

GOAL 7 - AREAS SUBJECT TO NATURAL DISASTERS AND HAZARDS

A. Introduction:

Identifying natural hazards (flooding, landslides, soil slippage, etc.) is a large part of the “Natural Systems” approach to planning. Areas susceptible to natural hazards form a large part of our open space system. Because of the difficulties associated with development of areas subject to natural hazards, these lands often are devoted to low intensity uses; they constitute an important part of our open space system. The study entitled Geologic Hazards of Parts of Northern Hood River, Wasco, and Sherman Counties, Oregon (Oregon Department of Geology and Mineral Industries, 1977) provides useful information on natural hazards in the County.

Maps identifying areas subject to hazards include: (1) Map #1, City/Westside area. Although the City/Westside area contains little natural hazard activity the community should realize the potential costs and consequences of such occurrences; (2) Map #2, Urban and Rural Soils Suitability; (3) Map #3, Central Valley area; and (4) Map #4, Columbia Gorge area. Hazard areas and location maps for the Mt. Hood area are discussed in the following reports which are also part of the Goal 7 section.

Other detailed reports identifying hazard areas in the County include: (1) Goal 7: Areas Subject to Natural Disasters and Hazards; (2) Goal 7: Natural Hazard Areas to be Designated on Comprehensive Plan Maps in Response to LCDC Critique; (3) Goal 7: Clarification: Plan Designations and Zones for Natural Hazard Areas; and (4) Goal 7: Map Deficiencies (Floodplain and Environmental Protection Zoning: East Fork of the Hood River).

B. Flood Hazards:

The 100-year flood level along the Bonneville Pool of the Columbia River at or near river mile post 169 is 86.5 feet. The U.S. Department of Housing and Urban Development has designated all land below the 88 foot contour level as being within a flood hazard area.

Areas along the Hood River, Indian Creek, and Phelps Creek experience overbank flooding at times, as shown on the Natural Hazards Map (Map #1). Flooding usually occurs during the late fall and spring.

Flood Hazard areas within the Central Valley (Map #2) area are found along the Hood River and its East, Middle and West (including Lake Branch) Forks; and along Emil, Odell, Baldwin and Neal Creeks. The single most extensive 100-year floodplain is along the East Fork Hood River. If that portion of the East Fork south of the Willamette Base line is included, there are a total of 3,650 acres of private land and 1,220 acres of public land area within the 100-year floodplain (Hood River County Generalized Flood Plain Report, U.S. Department of Agriculture, Soil Conservation Service, 1975). Flood damage in the area has not been extensive in the past because streams for the most part are in deep canyons, and there has been little development within 100-year floodplains.

If future development is restricted within floodplains, flood damages will continue to be minimal. The 100-year floodplain along the East Fork of the Hood River within the Mt. Hood area has been designated “Environmental Protection”. This designation restricts inappropriate development and protects those values associated with floodplain areas.

C. Geologic Hazard:

Geologic hazards are generally, though not always, associated with steeply sloping lands. Geologic hazards include sliding and slumping along the sides of streams and river canyons, rockfall and rockslide, potential areas of future mass movement, sedimentation, and high ground water areas. Specific sites of deep bedrock slides, talus slides, earth flow and slump, and slope failure are shown on the hazards map. Smaller localized hazard areas may be found by closer on-site investigation. Some of the concerns associated with development for each of the above mentioned geologic hazards are as follows:

1. Deep bedrock slides: Large downdropped blocks of bedrock both active and inactive; recognized by large-scale topographic irregularities and displacement of bedrock units; distribution generally determined by faults, joints, or incompetent interbeds or formations; possible hazards may include continued sliding, variable foundation strength, variable cutbank stability, poor drainage, and others; potential for development highly variable.
2. Earthflow and slump topography/slides (areas less than 10-20 acres not shown): Moderately sloping terrain with irregularities of slope, drainage, or soil distribution; recent movement, if present, shown by tension cracks, bowed trees, and others; most common in areas of stream-bank erosion or active headward migration of streams; possible hazards may include continued movement, low cutbank stability, poor drainage, and others; development possible locally, but generally may reactivate or accelerate sliding. Deep excavations pose dangers, especially during the rainy season. Adequate drainage should be at all times maintained. There should be no blockage of springs. Shallow earthflow and slump topography is often difficult to recognize, especially in areas of thick forest cover.
3. Steep slope mass movement/rock fall and rock slide: Areas subject to localized debris flow, rockfall, or rockslide; specific locations a function of rock type and structure, jointing, soil properties, soil thickness, root support, vegetative cover, and others; mitigation may include structural solutions, drainage control, and appropriate land-use and forest-management practices. This hazard is present in the vicinity of cliffs of jointed or fractured bedrock. Precautionary measures that can minimize rockfall or rockslide dangers include controlling blasting, screening or scraping cliffs, constructing embankments or retaining walls to stop rolling rocks and erecting warning signs at hazardous locations on roads and trails.

4. Potential future mass movement associated with known faults: Earthquakes may trigger landslides in the vicinity of faults. However, faults identified in Hood River County by the State of Oregon Department of Geology & Mineral Industries in Bulletin #91, Geologic Hazards of Parts of Northern Hood River, Wasco & Sherman Counties, 1977, are only considered geologic features, not hazards. Consequently, the County's Geologic Hazard Zone (GH) does not apply. Attachment "A" further clarifies that identified faults are not geologic hazards.
5. Thick talus: Uniformly sloping rock and soil debris accumulating at base of cliffs primarily by rockfall and rockslide; associated hazards include shallow subsurface runoff, low cutbank stability especially in wet season, and debris flows either in talus or emanating from upslope canyons; deep cuts and development generally not recommended.
6. Sedimentation: The problems of soil erosion increase with: (a) an increase in percent slope; and (b) a decrease in vegetation cover.

Controlling slope erosion in areas of construction is of critical importance. In steep sloping areas near storm sewers, deposition within the storm sewers as a result of construction and other land use practices is of concern due to flooding; blockage of culverts by deposition from sloping areas is of concern in regard to same. Streets without storm sewers in steeply sloping terrain are a hazard to residences and streets downslope in periods of high runoff.

7. High groundwater areas: High groundwater can cause flooding of basements and differential settling. It can make the installation of underground facilities difficult. Construction and the paving over of lands having high groundwater may result in surface water movement onto adjacent properties.

D. Geologic Hazards: Columbia Gorge:

Most of the geologic formations consist of Columbia River Basalt. The total thickness of the Columbia Gorge Basalt formations amount to 2,000 feet exposed primarily as steep slopes and cliffs along the Columbia River and its tributary streams. Each individual basalt formation in the study area averages 80 feet in thickness and is characterized by hard, dark, jointed rock. Interbeds of sedimentary rock are thin and local. Fossil records indicated that Columbia River Basalt is estimated to be 10 to 16 million years old.

Geologic hazards of the Columbia River Basalt include rockfall and rockslide potential along steep slopes, especially in the Columbia River Gorge; deep bedrock slump potential along faults, joints, and incompetent interbeds; and torrential flooding in areas of high relief and steep stream gradient. Permeability varies from very high to very low as a function of jointing. Foundation strength is generally very good. Septic suitability is generally poor, however.

The area along the Columbia east of Herman Creek extending to just west of Wyeth consists of volcanic light gray andesite. The engineering properties and hazards of this volcanic material are variable.

The Wyeth area consists of a terrace of unconsolidated gravel, sand, and minor silt alluvial material located above the floodplains of major streams. Flooding generally is not a problem except for localized streams.

The Eagle Creek Formation is found just south and west of Cascade Locks. This formation consists of interbedded sedimentary rocks and mudflows. Major rock types include boulder conglomerate, sandstone, slate, tuff, breccia, and debris flow. Major hazards associated with the Eagle Creek Formation include active sliding in the Ruckel Creek area, highly variable foundation and cutbank stability properties in areas of ancient landsliding, and variable cutbank stability properties between interbeds in terrain where no landsliding occurred. Permeability is variable. Streams disappear into the ground at the heads of slides and resurface further downslope near the base of the slides. Several areas contain large slide areas. These talus areas consist of uniformly sloping, unconsolidated rock and soil debris accumulating at the bases of cliffs, primarily as a result of rockfall and rockslide. Rockfall and rockslide are most common in terrain of Columbia River Basalt or intrusive rock along the Columbia River Gorge. They are caused by the wedging loose of rock fragments by root actions, percolation of groundwater, or animal activity and result in the accumulation of talus at the base of the slope.

From an engineering standpoint, talus can be viewed as poorly placed fill that has neither been size sorted nor properly compacted. Hazards include differential settling and the potential for mass movement. Oversteepening of the talus by deep road cuts is not recommended.¹

A great deal of the area consists of steep slopes in excess of 30%. Steep slopes limit the variety and degree of potential urbanization which might occur in the area.

Two notable slide areas have received considerable attention because of their effects on the railroad and interstate highway.

The Ruckel landslide is situated between Cascade Locks and Ruckel Creek to the west. The Ruckel landslide was a problem to railway construction in 1877 and intermittently continued with as much as 30 to 40 feet of movement in 1913. Horizontal drainage tunnels were installed beginning in 1918 and have reduced the slide movement.

The Fountain Slide just east of Cascade Locks has been a real problem for the State Highway Department. Over small areas, generally less than 500 feet long, the highway is heaving up in mounded masses. Evidently the great weight of overlying basalt to the

¹ Source: Geologic Hazards of Parts of Northern Hood River, Wasco, and Sherman Counties, Oregon. (State of Oregon Department of Geology and Mineral Industries, 1977).

south is squeezing the saprolite mud up-dip toward the north, and forcing it to escape beneath the talus and landslides that spill down from the high cliffs.

E. Soil Types:

Soil types and their suitabilities for urban and/or rural use are an integral part of land use planning. Different soil types can be a limiting factor to development. The characteristics of soil (steepness, wetness, rockiness, strength, permeability, etc.) are important to consider while determining the density and expense of development (See “Urban and Rural Soils Suitability”, map 2) could be developed at urban density but the private and public costs (roads, sewers, water, etc.) associated with the special engineering techniques that would be required make development financially unattractive. The intent in mapping these soil types was to apply them as land use determinants in the land use plan.

F. Conclusions and Observations: Findings:

1. Flood Hazards:

- a. The 100-year backwater curve or flood level on the shore of the Bonneville Pool is 86.5 feet (based on the new Bonneville Pool levels).
- b. The flood hazard area along the shore of the Bonneville Pool is that area which is below the 88 foot contour level.
- c. The National Flood Insurance Program (P1 93-90-448) and the Flood Disaster Protection Act of 1973, (PL 93-234) were designed to compensate land owners for property losses resulting from floods. Participation in the program required meeting program conditions (floodproofing, etc.).
- d. Hood River, Indian Creek, and Phelps Creek all experience generalized overbank flooding.
- e. The area along Paradise Creek within the City has experienced storm water flooding in the past; however, a storm water system is being planned for the area.
- f. Flood hazard areas are along the Hood River and its East, Middle, and West Forks; and along Emil, Odell, Baldwin and Neal Creeks.
- g. Flood damage can continue to be minimal if restrictions are maintained on inappropriate development within flood hazard areas.
- h. High groundwater at any time of the year can cause flooding of basements and differential settling. The paving over of lands having high

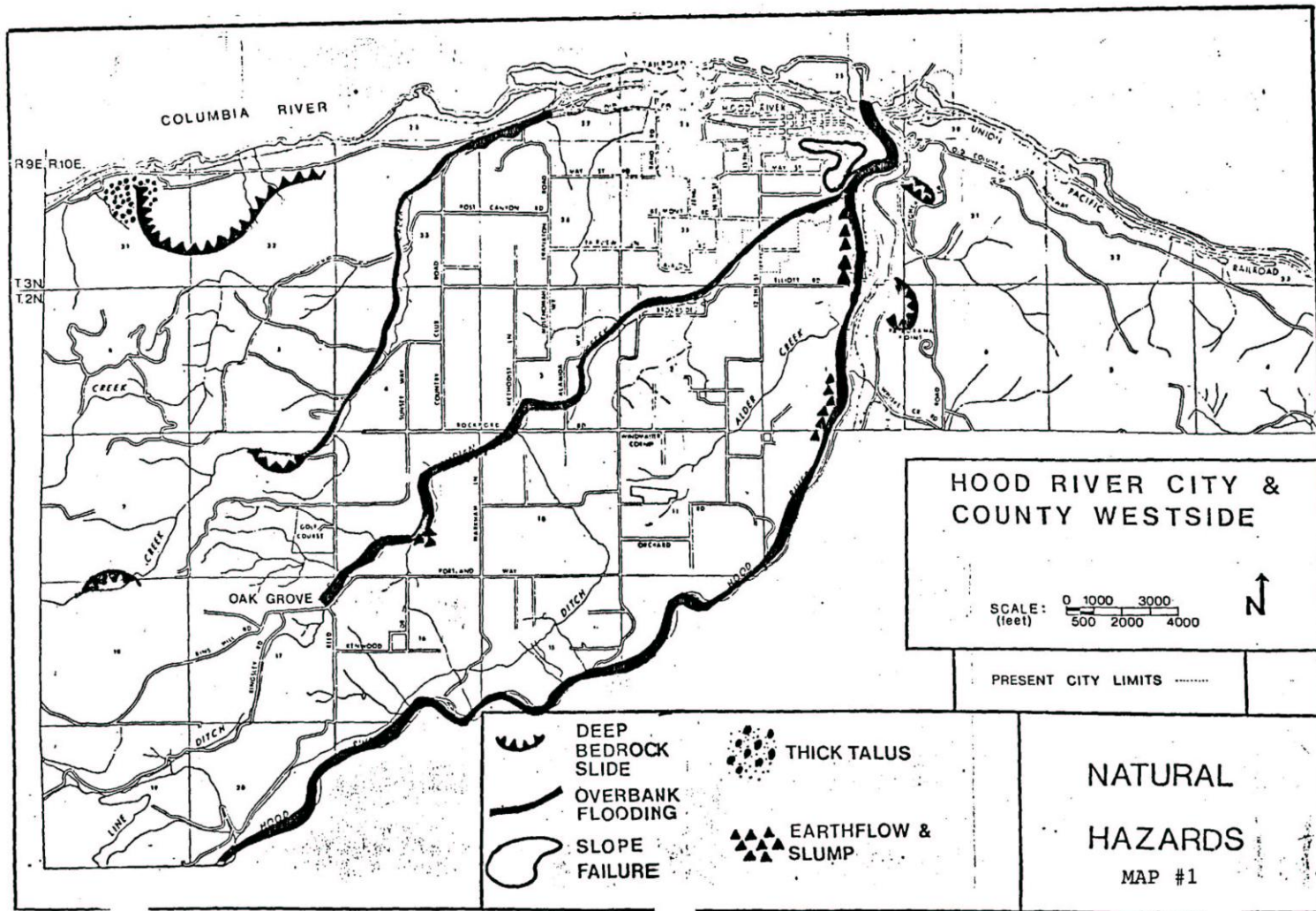
groundwater may result in surface water movement onto adjacent properties.

- i. Designation of flood hazard areas as “Environmental Protection” and geologic hazard areas as “GH” (Geologic Hazard Combining Zone) will minimize dangers to people and property and will help protect the public interest.

2. Geologic Hazards:

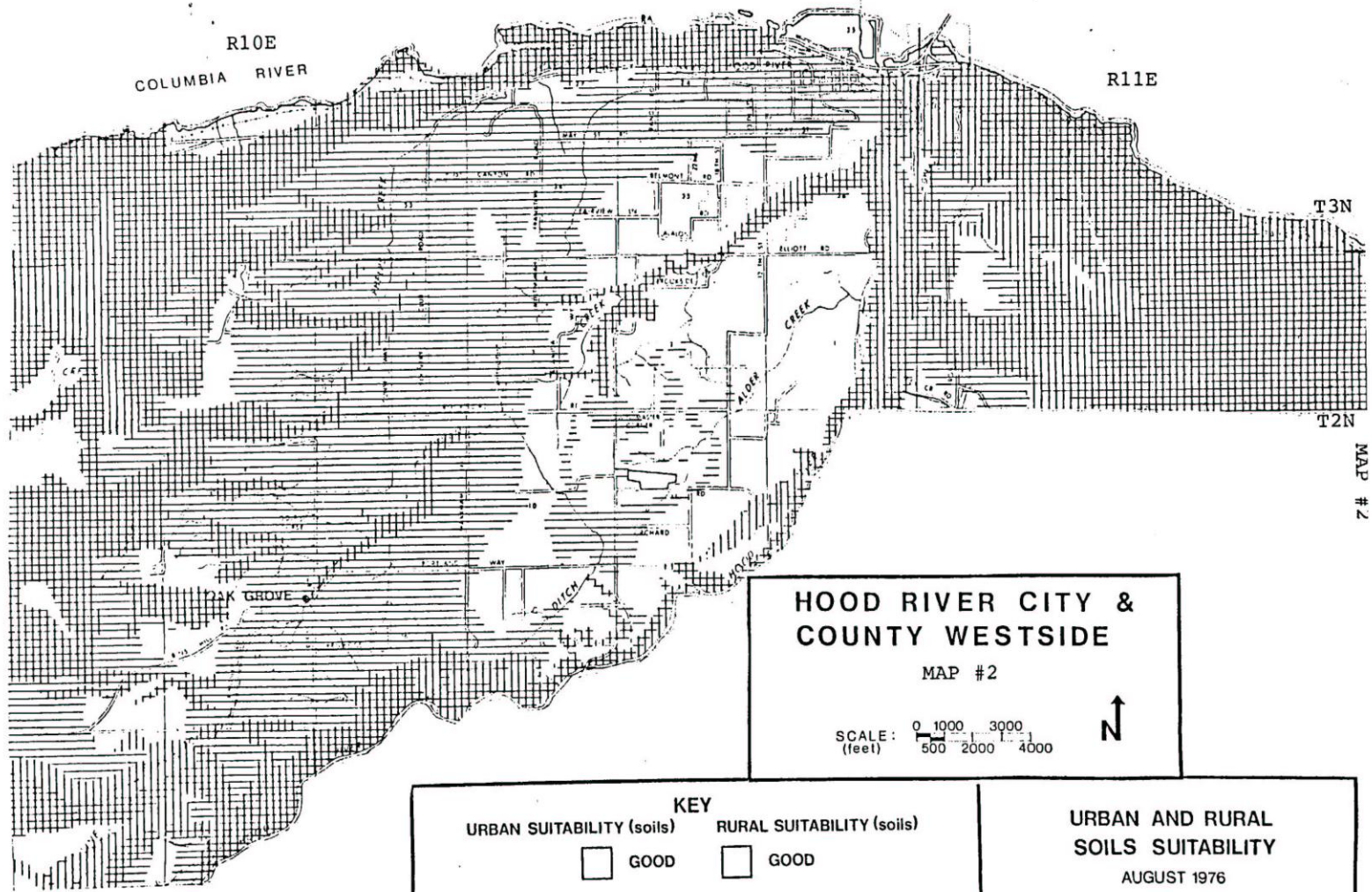
- a. There are deep bedrock slides along the Columbia River Gorge and the canyons of the Hood River and upper Phelps Creek.
- b. Earthflows and slumps have been found along lower Indian Creek and the Hood River.
- c. Rockfall and rockslide hazards exist in the vicinity of cliffs of jointed or fractured bedrock. The areas posing the greatest hazard are in the Columbia Gorge.
- d. A talus slide exists at Mitchell Point.
- e. Deep excavations in talus slides or landslides in general pose dangers, especially during the rainy season. Oversteepening of banks and/or inadequate drainage in landslide areas can trigger more sliding.
- f. The hazard of soil erosion and deposition increases with slope and a decrease in vegetation cover. Blockage of culverts and storm sewers by deposition from sloping areas is of concern in regard to flooding.
- g. Areas having high groundwater at any time of the year may have problems associated with any or all of the following: flooding of basements, differential settling of foundations, and difficult installation of underground facilities. Construction and the paving over of lands having high groundwater may result in surface water movement onto adjacent properties.
- h. The Columbia Gorge area contains a large amount and variety of geologic hazards.
- i. Geologic hazards are generally, though not always, associated with steeply sloping lands.
- j. In slide and slump areas there are dangers associated with deep excavations, especially during the rainy season. Adequate drainage should be at all times maintained.

- k. The problems of soil erosion and deposition increase with an increase in percent slope and a decrease in vegetation cover.
- l. Additional conclusions, observations, policies and strategies, are presented in the following more detailed reports.



MAP #1

Larger scale maps are available at the Hood River County Planning Department.



Larger scale maps are available at the Hood River County Planning Department.

