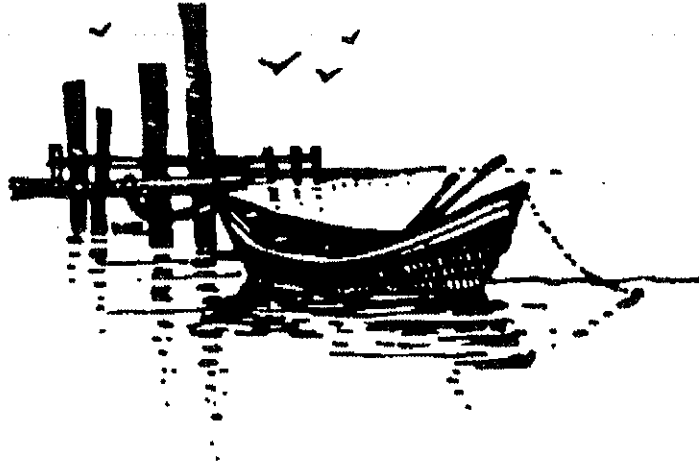


FLOOD HAZARD MITIGATION PLAN

CITY OF NEHALEM, OREGON



Approved by:

CITY COUNCIL, CITY OF NEHALEM, 09 - 09 - 97

Planning Council Members:

Christopher Shepherd, Nehalem City Council
Shirley Kalkhoven, Nehalem City Council
Dan Silver, Nehalem Planning Commission
Ken McGough, Nehalem Downtown Business Assoc.
C. Merlin Brown, Nehalem City Manager/Recorder
Paul Benson, Planning Consultant

City of Nehalem Flood Hazard Mitigation Plan

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1. Purpose of Plan

Proper planning is essential to the complete success of any community improvement project. Proper planning is necessary for effective hazard mitigation projects. Additionally, effective implementation is essential for a community to have a healthy floodplain management/flood insurance program.

As Oregon continues to recover from the 1996 flood disaster and make strides to mitigate against future damages that result from disasters, community developed hazard mitigation plans are critical. Communities must consider the impact of current projects on their community, and seriously evaluate the need for additional mitigation efforts.

In order for the state and federal government to make funding decisions, they need to be assured that their efforts are in the community's best interest.

Flood hazard mitigation planning, which involves citizen input, the consideration of a broad range of mitigation alternatives, and careful analysis and review by elected officials is an important implementing element of the City's State-acknowledged comprehensive plan.

Goals of this plan are to:

- a. Allow community elected officials to establish priority flood hazard mitigation goals and objectives, including but not limited to plans and projects being recommended to them by others,
- b. Incorporate National Flood Insurance Program requirements, and to assist the community in strengthening its procedures for enforcing the floodplain management ordinance,
- c. Outline flood hazard mitigation strategy for the continuing protection of the community.

1. Community Background

County: Tillamook

Estimated population: 235

Major Rivers/Watersheds: Lower Nehalem River,
North & South Forks

Joined the NFIP in: 1981

NFIP Community Number: 410200

Majority of homes constructed in: 1920's to date

Does the community have a current land use plan: YES NO

If YES, date of last update: currently underway

Description of planning area: Nehalem Urban Growth Area

See Comprehensive Plan Map (Appendix B)

Zoned community: YES NO

If YES, date of last update: currently underway

Building codes: YES NO

If YES, date of last update: _____

If YES, which building code?

Uniform
 Other _____

If YES, name of person who administers permits:

Tillamook County Building Official, Nancy Abrahamson

Community industry: Tourism; Dairying; Dredging Company; Construction

Municipal water system: (circle) YES NO

Serves Urban Growth area with approximately 510 hook-ups and one major wholesale customer.

Sewage treatment provided by:

Community

Sanitary District: Nehalem Bay Wastewater Agency

Other _____ (describe)

Utilities provided by:

Electric Tillamook County People's Utility District

Natural Gas _____

Telephone Nehalem Telephone Company

Other Falcon Cable Television

Fire Insurance Rating (ISO): 5

NFIP Community Rating System (CRS) Rating: 10
Effective date: 1981

List any previous hazard mitigation plans prepared or adopted by community:

City has had an adopted flood plain management ordinance meeting FEMA standards since 1979

3. Description of Flooding:

Appendix A of this plan is a set of maps showing the 100 and 500 year flood plain limits, flooding and other relevant information.

- a. Community 100-year flood elevation or stage for the Nehalem River.

Table 1. Flood Stage Information

River or Stream Name	100-year Flood Elevation, feet	1996 Peak Flood Elevation, feet	Date of 1996 Peak Elevation
Nehalem River at Foss	14	31.5	Feb. 8

When did flooding begin in 1996: Feb. 6

When did flood water recede in 1996: Feb. 10

Do any past floods in the community compare to the 1996 flood:
Yes. (See detailed comparison in table on next page)

Other high water information or flood data from previous floods:

Repetitive nature of damaging floods from the Nehalem River in the City of Nehalem's downtown business area.

HISTORICAL FLOOD DATA - NEHALEM RIVER (FLOOD STAGE - 14.0')

FLOOD DATA	FLOOD ELEVATION	FREQUENCY (YEAR EVENT)	DURATION (DAYS)	TOTAL DAMAGES (DOLLARS)	REPAIR COSTS TO PRE-DISASTER CONDITION (DOLLARS)
2/8/96	31.50'	145 years	6	\$699,941.	\$275,000.
4/9/91	19.50'	50 years	2		
1/9/90	25.03'	90 years	5		
1987					
1986					
1982	19.66'	50 years	2		
1981	15.09'				
1980	19.36'				
1977					
(11/25)	13.60'				
(12/2)	19.27'				
(12/12-12/15)	19.66'				
1975	19.22'				
1974	20.94'	50 years			
1972	16.71'				
1971	14.71'				
1965					
1964					
1949					
1933	This was the winter after the first giant Tillamook burn, and older Nehalem residents recall water up to 3' deep in downtown business buildings.				
1931					
1921					
1916					

The reported floods total 22 during an 80 - year period, or an average of 1 flood every 3.6 years. Flooding usually occurs during the months of November through February although the 1991 flood took place in April.

6. Structures subjected to flooding.

Table 2. Structures Located in 100-year Floodplain

Number of Structures:	In 100-year Floodplain:35	Flooded in 1996:35	
Permanent residences:(incl. manufactured homes)	10	Over first floor:	
		In basement:	
Businesses:	20	Over first floor:	
		In basement:	
Public Facilities:	5		
Other:			
Total:	35		

Are there manufactured homes in the floodway: YES **NO**

If so, how many:

Number of structures substantially damaged in 1996 (according to NFIP definition):

If so, how many:

List the public facilities or utility stations (fire, water and wastewater treatment) located in the 100-year floodplain:

- City Hall and Fire Station Building
- Nehalem Telephone Co. offices and warehouse
- Nehalem Bay Wastewater Agency offices, warehouse and sewer lagoons.

500-year floodplain:

- Tillamook County Road Shops

Describe the damage that public facilities and utility stations received in the 1996 flood:

Sewage lagoons were overtopped , releasing sewage under treatment to the Nehalem River. Buildings received some damage to contents.

Other information identified in appendix A.

