aggression Prevented World War II

By DONALD J. GONZ  
United Press Staff Correspondent  
WASHINGTON — (U.P.) President Truman today told Congress that the United Nations decision to oppose "barbarous" aggression in Korea prevented a third World War. Mr. Truman stoutly defended UN Korean action in a report on America's role in diplomatic and military operations during 1950. The report, ten pages long, was released prior to the current news conference. Korea highlighted Mr. Truman's report and his letter of transmittal. The 420-page document detailed all UN actions in the year and recalled that the UN took a "critical turn" on June 27, 1950, when the UN offensive against North Korea with a mass offensive by UN forces against the Chinese communists. The report also reviewed the UN's role in Formosa, Chinese representation at the UN, treaty violations by Soviet satellites, and Russia's role.

"The United Nations should act rather than to drag out the Korean conflict."

9-28-51

DELIVERED BY  
AIRPLANE AND  
MOTOR TRUCK IN  
THE MANISTEE AREA

# The Manistee

FIFTY-SEVENTH YEAR, NO. 304306

U. P. FULL LEASED WIRE

MANISTEE, MICH

# REVOLUTION BREAK

### How Storm Hit Lake Michigan Beaches

9-28-51 - LAKE LEVEL 580.30'

LAKE LEVEL JUNE 2006

577.7

WHEN THIS OCCURRED LAKE WAS 2.60' HIGHER THAN JUNE 2006



The fury with which Lake Michigan pounded the local beach shores is indicated in the above photo. Driven by yesterday's high w storm, the waters ate away at the beach until the sand had eroded up to the road-bed shown in the photo of Fifth ave. beach. Work er face the task of strengthening the road base as well as cleaning the beaches of debris that was washed ashore. Chief Roy Hebner of the police warned all persons that the above area has been declared unsafe for motor or pedestrian use.

## THOUSANDS OF REDS ATTACK

## UN Will be Asked to Handle Iran Dispute

## POSSIBLE RED MOVE LED TO

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31					

10-25-51

MANISTEE, MICH., THURSDAY, OCTOBER 25, 1951

TWELVE PAGES

PRICE FIVE CENTS

# GIVE UP KOREAN AREA

## RECORD NUMBER OF BRITONS AT POLLS TODAY

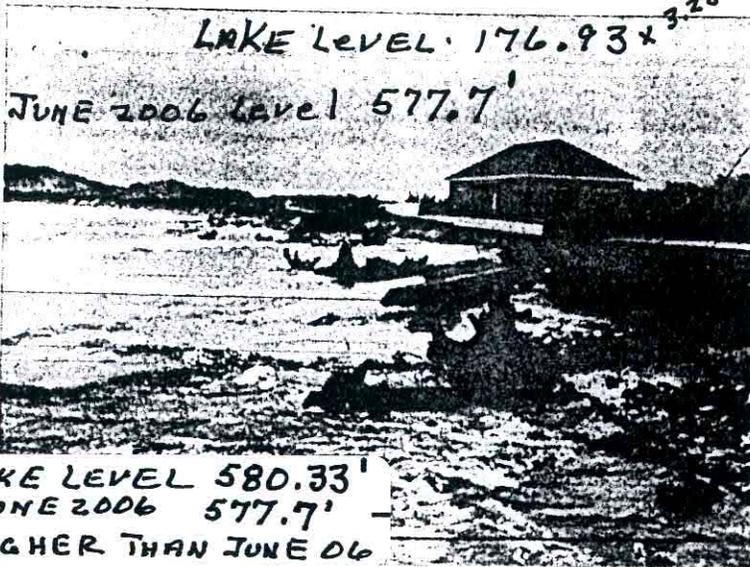
### Election Likely to Return Churchill to Old Job of Prime Minister

By LYLE C. WILSON  
United Press Staff Correspondent  
LONDON—(U.P.)—Britons flocked to the polls in apparently record numbers today for a general election likely to return Winston Churchill to his old job of prime minister.

Up to 85 per cent of the nation's 34,914,812 registered voters were expected to cast their ballots for members of a new 15-seat parliament to succeed that ruled by the socialists under Prime Minister Clement Attlee.

10-25-51 LAKE LEVEL 580.33'  
LAKE LEVEL JUNE 2006 577.7'  
2.63' HIGHER THAN JUNE 06

## Fifth Ave. Beach Hit Hard Again



Yesterday's high winds and driving surf took its toll again at the Fifth ave. beach site. As shown in the above photo the damage was extensive. City work crews again face the task of reinforcing the road banking and removing the accumulated drift wood.

## BUFFER ZONE SUGGESTION IS ADVANCED

### Allies Would Yield Land in East if Reds Give Up Similar Amount in West

By ARNOLD DIBBLE  
United Press Staff Correspondent  
PANMUNJOM, Korea—(U.P.)—United Nations truce negotiators offered today to give up 200 square miles of hard-won territory in Eastern Korea if the reds yield an equal amount of terrain in the West.

UN officers made the offer in proposing a 2 1/2 mile-wide armistice buffer zone across Korea at a subcommittee meeting following the reopening of cease-fire talks with the communists in Panmunjom.

The UN-proposed buffer zone roughly would follow the present battle line. The reds have insisted that the line be along the 38th parallel.

The communists were expected to give their answer at another subcommittee meeting at 11 a.m. tomorrow (9 a.m. EST).

Brig. Gen. William F. York, UN spokesman, said the reds appear very anxious to start the new series of truce talks with a "clean slate" and to let "bygones be bygones."

"There is hope progress will be made," he said.

This led to speculation that the communists may drop their previous adamant demand that the buffer zone be along the 38th parallel, pre-war frontier between North and South Korea.

The UN-proposed buffer zone would start eight miles south of the 38th parallel on the west coast, cross the parallel to the northeast and run four miles above Kaesong, four miles south of Pyongyang at the apex of the old communist iron triangle, 6 1/4 miles south of Kumsong, 15 miles north of the Hwachon reservoir, and reach the east coast about 35 miles north of the 38th parallel.

For the UN it would mean sacrifice of most of the gains made in the "Persuader Offensive" on the East-Central front earlier this month and in the bitter fighting south of Kumsong on the Central front last week.