CENTRAL VALLEY
MAP #3

NATURAL HAZARDS

DECEMBER 1977
HOOD RIVER COUNTY PLANNING DEPARTMENT

PLANNING UNIT BOUNDARY

MT. HOOD NATIONAL FOREST BOUNDARY

KEY

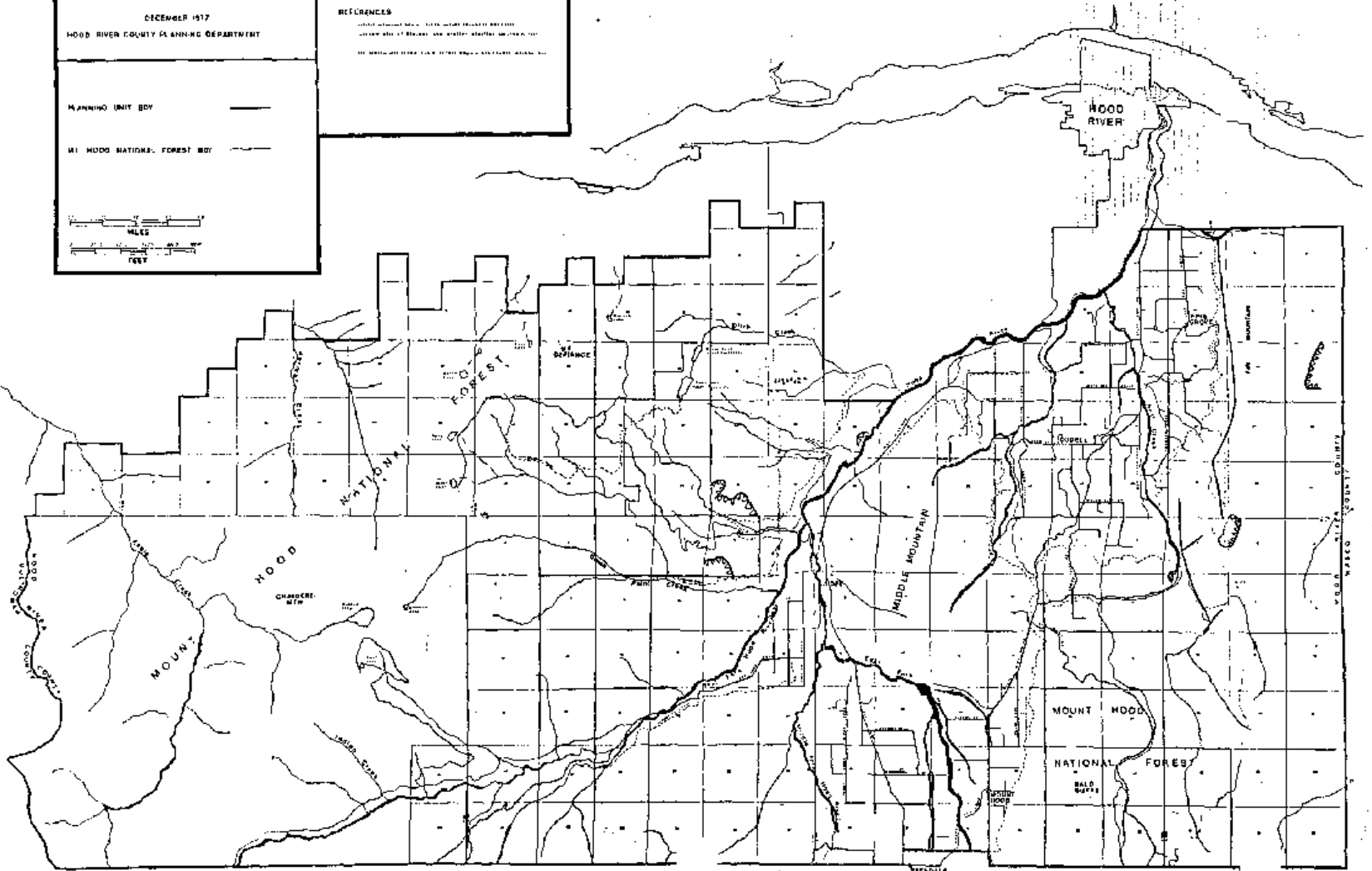
- OVERBANK FLOODING
- ~ EARTHFLOW AND SLUMP
- ⚡ DEEP BEDROCK SLIDE
- FAULTS

REFERENCES

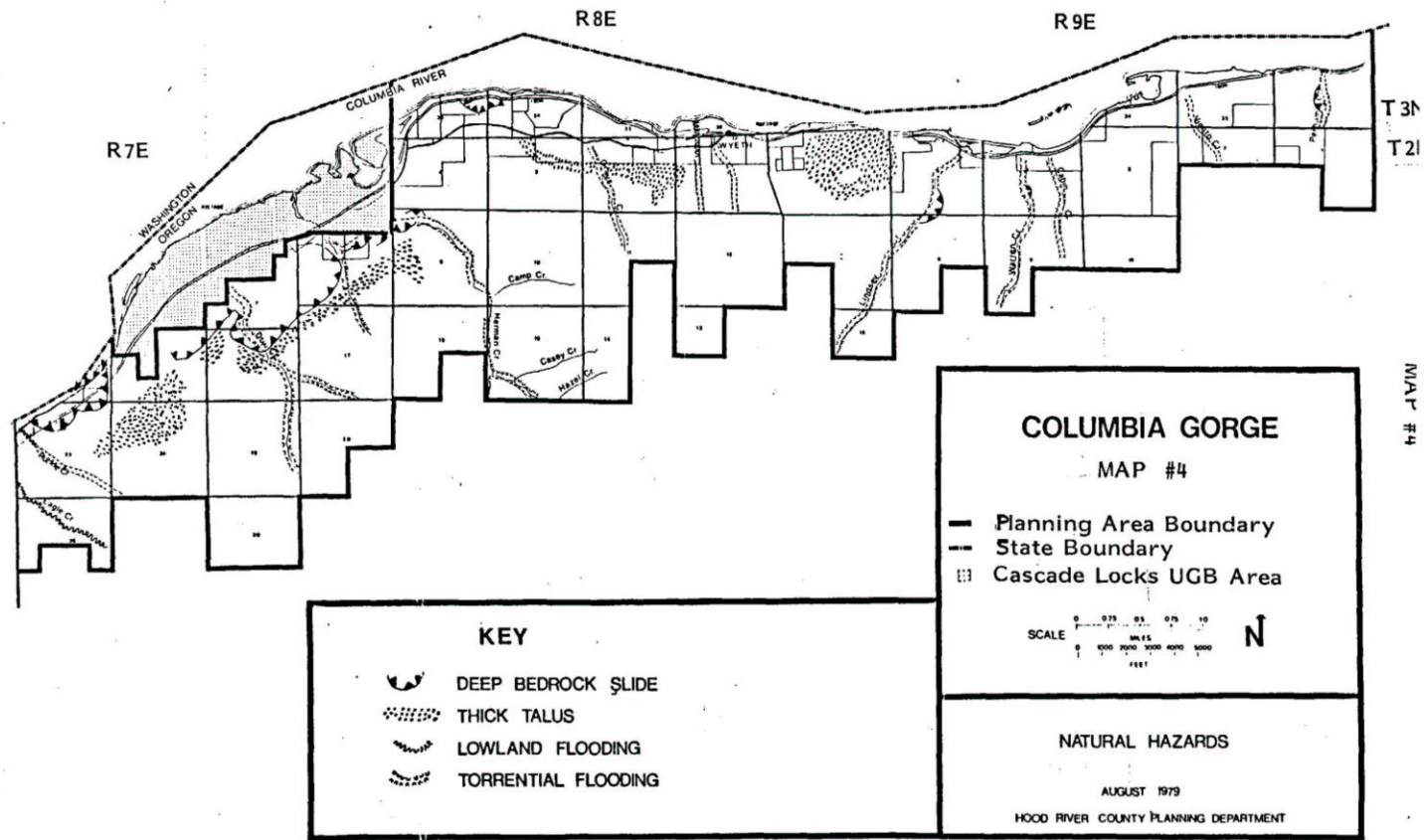
UNITED STATES GEOLOGICAL SURVEY
GEOLOGIC MAP OF HOOD RIVER BASIN
GEOLOGIC MAP OF HOOD RIVER BASIN
HOOD RIVER COUNTY PLANNING DEPARTMENT

MILES

FEET



MAP #3



Larger scale map available at the Hood River County Planning Department.



Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE

1005 STATE OFFICE BLDG., PORTLAND, OREGON 97201 PHONE (503) 229-5580

August 26, 1985

SEP 4 1985

Mike Nagler, Planning Director
Room 101
Hood River County Courthouse
Hood River, Oregon 97031

Dear Mike:


It has come to my attention that in addition to hazards portrayed on the Geologic Hazards Maps of Bulletin 91 of this Agency, Hood River County has included features on the Geology Maps of Bulletin 91 as hazards in their planning process.

For example, faults on the geology maps are treated as hazards with no regard to whether they are presently active or not. The Hood River Fault along the east side of the Hood River Valley is at least mid Pleistocene age (1 million years)(page 25). Actually it has not been active for more than two million years and therefore does not pose any earthquake risk.

I would like to offer the observation that geologic hazards in Bulletin 91 were specifically portrayed on the Geologic Hazards Maps for planning purposes. Geologic features on the geology maps were not intended to be treated as hazards.

I hope this letter clarifies any confusion that may have developed in the county since the bulletin was published. Like you, I continue to share a concern that the need for a geologic translator for government entities such as yours is an unmet need in Oregon.

Sincerely,


John D. Beaulieu
Deputy State Geologist

JDB:ak

GOAL 7 - AREAS SUBJECT TO NATURAL DISASTERS AND HAZARDS: BACKGROUND REPORT

A. Introduction:

The following will provide additional information and recommendations regarding natural hazards in Hood River County. This separate report was prepared in response to the LCDC Critique.

B. Discussion:

1. Mapping: The zoning maps adopted by the Board of Commissioners precisely identify areas of floodplains and geological hazards by the Floodplain and Geologic Hazard Combining Zones. Assessment and Records maps were used in developing the zoning maps, consequently the scale varies primarily from 1"=200' to 1"=400'. Examples showing floodplain and geologic hazard areas were sent to the LCDC Lead Reviewer who stated they were precise enough to enable one to determine whether a particular piece of property is or is not subject to hazards. Attachment "A" is an example. Flood hazard areas were also identified using HUD special flood hazard area maps and soils. Floodplains identified on zoning maps (with the exception of those along the Columbia River and small streams flowing into the Columbia River Gorge), are considered 100 year floodplains. They are in lower valleys and may have exhibited some signs of flooding in the past. Streams flowing into the Columbia River along the Gorge experience "torrential flooding"; these are rapidly flowing creeks that run through narrow canyons and generally have very narrow floodplains. Often the floodplains are too steep to support buildings. The Floodplain Combining zone helps to protect riparian habitats and water quality.
2. Floodplain: All lands below the eighty-eight foot contour level along the Columbia River have been designated by HUD as being flood hazard areas. These areas could be subject to inundation when the Bonneville Pool reaches its highest possible level. According to the Corps of Engineers, only under extreme conditions could this level be reached. They have purchased easements across much of the property in the event flooding should occur. Most of the lands subject to the extreme type of flooding is in agriculture, forest or open space uses and current zoning such as Scenic Protection, which dominates along the Columbia River, and Columbia River Gorge Combining, Forest, Exclusive Farm Use, and Floodplain will effectively limit development in these areas.

Floodplains in the Mt. Hood National Forest area are generally quite narrow as streams are usually in steeper canyons and ravines. Due to the lack of development, they pose little or no threat. Geologic hazards on Mt. Hood are primarily those associated with an eruption of Mt. Hood.

3. Geological Survey, U.S. Department of Interior: The following overview has been abstracted from the document prepared by the Geological Survey, U.S. Department of the Interior, entitled “Recent Eruptive History of Mt. Hood, Oregon, and Potential Hazards from Future Eruptions”, and Geological Survey Bulletin No. 1492, 1980: (a) ash cloud deposits could extend as far north as Parkdale and could accumulate up to 20 centimeters (8± inches) on all private lands in the Upper Valley or in the Mt. Hood Planning Unit; (b) only small portions of private lands could possibly be affected by lateral blasts; (c) mudflows and floods could extend down the channels and adjacent floodplains of all the forks of the Hood River, including the Hood River to the Columbia River, and (d) except for mudflows, the majority of all volcanic activity will affect federal lands.

At this time it is difficult to predict the extent and specific location of natural hazards caused from the eruption of Mt. Hood. The majority of land adversely affected will be federal with a substantial portion being wilderness. The majority of private lands that will be adversely impacted are zoned and planned Forest, Floodplain, Farm and Environmental Protection. Development within these areas will be low density, and in some situations (i.e., Environmental Protection), is not allowed.

C. Recommendations:

The following have been added to the County Policy Document under Goal 7:

1. Continue to participate in the Federal Flood Insurance Program and update the Comprehensive Plan to include new flood and geologic hazard information.
2. Continue to monitor, update information, and make the public aware of the potential eruptive nature of Mt. Hood.
3. Continue to update and apply appropriate Plan designations to all areas subject to natural hazards and update zoning maps to reflect those designations.
4. Use County zoning maps, specifically areas designated Geologic Hazard and Floodplain Combining, to determine whether a piece of property is or is not subject to natural hazards.
5. Recognize that the designations and respective zones of Environmental Protection, Geologic Hazard, and Floodplain and their restrictive provisions will prevail even though underlying lands may be zoned Forest, Commercial, etc.
6. Article 44, Floodplain Combining Zone has been updated to include standards of the Environmental Protection Plan designation which includes provisions for selective cutting.

7. Continue to apply appropriate zones or overlay zones to all areas designated Environmental Protection.

NATURAL
HAZARDS - GOAL 7

LEGEND FOR ATTACHED MAPS:

••••• - GEOLOGIC HAZARD COMBINING ZONE
(GH)

//// - FLOOD PLAIN COMBINING ZONE
(FP)

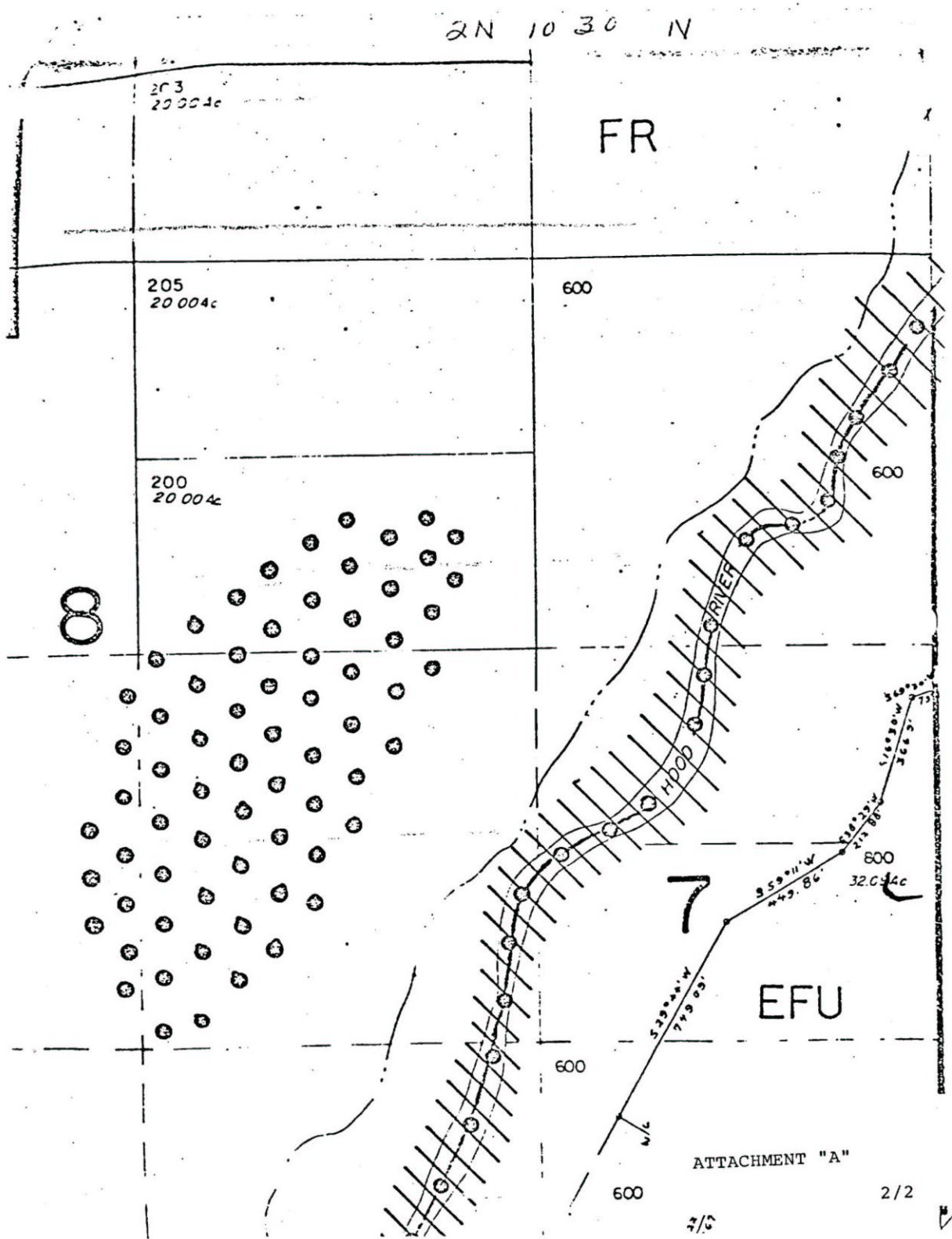
••••• - ZONE DISTRICT BOUNDARY

EFU - EXCLUSIVE FARM USE ZONE

FR - FOREST ZONE

RR - RURAL RESIDENTIAL ZONE

SP - SCENIC PROTECTION ZONE



GOAL 7: NATURAL HAZARD AREAS TO BE DESIGNATED ON COMPREHENSIVE PLAN MAPS IN RESPONSE TO LCDC CRITIQUE (ITEMS 1 AND 3)

LCDC Goal 7 requires that areas subject to natural disasters and hazards be inventoried and measures taken to protect life and property from their effects. The following information describes areas subject to natural hazards and makes recommendations on how they should be designated and zoned in the Comprehensive Plan. Each area is shown generally on the Index Map and in detail in Attachments A-P. Attachment Q lists specific tax lots and property owners affected by the proposed natural hazard designation and zone. Larger scale maps are available for review in the Planning Department.

<u>AREA</u>	<u>LOCATION</u>	<u>DESCRIPTION OF AREA</u>
See attached index and detail maps	T., R., Section & tax lot #	
A	1N 8E #200	Portion of Lake Branch - West Fork Hood River on private land. Shown on Natural Hazards Inventory Map in Central Valley Background Document and on FEMA Floodplain Maps ¹ . <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
B	1N 9E 2900, 4200, 5700, 5800, 5801, 5900, 6000, 6100, 6300, 6301, 6500, 6600	Portions of West Fork and Lake Branch Hood River on private land. Shown on HUD Floodplain Map #3A. Shown on Natural Hazards Inventory Map in Central Valley Background Document. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
C	1N 9E 14 500	Portion of West Fork Hood River on private land. Shown on FEMA Floodplain Maps and on DOGAMI Geologic Hazard Study ² . Shown on Natural Hazard Inventory Map – Central Valley Background Document. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
D	1N 9E 22 100, 300	Portion of West Fork Hood River on private land. Shown on FEMA Floodplain Maps. Shown on Natural Hazards Inventory Map in Central Valley Background Document.

*Sources of Information:

¹ Federal Emergency Management Agency, Flood Insurance Rate Maps, September 24, 1984

² Beaulieu, John D. Geologic Hazards of Parts of Northern Hood River, Wasco and Sherman Counties, Oregon, Oregon Dept. of Geology and Mineral Industries (DOGAMI), Bulletin 91 (1977), Hood River and White Salmon Quadrangles.