STRUCTURE INVENTORY

No.	Name	Address	Legal	PS
1	Williams	36445 North Fork Rd.	3N10 27 TL 00401	No
2	Cardwell	36425 North Fork Rd.	3N10 27 TL 00403	No
3	Cardwell (Shop)	36415 North fork Rd.	3N10 27 TL 00402	No
4	Silver	36295 7th St.	3N10 27AC TL 00700	Done
5	Smith (N. Shop)	36060 6th St.	3N10 27AC TL 02900	No
6	Smith (S. Shop)	36050 6th St.	3N10 27AC TL 02800	No
7	Crowe	36005 7th St.	3N10 27AC TL 02700	YES
8	Balogh (North)	36025 7th St.	3N10 27AC TL 02701	No
9	Leuthold	36055 7th St.	3N10 27AC TL 02600	No
10	Stephens	36060 7th St.	3N10 27AC TL 02200	No
11	Russo	36050 7th St.	3N10 27AC TL 02100	YES
12	NT & T (Warehouse)	36085 8th St.	3N10 27AC TL 01700	No
13	McGough	35995 7th St. (101)	3N10 27CA TL 00202	YES
14	Hibbs	35955 7th St. (101)	3N10 27CA TL 00201	YES
15	Baker (Mary)	35915 7th St. (101)	3N10 27CA TL 00300	YES
16	Crawford	35895 7th St. (101)	3N10 27CA TL 00400	No
17	Clark (James)	35815 7th St. (101)	3N10 27CA TL 00600	YES
18	NBWA (Office)	35755 7th St. (101)	3N10 27CA TL 09100	No
19	Lorette	35715 7th St. (101)	3N10 27CA TL 09200	YES
20	Adams	35655 7th St. (101)	3N10 27CA TL 09300	YES
21	Godsey	35696 7th St. (101)	3N10 27CA TL 08700	No
22	NT & T (Direct TV)	35700 7th St. (101)	3N10 27CA TL 08800	YES
23	NT & T (Office)	35790 7th St. (101)	3N10 27CA TL 08900	No
24	Kingma	35900 7th St. (101)	3N10 27CA TL 00900	No
25	Balogh (South)	35820-870 7th St. (101)	3N10 27CA TL 00800	No
26	Art & Learn	35890 7th St. (101)	3N10 27CA TL 01100	Done
27	Thompson (South)	35900 7th St. (101)	3N10 27CA TL 01300	No
28	Thompson (North)	35990 7th St. (101)	" " " " "	YES
29	NBWA (Shop)	13015 'H' St. (101)	3N10 27CA TL 01500	No
30	Fihn	35915 8th St.	3N10 27CA TL 01600	YES
31	Gray	35895 8th St.	3N10 27CA TL 01700	YES
32	Marchi	13020 Tohls	3N10 27CA TL 01800	Done
33	Ricketts	35865 8th St.	3N10 27CA TL 01900	YES
34	City Hall	35900 8th St.	3N10 27CA TL 02200	No
35	Woodcock	35950 8th St.	3N10 27CA TL 02300	YES

PS = Project Status

Options = YES
NO
DONE

4. Description of rain - induced landslide hazard areas.

- A. The most serious current problem is on North Fork Rd. between the downtown business area and Uppertown. Sliding occurs intermittently causing various degrees of road blockage. No alternate route is now available but planning is underway by the Nehalem Water Department to create an alternate route for emergency use to maintain accessibility to the City's Bob's Creek water supply system.
- B. Highway 101 just south of the Central Business District (CBD) was blocked by a slide approximately 10-12 years ago. The slide was removed and the area stabilized by the State Highway Dept. and no further problem has occurred at this location.

5. Current Mitigation Activities

a. Property protection

Elevation Projects:

Date started: Summer 1997
Funded by: FEMA
Number of properties: 14

Describe other property protection measures underway:

Inventory & equipment protection plan for each commercial & public structure within the 500 year flood boundary. A command Center has been established at the North County Community Center with volunteers available to help business-people secure inventory and equipment.

b. Emergency Services:

Coordinator: Nehalem Fire Chief
Phone Number: (503) 368-6800

Is an emergency warning system in-place? Yes

Is there an evacuation/rescue plan? Yes

Has a flood fighting plan been established? (See above)

Is there a sandbagging plan? Nehalem Bay Wastewater Agency has a sand-bagging plan for its offices.

Describe any other emergency services not addressed above:

1. Discussion of Fire District acquiring a Search and Rescue boat for use during flood events.
2. Acquire additional equipment for measuring river levels.
3. Better use of weather data to determine storm surge and tidal impact.

c. Floodplain Management:

Last update of floodplain management ordinance:

Part of comprehensive plan periodic review work program.

Name and title of individual who administers floodplain ordinance:

C. Merlin Brown, City Manager/Recorder

Is additional freeboard required for new structures and in the elevation of existing structures?

YES NO

If YES, how much freeboard? 2'

Is freeboard required outside the 100-year floodplain? YES NO

Are Elevation Certificates or post construction elevations maintained? YES NO

What system (form) do you use for maintenance of your elevation certificates?

Filed with the building permits

Check below any other ordinances adopted by the community:

.....Floodplain	<u>X</u>
.....Zoning	<u>X</u>
.....Subdivision	<u>X</u>
.....Erosion control	_____
.....Stormwater Management	_____
.....Stream Maintenance	_____
.....Other	_____

Describe any other floodplain management activities currently underway:

d. Other Mitigation Activities

Effect of rain-induced landslide hazards on City's arterial street system.

6. Goals:

a. Flood Mitigation:

Minimize flood damage to buildings and personal property through elevations.

Protect contents of public buildings and public utilities.

Maintain an operational business district through building elevation and emergency procedures for protection of equipment and inventory.

b. Continue Community Participation in the National Flood Insurance Program (NFIP):

Continue membership in the Community Rating System.

Improve public awareness of flood risks, flood insurance, and floodplain construction regulations.

c. Emergency Management

Improve warning systems.

Improve evacuation plans.

Establish alternate emergency vehicle route for rain - induced landslide hazard area on North Fork Road.

7. Mitigation Alternatives Considered But Not Selected

a. Flood Mitigation:

Goal: Minimize flood damages to buildings and personal property.

- through acquisition
- through elevations
- through acquisitions and elevations
- through floodproofing.
- through a possible flood control alternative
(Reservoirs, levees, bypass channels).

Alternatives:

1. Storage reservoir at Elsie.
1974 Corps of Engineers Review Report
BC ratio, 0.16 to 1.
2. City of Nehalem levee system
1978 Engineer's report
BC ratio not calculated, cost \$2,000,000.

Goal: Protect public buildings and public utilities.

Alternatives:

Goal: Keep the business district operational.

Alternatives: Relocation not considered feasible.

b. Community Participation in the National Flood Insurance Program:

Goal: Maintain or improve the regulation of the 100-year floodplain.

Alternatives:

Goal: Continue participation in the Community Rating System.

Alternatives:

Goal: Improve public awareness of flood risks, flood insurance purchase.

Alternatives:

c. Emergency Management

Goal: Improve warning systems.

Alternatives:

Goal: Improve evacuation plans.

Alternatives:

Goal: Emergency bypass of North Fork Rd. (Rain - induced landslide hazard.)

Alternatives:

8. Mitigation Recommendations

(See goals)

9. Implementation

- a. Priorities:
 - 1. Elevation of 14 structures in 100 year flood plain.
 - 2.
 - 3.

- b. Phasing:
 - 1. Complete as one project.
 - 2.
 - 3.
- c. Responsibility:
 - 1. City, State, FEMA.
 - 2.
 - 3.
- d. Schedule:
 - 1. Complete in 1997
 - 2.
 - 3.
- e. Next steps:
 - 1. Monitor damage reduction in future flood events.
 - 2.
 - 3.

10. Mitigation Plan Evaluation

Review and update following future flood events.

Evaluation of damage reduction accomplishment.

Compare flooding elevations at specific structures. (See page 16)

HLB & Associates

I N C O R P O R A T E D

Surveying, Civil Engineering & Planning

P.O. Box 219 • 160 Laneda Ave.
Manzanita, OR 97130

TEL (503) 368-5394
FAX (503) 368-5847

**FINISH FLOOR ELEVATIONS
FOR CITY OF NEHALEM
TILLAMOOK COUNTY, OREGON**

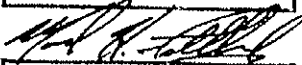
MAY 30, 1997

NAME	ADDRESS	TAX LOT	ELEVATIONS *			
			100 YR FLOOD	FINISH FLOOR	1996 FLOOD	APPROX DEPTH
CROWE	36005 7TH ST.	3N10 27AC TL 02700	10.6	10.0	12.2	2.2
RUSSO	36050 7TH ST.	3N10 27AC TL 02100	10.6	7.4	12.2	4.8
MCGOUGH	35995 7TH ST. (101)	3N10 27CA TL 00202	10.6	9.6	12.2	2.6
HIBBS	35955 7TH ST. (101)	3N10 27CA TL 00201	10.6	10.4	12.2	1.8
BAKER (MARY)	35915 7TH ST. (101)	3N10 27CA TL 00300	10.6	8.8	12.2	3.4
CLARK (JAMES)	35815 7TH ST. (101)	3N10 27CA TL 00600	10.6	9.6	12.2	2.6
LORETTE	35715 7TH ST. (101)	3N10 27CA TL 09200	10.5	10.3	12.2	1.9
ADAMS	35655 7TH ST. (101)	3N10 27CA TL 09300	10.5	10.2	12.2	2.0
NT&T (DIRECT TV)	35700 7TH ST. (101)	3N10 27CA TL 08800	10.5	9.7	12.2	2.5
THOMPSON (NORTH)	35990 7TH ST. (101)	3N10 27CA TL 01300	10.6	8.5	12.2	3.7
FIHN	35915 8TH ST.	3N10 27CA TL 01600	10.6	9.1	12.2	3.1
GRAY	35895 8TH ST.	3N10 27CA TL 01700	10.6	10.5	12.2	1.7
RICKETTS	35865 8TH ST.	3N10 27CA TL 01900	10.6	11.5	12.2	0.7
WOODCOCK	35950 8TH ST.	3N10 27CA TL 02300	10.6	9.8	12.2	2.4
CENTERLINE INTERSECTION H AND 7TH(101) STREETS			10.6	7.7	12.2	4.5
CENTERLINE INTERSECTION TOHLS AND 7TH(101) STREETS			10.5	8.8	12.2	3.4