It also would mean a withdrawal of up to 10 miles by the South Korean capital division on the east coast.

In exchange, the 5th Army would get 200 square miles of territory in Western Korea it abandoned to the communists virtually without a fight around the Keaeng, Han and Imjin river estuaries last January. There has been no recent fighting in the area.

## MILK STRIKE IN THE EAST

NEW YORK—(U.P.)—Striking milkmen cut off deliveries today to 11,000,000 customers in the three-state metropolitan area where panic buying already had depleted supplies in most stores.

When the International Brothers

...lined up outside polling stations when the doors opened at 7 a.m. (EST). In the borough of Chelsea, London's Greenwich neighborhood, a "bobby" was first in line and voters voted on their way to see Winston Churchill to the post of prime minister, his wife, his children Felicity and Alison and Martin cast their ballots at 9 a.m. (10:30 a.m. EST).

"I never prophesied," Attlee told his men.

At the Conservative headquarters, Churchill would vote about 3 p.m. (EST), but his wife cast her ballot five hours earlier.

Odds at London's betting houses still were an overwhelming 4 to 1 for a Churchill victory and newspaper polls so forecast a win for the 69-year-old Tory leader, but by a narrow margin.

The latest Gallup poll published by the London News-Chronicle said that of those who had cast their minds, 50 per cent voted for the conservatives, 46 1/2 per cent for the liberals, and one-half of 1 per cent for communists and others.

Though the polls will close at 9 p.m. (EST), the outcome of the nation's second general election in 10 months probably will not be known until tomorrow.

(Please Turn to Page 12)

## PAPER BOOSTS MOVEMENT

NEW YORK—(U.P.)—The New York Herald Tribune gave the Ike for President campaign a mighty push today with a 550-word editorial "Time and the Man" which ran across three front page columns in both its New York and Paris editions, the newspaper said it would work for the nomination of Dwight D. Eisenhower on the public ticket and for his election as president.

The newspaper obviously hoped to in motion the same kind of shifting movement it aided

## WILL REPORT PROGRESS IN OIL DISPUTE

### Washington Hopeful That Britain, Iran Can Be Brought Together Again

WASHINGTON—(U.P.)—Diplomatic informants said today that "progress" made in American-Iranian talks would be reported in Britain to determine whether the stalled oil negotiations might be resumed at an early date.

Official U. S. sources said this government was optimistic that British and Iranian could be brought together again following Britain's elections. They hoped a decision could be reached before Iranian Premier Mohammed Mossadegh leaves Washington in the next few days.

"We are doing our utmost to bring the two sides together again," a State Department spokesman said following Secretary of State Dean Acheson's 2 1/2 hour conference with Mossadegh.

Acheson leaves today for the United Nations General Assembly meeting in Paris, but Assistant Secretary of State George C. McGhee, who attended this week's conference with Mossadegh, is expected to continue talks with the Iranian chief.

The State Department drew a cloak of secrecy over the American mediation efforts. One official said the talks were in a "delicate phase" pending Britain's reaction to proposals considered by Acheson and Mossadegh.

One of the important points reported to have been discussed at length was appointment of a "neutral" commission to

## U. S. Delegates Off to Paris

WASHINGTON—(U.P.)—Secretary of State Dean Acheson leaves for Paris today for a showdown United Nations meeting with the Russians on Korea, atomic energy and other critical problems threatening world peace.

Most of the 81 American delegates, advisers and assistants in Acheson's party left by train for New York where they will board the liner America this afternoon.

Acheson, who will be gone about six weeks, was scheduled to follow the group to New York by plane.

The U. S. delegation includes Warren R. Austin, this country's chief UN delegate, Ambassador at Large Philip C. Jessup, serving under a controversial reappointment; Ambassador to Russia Alan G. Kirk and Mrs. Franklin D. Roosevelt.

## WANTS OPEN RFC HEARING

WASHINGTON—(U.P.)—Sen. Richard M. Nixon said today there appeared to be some "irreconcilable conflicts" between RFC records and statements made in an inquiry into the dealings of Vice President Alben W. Barkley's secretary and a senate committee counsel.

The California Republican, a member of the senate's permanent investigating committee which is making a "preliminary inquiry" in the case, called for open hearings as "the only way we can get at the facts."

Nixon did not specify what he considered "irreconcilable conflicts" but said that hearings should not be limited to the two cases in which Mrs. Flo Bratten, Barkley's secretary for almost 26

## ENEMY JETS IN ACTION ON FIFTH DAY

### Little Damage on Either Side in Today's Air Encounters Over Korea

By JACK JAMES  
United Press Staff Correspondent  
8TH ARMY HEADQUARTERS, Korea—(U.P.)—An estimated 70 red-nosed communist jets pounced on two Allied air formations over Northwest Korea for the fifth straight day today but were blasted back across the Manchurian border with one damaged Mig-15.

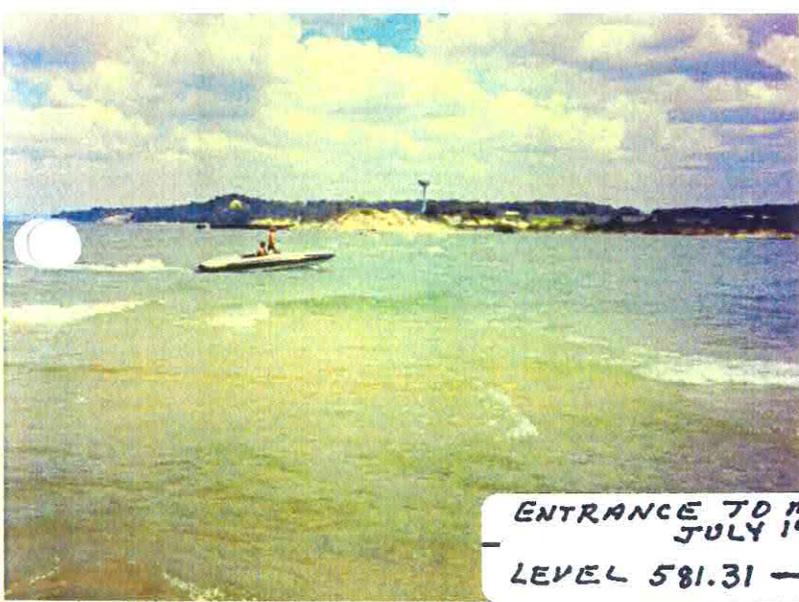
No Allied planes were lost or damaged, the Air Force said.

