

2. Prevent economic loss by encouraging development consistent with the natural capability of beach and dune landforms.
3. Provide for clear procedures by which the natural capability of dune landforms can be assessed prior to development.
4. Prevent cumulative damage to coastal dune resources due to the incremental effects of development.
5. Protect areas of scenic, scientific or biological importance, significant wildlife habitat, and other critical environmental areas through use of appropriate underlying zoning.
6. When federal lands are converted to nonfederal ownership, plan and zone designations shall become effective.
7. Wells designed for municipal or community water supply purposes shall be sited such that bogs with plant assemblages dependent on water tables near the surface are not drained.

BEACHES

Definition: Gently sloping zone of unconsolidated material (e.g., sand, gravel and cobbles) that extend landward from the low-water line to the uppermost line of effective wave or tidal action.

Characteristics:

1. Characteristics, size, shape and slope are subject to change due to influences such as storms, sand supply, littoral drift (or the interruption of it), landward occurrences, and other natural or man-induced occurrences;
2. Subject to seasonal profile changes, instability, ocean flooding, tsunamis and erosion;
3. Critical habitat for some species;
4. Often highly aesthetic;
5. The beach budget (loss or gain) in Lane County is essentially zero at the present time. Because beaches are in the coastline's primary line of defense against storm wave impact, any sand removal results in an increased threat to shoreline development.
6. Upper beach driftlog accumulation plays a major role in the development of foredunes and absorb some storm wave impact.
7. Highly tolerant of most transient activities.

Policies:

1. Development on the beach is not allowed, with the exception of certain features such as necessary jetties or beachfront protective structures.

2. Permits for beachfront protective structures shall be issued only for those developments that existed on January 1, 1977. Criteria for the issuance of such permits shall include, at least, that:
 - (a) visual impacts are minimized,
 - (b) necessary public access to the beach is maintained,
 - (c) negative impacts on adjacent property are minimized as much as possible,
 - (d) long-term or recurring costs to the public are avoided and
 - (e) riprap materials must meet Army Corps Of Engineers strength and design standards.
3. No sand mining shall be allowed on the beach.
4. Certain access points to beaches shall be closed to off-road vehicle traffic seasonally or temporarily upon findings by the appropriate agency that such closure is necessary.
5. Driftlog removal should be limited.
6. Access to the two documented sites of snowy plover nesting habitat at the mouths of Sutton Creek and Siltcoos River should be prohibited during the nesting season (April-June).

FOREDUNE

Definition: The first ridge of sand or hummock dunes situated immediately above the highest tide line and parallel to the beach.

Characteristics:

1. May be active (sparsely vegetated) or conditionally stabilized (sufficient vegetation cover to eliminate wind erosion).
2. All foredunes are subject to wave overtopping and ocean undercutting.
3. Conditionally stable foredunes are wind-stable. They may also reduce storm wind and, to a limited degree, debris impact to immediately adjacent inland sites.
4. Conditionally stable foredunes do not provide a serious defense against storm waves. They are highly erodable by storm waves.
5. All foredunes are impermanent landforms. Their existence and location are determined and may be changed by offshore and nearshore current and topographic changes, ocean storms and vegetative destruction.
6. European beachgrass, the primary foredune vegetation stabilizer in Lane County, is easily damaged and destroyed by pedestrian and off-road vehicle traffic. Resultant blowouts can threaten inland sites with sand inundation and serious ocean flooding.

7. Snowy plover nesting sites may occur on the lower vegetation-free windward slopes of some foredunes.

Policies:

1. Because the foredune is a highly impermanent landform and subject to a number of extreme hazards, no permanent development will be allowed here. Allowable development may include temporary raised boardwalks which provide beach access and avoid vegetation trampling.
2. Access to the two documented sites of snowy plover nesting habitat at the mouths of Sutton Creek and Siltcoos River should be prohibited during the nesting season (April-June).
3. Breaching of foredunes shall be allowed only to replenish sand supply in interdune areas or on a temporary basis in an emergency and only if the breaching and restoration after breaching is consistent with sound principles of conservation.
4. When allowed through the LCDC exception process, any residential infilling shall be required to maintain at least a 50-foot horizontal setback from the mean high tide line. A County site review shall be required.
5. Due to the extreme porosity of the sand (and in interdune areas, a high groundwater table), leaks in buried fuel oil or gasoline tanks could present a serious threat to the quality of the groundwater in the dunal aquifer. No new buried fuel tanks shall be permitted without a County inspection to determine proper placement and design standards so that water resources are protected.