* ALL ELEVATIONS BASED ON U.S. COAST AND GEODETIC SURVEY DISK STAMPED "TIDAL NO. 3" SET IN SIDEWALK AT NORTHWEST CORNER OF TOHLS AND HIGHWAY 101 HIGHWAY 101, ELEVATION = 8.74' NGVD

- > 100 YEAR FLOOD ELEVATION DERIVED FROM NATIONAL FLOOD INSURANCE RATE MAP #410200 001 C FOR CITY OF NEHALEM
- > FINISH FLOOR ELEVATIONS DERIVED FROM ACTUAL FIELD WORK, SOME STRUCTURES HAVE SEVERAL FLOOR LEVELS, LOWEST FLOOR LEVEL IS SHOWN AS FINISH FLOOR
- > 1996 FLOOD ELEVATIONS DERIVED FROM ELEVATION SHOTS ON HIGH WATER MARKS IMMEDIATELY AFTER THE FEBRUARY, 1996, FLOOD
- > APPROXIMATE DEPTH OF FLOODING IS 1996 FLOOD ELEVATION MINUS THE FINISH FLOOR ELEVATION

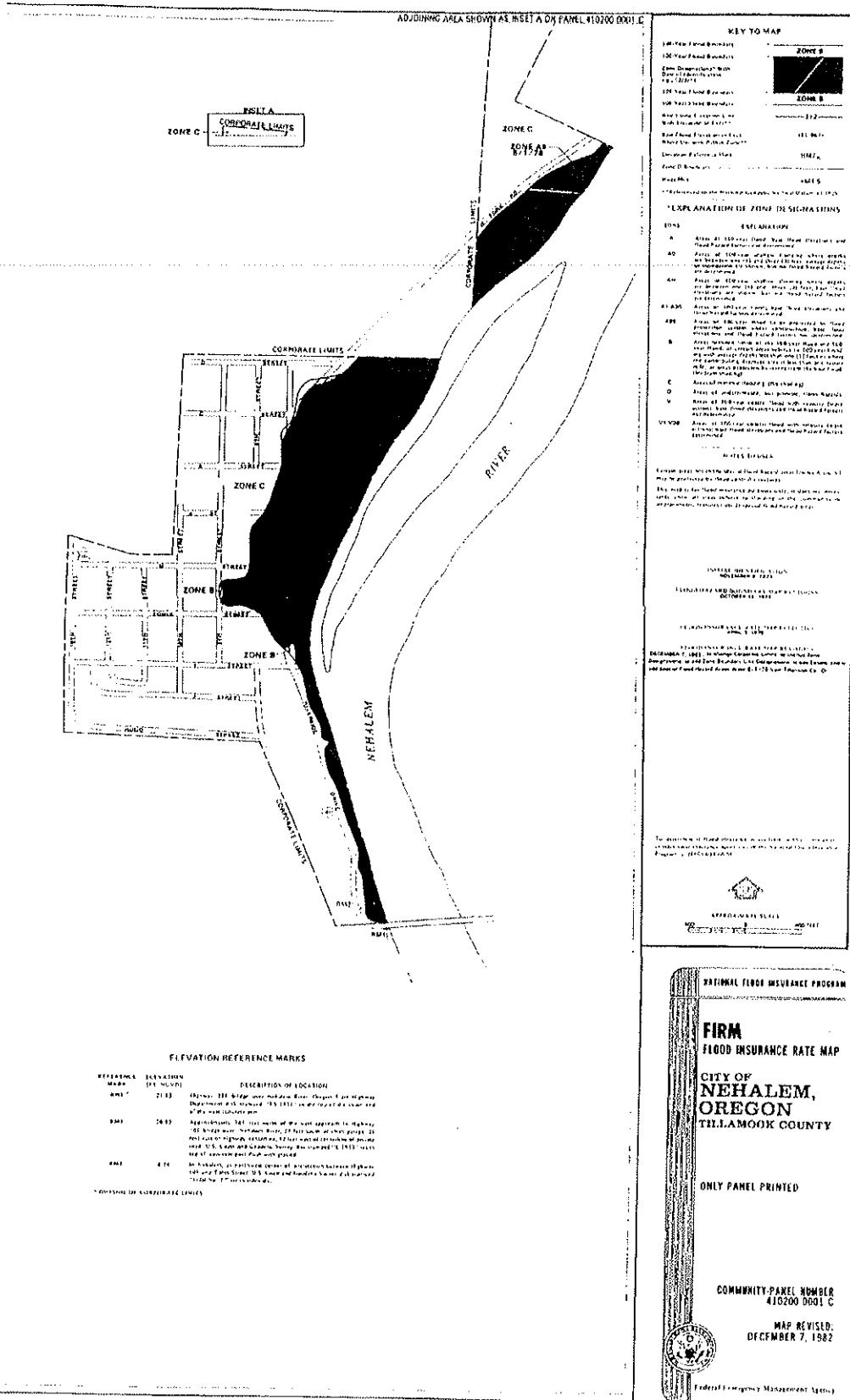
REGISTERED
PROFESSIONAL
LAND SURVEYOR



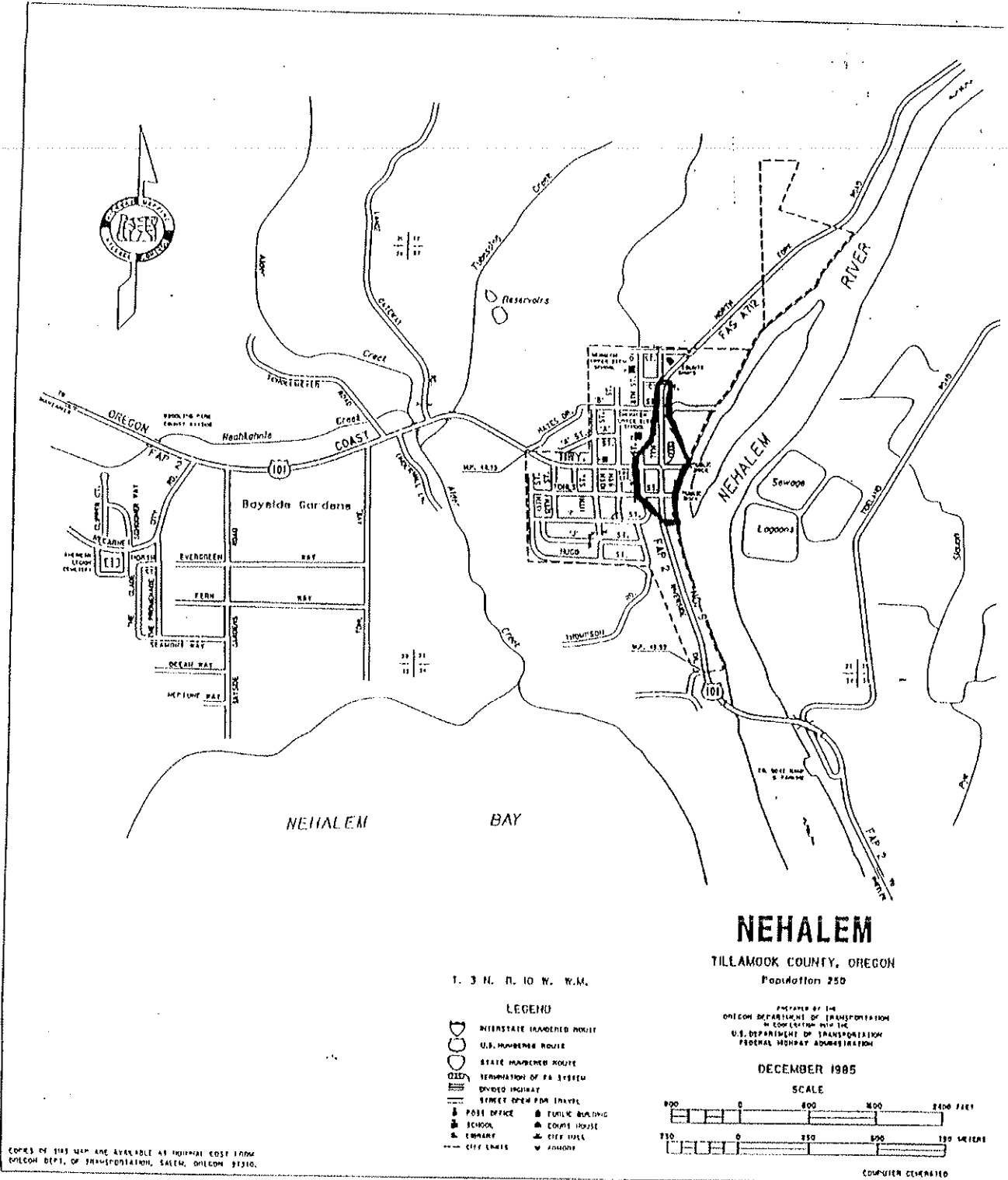
OREGON
JULY 10, 1990
MARK H. TELLING
2760