On the ground, the fighting was limited to patrol action except on high ground southwest of Kumsong, the now abandoned red bastion 29 miles north of the 38th parallel. There, an Allied tank-infantry force stabbed 1,000 to 1,500 yards through thick small arms fire on a hit-and-run raid before returning to the main Allied line.

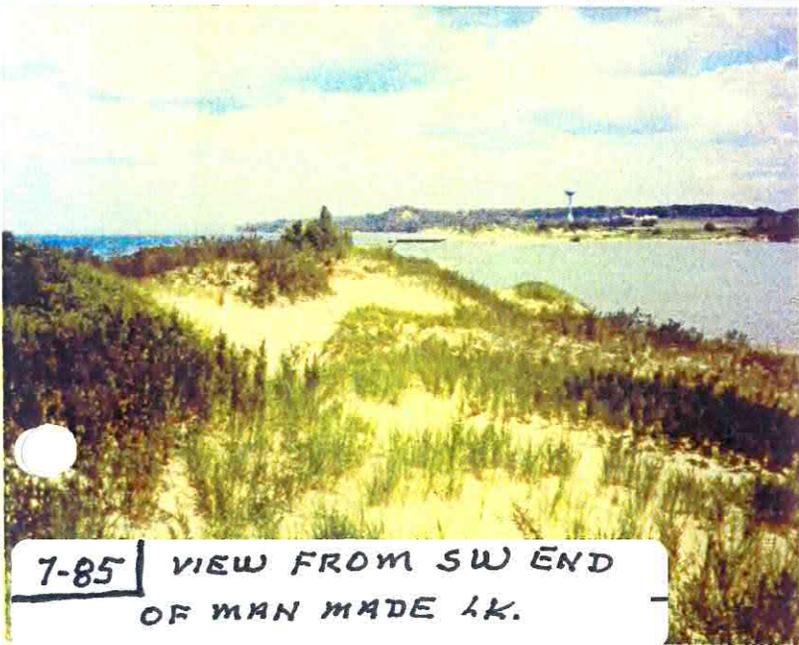
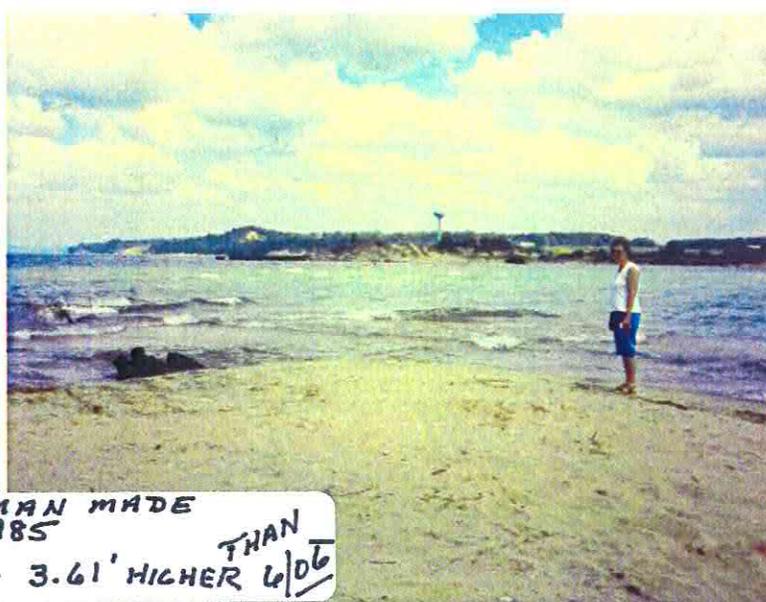
Southeast of Kumsong, a United Nations unit made small gains against stubborn enemy resistance.

Communists called up their "first team" in the air today in a vain effort to block the path of fighter-bombers to Ninanju, a rail center 70 miles below the Manchurian border.

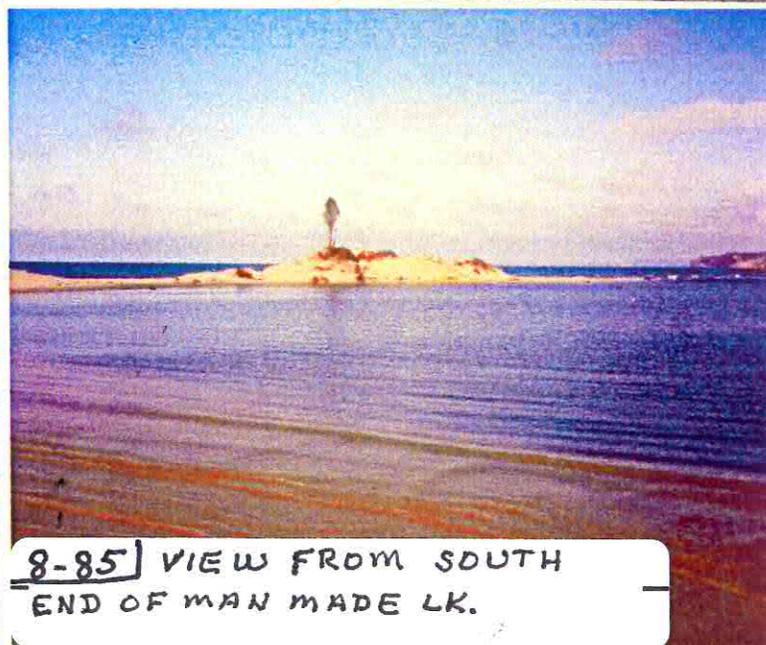
Some 50 Mig-15s screamed down from 30,000 feet on 31 U. S. F-86 Sabre-jets scuttling the fighter-bombers. The opposing air forces scattered in the next 10 minutes for a series of dog fights—some raking to tree-top level.