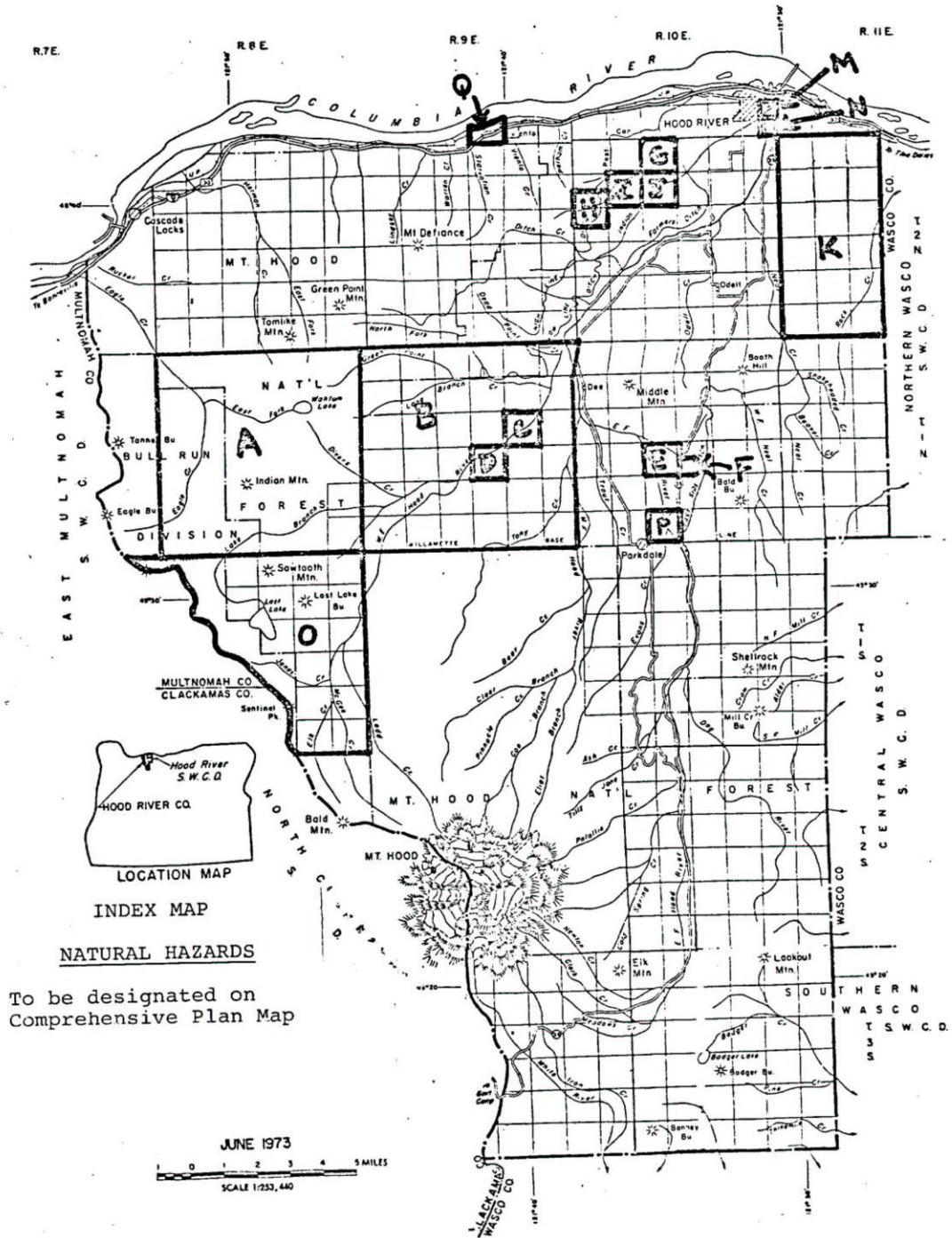
Recommendation: Designate EP (Environmental Protection); Zone FP (Floodplain Zone).

E	1N 10E 21 2700, 2701, 2702	Portion of Baldwin Creek. Shown on FEMA Floodplain Maps. Shown on Natural Hazards Inventory map in Central Valley Background Document. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
F	1N 10E 22C 1100, 1102, 1200, 1300, 1400, 1500, 1600, 1700,	Portion of Baldwin Creek. Shown on FEMA Floodplain Maps. Shown on Natural Hazards Inventory map in Central Valley Background Document. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
G	2N 10E 4 2500, 2600, 2901, 2902, 2903, 2904, 3000, 3200	Portion of Phelps Creek. Shown on Soil Conservation Service Flood Hazard Study ³ Map, but not on FEMA Floodplain Maps. Mentioned in critique because shown as Floodplain On Natural Hazards Inventory Map in Background Report For City/Westside. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
H	2N 10E 7 100 2N 10E 18 200, 600	Portion of deep bedrock slide. Shown on Hood River Quadrangle-Geologic Hazard Study (DOGAMI). Shown on Natural Hazards Inventory Map in City/Westside Background Document. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone GH (Geologic Hazard Zone).
I	2N 10E 8 100	Deep bedrock slide shown on Hood River Quadrangle-Geologic Hazard Study (DOGAMI). Also mentioned in LCDC Critique because indicated on Natural Hazards Background Inventory Map for City/Westside. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone GH (Geologic Hazard Zone).
	2N 10E 8 101	Portion of Phelps Creek (see G above). Shown on SCS Floodplain Study & field check by SCS. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
J	2N 10E 9 5000, 5200	Portion of earthflow and slump area. Hood River Quadrangle-Geologic Hazard Study (DOGAMI). Shown on Natural Hazards Inventory Map in City/Westside Background Document. <u>Recommendation</u> : Designate EP

³ Generalized Floodplain Report, Hood River County, Oregon, USDA, Soil Conservation Service (SCS), July, 1975.

(Environmental Protection); Zone GH (Geologic Hazard Zone).

K	2N 11E 100, 1900, 2000, 2100, 2300	Portion of deep bedrock slide. Shown on Central Valley tabloid in wrong location (as shown on White Salmon Quadrangle – DOGAMI). Shown correctly on Natural Hazards Inventory in Central Valley Background Report. Zone GH (Geologic Hazard Zone).
L	3N 10E 36A 100	Portion of earthflow and slump area along Hood River. Shown on DOGAMI Study – Hood River Quadrangle and on Natural Hazards Inventory in City/Westside Background Report. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone GH (Geologic Hazard Zone).
M	3N 10E 36D 400, 500, 700	See “M” above.
N	1S 8E 400, 800, 1000, 1100	Portions of West Fork Hood River, Red Hill and McGee Creeks, all on private lands in Mt. Hood Planning Unit. Shown on FEMA Floodplain Maps. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
O	1N 10E 33 1800	Portions of Evans Creek. Shown on FEMA Floodplain Maps and Soil Conservation Floodplain Study. Mentioned in Critique and in Comprehensive Plan (Central Valley). Not shown on Natural Hazards Inventory in Central Valley Background Report. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).
P	3N 9E 34 400, 500	Viento Creek. Not shown on any natural hazard map. State Highway Department owns land and must dredge the creek Periodically to keep it from flooding. <u>Recommendation</u> : Designate EP (Environmental Protection); Zone FP (Floodplain Zone).

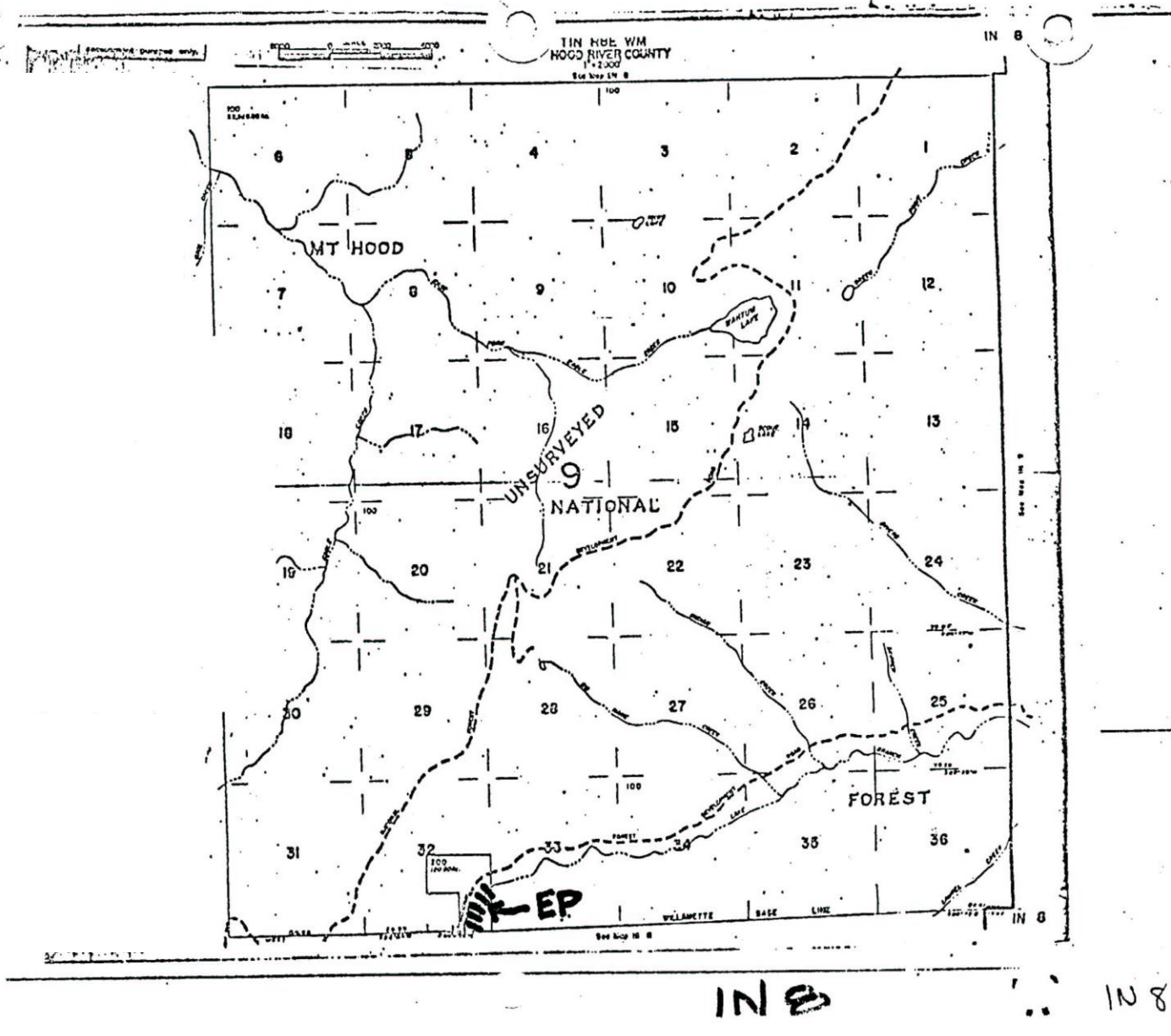


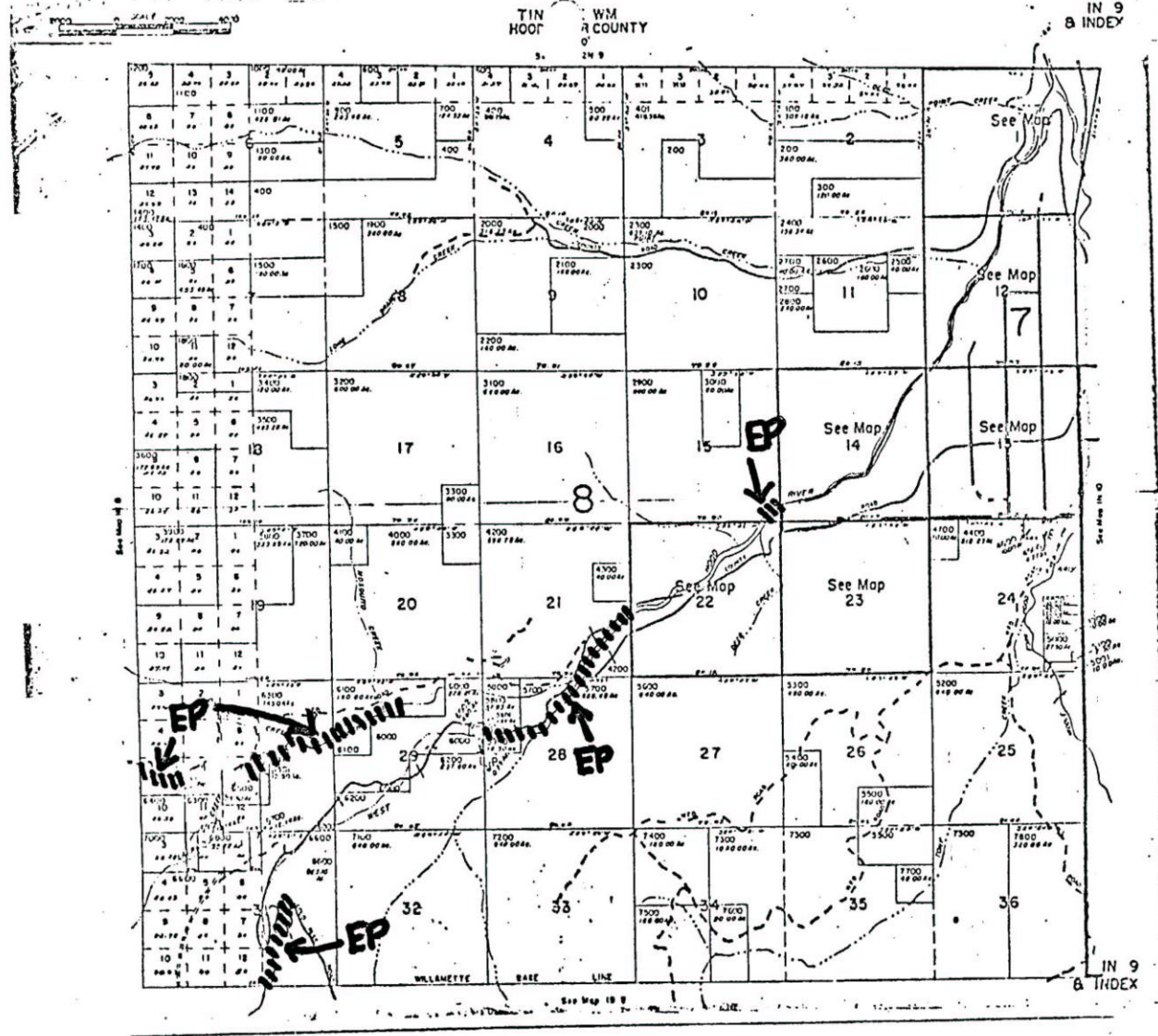
NATURAL HAZARDS
 To be designated on
 Comprehensive Plan Map

JUNE 1973
 0 1 2 3 4 5 MILES
 SCALE 1:253,440

ATTACHMENT "A"

IN 8E - ATTACHMENT "B" 1/2

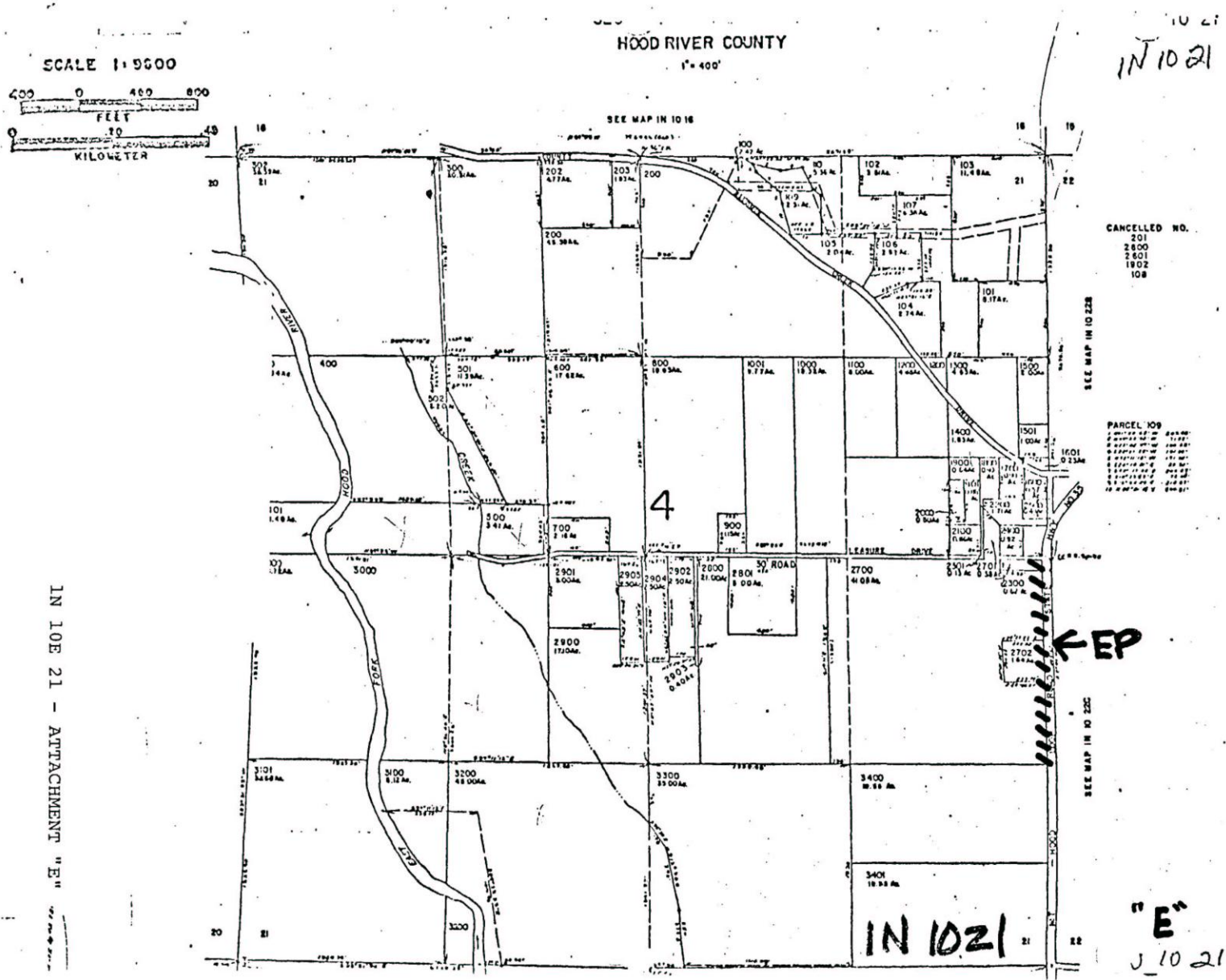




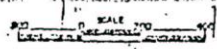
IN 9E - ATTACHMENT "B" 2/2

IN 9

"B" IN 9

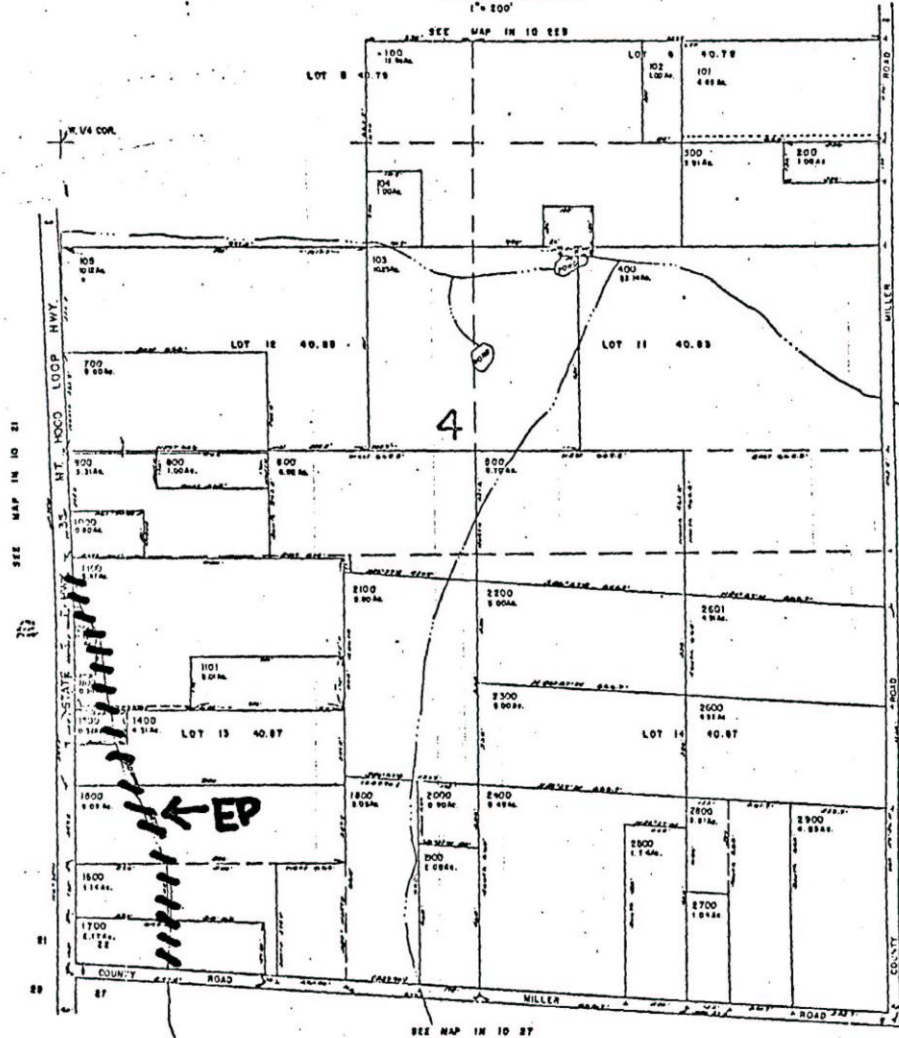


IN 10E 22C - ATTACHMENT "F"