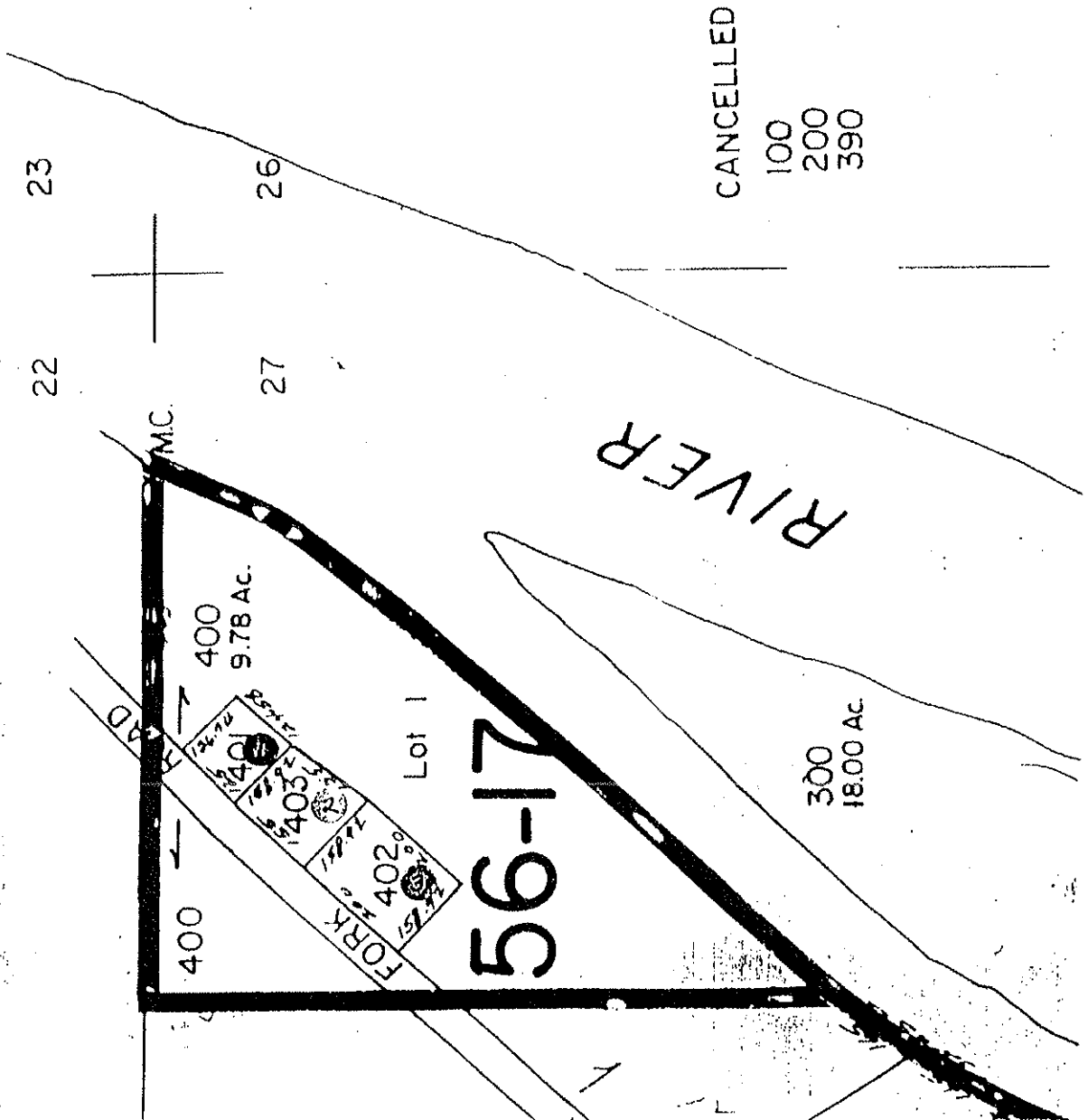
RENEWAL JUNE 30, 1998

APPENDIX A.1

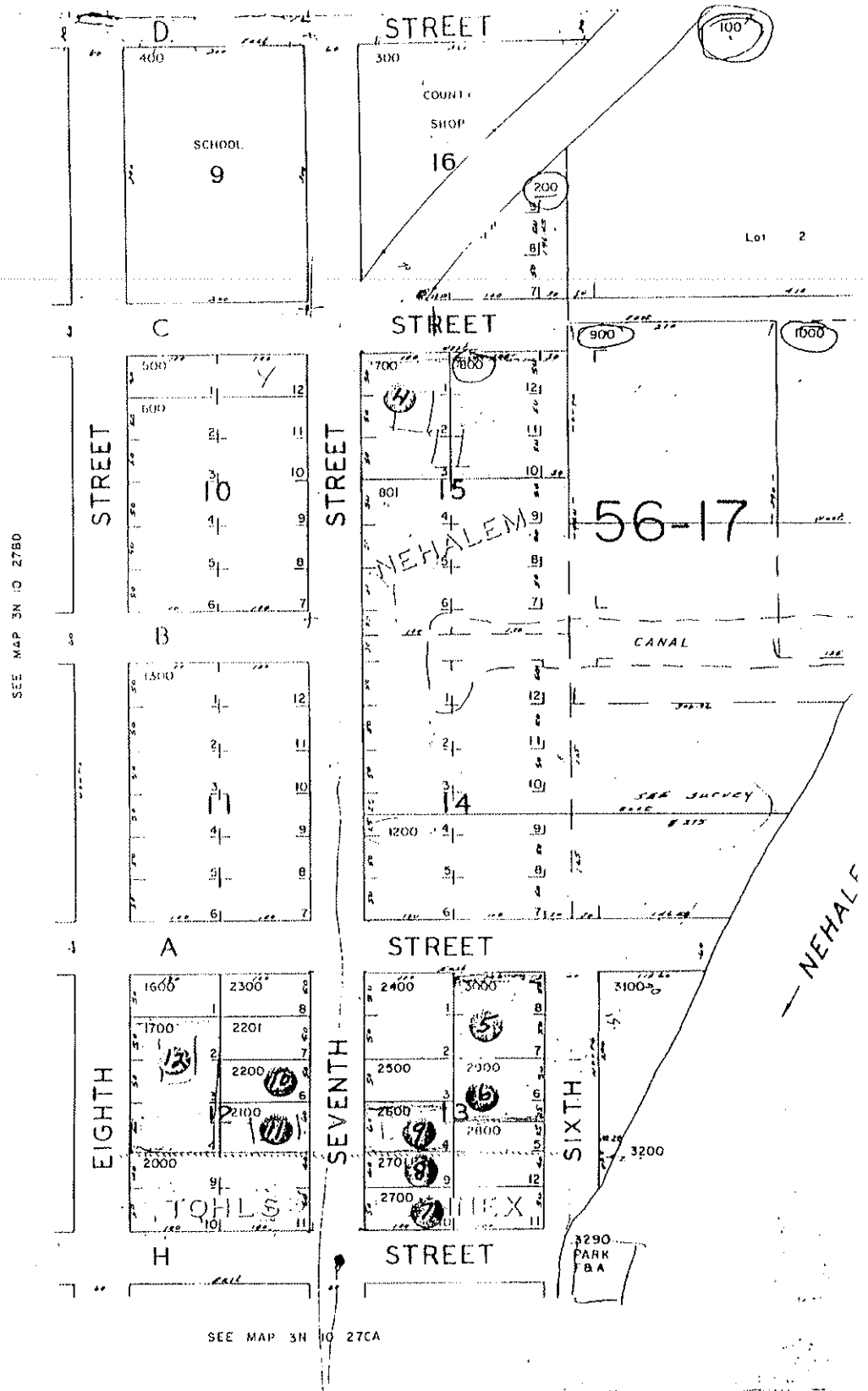


APPENDIX A.2

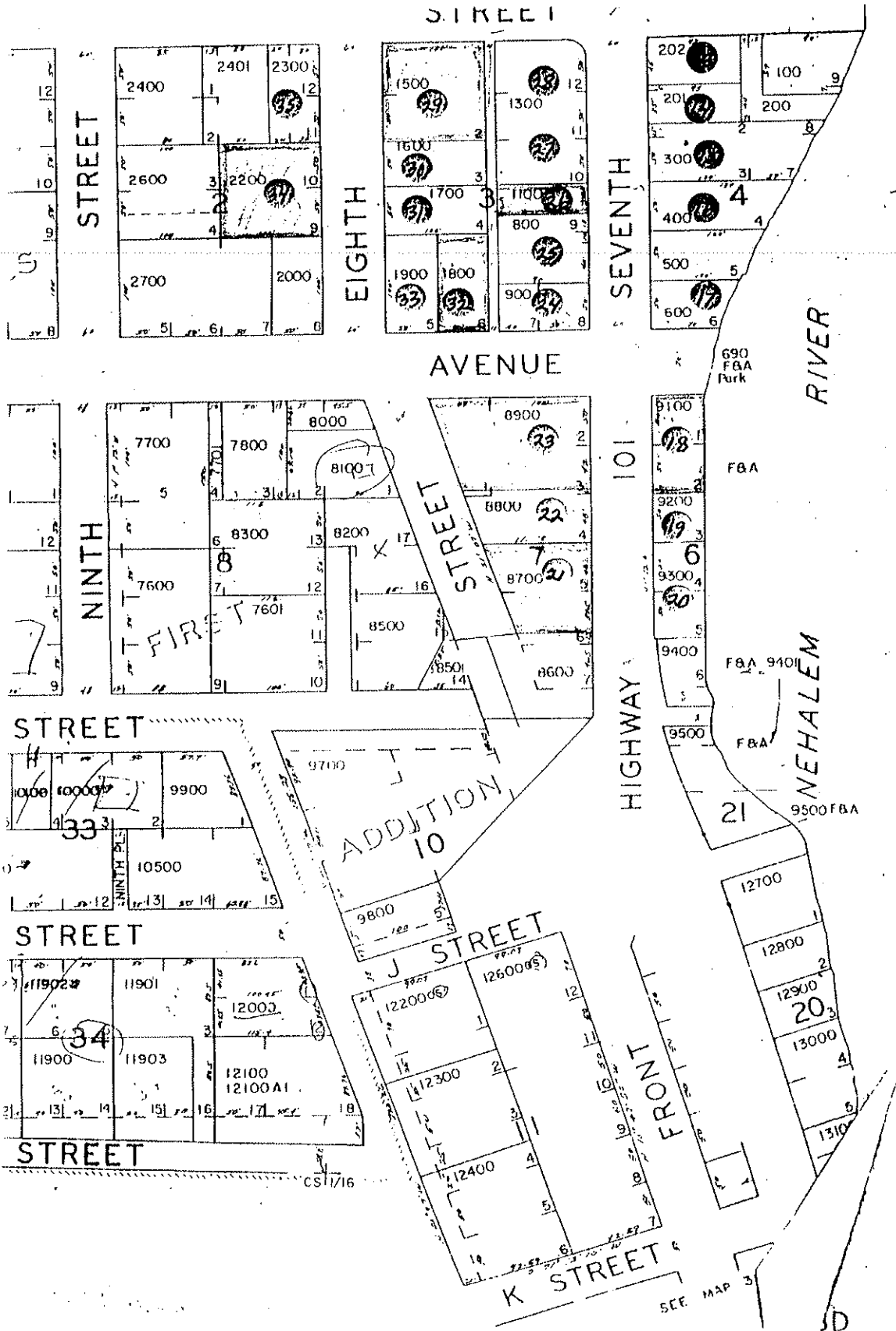




APPENDIX A.3 (Cont'd)



APPENDIX A.3 (cont'd)



APPENDIX A.4

David Godsey

P.O. 399, Nehalem, OR 97131

Ph 503-368-5970 • Fax -5034 • E-mail godsey@pdx.oneworld.com

5-13-97

City of Nehalem
Nehalem, OR

I have contacted the U.S. Government Surplus system and requested a search for two gauges, one for the town dock and the second for placement on Nehalem's North Fork. If located, costs will be about 5% of original purchase price. We would be responsible for inspection and transport of all surplus items purchased.

If no gauges are available from state and federal sources by mid-Summer, I recommend that our City and Port consider a grant submittal to FEMA, and/or other agencies, for the purchase of two level recorders:

- Provide data for Lower Nehalem flood prediction/warnings based on North and South Fork levels plus variable tidal influence.