ACTIVE DUNE FORMS

Definition: A dune that migrates, grows and diminishes primarily according to the force of wind and supply of sand. Active dunes include all open sand (vegetation-free) areas and active (sparsely vegetated) hummocks and foredunes.

Characteristics:

1. A landform that is subject to topographic modification primarily due to the action of wind on sand and which is completely or significantly vegetation free. Some natural or man-induced changes, such as fire, excavation or trail cutting can result in highly mobile sand dunes and create such hazards as inundation of structures, settling and cracking of foundations and changes in the water table. Conversely, active dunes can become conditionally stabilized due to either natural or human action;
2. Active foredunes presently occur in Lane County at Heceta Beach, where young stabilized dunes are being eroded, and north of Heceta Beach, where the foredune is in an early state of development;
3. Other active dune forms have severe development constraints, such as the mobile nature of the formation, blowing sand, unconsolidated foundations, foundation undermining, and sand accumulation on the upwind side;

4. The lee (downwind) slope of an active dune is commonly characterized by being at or near the maximum stable angle of repose, although oversteepening and consequent slumping is not unknown, particularly in the larger dune forms.

Policies:

1. Because of the highly unstable nature of these landforms, development will be prohibited where they occur.
2. Recreational vehicular traffic should be prohibited on any County active sand dune areas north of the Siuslaw River.

RECENTLY STABILIZED DUNE FORMS

Definition: A dune which presently has sufficient vegetation to be stabilized from wind erosion but which exhibits little, if any, soil development or cohesion of underlying sand. Includes soilless dunes recently stabilized with beach grass (conditionally stable foredune, hummocks and sections of open sand landscapes) and younger stabilized dunes which may possess forest communities and some soil development but lack consolidation of underlying sands.

NOTE: "Conditionally" stabilized means that stability from wind erosion is dependent upon maintaining the vegetative cover.

Characteristics:

1. Dunes conditionally stabilized with beachgrass constitute an extreme fire hazard because of the dry flammable nature of this grass at maturity.
2. Characterized by a "thin" vegetative cover that is susceptible to damage from pedestrian and ORV traffic.
3. "Blowouts" or dune reactivation can easily occur where vegetation is destroyed or excavation sites are not properly stabilized.
4. Major disturbances of ground cover can lead to large-scale property damage from large marauding sand dunes.
5. The lee slopes of recently stabilized dunes are commonly at or near their maximum angle of repose. These slopes are extremely susceptible to slumping and failure if disturbed.
6. Exaggerated shaking can result during earthquakes.

Policies:

1. Development shall result in the least topographic modification of the site as is reasonable and possible.
2. Development shall not result in the clearance of natural vegetation in excess of that which is necessary for the actual structures, required access, fire safety requirements and the required septic or sewage disposal system. Parcels which exhibit vegetation-free areas suitable for

development should utilize such areas for the building site where feasible. Areas which exhibit excessive vegetation removal shall be replanted as soon as possible.

3. Sand stabilization is required of the developer or owner: (1) using temporary stabilization techniques during all construction phases, and (2) through an ongoing maintenance program, including preliminary revegetation with beachgrass (or other species recommended by a recognized expert), fertilization and later plantings of appropriate secondary successional species at the appropriate time. Successional species reduce the extreme fire hazard associated with mature beachgrass.
4. In order to protect the quality of the groundwater and the dunal aquifer, unsewered residential development will require a site review to determine appropriate residential density. Such development will be conditional upon approval by Lane County Water Pollution Control, Environmental Health and Planning Divisions. Specially designed septic systems may be required in these instances.
4. 5. In assessing new development, the cumulative effect of the combination of existing development, along with that proposed, has to be considered in assessing the feasibility of the new development.
5. 6. All development proposals for recently stabilized sand dune areas, except proposals for minimum development, must be accompanied by a Lane County Sand Dune Hazards Checklist. Results of the completed Checklist will determine any need for a further Site Investigation Report.
6. 7. Due to the extreme porosity of the sand (and in interdune areas, a high groundwater table), leaks in buried fuel oil or gasoline tanks could present a serious threat to the quality of the groundwater in the dunal aquifer. No new buried fuel tanks shall be permitted without a County inspection to determine proper placement and design standards so that water resources are protected.