SW 1/4, T. 22 N., R. 10E, W. 4M., RIVER COUNTY, 1" = 200'

IN 10 22C



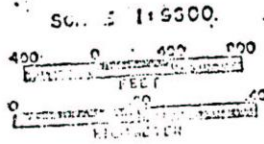
CANCELLED NOS 8101

SEE MAP IN 10 22

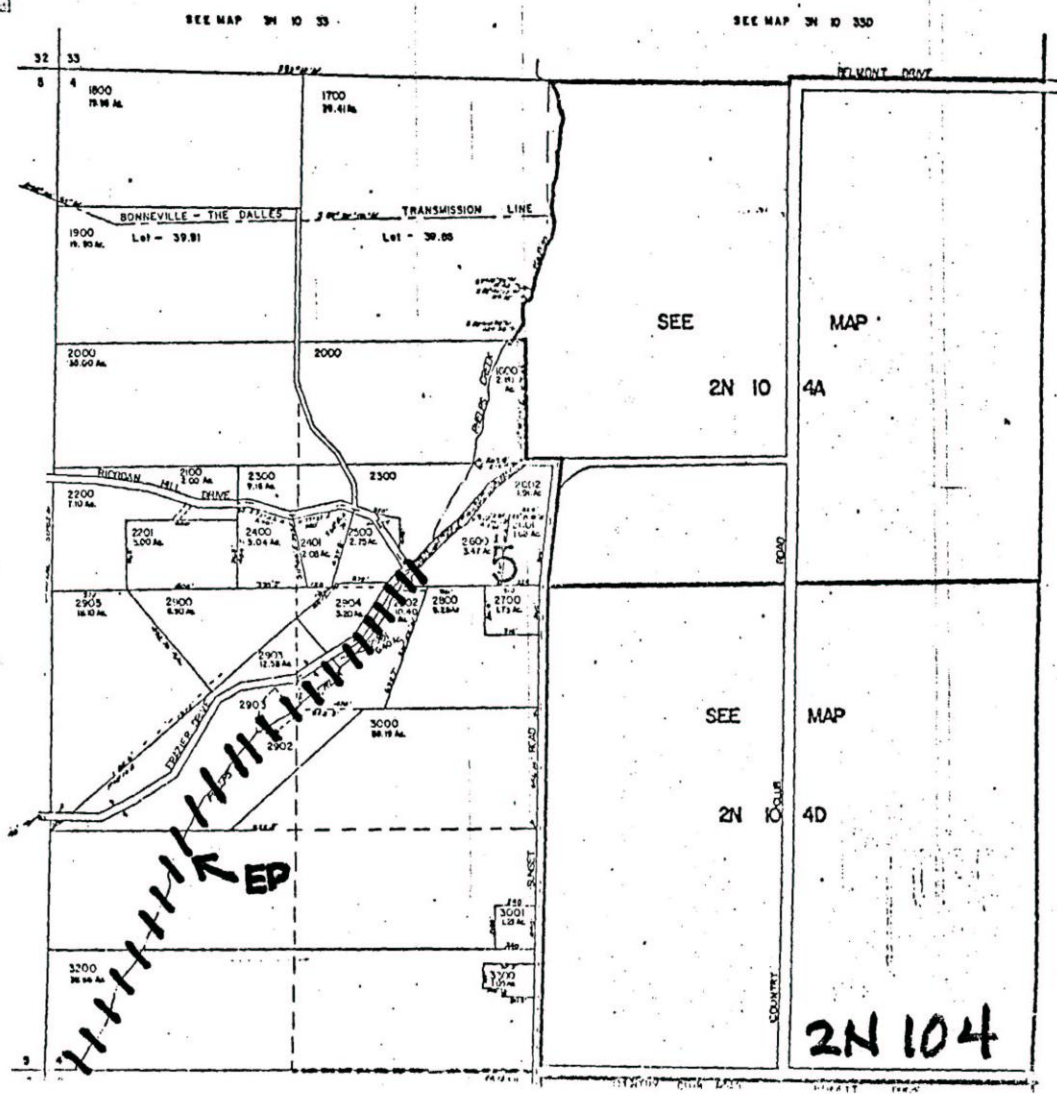
IN 10 22C

IN 10 22C

"F"
IN 10 22C



14 T2N RICE WM
CO RIVER COUNTY
1" = 400'



CANCELLED NO'S
100-1504
1604
1701-1713
1800
300
3000-5000

2N 10E 4 - ATTACHMENT "G"

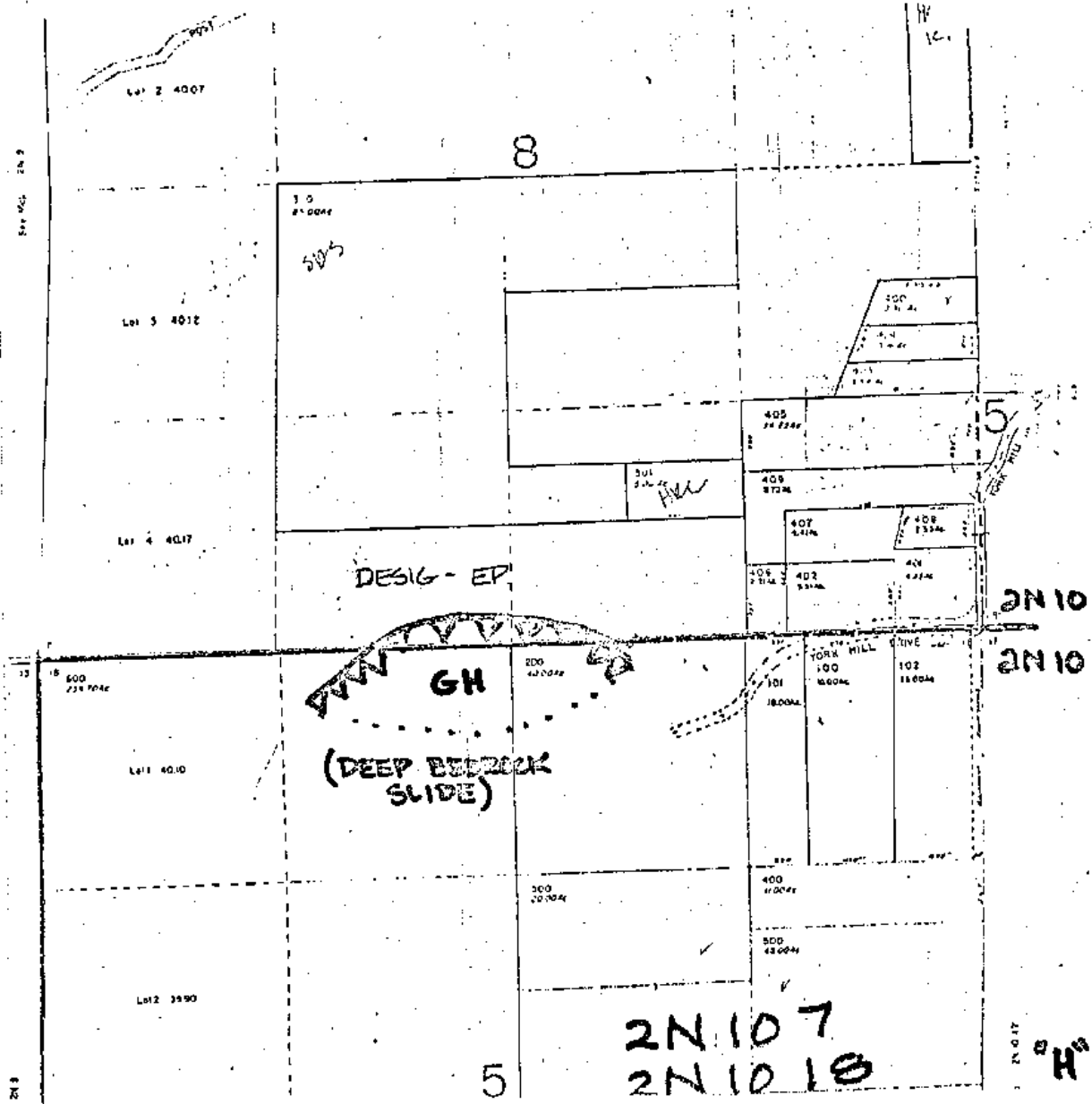
SEE MAP 2N 10 33E

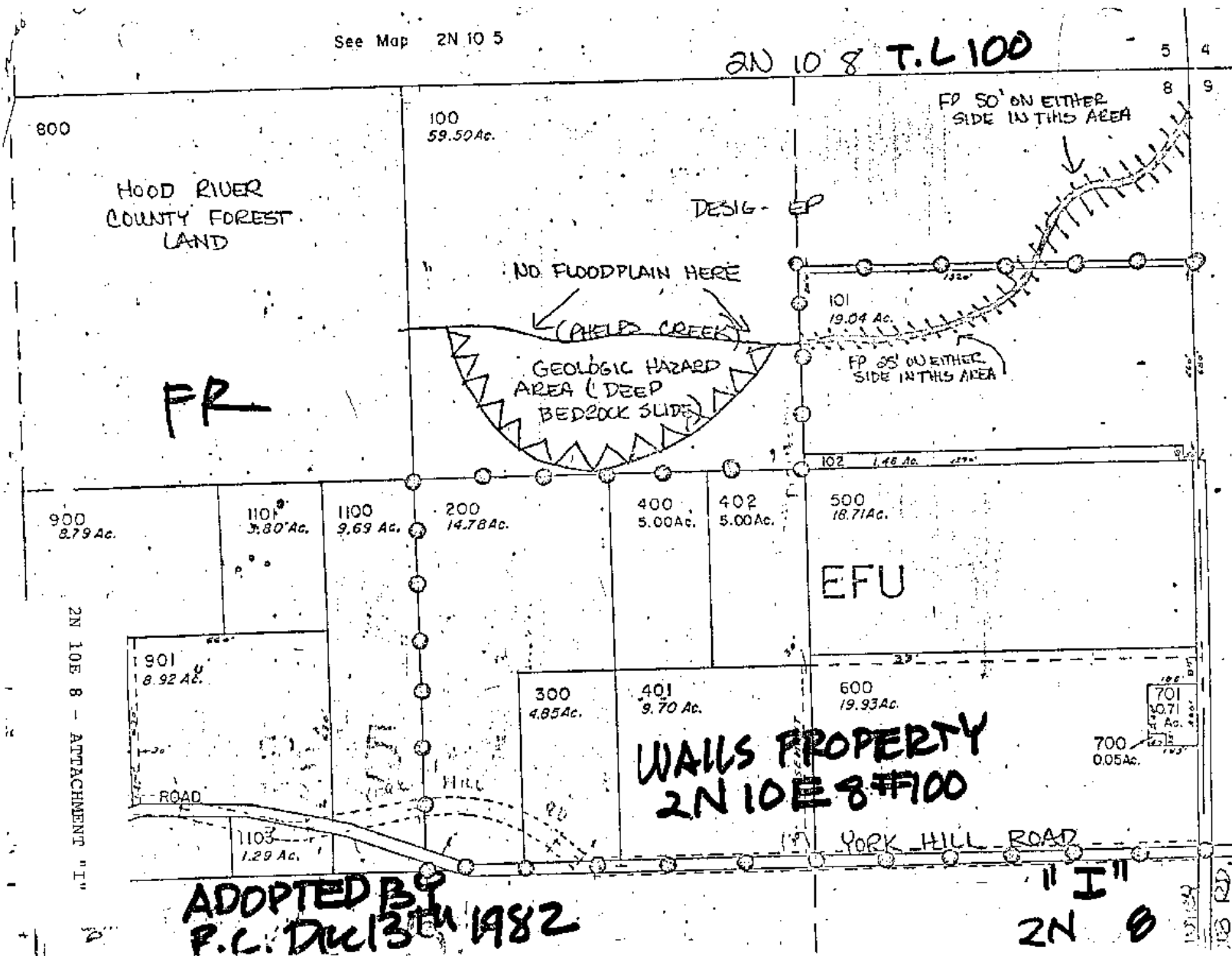
SEE MAP 2N 10 33E

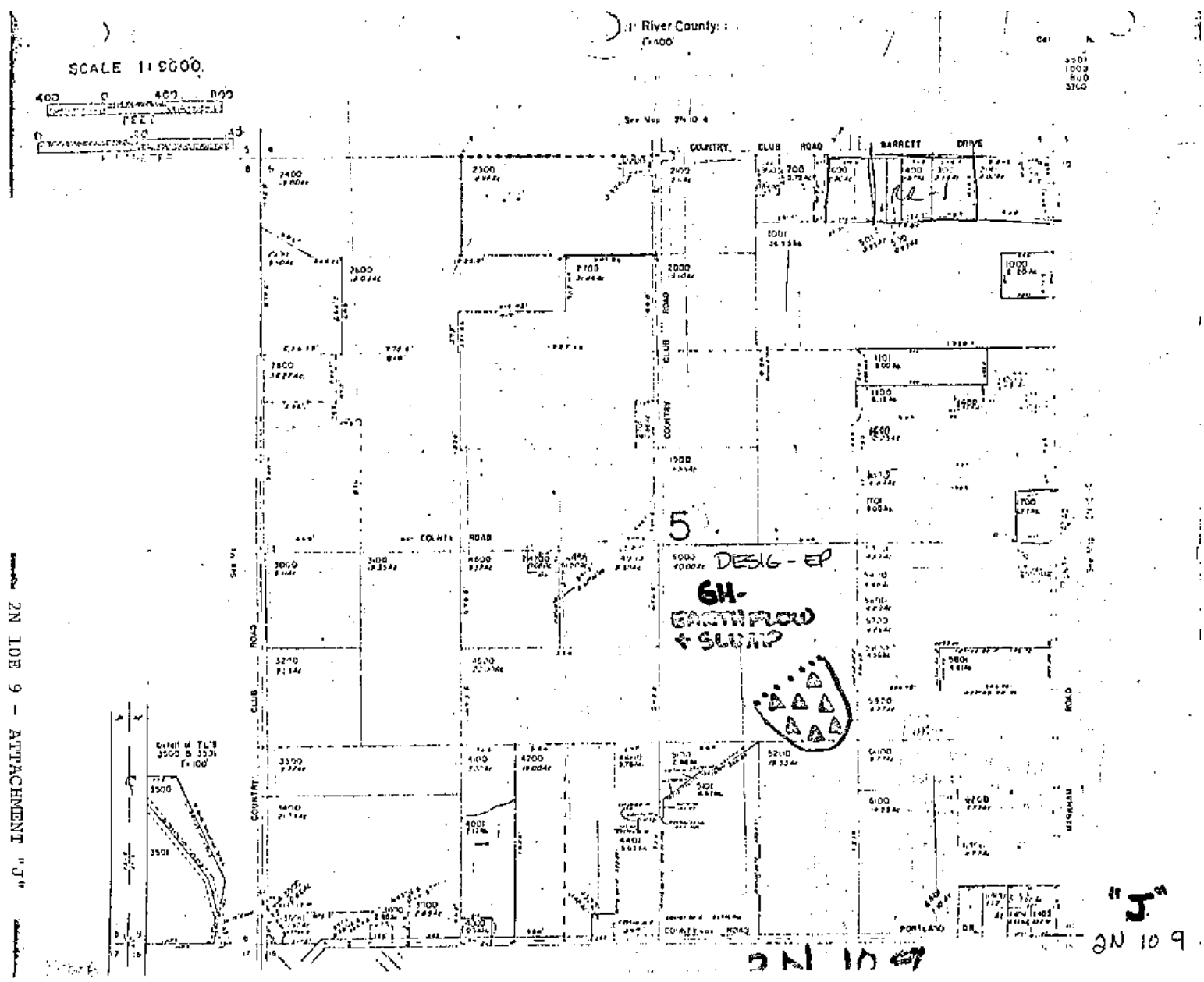
2N 10 4

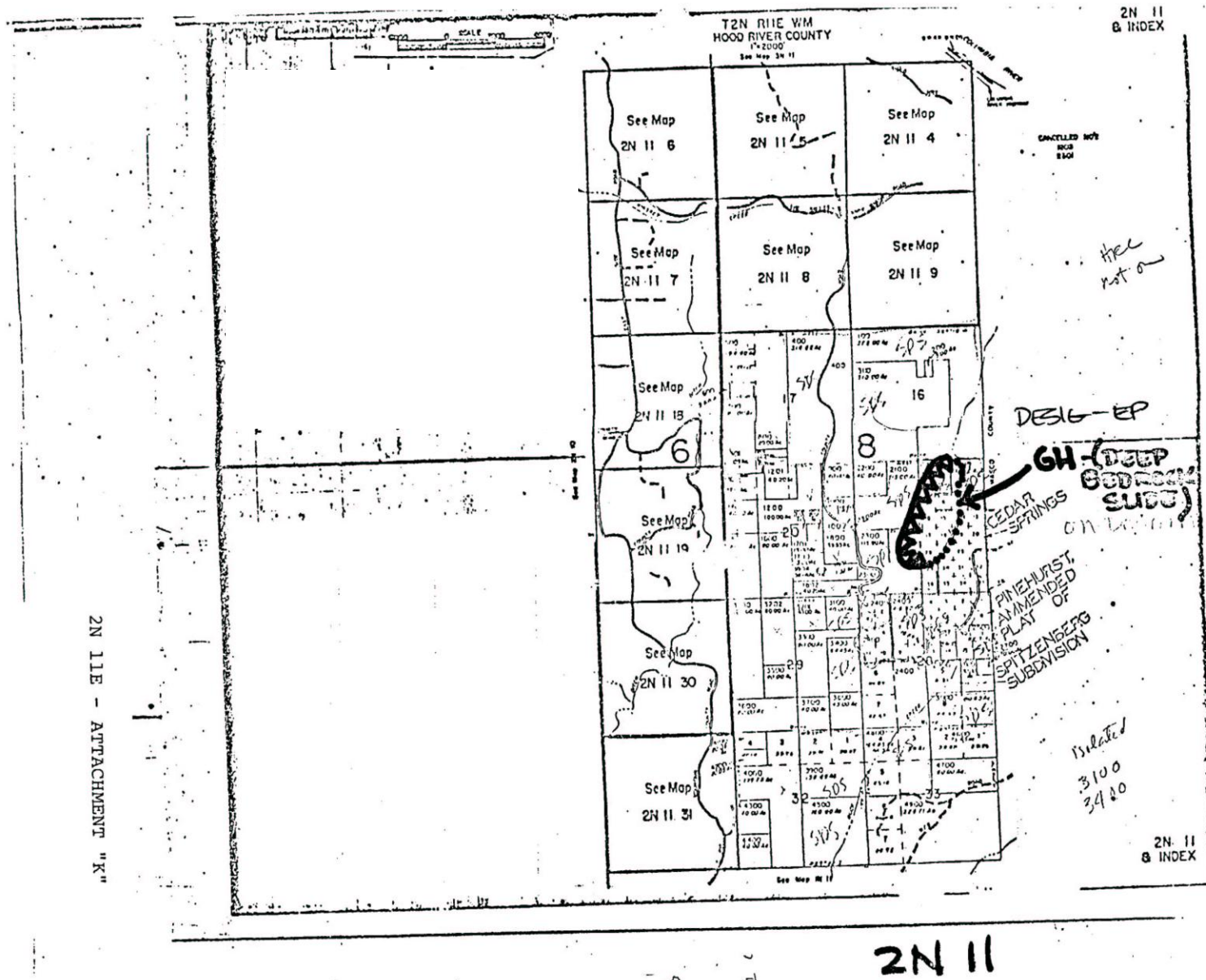
"G"
2N 10 4

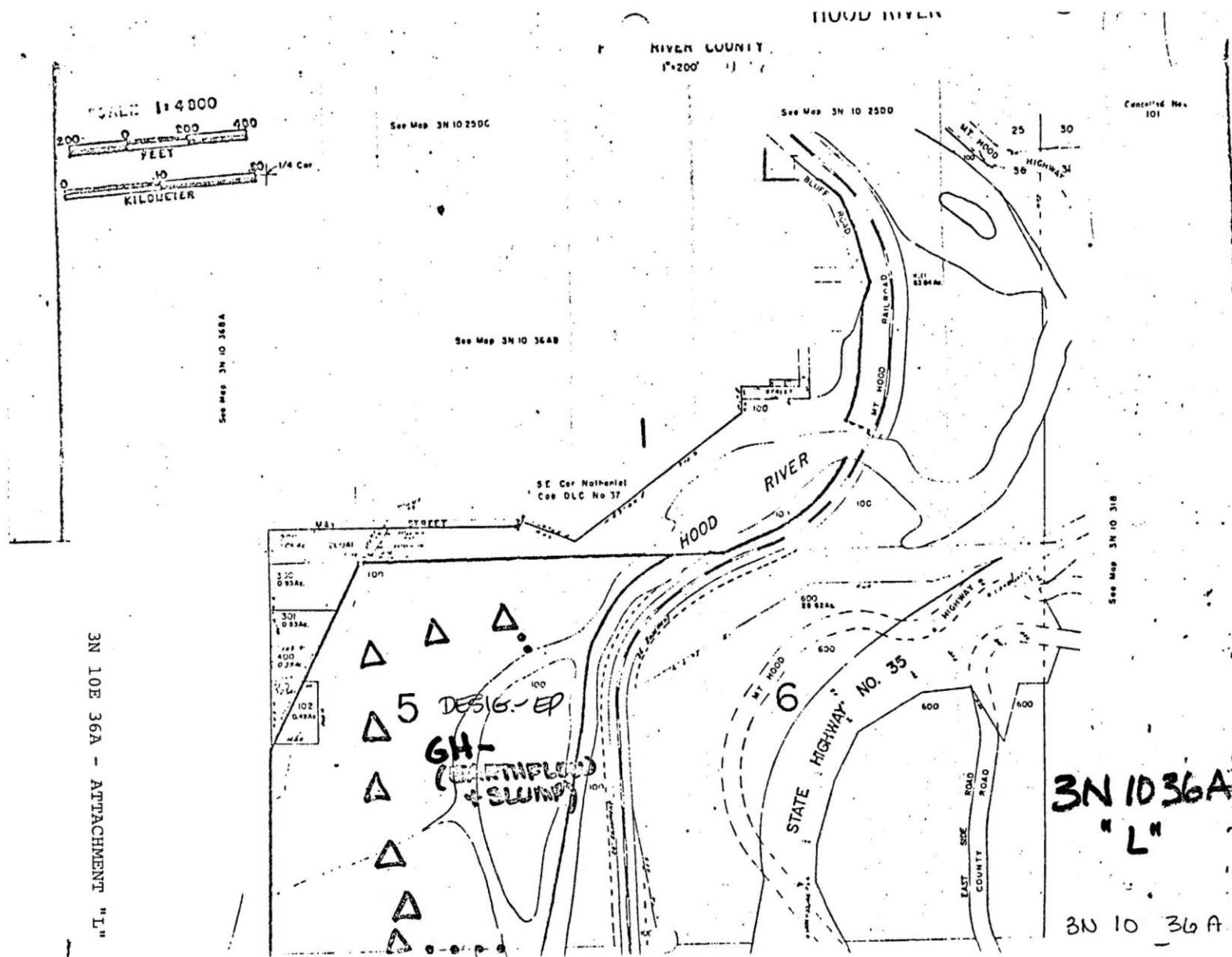
2N 10E 7
2N 10E 18 - ATTACHMENT "H"