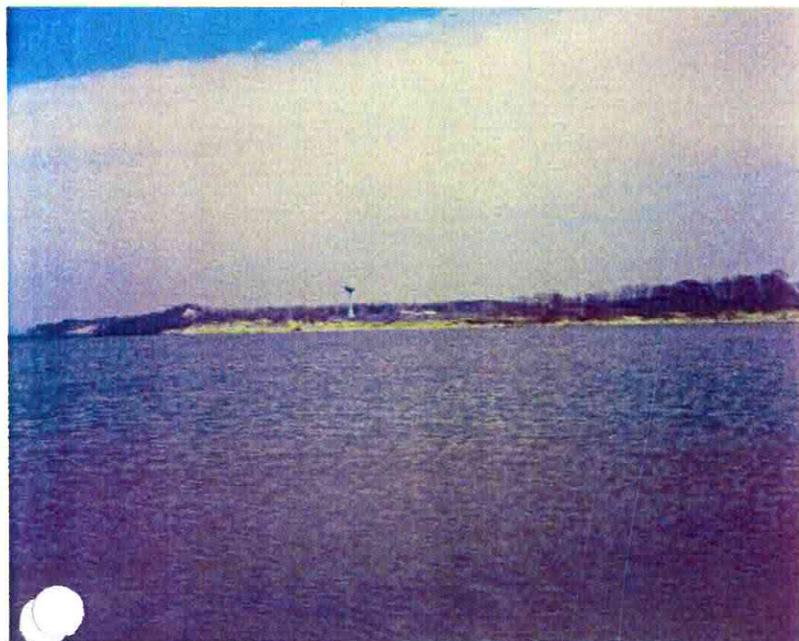
ENTRANCE TO MAN MADE  
JULY 1985  
LEVEL 581.31 — 3.61' HIGHER THAN 6/06



7-85 | VIEW FROM SW END  
OF MAN MADE LK.



8-85 | VIEW FROM SOUTH  
END OF MAN MADE LK.