- Determine North Fork impact on lower basin levels
- Provide accurate, long-term data to the Port, City of Nehalem and Tillamook County planning and decision making.

If a grant application is deemed necessary, I am willing to participate in its preparation.

Warmest regards,



David Godsey

APPENDIX A.5

Captain's Daily Report from the Tides and Current Program by NS+.

Tide at Nehalem Rvr., Nehalem
Oregon Coast
Lat - N 45° 43' Lon - W 123° 53'
Date = 2/8/96

Tide at Nehalem Rvr., Brighton
Oregon Coast
Lat - N 45° 40' Lon - W 123° 56'
Date = 2/8/96

Daily Peaks
Time Feet
03:08 +07.0
09:46 +01.6
14:56 +06.5
21:51 +00.8

Daily Peaks
Time Feet
02:42 +07.7
08:44 +02.1
14:30 +07.1
20:49 +01.0

Level for each Hour of the Day

am	am Feet	pm	pm Feet
01	+05.1	13	+05.0
02	+06.4	14	+06.1
03	+07.0	15	+06.5
04	+06.8	16	+06.2
05	+06.0	17	+05.3
06	+04.9	18	+04.1

Level for each Hour of the Day

am	am Feet	pm	pm Feet
01	+06.5	07	+03.2
02	+07.5	08	+02.3
03	+07.6	09	+02.1
04	+07.1	10	+02.7
05	+05.9	11	+03.8
06	+04.5	12	+05.1