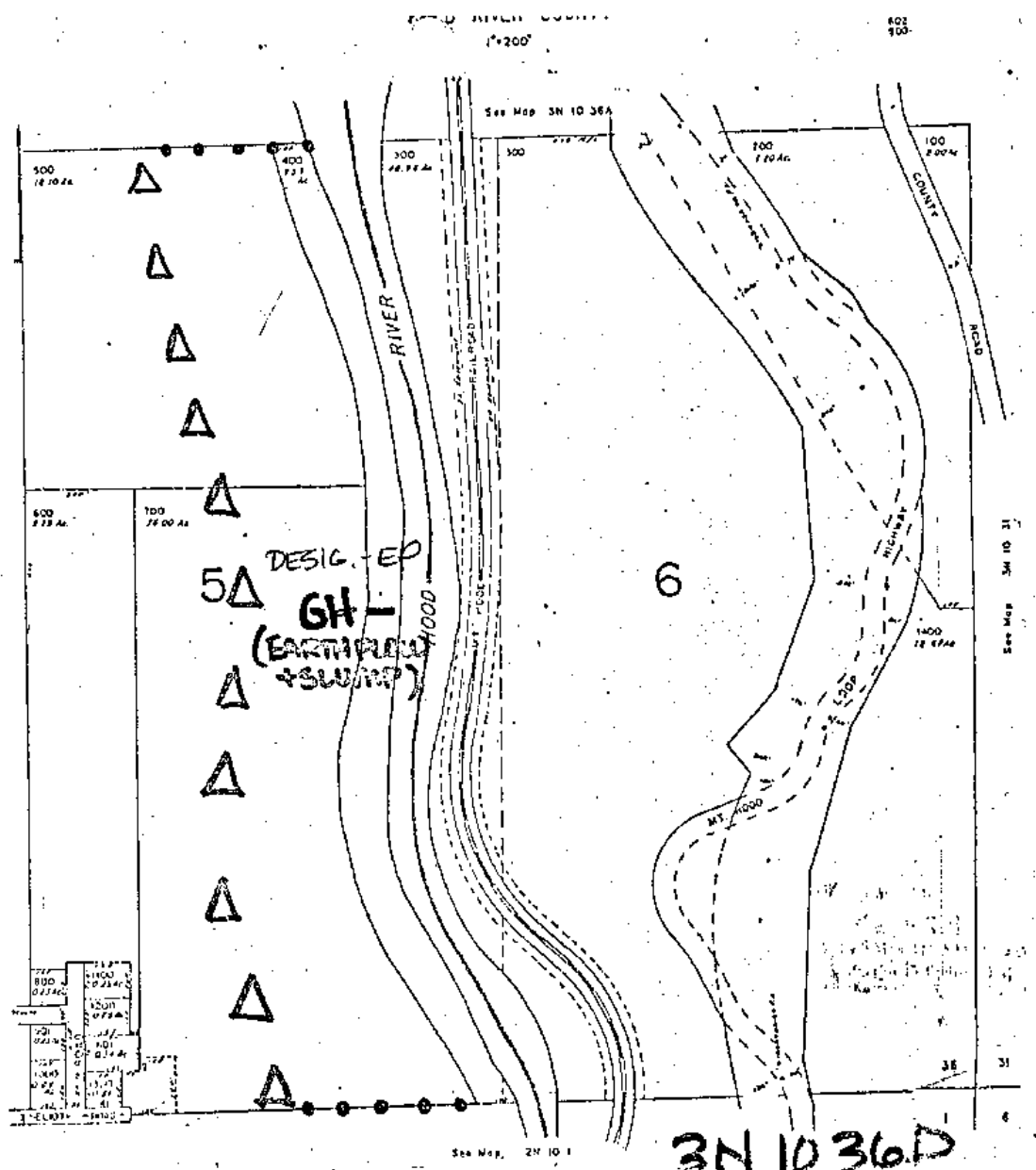
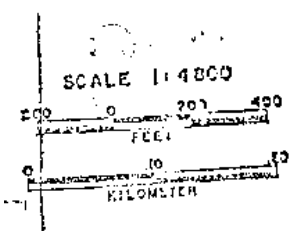




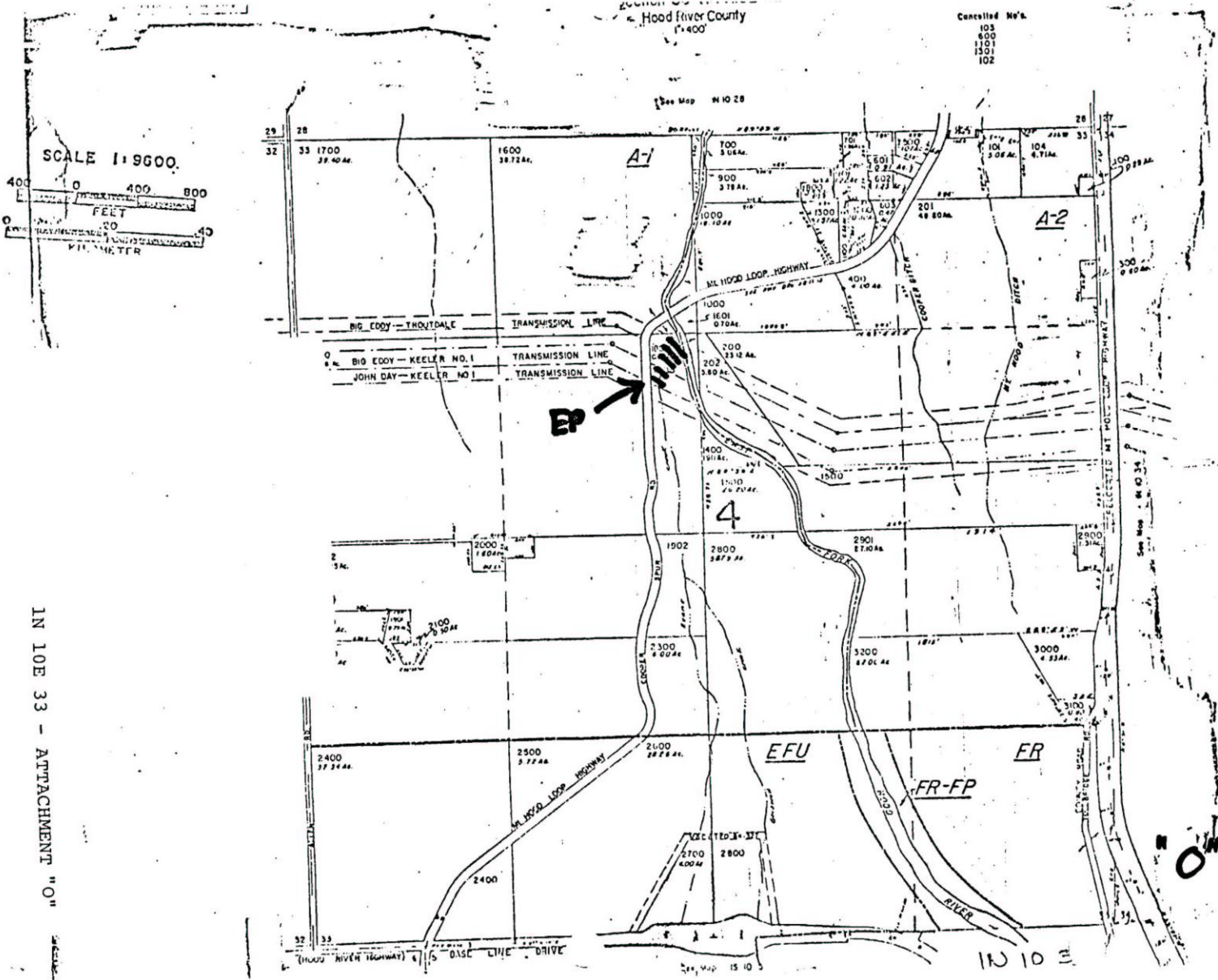








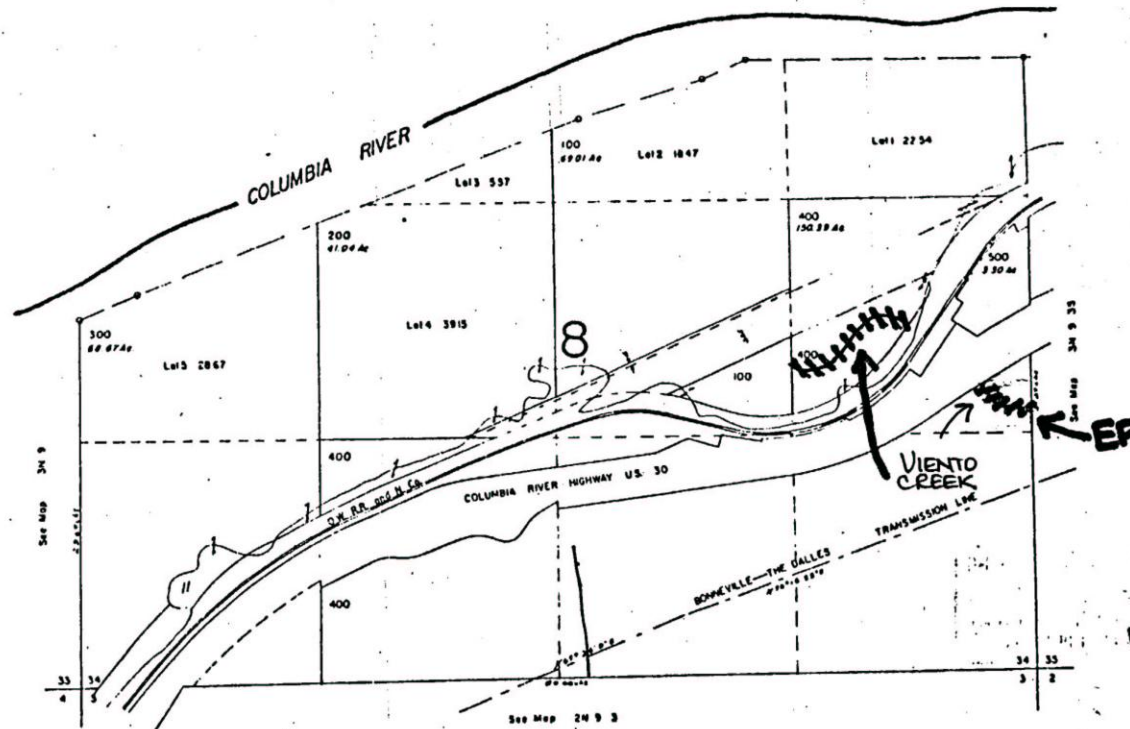
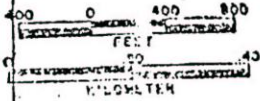
3N 10E 36D - ATTACHMENT "M"



IN 10E 33 - ATTACHMENT "O"

Hood River County
1:400

SCALE 1:9600



3N 9E 34 - ATTACHMENT "P"

3N 9 34

3N 9 34

"P"

<u>NAME</u>		<u>TAX LOT NUMBER</u>
	<u>1N8E</u>	
Champion International Corp. P.O. Box 10228 Eugene, OR 97401		200
	<u>1N 9E</u>	
Champion International Corp. P.O. Box 10228 Eugene, OR 97401		2900 4200 5700 5800 6000 6100 6300 6600
Dee Irrigation District 5080 Lost Lake Road Hood River, OR 97031		5801 5900
Hood River County		6301
City of Hood River City Hall Hood River, OR 97031		6500
	<u>1N 9E 14</u>	
Champion International Corp. P.O. Box 10228 Eugene, OR 97401		500
	<u>1N 9E 22</u>	
Champion International Corp. P.O. Box 10228 Eugene, OR 97401		100
Joe B. and Dorothea E. Young P.O. Box 267 Hood River, OR 97031		300
	<u>1N 10E 21</u>	
Phillip W. Jensen 200 Eugene St. Hood River, OR 97031		2700

<u>NAME</u>	<u>TAX LOT NUMBER</u>
Jeff V. Hunt 5960 Hwy 35 Mt. Hood, OR 97041	2701
Richard Santacroce 6020 Hwy 35 Parkdale, OR 97041	2702
<u>1N 10E 22C</u>	
James O. Bailey 3301 Dee Hwy Hood River, OR 97031	1100
Denzel Green 6121 Hwy 35 Parkdale, OR 97041	1102 1200
Allen Halbert 6145 Hwy 35 Mt. Hood, OR 97041	1300
William Belser 6159 Hwy 35 Mt. Hood, OR 97041	1400
Stanley Wilcox 6177 Hwy 35 Parkdale, OR 97041	1500
Leroy Ramm 6197 Hwy 35 Parkdale, OR 97041	1600
Michael Messman 3563 Neal Creek Road Hood River, OR 97031	1700
<u>2N 10E 4</u>	
R. K. and Hilda M. Eades 4595 Riordan Hill Drive Hood River, OR 97031	2500

<u>NAME</u>		<u>TAX LOT NUMBER</u>
Orrin L. and Charlotte Johnson 4136 Hayes Drive Hood River, OR 97031		2600
Edward O. Howard 805 Marian St. Hood River, OR 97031		2901
James F. Stager 4640 Frazer Drive Hood River, OR 97031		2903
Frank A. and Grace S. Brown 1819 Montello Hood River, OR 97031		2902
Arleta Jessup P.O. Box 522 Hood River, OR 97031		2904
R. Radliff et ux, et al. 4075 Barrett Drive Hood River, OR 97031		3000 3200
	<u>2N 10E 7</u>	
Hood River County		100
	<u>2N 10E 8</u>	
Leonard D. Walls et ux, et al 902 12th St. Hood River, OR 97031		100
	<u>2N 10E 9</u>	
Wallace A. Johnson 1675 Country Club Road Hood River, OR 97031		5000
Robert W. and Helen M. Hukari 4720 Kenwood Drive Hood River, OR 97031		5200
	<u>2N 10E 18</u>	
Hood River County		200 600

ATTACHMENT "Q" 3/4

<u>NAME</u>		<u>TAX LOT NUMBER</u>
	<u>2N 11E</u>	
SDS Lumber Co.		100
P.O. Box 266		1900
Bingen, WA 98605		2000
		2100
		2300
	<u>3N 10E 36A</u>	
PP&L - Property Tax Dept.		100
920 SW 6th Ave		
Portland, OR 97204		
	<u>3N 10E 36D</u>	
PP&L - Property Tax Dept.		400
920 SW 6th Ave.		
Portland, OR 97204		
Sievecropp Orchards, Inc.		500
3121 Eliot Drive		700
Hood River, OR 97031		
	<u>1S 8E</u>	
Champion International Corp.		400
P.O. Box 10228		800
Eugene, OR 97401		1000
		1100
	<u>1N 10E 33</u>	
Mamoru and Ayako Noji		1800
6917 Allen Road		
Parkdale, OR 97041		
	<u>3N 9E 34</u>	
Oregon State Hwy Commission		400
140 Transportation Bldg.		
Salem, Oregon 97310		
State of Oregon		500
140 Transportation Blda.		
Salem, OR 97310		

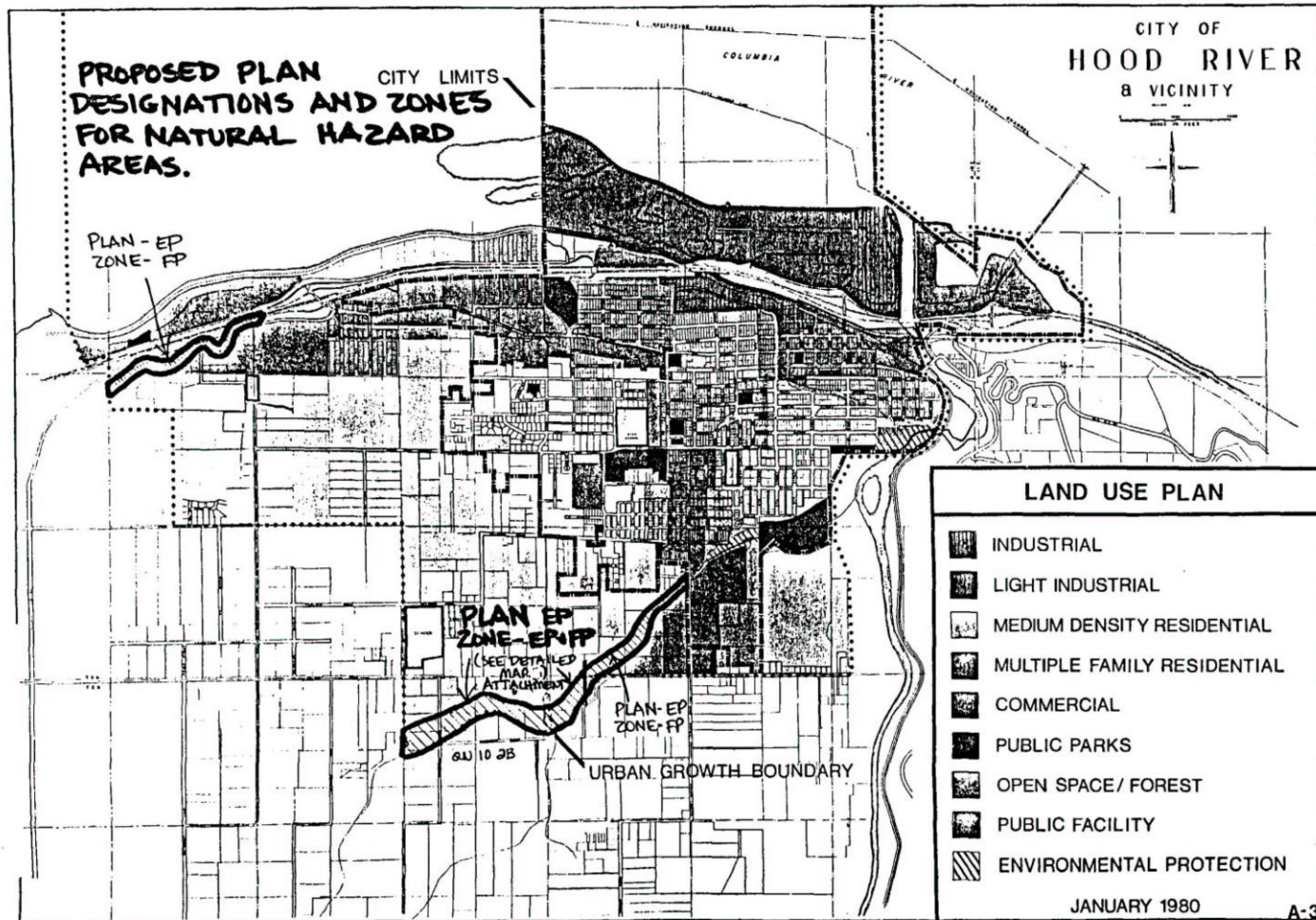
GOAL 7: CLARIFICATION: PLAN DESIGNATIONS AND ZONES FOR NATURAL HAZARDS AREAS.