SPRING 1986-LEVEL 581.48  
— 3.78' HIGHER THAN JUNE 2006 —

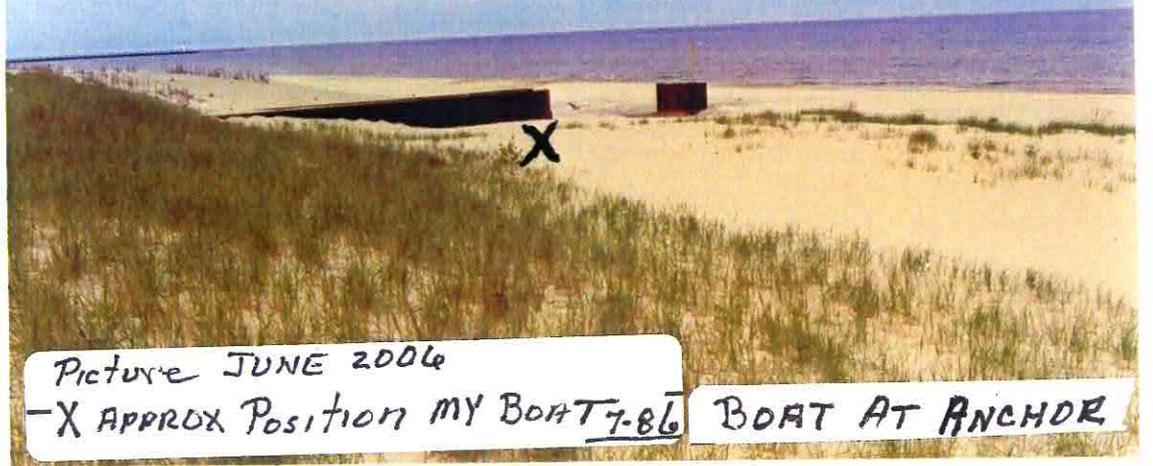


7-5-86 | LEVEL 581.8  
— 4.1' HIGHER THAN JUNE 2006  
PIER NE CORNER OF  
— MAN MADE LAKE

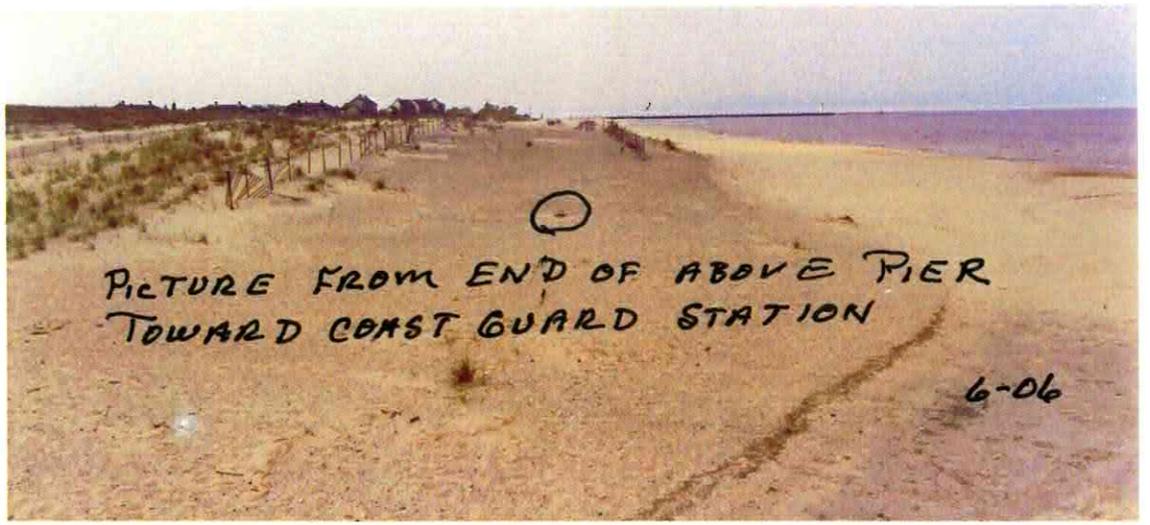


MAN MADE LK  
1990  
WATER 1.25 FT.  
HIGHER THAN 6/06

PIER NE CORNER MAN MADE LK 6/06

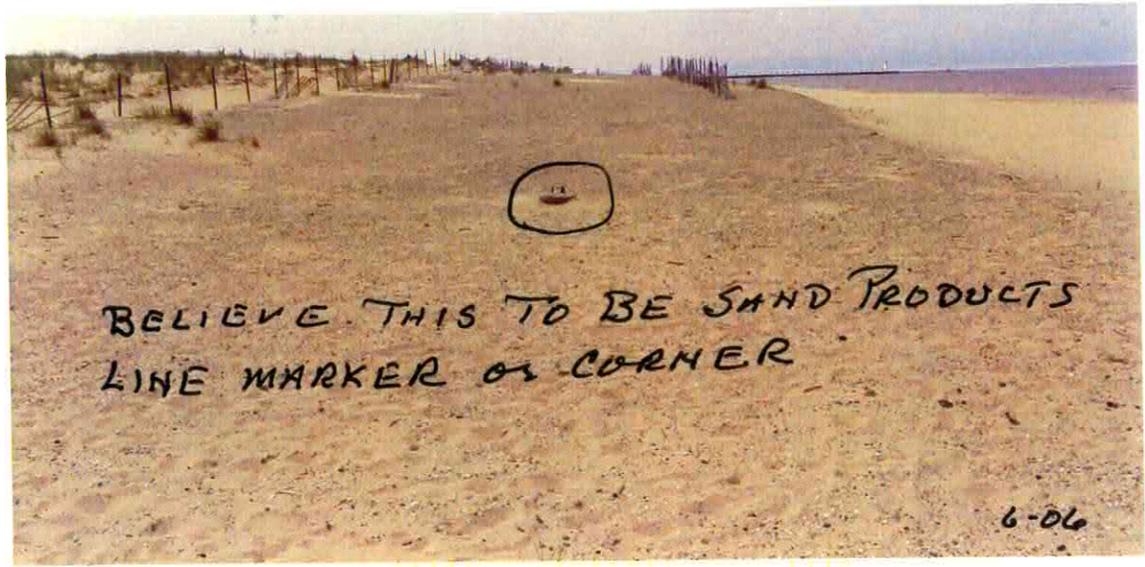


Picture JUNE 2006  
 - X APPROX POSITION MY BOAT 7-86 BOAT AT ANCHOR



PICTURE FROM END OF ABOVE PIER  
 TOWARD COAST GUARD STATION

6-06



BELIEVE THIS TO BE SAND PRODUCTS  
 LINE MARKER OR CORNER

6-06

# Current Month's Levels in Feet IGLD-85

PROVISIONAL

GREAT LAKES DAILY LEVELS IN FEET (IGLD 1985)-- JUN 20

DAY	SUPERIOR*		MICHIGAN-HURON*		ST. CLAIR*		ERIE	
	DAILY MEAN	RUNNING MEAN	DAILY MEAN	RUNNING MEAN	DAILY MEAN	RUNNING MEAN	DAILY MEAN	RUNNING MEAN
1	601.3	601.3	577.9	577.9	574.1	574.1	571.7	
JUNE								
MAX	602.9(1986)		581.8(1986)		577.2(1986)		574.3(1986)	
MIN	599.9(1926)		576.6(1964)		572.3(1934)		569.1(1934)	
LONG TERM AVG	601.9		579.3		574.7		571.9	
AVG LAST YEAR	601.7		578.1		574.3		571.9	
AVG LAST MONTH	601.2		577.7		573.9		571.5	

\* THE COORDINATED MEAN LEVELS SHOWN ARE THE AVERAGE OF MORE THAN C

\* DUE TO A DIFFERENCE IN ROUNDING METHODS, THE COORDINATED LEVELS MAY DIFFER FROM THE CANADIAN MEAN LEVELS BY +/- .01

Last updated on: June 2, 2006

Maintained by H&H PageMaster;hhpm@usace.army.mil

Send mail if you have comments or suggestions.

JUNE 2006 - L. MICH. IS 1.6' BELOW IT'S LONG TERM AVERAGE

JUNE 2006 L-MICH IS 4.1' BELOW IT'S 1986 HIGH



**HIGHLIGHTED YEARS HAVE L. MICH WATER LEVELS AT 580.00 FT OR GREATER**

[Return To The Previous Page](#)

**NOTE: Refer to TAB-A-1951 DAMAGE OCCURED @ LEVEL 580.26 FT.**

Great Lakes Water Level Table for Lake Michigan/Huron

Lake Michigan/Huron: 1918-2005  
(Meters, IGLD 1985)

1 METER = 3.28 FT.

LK.  
LEVEL  
IN  
FEET  
JULY

Historic Great Lakes Water Levels												
1918	176.71	176.73	176.80	176.89	176.99	177.07	177.07	177.01	176.94	176.83	176.82	176.78
1919	176.74	176.68	176.68	176.77	176.89	176.92	176.88	176.83	176.72	176.68	176.62	176.55
1920	176.50	176.47	176.49	176.63	176.68	176.73	176.79	176.76	176.73	176.65	176.57	176.50
1921	176.44	176.42	176.42	176.54	176.63	176.64	176.60	176.54	176.50	176.44	176.35	176.34
1922	176.27	176.24	176.28	176.43	176.57	176.63	176.67	176.63	176.56	176.46	176.35	176.25
1923	176.16	176.13	176.15	176.22	176.34	176.41	176.42	176.40	176.36	176.29	176.18	176.11
1924	176.08	176.05	176.06	176.11	176.24	176.28	176.33	176.38	176.33	176.24	176.12	176.04
1925	175.95	175.92	175.94	175.96	175.98	176.00	176.03	175.99	175.92	175.84	175.76	175.74
1926	175.89	175.66	175.69	175.78	175.88	175.99	176.02	176.03	176.02	175.97	175.93	175.95
1927	175.92	175.94	176.00	176.08	176.20	176.30	176.34	176.31	176.22	176.21	176.14	176.12
1928	176.10	176.11	176.15	176.29	176.44	176.50	176.59	176.62	176.60	176.61	176.65	176.66
1929	176.65	176.63	176.65	176.86	177.07	177.15	177.18	177.19	177.03	176.90	176.82	176.68
1930	176.64	176.64	176.66	176.69	176.76	176.79	176.84	176.80	176.69	176.57	176.42	176.31
1931	176.21	176.17	176.18	176.17	176.19	176.20	176.20	176.14	176.05	176.02	175.97	175.94
1932	175.94	175.93	175.91	175.95	176.02	176.04	176.05	176.01	175.95	175.87	175.84	175.78
1933	175.74	175.73	175.73	175.83	175.99	176.06	176.08	176.02	175.92	175.83	175.76	175.72
1934	175.70	175.67	175.67	175.74	175.81	175.84	175.87	175.84	175.82	175.76	175.72	175.76
1935	175.74	175.74	175.78	175.85	175.91	175.97	176.05	176.04	175.96	175.91	175.89	175.85
1936	175.83	175.81	175.85	175.92	176.01	176.07	176.06	176.00	176.02	175.99	175.91	175.80
1937	175.82	175.82	175.84	175.86	176.00	176.04	176.06	176.04	176.01	175.92	175.86	175.80
1938	175.76	175.85	175.92	176.06	176.16	176.28	176.33	176.35	176.34	176.28	176.21	176.13
1939	176.07	176.07	176.10	176.15	176.29	176.40	176.45	176.46	176.44	176.35	176.27	176.18
1940	176.09	176.07	176.03	176.04	176.12	176.20	176.25	176.27	176.26	176.19	176.11	176.07
1941	176.08	176.08	176.06	176.09	176.17	176.19	176.16	176.11	176.09	176.12	176.17	176.14