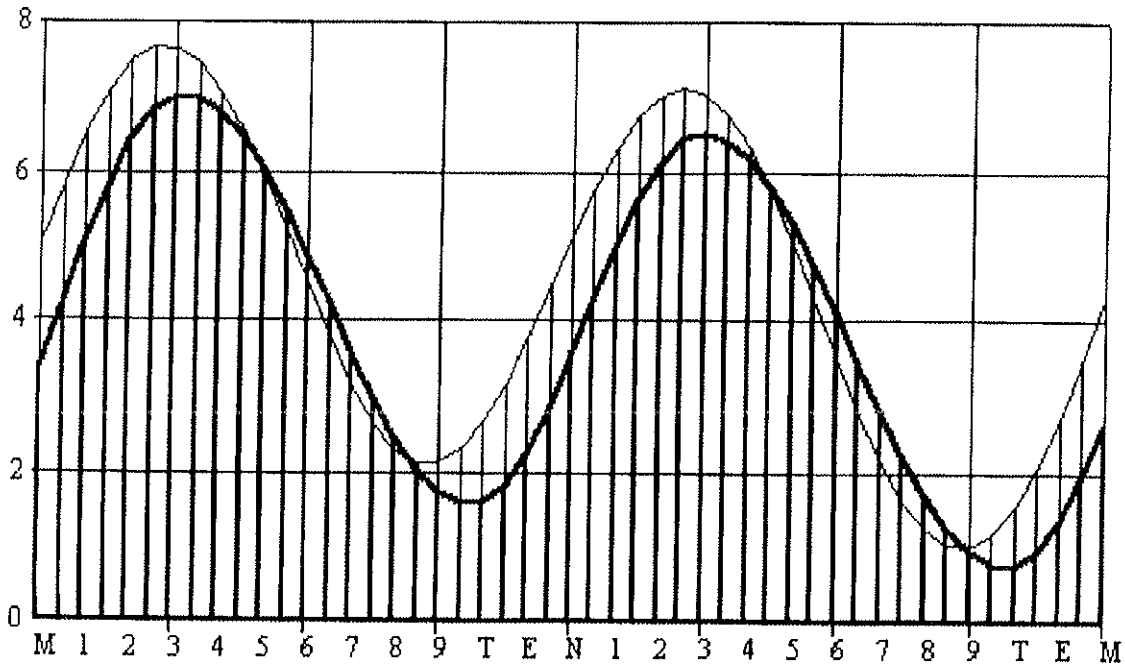
On the Graph:

Thick Line - Tide at Nehalem Rvr., Nehalem

Thin Line - Tide at Nehalem Rvr., Brighton

Times = M - Midnight, T - Ten, E - Eleven, N - Noon.

Level = Current is in Knots, Tide is in Feet.



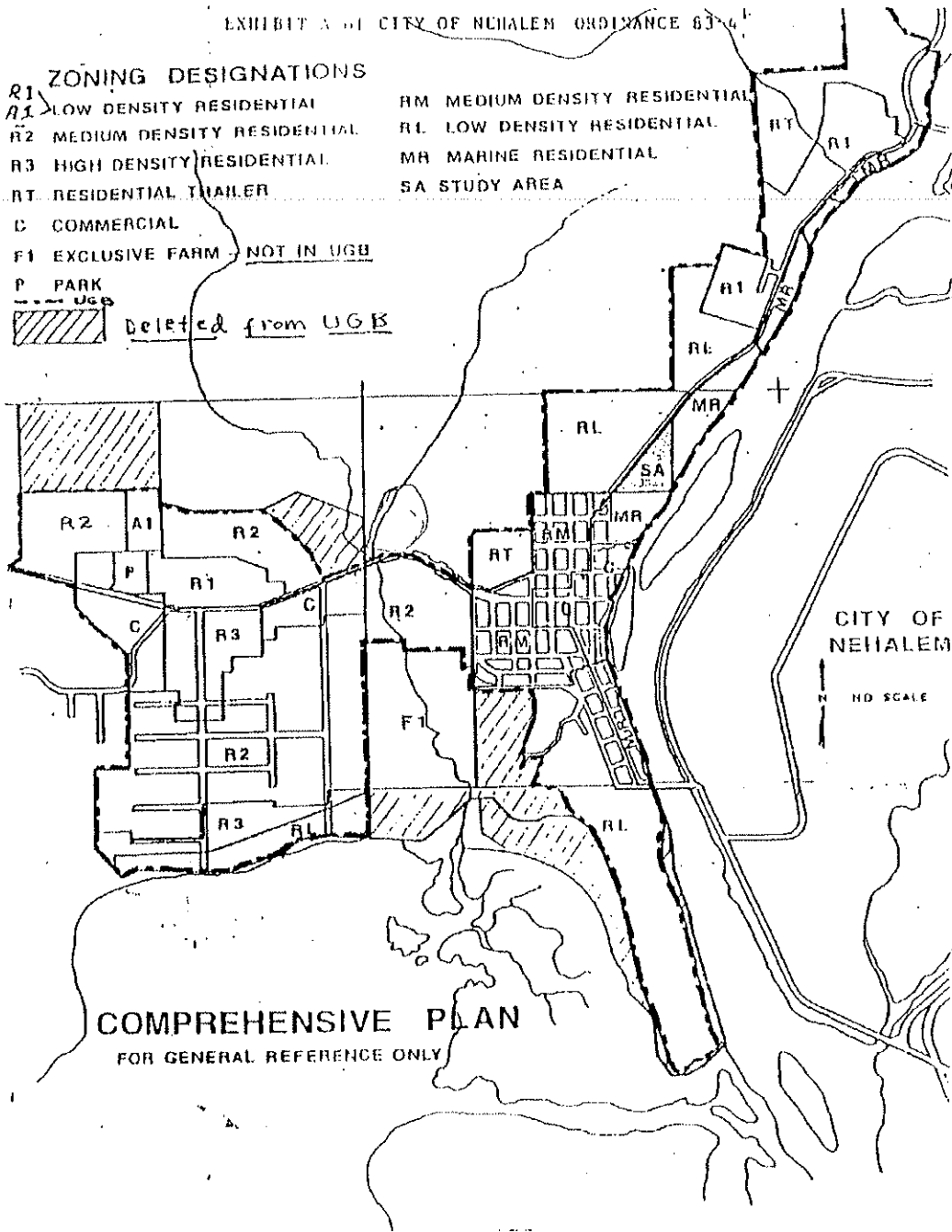
Points Plotted Every Half Hour from Midnight to Midnight

APPENDIX B

EXHIBIT A OF CITY OF NEHALEM ORDINANCE 83-4

ZONING DESIGNATIONS

- R1 LOW DENSITY RESIDENTIAL
- R2 MEDIUM DENSITY RESIDENTIAL
- R3 HIGH DENSITY RESIDENTIAL
- RT RESIDENTIAL TRAILER
- C COMMERCIAL
- F1 EXCLUSIVE FARM - NOT IN UGB
- P PARK
- UGB
- Deleted from UGB
- HM MEDIUM DENSITY RESIDENTIAL
- RL LOW DENSITY RESIDENTIAL
- MR MARINE RESIDENTIAL
- SA STUDY AREA



COMPREHENSIVE PLAN
FOR GENERAL REFERENCE ONLY

APPENDIX C.

ARTICLE 11: FHO ZONE - FLOOD HAZARD OVERLAY

Section 11.010. Statement of Purpose. It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- (1) To protect human life and health;
- (2) To minimize expenditure of public money and costly flood control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business interruptions;
- (5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- (6) To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- (7) To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Section 11.020. Definitions. Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

- (1) Area of Special Flood Hazard. The land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.
- (2) Base Flood. The flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-year flood."
- (3) Development. Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard.
- (4) Flood or Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - a. The overflow of inland or tidal waters and/or
 - b. The unusual and rapid accumulation of runoff of surface waters from any source.

APPENDIX C. (Cont'd)

(5) Flood Insurance Rate Map (FIRM). The official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the City of Nehalem.

(6) Flood Insurance Study. The official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

(7) Floodway. The Channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

(8) Lowest Floor. The lowest floor of the lowest enclosed area (including basement.) An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance found at Section 11.050 (2) a. 2.

(9) Manufactured Home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.

(10) New Construction. Structures for which the "start of construction" commenced on or after the effective date of this Ordinance.

(11) Start of Construction. Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

(12) Structure. A walled and roofed building including a gas or liquid storage tank that is principally above ground.

APPENDIX C. (Cont'd)

(13) Substantial Improvement. Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- a. Before the improvement or repair is started, or
- b. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

Section 11.030 General Provisions.

(1) Lands to which this Ordinance Applies. This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the City of Nehalem.

(2) Basis for Establishing the Areas of Special Flood Hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Nehalem" dated October, 1976, with accompanying Flood Insurance Maps is hereby adopted by reference and declared to be a part of this Ordinance. The Flood Insurance Study is on file at Nehalem City Hall, 35900 8th Street, Nehalem, Oregon.

Section 11.040. Administration.

(1) Establishment of Development Permit.

a. Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 11.030 (2). The permit shall be for all structures including manufactured homes, as set forth in the "Definitions", and for all development including fill and other activities, also as set forth in "Definitions".

(2) Designation of the Building Official. The building official is hereby appointed to administer and implement this Ordinance by granting or denying development permit applications in accordance with its provisions.