The County's four previous plans were not consistent in applying the Environmental Plan Designation and the following various zones that implement that designation; Floodplain, Geologic Hazard and Environmental Protection.

It should be realized that one or more of the designations currently exist, however the purpose of this report and its attachments will make the above designations consistent throughout the County's Comprehensive Plan.

In summary, all Natural Hazard areas in Hood River County are being planned Environmental Protection and zoned either Floodplain, Environmental Protection or Geologic Hazard.

Attachments "A" through "F" and accompanying detail maps indicate designations and zoning.



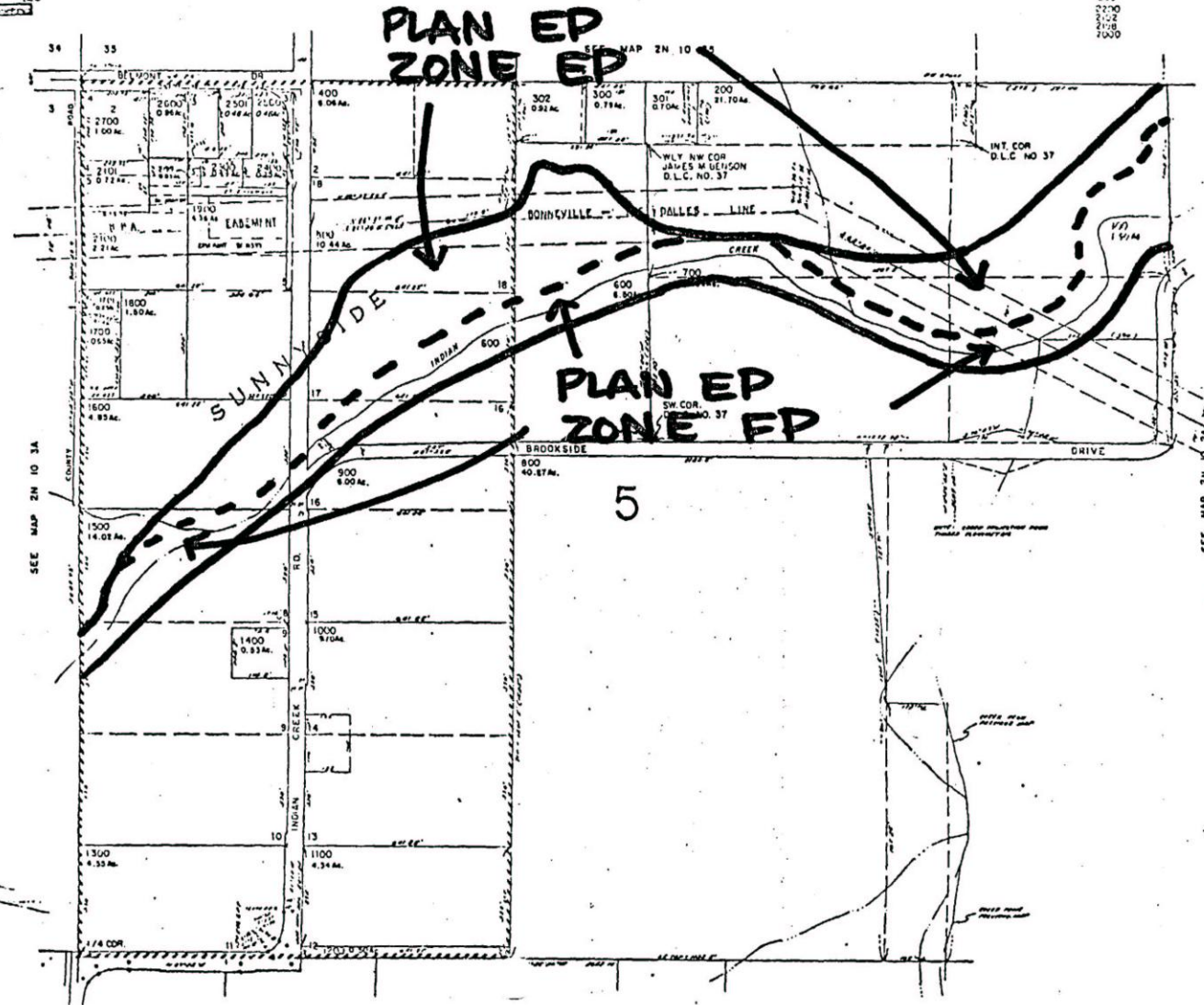


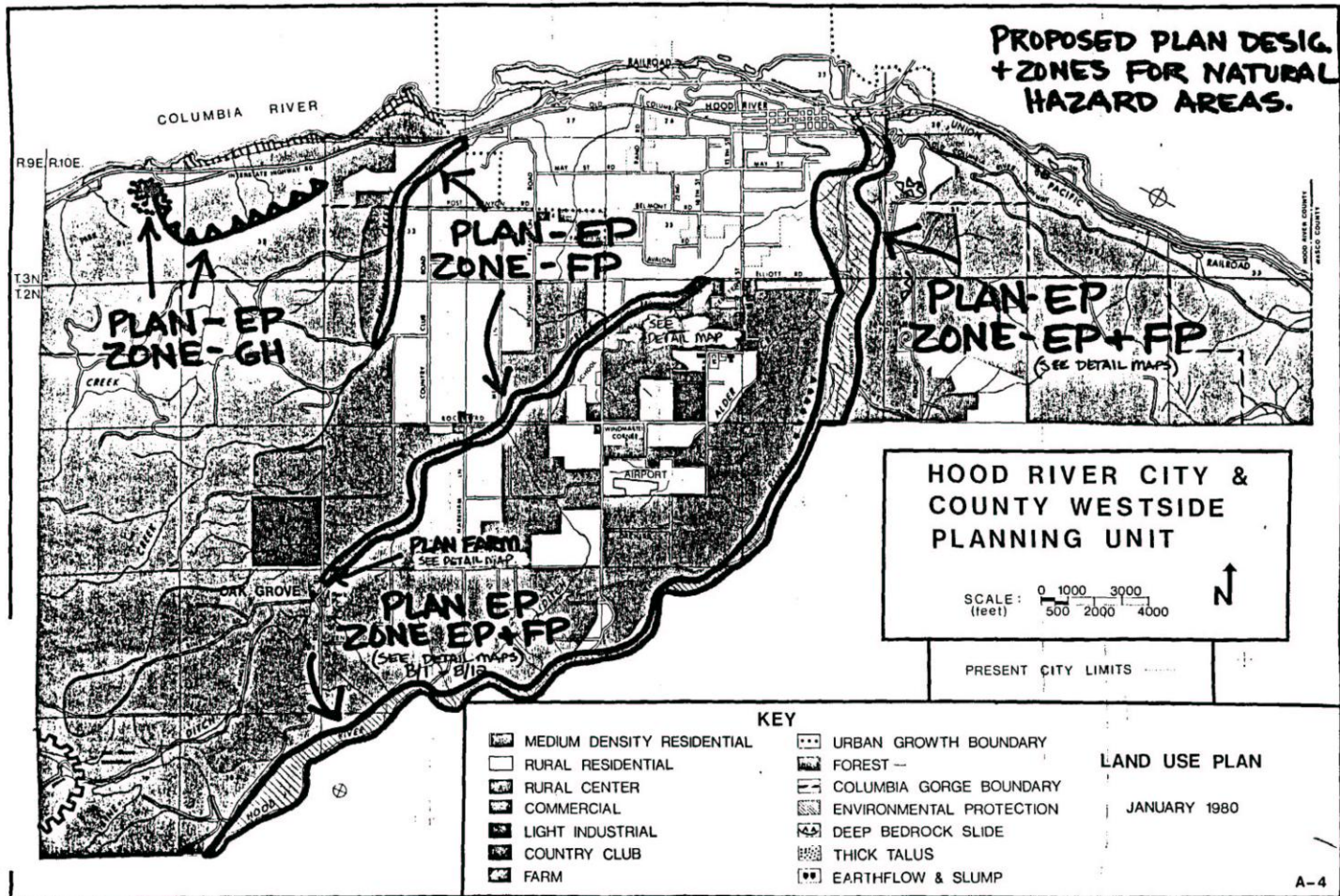
N. SEC. 2 T. 2 N. R. 10 E. W.M.
HOOD RIVER COUNTY
1" = 200'

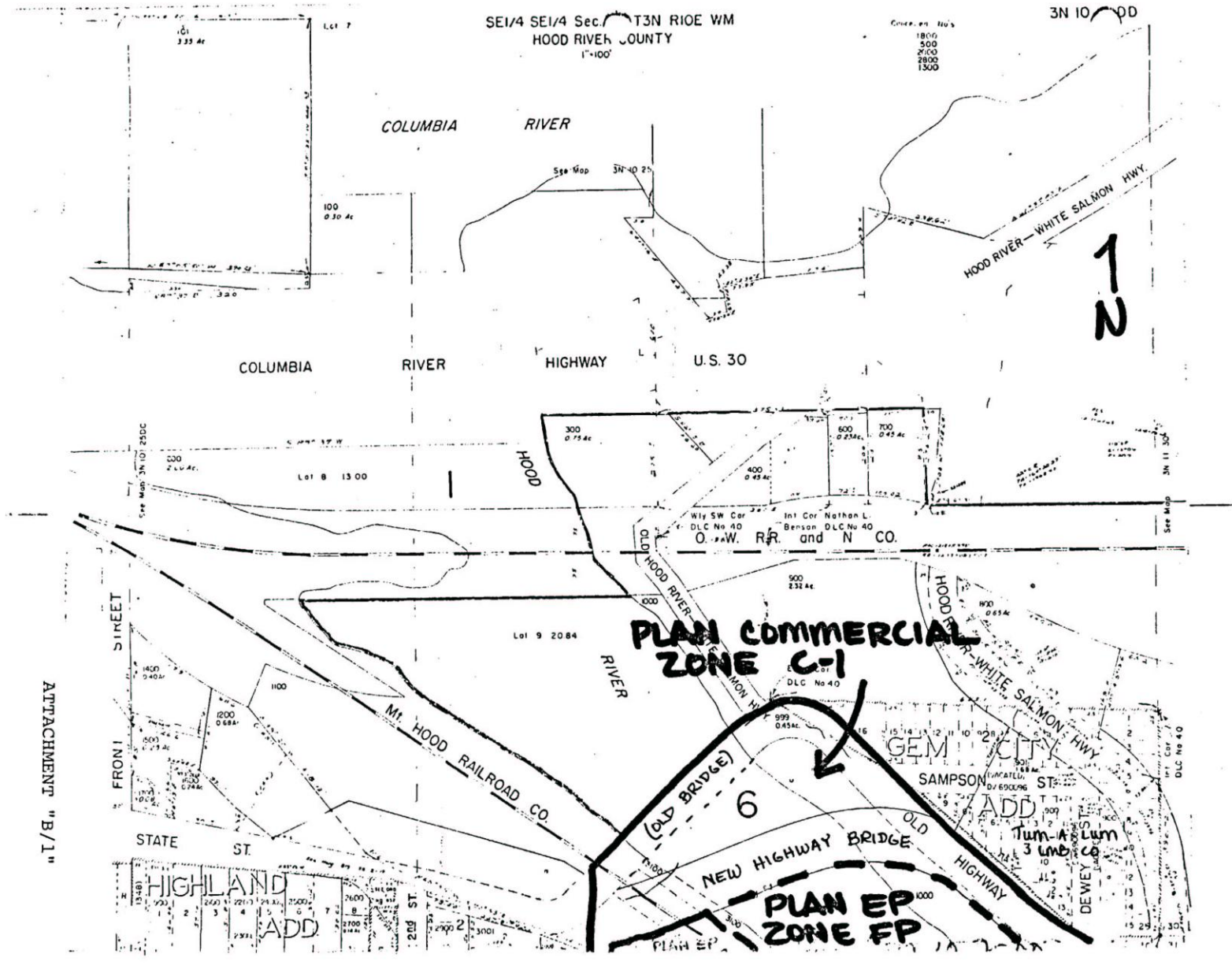
N 10 28

CANCELLED NOS
225
226
227
228
229

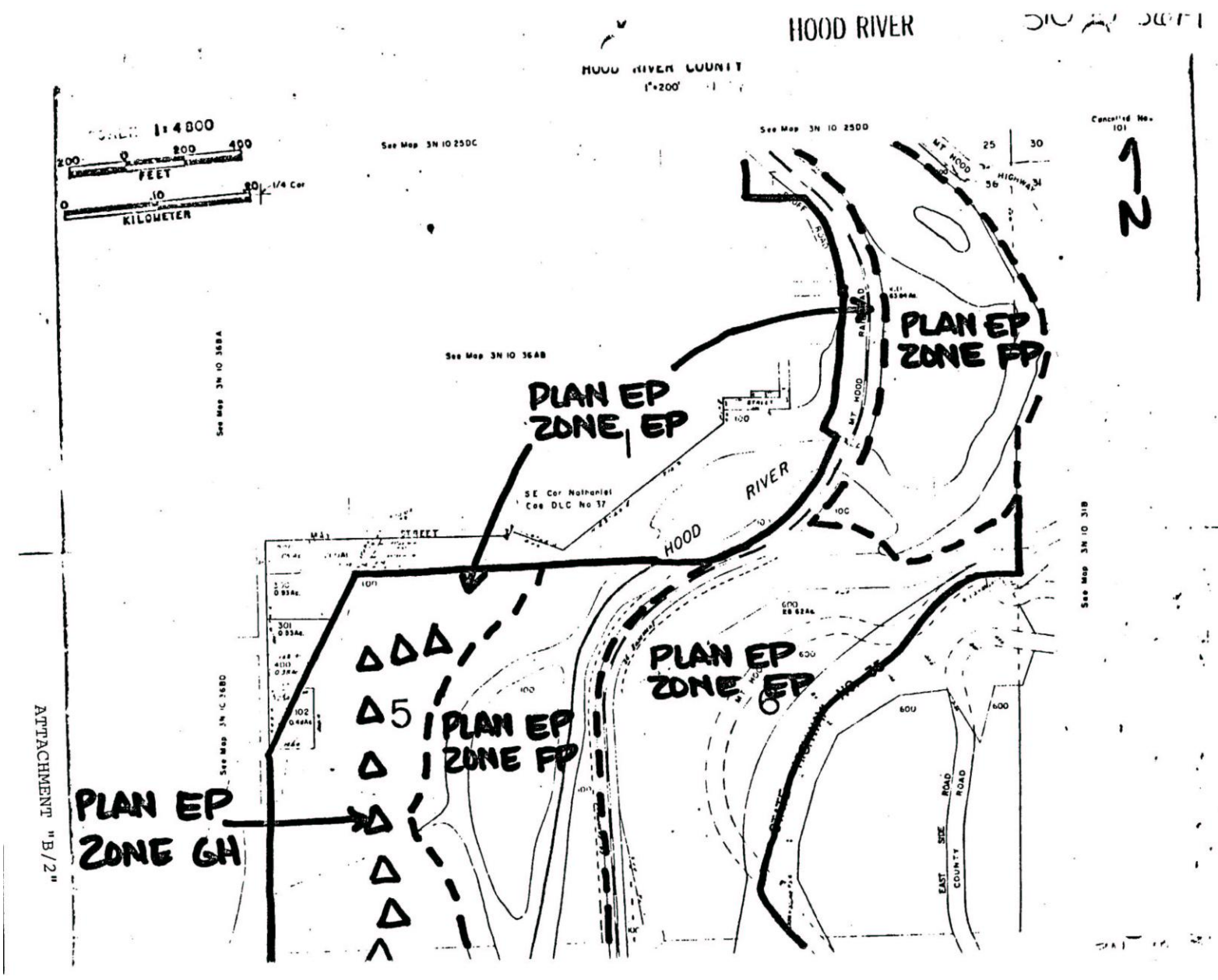
ATTACHMENT "A/1"



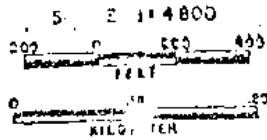




ATTACHMENT "B/1"



3N 10 36A

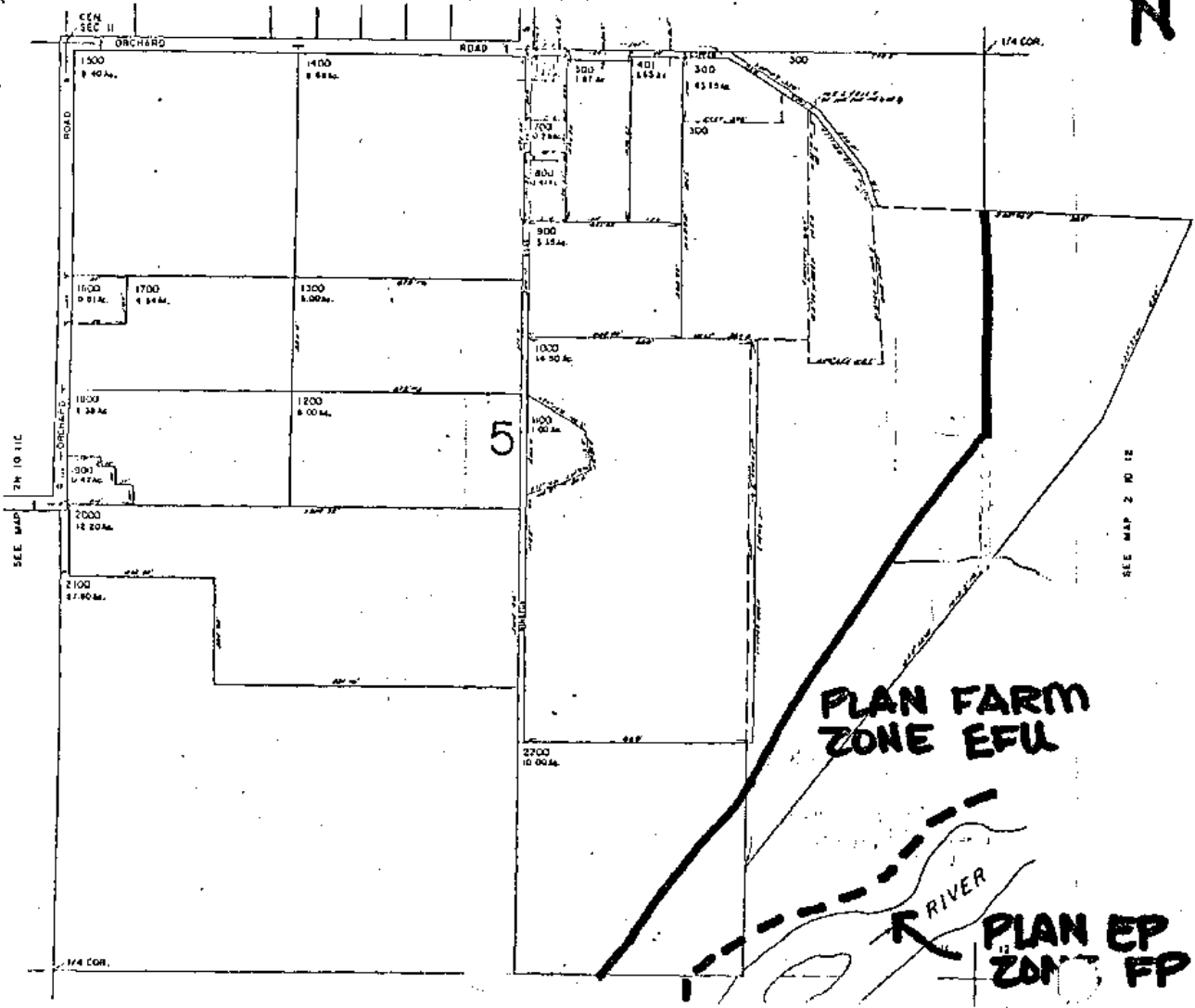


This map was prepared for assessment purpose only.