OLDER STABILIZED DUNE FORMS

Definition: A wind stable dune which exhibits a poor to moderately well developed soil, semi-cemented underlying sand and often a diverse forest cover.

Characteristics:

1. Has extensive vegetation cover, a moderate soil cover and semi-consolidated underlying sands (compression strength commonly greater than 1-1/2 tons/square foot).
2. This formation is commonly underlain by buried soils, peat deposits, iron bands and clay lenses which can prove a serious detriment to downslope percolation of groundwater and result in a perched water table and surface ponding.
3. Although it will commonly hold a cliff when cut, this dune is subject to slumping, particularly when wet.

4. The older stabilized dune may be overlain by and interspersed with layers of loose sand. It is commonly underlain by such unconsolidated sands as well. When exposed, this sand will be reactivated and could migrate into developed areas.
5. A preliminary investigation by the Lane County Planning Division staff (Sand Dune Hazards Checklist) shall be conducted to determine if significant hazards are imposed by the development. If appropriate a Site Investigation Report may be required.
6. Unpredictable earthquake response and occasionally higher groundwater may occur within this unit.
7. This is a relatively common dune form in Lane County.
8. Older, stabilized dunes suffer more severe impacts from vegetation disturbance (due to damage to the extensive network of root systems) than the younger stabilized dunes. Furthermore, they are significantly more difficult and expensive to revegetate. The preexisting vegetation community cannot be replanted but must return successionaly.
9. Although vegetated, the lee (downwind) slopes of stablized dunes can be considered to be in critical equilibrium in many cases. Slope slumping may occur if developed.
10. Older stabilized dunes have previously advanced over swamps, tidal flats and peat bog deposits, all of which are extremely compressible even if they are several feet below the surface. Development may result in uneven settlement.
11. In many cases, this dune is in the path of advancing dunes.

Policies:

1. Although relatively stabilized, great care must be exercised with any human activity in the older stabilized dune areas. The variability and inconsistency of substrate characteristics can lead to a wide variety of hazards if developed, including slumping, reactivation, septic tank failure, subsequent danger of groundwater pollution and uneven settling.
2. Slope is an important factor in respect to septic drainfields, roads, excavations and expecially landslides. This factor should be specifically addressed by both the developer and the reviewing body.
3. Significant structural loads or structural fills to be placed on dune areas where compressible subsurface areas are suspected should be allowed only after a thorough foundation check and positive findings are reported.
4. Development shall result in the least topographic modification of the site as is reasonable and possible and shall avoid the steeper slopes.
5. Development shall not result in the clearance of natural vegetation in excess of that which is necessary for the actual structure/s, required access, fire safety requirements and the required septic or sewage disposal

system. Parcels which exhibit vegetation-free areas suitable for development should utilize such areas for the building site where feasible. Areas which experience excessive vegetation removal shall be replanted as soon as possible.

6. In order to protect the quality of the groundwater and the dunal aquifer, unsewered residential development will require a site review to determine appropriate residential density. Such development will be conditional upon approval by Lane County Water Pollution Control, Environmental Health and Planning Divisions. Specially designed septic systems may be required in these instances.
6. 7. Due to the extreme porosity of the sand (and in interdune areas, a high groundwater table), leaks in buried fuel oil or gasoline tanks could present a serious threat to the quality of the groundwater in the dunal aquifer. No new buried fuel tanks shall be permitted without a County inspection to determine proper placement and design standards so that water resources are protected.

INTERDUNE FORMS:

Definition: Includes (1) the broad near shore deflation and upland interdunal plain areas which commonly exhibit a high water table and (2) other occasionally wet interdune swales.

(Other dune forms such as hummocks, occasionally occur within a deflation plain unit.)