580.78

580.16

581.15

580.03

1 METER = 3.28 FT

	JULY											FEET JULY	
	176.12	176.13	176.17	176.29	176.38	176.50	176.52	176.50	176.44	176.38	176.33	176.25	
176.21	176.25	176.27	176.33	176.43	176.58	176.77	176.88	176.92	176.88	176.80	176.75	176.66	580.16
176.22	176.57	176.54	176.54	176.57	176.64	176.69	176.72	176.68	176.64	176.60	176.52	176.45	
176.23	176.36	176.33	176.36	176.45	176.55	176.72	176.78	176.74	176.70	176.66	176.62	176.57	
176.24	176.56	176.57	176.65	176.70	176.70	176.75	176.77	176.69	176.60	176.49	176.42	176.32	
176.25	176.28	176.28	176.25	176.39	176.57	176.72	176.80	176.81	176.77	176.72	176.65	176.56	
176.26	176.48	176.42	176.47	176.61	176.72	176.73	176.72	176.67	176.57	176.40	176.32	176.26	
176.27	176.20	176.19	176.19	176.26	176.31	176.34	176.38	176.34	176.22	176.14	176.02	175.94	
176.28	175.96	175.99	176.02	176.17	176.27	176.34	176.42	176.44	176.43	176.40	176.34	176.35	
176.29	176.34	176.34	176.41	176.58	176.75	176.82	176.91	176.93	176.92	176.93	176.95	176.95	580.26
176.30	176.95	176.96	176.96	177.08	177.17	177.22	177.26	177.28	177.22	177.06	176.94	176.92	581.41
176.31	176.85	176.82	176.83	176.91	177.00	177.07	177.12	177.11	177.02	176.92	176.81	176.74	580.95
176.32	176.63	176.60	176.64	176.71	176.83	176.92	176.96	176.94	176.90	176.98	176.95	176.89	580.42
176.33	176.83	176.78	176.76	176.82	176.88	176.91	176.88	176.79	176.64	176.54	176.46	176.38	580.16
176.34	176.31	176.30	176.32	176.37	176.50	176.57	176.62	176.62	176.56	176.45	176.37	176.29	
176.35	176.22	176.19	176.17	176.20	176.28	176.35	176.43	176.38	176.33	176.24	176.21	176.16	
176.36	176.15	176.13	176.12	176.14	176.12	176.12	176.15	176.11	176.07	175.98	175.91	175.81	
176.37	175.75	175.75	175.79	175.92	176.06	176.11	176.12	176.12	176.10	176.10	176.13	176.12	
176.38	176.14	176.16	176.14	176.24	176.50	176.64	176.72	176.77	176.73	176.64	176.57	176.48	
176.39	176.38	176.31	176.33	176.36	176.42	176.44	176.46	176.45	176.43	176.38	176.32	176.24	
176.40	176.20	176.17	176.19	176.26	176.34	176.37	176.36	176.32	176.26	176.17	176.06	175.97	
176.41	175.89	175.85	175.85	175.94	176.02	176.06	176.04	176.03	175.98	175.90	175.80	175.71	
176.42	175.63	175.59	175.58	175.61	175.74	175.76	175.78	175.77	175.76	175.70	175.65	175.62	
176.43	175.60	175.62	175.67	175.77	175.94	176.00	176.02	176.04	176.07	176.10	176.07	176.09	
176.44	176.10	176.08	176.13	176.20	176.26	176.30	176.28	176.24	176.17	176.08	176.01	176.08	
176.45	176.07	176.07	176.06	176.23	176.35	176.45	176.50	176.48	176.40	176.34	176.34	176.32	
176.46	176.29	176.30	176.27	176.35	176.40	176.47	176.55	176.58	176.60	176.57	176.50	176.48	
176.47	176.47	176.47	176.45	176.54	176.70	176.82	176.94	176.95	176.86	176.78	176.73	176.64	
176.48	176.59	176.56	176.53	176.58	176.68	176.76	176.80	176.78	176.77	176.73	176.69	176.67	
176.49	176.63	176.62	176.68	176.76	176.86	176.94	176.96	176.96	176.90	176.84	176.76	176.75	580.42
176.50	176.73	176.65	176.65	176.72	176.86	176.93	176.99	177.05	177.07	177.03	177.00	176.96	580.52
176.51	176.98	176.95	176.98	177.10	177.20	177.30	177.30	177.29	177.21	177.13	177.04	177.00	581.54
176.52	176.95	176.97	177.00	177.07	177.19	177.28	177.32	177.26	177.15	177.04	176.98	176.91	581.60
176.53	176.87	176.86	176.87	176.92	177.06	177.14	177.15	177.10	177.07	176.95	176.87	176.82	581.05
176.54	176.76	176.75	176.87	177.02	177.11	177.15	177.15	177.08	176.95	176.80	176.64	176.51	581.05
176.55	176.42	176.38	176.44	176.56	176.57	176.55	176.56	176.54	176.53	176.50	176.50	176.51	