(3) Duties and Responsibilities of the Building Official. Duties of the Building Official shall include, but not be limited to:

a. Permit Review.

1. Review all development permits to determine that the permit requirements of this Ordinance have been satisfied.

2. Review all development permits to determine that all necessary permits have been obtained from those Federal, State or local governmental agencies from which prior approval is required.

APPENDIX C. (Cont'd)

3. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 11.050 (3) a. 1. are met.

b. Use of Other Base Flood Data.

When base flood elevation data has not been provided in accordance with Section 11.030 (2), "Basis for Establishing the Areas of Special Flood Hazard," the Building Official obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer Section 11.050 (2), "Specific Standards," and 11.050 (3) "Floodways."

c. Information to be Obtained and Maintained.

1. Where base flood elevation data is provided through the Flood Insurance Study or required as in Section 11.040 (3) b, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new substantially improved structures, and whether or not the structure contains a basement.

2. For all new or substantially improved flood-proofed structures:

(i) verify and record the actual elevation (in relation to mean sea level), and

(ii) Maintain the floodproofing certifications.

3. Maintain for public inspection all records pertaining to the provisions of this Ordinance.

d. Alteration of Watercourses.

1. Notify adjacent communities and the Building Official prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration,

2. Require that maintenance is provided within the altered or relocated portion of the said watercourse so that the flood carrying capacity is not diminished.

Interpretation of Firm Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions.) The person contesting the location of the boundary shall be given reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the rules and regulations of the National Flood Insurance Program (44 CFR 59-76.)

APPENDIX C. (Cont'd)

Section 11.050. Provisions for Flood Hazard Reduction.

(1) General Standards. In all areas of special flood hazards, the following provisions are required:

a. Anchoring

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. (Reference FEMAS's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques.)

b. Construction Materials and Methods

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

c. Utilities

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and

3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

d. Subdivision Proposals

1. All subdivision proposals shall be consistent with the need to minimize flood damage;

2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;

APPENDIX C. (Cont'd)

3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and

4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less.)

e. Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source (Section 11.040 (3) b,) Applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes the use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

(2) Specific Standards. In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 11.030 (2), "Basis for Establishing the Areas of Special Flood Hazard" or Section 11.040 (3) b, "Use of Other Base Flood Data," the following provisions are required:

a. Residential Construction

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation.

2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

(ii) The bottom of all openings shall be no higher than one foot above grade;

(iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

APPENDIX C. (Cont'd)

b. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

3. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of the subsection based on their development and/or review of the structural design, specifications and plans. Such certification shall be provided to the official as set forth in Section 11.040 (3) c. 2.

4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in Section 11.050 (2) a. 2.

5. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building constructed to the base flood level will be rated as one foot below that level.)

c. Manufactured Homes. All manufactured homes to be placed or substantially improved within Zones A1-30, AH and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 11.050 (1) a.

(3) Floodways. Located within areas of special flood hazard established in Section 11.030 (2) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- a. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of base flood discharge.

- b. If section 11.050 (1) a. 1. is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 11.050 Provisions for Flood Hazard Reduction.

APPENDIX D.

CITY OF NEHALEM
FLOOD HAZARD STEERING COMMITTEE
PUBLIC MEETING NUMBER 1
WEDNESDAY, JULY 30, 1997

Paul Benson, Consultant called the meeting to order at 7:30 p.m.

STEERING COMMITTEE PRESENT

Paul Benson
Ken McGough
Chris Shepherd
Dan Silver
C. Merlin Brown

OTHER PRESENT

Pete Thompson
Betty Thompson
George Marchi
Robin Russo
Mary Baker
Jack Lorette
Bob Finzer

Consultant Benson explained that the Steering Committee has put together a draft Nehalem Flood Hazard Mitigation Plan and a copy of this has been sent out prior to this first public meeting to all the properties in the flood hazard zone.

Consultant Benson reviewed the draft plan page by page on an overhead projection and answered any question during the review.

Consultant Benson then opened the meeting up for further discussion on the handi-cap access in the elevation of buildings in the downtown area. At this time and in this plan there is currently not an answer to the concern of improved access to elevated structures.

It was the consensus of the group that the steering Committee had put together a good plan and recommended it go to the second hearing in late August or early September, so as to go before City Council for approval and be submitted to Oregon Emergency Management by the end of September.

There being no further discussion, Consultant Benson adjourned the public meeting at 8:45 p.m.

C. Merlin Brown
City Recorder

APPENDIX D. (cont'd)

NEHALEM CITY COUNCIL
COUNCIL MINUTES
REGULAR MEETING & PUBLIC MEETING 2 (FHMP)
SEPTEMBER 9, 1997

Note:

This record of the second hearing
does not include attachments.

Mayor Dillard called the Regular Meeting to order at 7:30 p.m.

COUNCIL MEMBERS PRESENT: Wm. Lee Dillard, Mayor
Christopher Shepherd, Council Member
Shirley Kalkhoven, Council Member

EXCUSED: Dale E. Stockton, Council President
Vern Scovell, Council Member

STAFF PRESENT: C. Merlin Brown, Recorder
Margaret Stoltenberg, Admin. Assistant
Don Davidson, Public Works Supt.

VISITORS: Norma Bell
Paul Benson, Planning Consultant
Ken Mc Gough
Jim Goble
Mark Tellhed, HLB & Associates, Inc.
Ron Larson, HLB & Associates, Inc.

Mayor Dillard opened the Public hearing for the City of Nehalem's Flood Hazard Mitigation Plan, a plan which involved citizen input, the consideration of a broad range of mitigation alternatives, and careful analysis and review by elected officials as an important implementing element of the city's State acknowledged comprehensive plan.

MINUTES

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to approve August 12, 1997 minutes.
MOTION PASSED UNANIMOUSLY.

OLD BUSINESS

FLOOD HAZARD MITIGATION PROJECT ADMINISTRATION

Mayor Dillard reported that the Flood Hazard Mitigation Project would need an administrator for the project. Ron Larson of HLB & Associates, Inc. has been recommended for the job of administrator.

Ron Larson stated that he is interested in doing the work to administer the contract. He has reviewed the background information & the budget for the project. He does not want to present to you that you need an engineer on the project since most of the buildings are pretty standard, but the city may need a consulting engineer.

APPENDIX D. (cont'd)

Mayor Dillard explained that all the buildings involved will need a building permit. Some of the commercial buildings will need an engineer to help with the permit process. Also the issue on if the commercial buildings will need an entry to meet the handicap requirements.

Council Member Kalkhoven explained that some of the merchants are concerned on how they will follow the Fair Housing Act & the ADA act when the work is done on their buildings. There are Technical Assistance Grants available that would help with the engineering & design work. Her two concerns are that there is viable access for people to be able to shop & that the city follows all of the guidelines for the FEMA money. (A copy of a letter from Council Member Kalkhoven is a part of these minutes as Attachment A.)

Paul Benson, Planning Consultant explained that before this project can go out for bids, we will need specifications for all of the buildings involved. HLB & Associates could make up the specifications & get this project under way.

Mayor Dillard responded that this project needs to be done as soon as possible. He asked Ron Larson what their cost would be to draw up the specs & work on this \$500,000.00 project?

Ron Larson explained that typically engineering projects would be in the 9 to 10% range. On this job every structure is going to be different & there would be no duplications. They would convey all the measurements to the contractors who bid on the job & this would make their job a lot easier.

Council Member Shepherd explained that the plan is to have no building out of business for longer than a day. The business's that requires a floor will have be closed longer than a day.

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to have Ron Larson of HLB & Associates, Inc. be the plan administrator for the Flood Hazard Mitigation Project & follow the guidelines for ADA & design the foundations to raise the buildings, in addition the City will apply for additional grants that would help this project. MOTION PASSED UNANIMOUSLY.

Mayor Dillard asked Ron Larson to get a proposed contract to the City as soon as possible. The Cities legal counsel will review the contract & once approved the contract will be signed.

NEHALEM HAZARD MITIGATION PLAN

Mayor Dillard reported that the hearing would remain open for another half hour.

CHARTER REVIEW REPORT

Mayor Dillard will hold the Charter Review report over until the next meeting when all council members are present. (A copy of the charter information is a part of these minutes as Attachment B.)