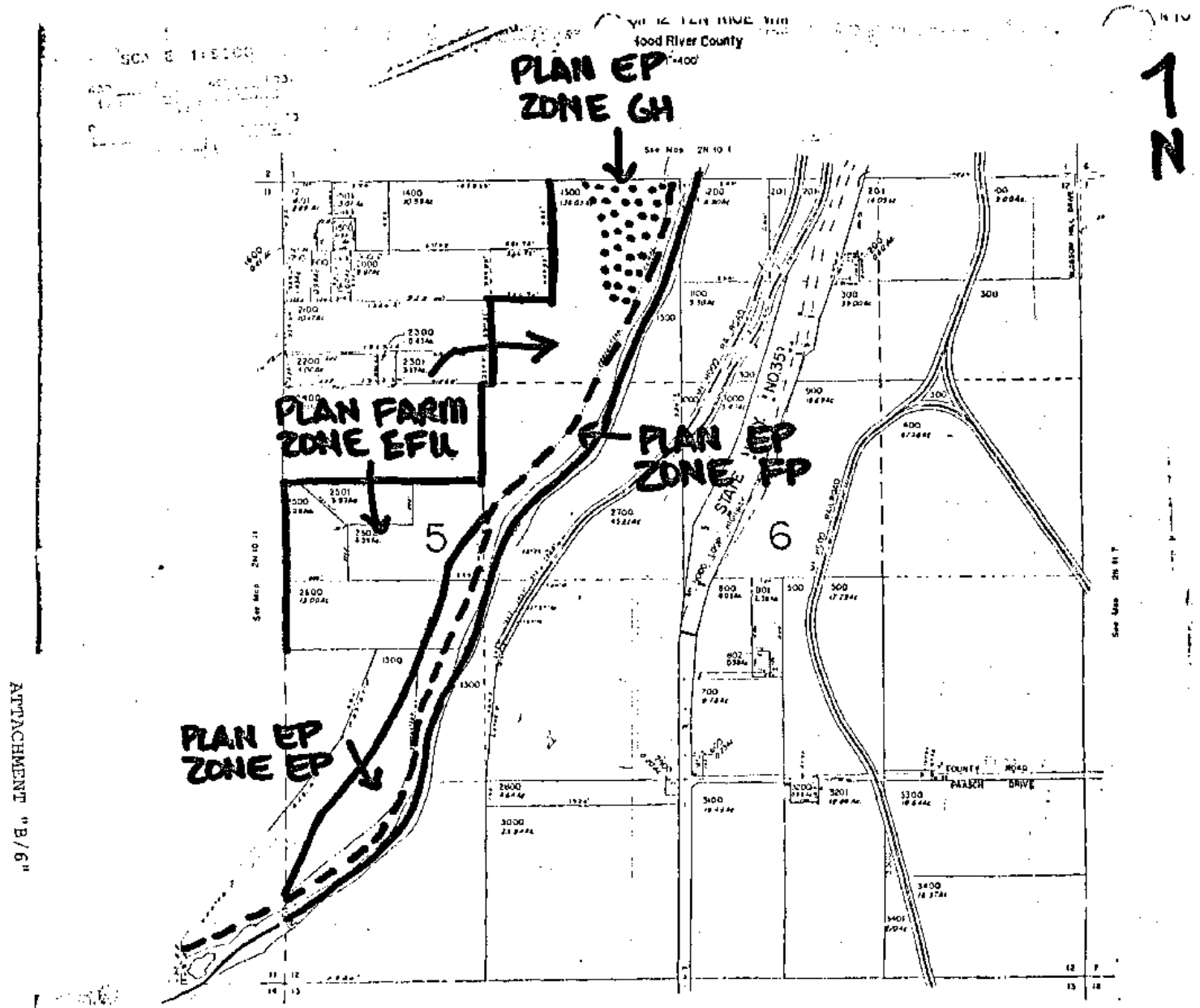
SEC. 11 T. 2N. R. 10E. W.M.
OD RIVER COUNTY

Contour No.
80
100
200
400

1
N



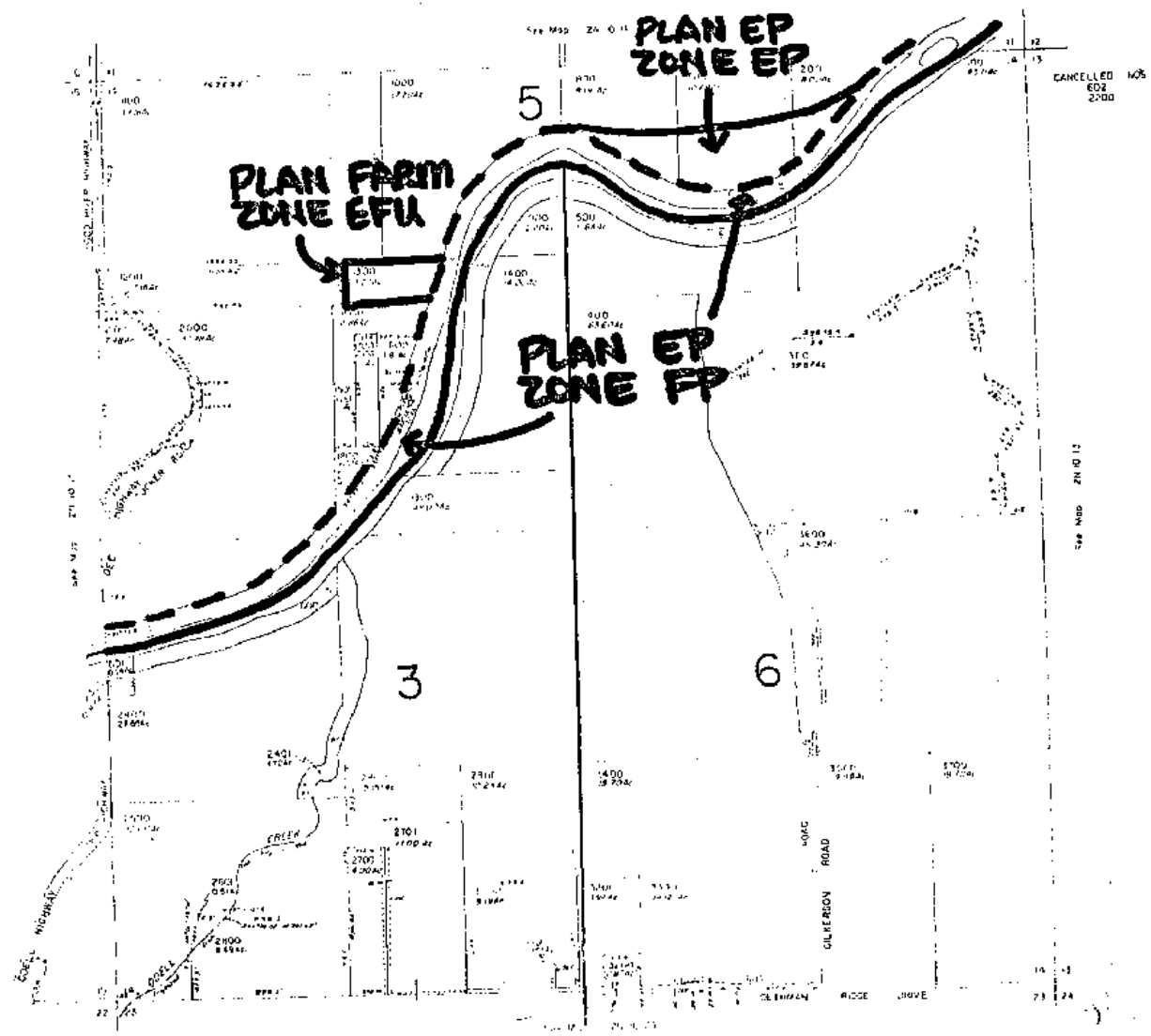
ATTACHMENT "B/5"



ATTACHMENT "B/6"

Sec 14 T2N R10E WM
Hood River County
11400'

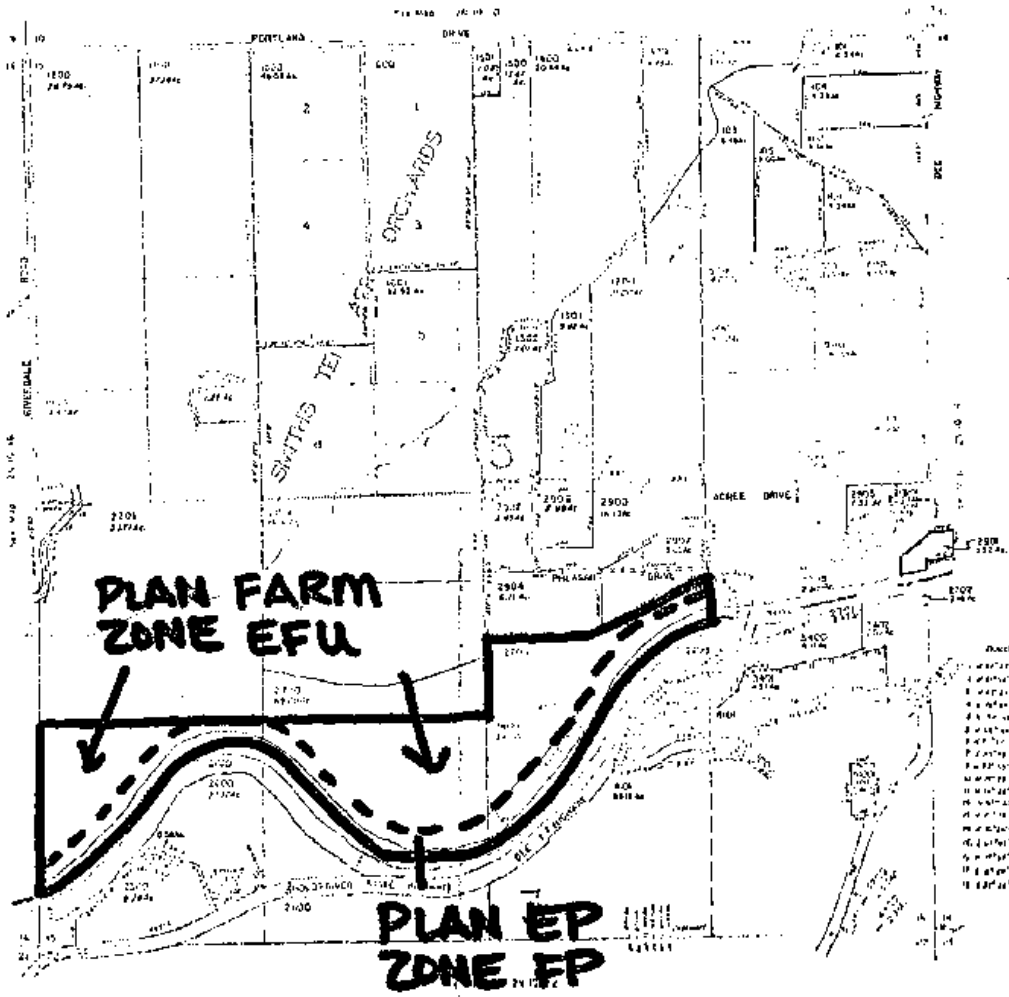
b14
1
N



ATTACHMENT "B/7"

CANCELLED NOS.
5383

1
N



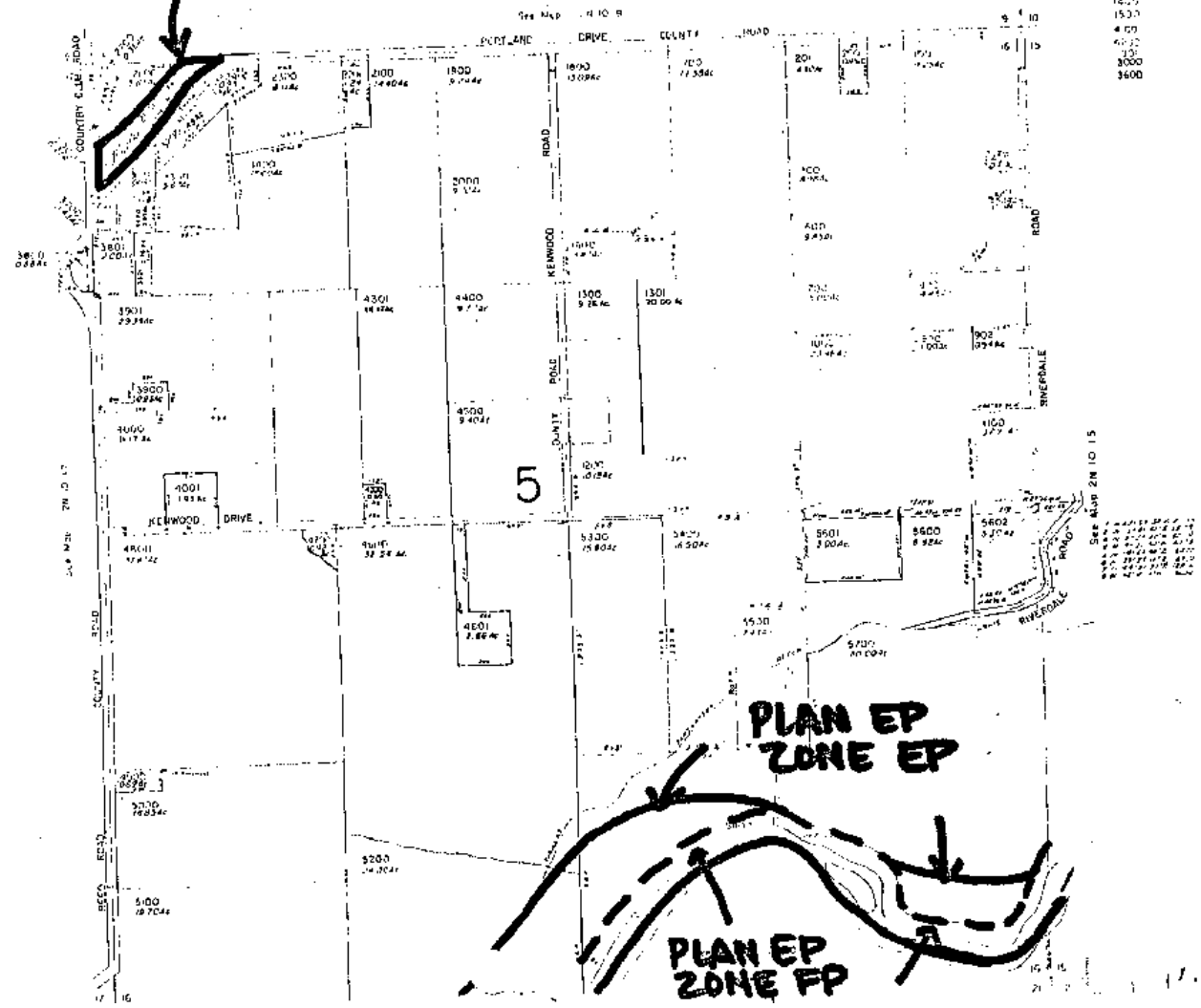
ATTACHMENT "B/8"

2/10/15

Section 16 T2N R16E WM
Wood River County
IOWA

1016
1
N

PLAN FARM

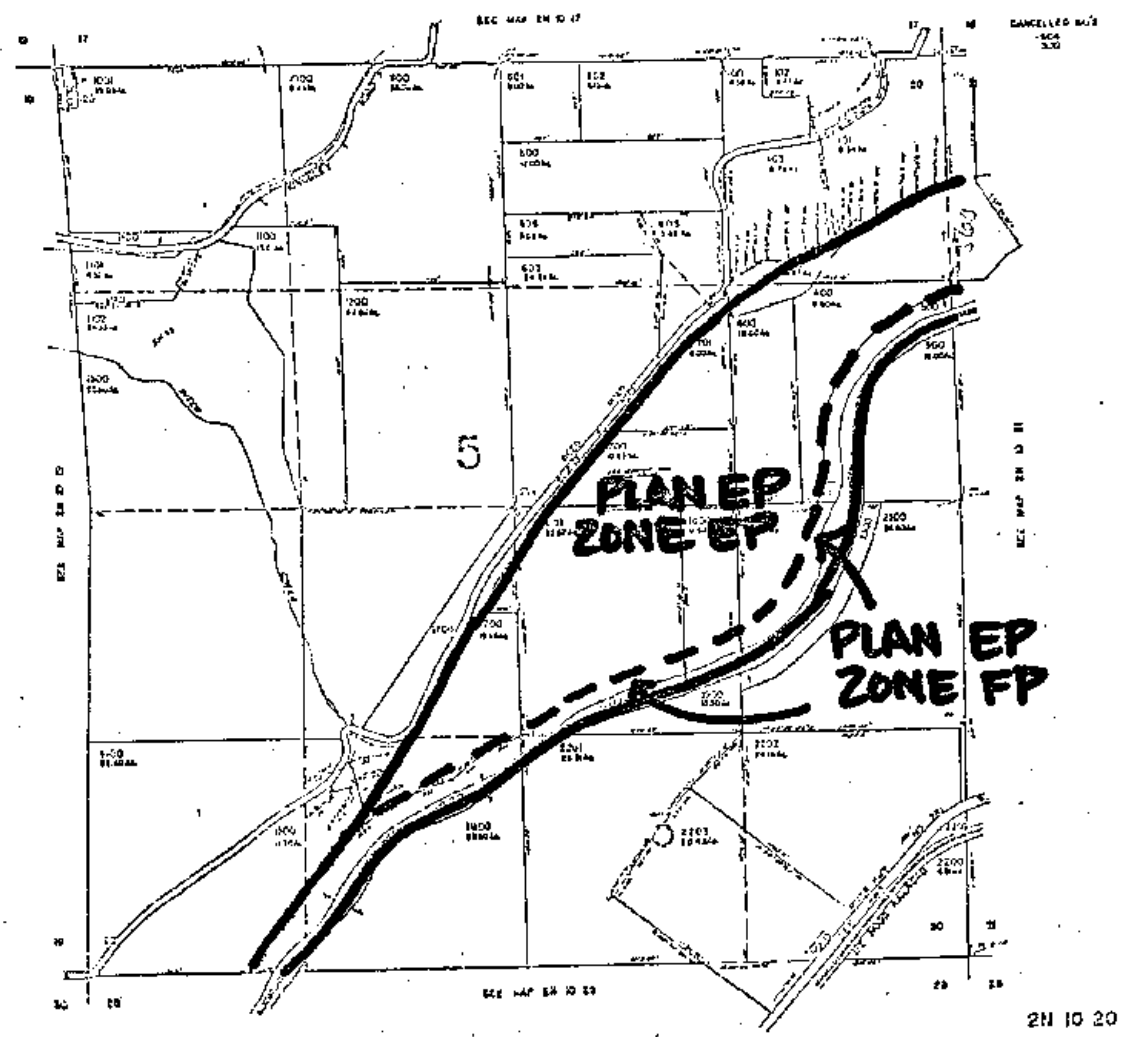


ATTACHMENT "B/91"

SECTION 20 T.2N. R.10E. WM.
HOOD RIVER COUNTY
19-100

2N 10

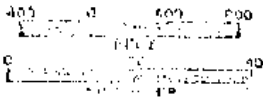
21
21



ATTACHMENT "B/10"

Section 21 T2N R10E WM
Hood River County
7.400'

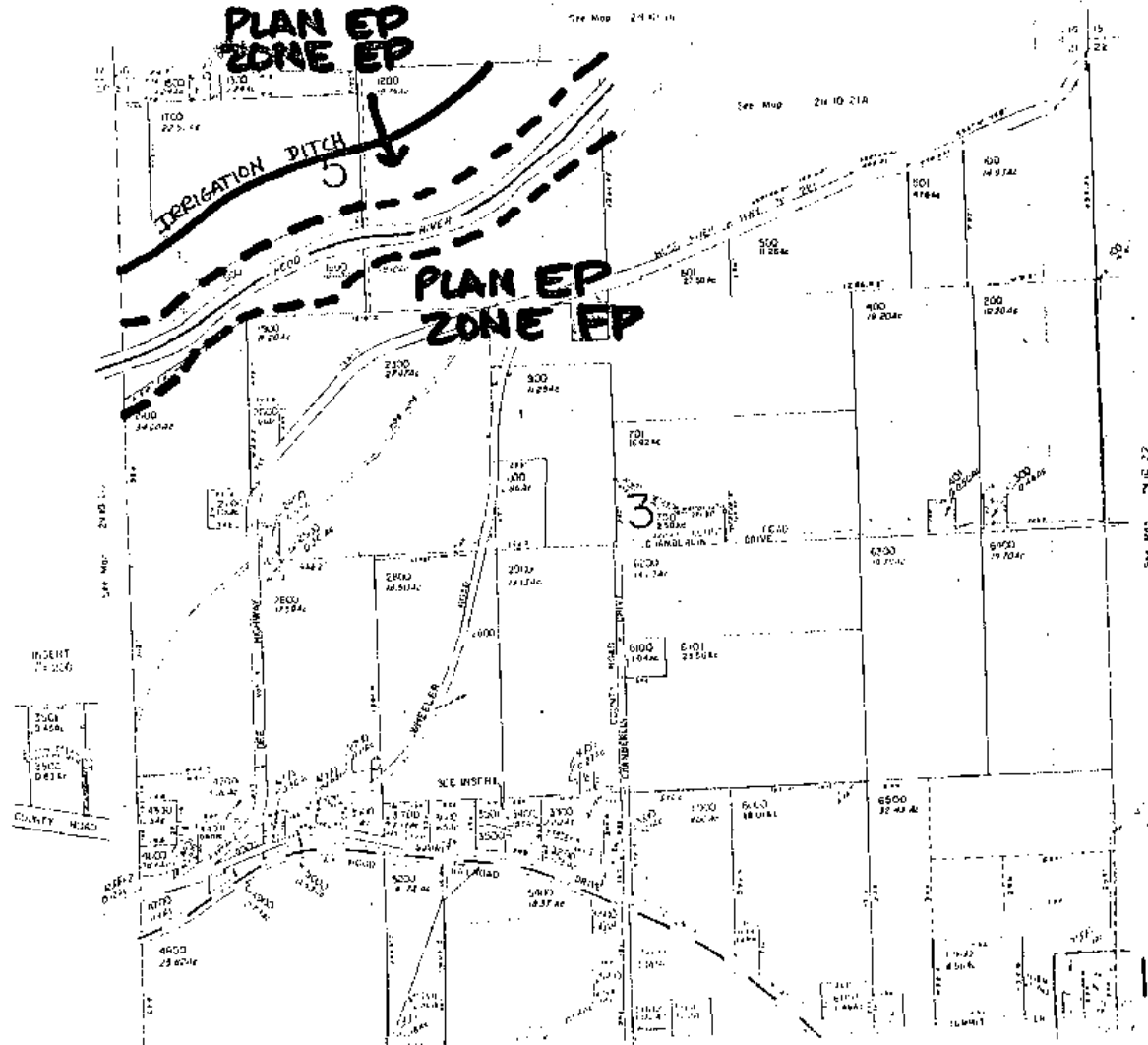
2 J 21



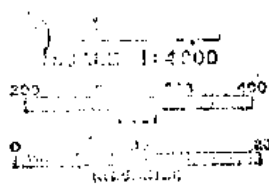
Cancelled Nos.