1 METER = 3.28 FT.

													<u>FEET</u>												
													<u>JULY</u>												
													<u>JULY</u>												
													176.48	176.45	176.43	176.51	176.61	176.67	176.69	176.68	176.71	176.70	176.62	176.54	
													176.51	176.48	176.54	176.71	176.88	176.95	176.98	177.00	176.96	176.88	176.83	176.81	580.42
													176.78	176.72	176.68	176.77	176.84	176.90	176.93	176.93	176.90	176.82	176.72	176.65	580.03
													176.59	176.56	176.60	176.67	176.75	176.80	176.82	176.81	176.80	176.73	176.66	176.59	
													176.51	176.46	176.45	176.56	176.62	176.66	176.69	176.69	176.65	176.62	176.60	176.67	
													176.67	176.66	176.68	176.76	176.90	177.02	177.02	176.98	176.93	176.87	176.77	176.74	580.62
													176.70	176.70	176.72	176.81	176.91	177.01	177.06	177.04	177.02	176.96	176.93	176.88	580.75
													176.88	176.86	176.98	177.14	177.24	177.25	177.23	177.19	177.20	177.16	177.19	177.20	581.23
													177.14	177.11	177.12	177.23	177.28	177.33	177.39	177.39	177.38	177.50	177.38	177.26	581.83
													177.18	177.10	177.06	177.07	177.06	177.07	177.04	176.99	176.90	176.79	176.70	176.68	580.69
													176.63	176.60	176.57	176.67	176.70	176.67	176.61	176.57	176.46	176.42	176.43	176.42	
													176.38	176.33	176.32	176.41	176.44	176.56	176.57	176.54	176.47	176.34	176.27	176.18	
													176.16	176.19	176.27	176.35	176.44	176.51	176.49	176.45	176.41	176.39	176.39	176.39	
													176.36	176.31	176.33	176.48	176.60	176.66	176.64	176.59	176.48	176.40	176.38	176.40	
													176.38	176.36	176.38	176.44	176.53	176.52	176.54	176.53	176.52	176.49	176.52	176.54	
													176.54	176.51	176.48	176.58	176.70	176.82	176.91	176.88	176.83	176.76	176.70	176.64	580.26
													176.57	176.56	176.59	176.63	176.70	176.72	176.82	176.81	176.78	176.71	176.66	176.59	
													176.53	176.49	176.47	176.49	176.58	176.64	176.63	176.64	176.55	176.46	176.44	176.41	
													176.37	176.39	176.39	176.46	176.63	176.76	176.83	176.84	176.82	176.80	176.79	176.77	580.00
													176.79	176.82	176.89	176.95	177.07	177.13	177.19	177.16	177.12	177.02	176.89	176.78	581.18
													176.74	176.71	176.74	176.89	176.91	176.90	176.88	176.80	176.68	176.55	176.44	176.36	580.16
													176.27	176.28	176.24	176.25	176.26	176.34	176.40	176.36	176.24	176.14	176.04	175.99	
													175.92	175.87	175.90	175.92	176.00	176.10	176.13	176.13	176.09	175.98	175.89	175.81	
													175.77	175.78	175.78	175.85	175.95	176.06	176.05	176.03	176.01	176.03	176.05	176.05	
													175.99	175.95	175.99	176.06	176.19	176.29	176.33	176.32	176.24	176.14	176.01	175.91	
													175.82	175.75	175.73	175.82	175.92	176.00	176.04	176.02	175.94	175.87	175.89	175.90	
													175.87	175.84	175.90	175.98	176.12	176.31	176.37	176.33	176.28	176.15	176.10	176.08	
													176.08	176.10	176.10	176.14	176.19	176.21	176.19	176.17	176.09	176.00	175.93	175.88	
													177.18	177.11	177.12	177.23	177.26	177.33	177.39	177.39	177.38	177.50	177.38	177.26	
													175.60	175.59	175.58	175.61	175.74	175.76	175.78	175.77	175.76	175.70	175.65	175.62	
													176.33	176.31	176.33	176.41	176.51	176.57	176.60	176.58	176.53	176.47	176.41	176.36	