FILTRATION BUILDING PROGRESS REPORT

Recorder Brown reported that he & Council President Stockton are finishing up the estimated cost for the materials of the filtration building. He went down to the Tillamook County Building Dept. & applied for the building permits & the conditional use permit was approved earlier.

SCENIC BYWAY DRAFT PLAN MEETING REPORT

Mayor Dillard reported that the council packets included a copy of the letter that Recorder Brown sent to CH2M Hill, Inc. & the report from the joint meeting. There is also a copy of a letter from Glen Handy in response to the letter. (A copy of Recorder Brown's letter, a copy of the report from the joint meeting & copy of Glen Handy's letter is a part of these minutes as Attachment C.)

APPENDIX D. (cont'd)

DOWNTOWN NEHALEM PARKING LOT

Recorder Brown advised that he had talked to Daniel J. Conner's & he will sign the agreement with the City of Nehalem. A separate agreement will be drawn up between the Nehalem Merchants & the city.

CITY DOCK REPAIR

Recorder Brown reported that he talked to the Marine Board & told them no bids turned in for the job. Also reported that one contractor would have submitted a bid, but felt the docks should have more work done on them than what the Marine Board was requesting. The Marine Board would like the bid with all the work that should be done & they will review the additional work.

CART'm SUPPORT LETTER

Council packets included a copy of the letter & response regarding Cart'm. (A copy of the request letter & the response letter is a part of these minutes as Attachment D.)

EXHAUST BRAKE SIGNS STATUS REPORT

Recorder Brown reported that he had a call into ODOT to find out when the signs would be installed. They had not returned his call as of the council meeting.

NOEA GRANT -BRIDGE PIPELINE - STATUS REPORT

Recorder Brown reported that he had letter from Tideland & verbal from the Marine Board on their participation on the bridge pipeline crossing. The signed contracts were sent to NOEA. Klein Consulting Engineers, Inc. will get the specs ready for the bids.

JOINT MEETING OF GOVERNMENT BODIES OF THE AREA

Mayor Dillard announced that the joint meeting would be held on September 18, 1997. He hoped to be back from his trip to Salem in time to attend & ask Recorder Brown to plan to attend. (A copy of the notice is a part of these minutes as Attachment E.)

CENTENNIAL COMMITTEE APPOINTMENT

Mayor Dillard announced that the City of Nehalem would be 100 years old in 1999. The council needs to appoint a committee to work under the cities' directions.

Council Member Shepherd moved, Council Member Kalkhoven seconded the motion that the City of Nehalem wants to celebrate the cities Centennial in 1999 & will appoint a committee to work under the councils jurisdiction. MOTION PASSED UNANIMOUSLY.

Mayor Dillard asked the council members to bring names for the committee to the next council meeting.

CITY ANNEX BUILDING - RARE WORKER - LOWER NEHALEM RIVER WATERSHED COUNCIL (LNRWC)

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to accept the rental contract draft between the Lower Nehalem River Watershed Council (LNRWC) & the City for the use of the office space in the Cities Annex building. MOTION PASSED UNANIMOUSLY.

APPENDIX D. (cont'd)

NORTH COUNTY COMMUNITY CENTER

Council Member Kalkhoven requested that the NCCC be designated as an emergency center, so that Mark Beach can apply for a grant for the center.

Council Member Shepherd reported that the North County Community Center is designated as the command Center for emergencies & listed in the Flood Hazard Mitigation Plan on page 10.

NEW BUSINESS

RESOLUTION 97-10

Mayor Dillard read Resolution 97-10, a resolution clarifying the intent of the Nehalem City Council regarding the \$30,723.00 three years fixed serial levy. Motion by Council Member Kalkhoven, seconded by Council Member Shepherd to approve Resolution 97-10 as read. MOTION PASSED UNANIMOUSLY.

CELEBRATING 50 YEARS OF SERVICE

Mayor Dillard announced that the PUD would be celebrating their 50 years of service on September 21 from 1 to 5. (A copy of the letter is a part of these minutes as Attachment F.)

NEHALEM PARK - FIRE PITS

Recorder Brown reported that Irma Anderson had called & the Nehalem Methodist Church wanted to have their picnic at the city parks. She asked if the City was going to put in fire pits & restrooms? Since there are no fire pits or restrooms, the Nehalem Methodist Church will hold their picnic at another location this year. The Nehalem Firefighter held their annual picnic up there & used their own barbecues & rented portable restrooms & everyone had a great time.

Fire Chief Davidson felt it would be hard to maintain a clear area for the fire pits.

Mayor Dillard said at this time there would be no fire pits up at the City Parks.

OCZMA ANNUAL DUES & REPRESENTATIVE

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to pay the dues for 1997-98 & selected Council President Stockton as the designated Representatives. MOTION PASSED UNANIMOUSLY. (A copy of the letter is a part of these minutes as Attachment G.)

JIM GOBLE, MANAGER OF NEHALEM BAY WASTEWATER AGENCY

Jim Goble, Manager NBWA reported that the agency would like to go together with the Port of Nehalem, & the City to purchase a stream gage that would help on predicting flood information. The two units would cost approximately \$16,000.00.

Mayor Dillard asked if the Cities cost would be approximately one third of \$16,000.00?

Council Member Shepherd moved, Council Member Kalkhoven seconded the motion for the city to participate in the purchase of flow gages for the flood readings on the Nehalem River.

Jim Goble will get the weather station installed at the wastewater building. He will also have an agreement drawn up for the three entities to sign.

APPENDIX D. (cont'd)

PUBLIC HEARING FLOOD HAZARD MITIGATION PLAN

Mayor Dillard asked if anyone had questions or comments on the Flood Hazard Mitigation Plan? The first public hearing was held July 30, 1997 & the council meeting tonight is the second public hearing for this plan. Hearing no comments or questions the hearing was closed at 8:30 p.m.

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to accept the Flood Hazard Mitigation Plan. MOTION PASSED UNANIMOUSLY. (A copy of the Flood Hazard Mitigation Plan is a part of these minutes as Attachment H.)

Mayor Dillard called a recess at 8:30 p.m.

Mayor Dillard called the meeting back to order at 8:35 p.m.

US REPRESENTATIVE DARLENE HOOLEY

Mayor Dillard announced that US Representative Darlene Hooley will be here September 20, 1997 at 3:00 p.m. She will walk through the downtown area of Nehalem & meet with the people of Nehalem.

STAFF REPORTS

WATER DEPARTMENT

Public Works Supt. Davidson reported that the average usage for the month of August was 175,000 gallons per day, turbidity averaged 0.25 per day and all bacteriological tests were negative.

FIRE DEPT.

Fire Chief Davidson reported the firefighters' turn outs are currently washed at the individual firefighters' home. He would like the council's permission to purchase a washer & dryer & install in the annex building.

Council Member Shepherd moved, Council Member Kalkhoven seconded the motion to authorize the firefighters to use the area at the annex for a washer & dryer & provide prices for a washer & dryer at the next council meeting. MOTION PASSED UNANIMOUSLY.

STREET DEPT.

Public Works Supt. Davidson reported that the no skateboard signs were put up in the downtown area. They also have finished the painting of the handicap parking signs.

Council Member Shepherd requested a no parking sign be placed on corner of 9th & 101 Hwy next to Shepherds Gallery.

Mayor Dillard asked Public Works Supt. Davidson to have a no parking sign placed on 9th & 101. Also requested that Public Works Supt. Davidson attend the Public safety officers meeting on Sept. 12, 1997 that is being held up in the Seaside area.

Mayor Dillard reported that Recorder Brown took all the financial information down to Jim Powers, CPA to start on the financial review for 1996-97.

APPENDIX D. (cont'd)

BILLS

Council Member Kalkhoven moved, Council Member Shepherd seconded the motion to authorize the payment of the bills as presented & further to allow any future bills that are to be paid at the end of the month. MOTION PASSED UNANIMOUSLY. (A list of the bills is a part of these minutes as Attachment I.)

COUNCIL CONCERNS

Council Member Kalkhoven announced that she hoped to see most of the council at the joint meeting on Sept. 18, 1997 at the Pine Grove Community House.

Mayor Dillard thanked Council Members Kalkhoven & Shepherd for the work that they did on the Flood Mitigation Plan.

ADJOURNMENT

There being no further business Mayor Dillard adjourned the meeting at 8:50 p.m.

C. Merlin Brown, Recorder