5100
5201
5300
5400
5500
5600
5700
5800
5900
6000
6100
6200
6300
6400
6500

1
N



ATTACHMENT "B/11"



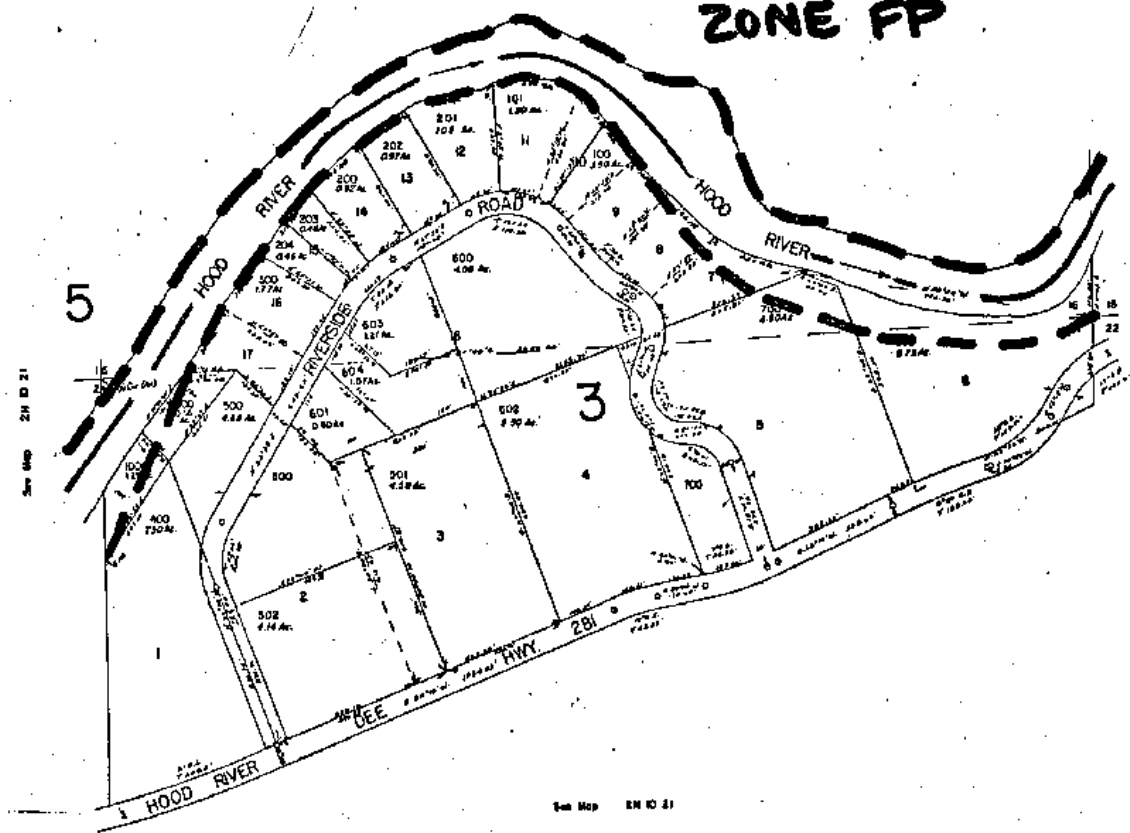
4 Sec 21 T2N R10E W1M
Hood River County
1"=200'

0 21A

1
N

See Map 2N 10 16

**PLAN EP
ZONE FP**



ATTACHMENT "B/12"

See Map 2N 10 21

2N 10 21A

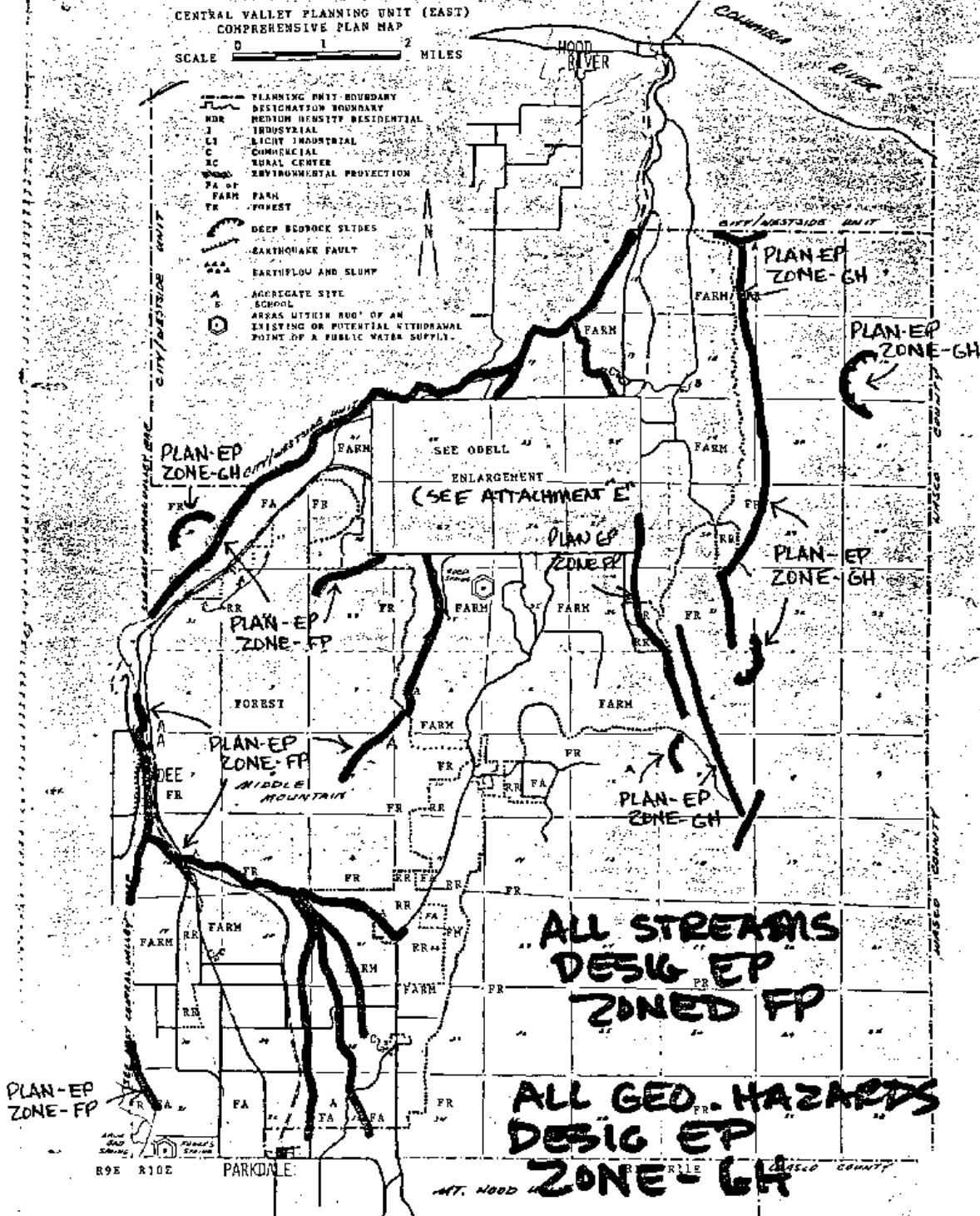
PROPOSED PLAN DESIG. + ZONES FOR NATURAL HAZARDED AREAS

PAGE 14

CENTRAL VALLEY PLANNING UNIT (EAST)
COMPREHENSIVE PLAN MAP

SCALE 0 1 2 MILES

- PLANNING UNIT BOUNDARY
- DESTINATION BOUNDARY
- HDR HIGH DENSITY RESIDENTIAL
- LI LIGHT INDUSTRIAL
- C COMMERCIAL
- IC TOWN CENTER
- EP ENVIRONMENTAL PROTECTION
- FA FARM FOREST
- FR FOREST
- DEEP BEDROCK SLIDES
- EARTHQUAKE FAULT
- EARTHFLOW AND SLUMP
- AGGREGATE SITE
- SCHOOL
- AREAS WITHIN 500' OF AN EXISTING OR POTENTIAL WITHDRAWAL POINT OF A PUBLIC WATER SUPPLY











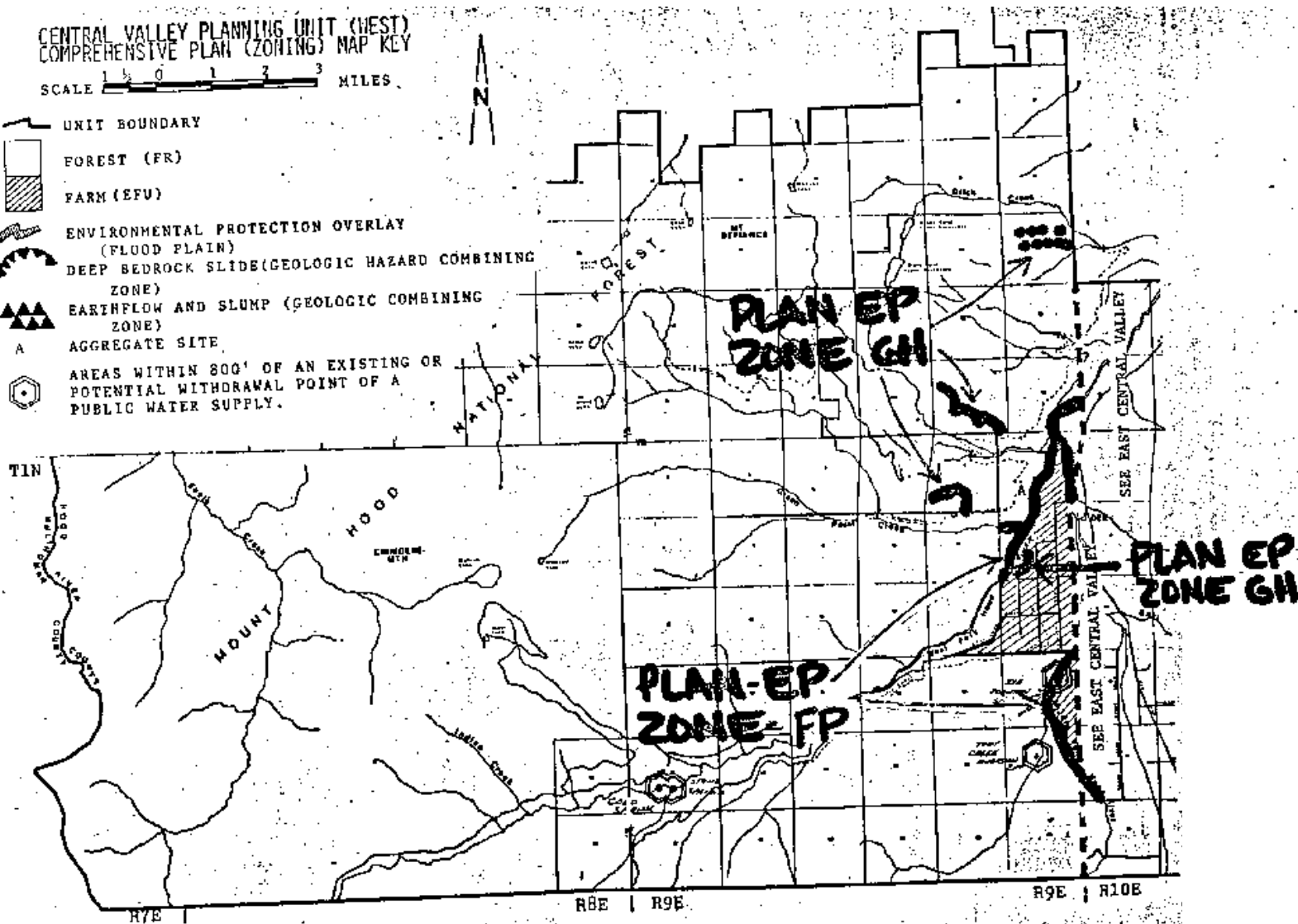
NOTE: FOR SPECIFIC INFORMATION, REFER TO THE OFFICIAL MAPS AT THE HOOD RIVER COUNTY PLANNING DEPARTMENT.

ATTACHMENT "C"

CENTRAL VALLEY PLANNING UNIT (WEST)
COMPREHENSIVE PLAN (ZONING) MAP KEY

SCALE 0 1 2 3 MILES

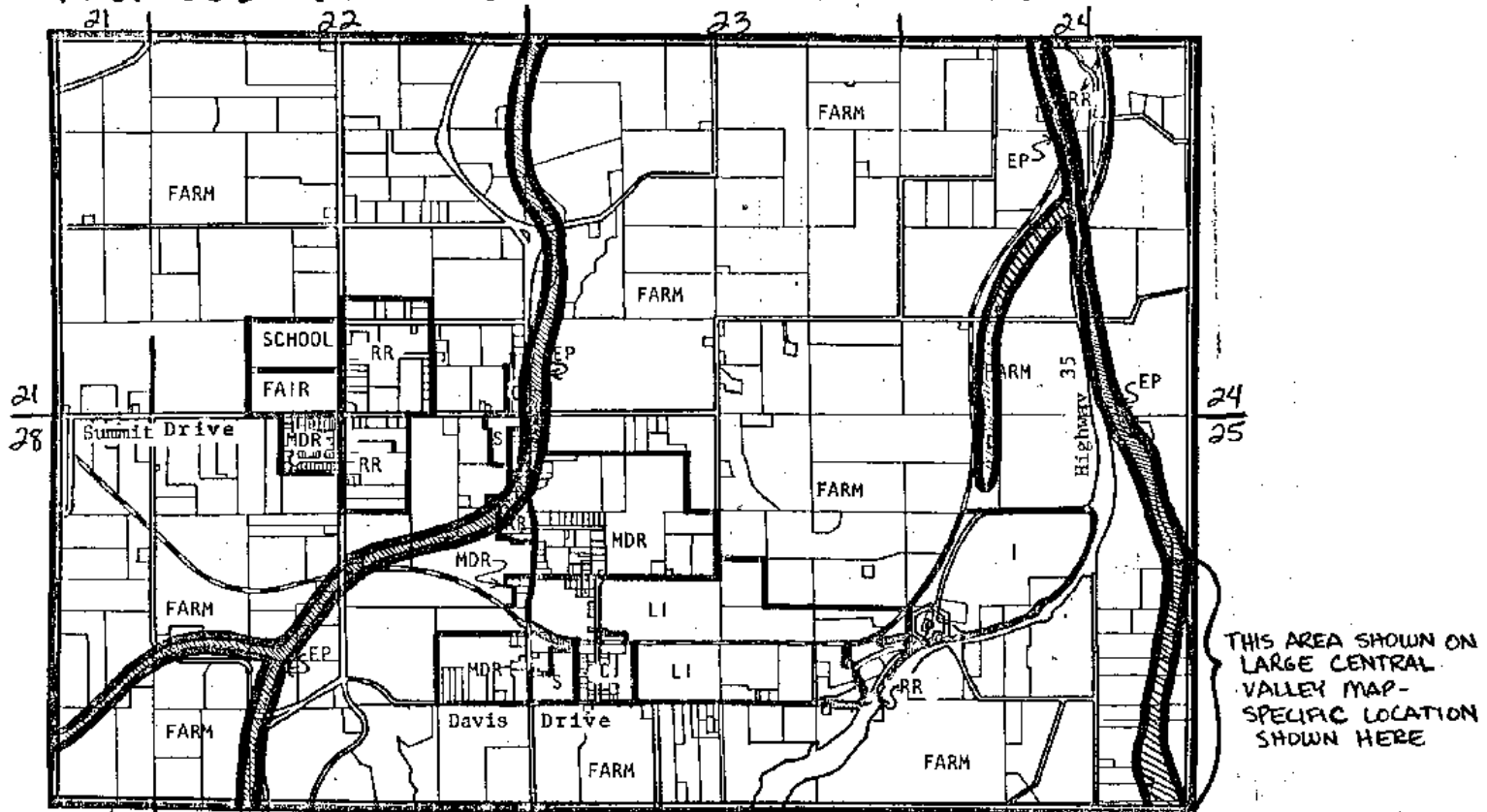
-  UNIT BOUNDARY
-  FOREST (FR)
-  FARM (EFU)
-  ENVIRONMENTAL PROTECTION OVERLAY (FLOOD PLAIN)
-  DEEP BEDROCK SLIDE (GEOLOGIC HAZARD COMBINING ZONE)
-  EARTHFLOW AND SLUMP (GEOLOGIC COMBINING ZONE)
-  A AGGREGATE SITE
-  AREAS WITHIN 800' OF AN EXISTING OR POTENTIAL WITHDRAWAL POINT OF A PUBLIC WATER SUPPLY.



NOTE: FOR SPECIFIC INFORMATION, REFER TO THE OFFICIAL MAPS AT THE HOOD RIVER COUNTY PLANNING DEPARTMENT.

ATTACHMENT "D"

PROPOSED PLAN DESIG. + ZONES FOR NAT. HAZARD AREAS



ATTACHMENT "E"

28 ODELL ENLARGEMENT 27
 COMPREHENSIVE PLAN MAP
 SCALE 0 1000 2000 3000 FEET

25 ODELL ENLARGEMENT
 ZONING MAP
 SCALE 0 1000 2000 3000 FEET

**ALL STREAMS
 PLAN EP
 ZONE FP**

- PLANNING UNIT BOUNDARY
- DESIGNATION BOUNDARY
- MDR MEDIUM DENSITY RESIDENTIAL
- I INDUSTRIAL
- LI LIGHT INDUSTRIAL
- C COMMERCIAL
- RC RURAL CENTER
- ENVIRONMENTAL PROTECTION
- FA or F FARM
- FR FOREST

- PLANNING UNIT BOUNDARY
- DESIGNATION BOUNDARY
- RI-7.6 RESIDENTIAL-7500 sq.ft. min.
- RR RURAL RESIDENTIAL (Number indicates acreage minimum)
- CI COMMERCIAL
- RC RURAL CENTER
- MI HEAVY INDUSTRIAL
- LI LIGHT INDUSTRIAL
- FP FLOOD PLAIN
- FFU EXCLUSIVE FARM USE

ALL STREAMS - PLAN EP, ZONE FP
ALL GEOLOGIC HAZARDS - PLAN EP, ZONE 6H