HIGH →

TAB-C

TAB-B

TAB-B HIGH

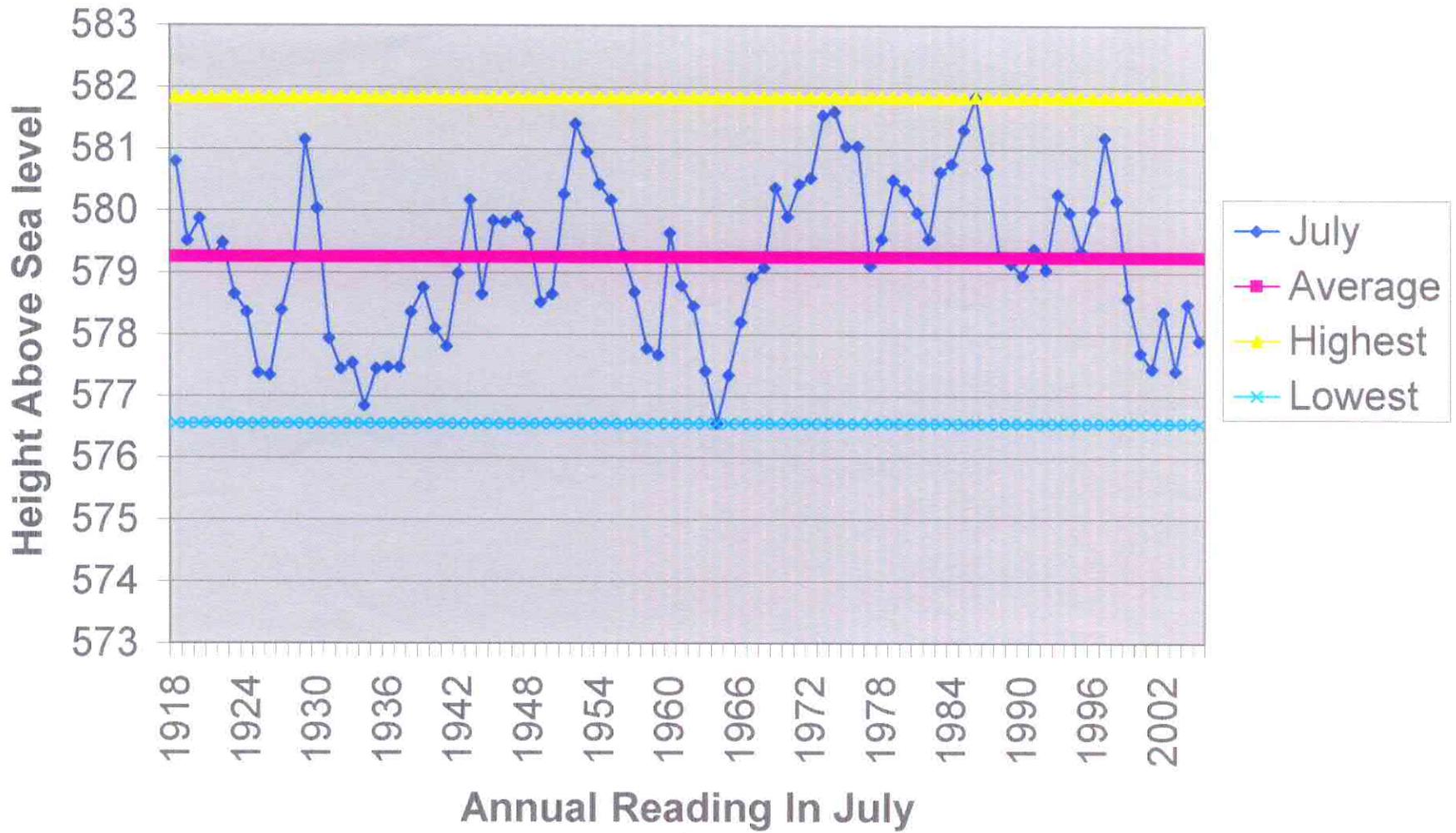
AERIAL VIEW

TAB-C

176.51  
578.98 FT.

NOTICE: All data contained herein is preliminary in nature and therefore subject to change. The data is for general information purposes ONLY and SHALL NOT be used in technical applications such as, but not limited to, studies or designs. All critical data should be obtained from and verified by the United States Army Corps of Engineers, Detroit District, Engineering and Technical Services, Great Lakes Hydraulics and Hydrology Office, 477 Michigan Ave., Detroit, MI 48226. The United States of America assumes no liability for the completeness or accuracy of the data contained herein and any use of such data inconsistent with this disclaimer shall be solely at the risk of the user.

# Lake Michigan Water Level

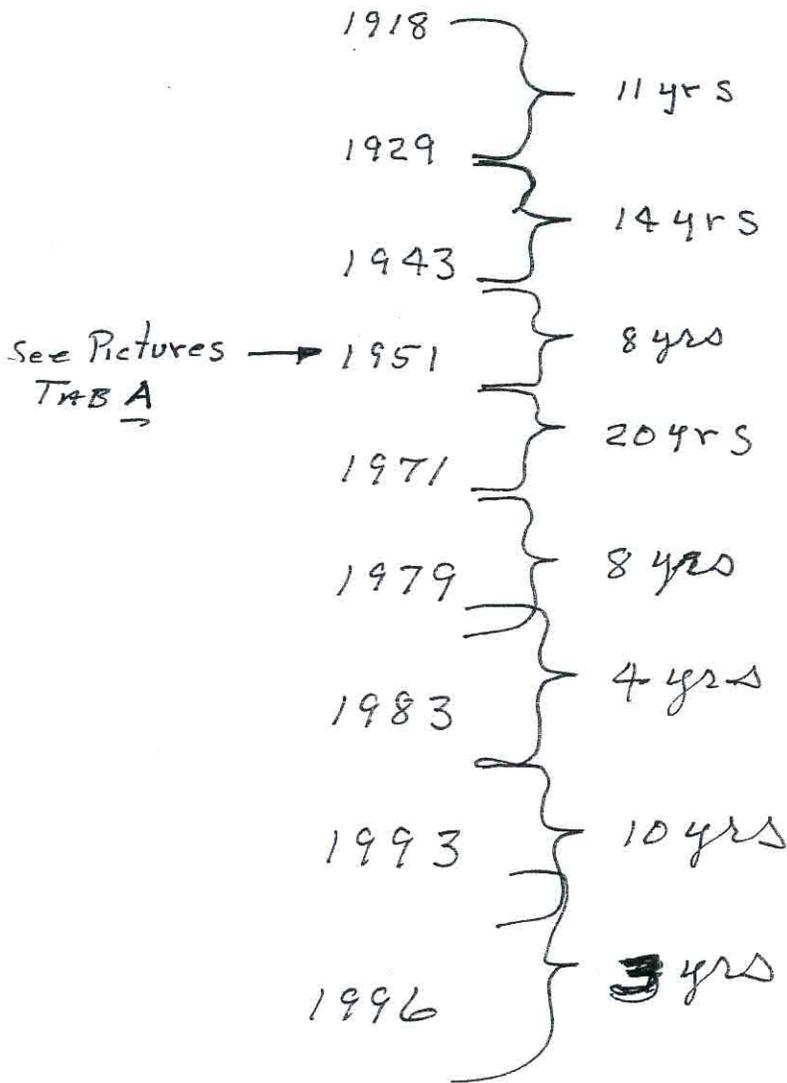


# LAKE MICHIGAN LEVEL

## CYCLES

1918 THRU 2006 (88 YEARS)

Using 1951 level 580.26 FT. as a level capable of producing MAJOR SHORE LINE EROSION (tab A pictures), below are years showing cycles ~~with~~ <sup>during which</sup> 580 FT. or greater LAKE LEVELS OCCURED



NOTE: 1951 Level 580.26 FT. is 2.56 FT HIGHER THAN JUNE 2006