Characteristics:

1. Interdune areas may take one of three forms:
 - a. The nearshore deflation plain:
 - i. Low, flat strip just inland from and adjacent to the foredune, and at an elevation just over mean sea level;
 - ii. Created by windscouring of sand particles down to the level of the summer water table. The return of the higher winter water table will create standing water in this zone for a few weeks or possibly several months of the year;
 - iii. Depending on the length of time the area is submerged in the winter the vegetation community may consist of grasses, marsh communities or shrubs;
 - iv. May experience ocean flooding;
 - v. Well stabilized with vegetation north of the Siuslaw River except where disturbed by excavation, heavy ORV traffic, localized deflation basins and recent dunal activity.
 - b. Upland interdunal plain:

- i. Broad, flat areas which may occur a mile or more inland from the shore and may exist at elevations of up to 80 feet or greater. The groundwater table is typically high.
 - ii. Formed in the wake of successive easterly advancing dune ridges where the deflation surface (the upper surface of the groundwater) is relatively high and probably increases in height with the passage of each successive dune ridge.
 - iii. Commonly exhibits a forest community which may belie the locally high water table.
- c. Occasionally wet interdune:
- i. Occur in swale areas between dune crests or ridges;
 - ii. Are considerably less extensive than most deflation or upland interdune plain areas.
 - iii. May contain standing water in intermittent years or intermittently throughout the year.
 - iv. Commonly exhibit marshy or low shrubby vegetation.
2. Surface and groundwater movement in these areas is relatively unobstructed and such movement is necessary for the normal functioning of these areas.
3. Liquification and severely exaggerated shaking can create hazardous conditions during earthquakes.

Policies:

- 1. Due to the severe limitations of the near shore deflation plain, and in order to protect the quality of the groundwater and the dunal aquifer, development, except for limited minor development, shall be prohibited.
 - 2. Due to the extreme porosity of the sand (and in interdune areas, a high groundwater table) leaks in buried fuel oil or gasoline tanks could present a serious threat to the quality of the groundwater in the dunal aquifer. No new buried fuel tanks shall be permitted without a County inspection to determine proper placement and design standards so that water resources are protected.
 - 3. To assure protection of groundwater and the dunal aquifer, nonsewered residential and other development proposed for interdune areas, other than the near shore deflation plain:
 - a. Density shall be determined by County site review;
 - b. May require a specially designed waste treatment and disposal device.
- a. e. Shall require a staff investigation (Sand Dune Hazards Check-List) and, if deemed necessary by the Lane County Planning Department, a Site Investigation Report;

- b. d. Shall not result in the clearance of existing vegetation in excess of that which is necessary for the dwelling unit, required access, fire safety requirements and the required septic or sewage disposal system. If possible, septic drain lines should be placed among existing vegetation to avoid unnecessary vegetation removal. Parcels which exhibit vegetation-free areas should utilize such areas for the building site where feasible. Sites which experience excessive vegetation removal shall be replanted as soon as possible.

CHAPTER VGOAL 19 - OCEAN RESOURCESINTRODUCTION

There is little question that the quality of ocean resources--primarily the potential for food production--is a vital interest of not only Lane County, but of the State of Oregon and the nation. Goal 19 mandates that the three levels of government be cognizant of, and maintain programs to, insure that this quality is not diminished or threatened by actions occurring either along the shoreline or in the water itself (particularly areas along the continental shelf).

NECESSARY ACTION

As cited earlier in this report, the Goal requires, in essence, that local governments (including Lane County) monitor activities which are likely to have an impact on ocean resources. Such activities might include offshore drilling for oil, construction of new ports or improvements of existing ones (jetty expansion, for example), power plant construction in coastal areas (including nuclear power plants), LNG (liquid natural gas) storage facility construction, fishing regulations, and so on. By definition, most of these activities go beyond the scope of County regulation; for example, Lane County would be consulted about the development of a power plant in the coastal area, or about offshore drilling off County territory, but final authority to permit or deny such proposals would rest with state and/or federal agencies.

The Goal, recognizing this fact, contains a comprehensive listing of those agencies with authorities over activities likely to affect ocean resources. State and federal agencies are specifically instructed to comply with the concerns of the Goal, and local governments are expected to be participants in the process. No specific local planning requirements are set forth beyond such participation.

Accordingly, no management unit designations are made in this report concerning Goal 19. Instead, some general policy statements are made to guide County action in accordance with Goal mandates.

GENERAL POLICIES

- A. Lane County shall participate fully in the review and decision-making process of state and/or federal agencies where ocean resources offshore of Lane County territory are likely to be affected.
- B. Lane County shall cooperate with state and/or federal agencies in developing the necessary information, including inventories and impact assessment, to allow these agencies to properly evaluate proposed actions and make decisions about whether or not to allow such actions.
- C. The County should consult with state and/or federal agencies having responsibilities under this Goal if actions are proposed within the County

(and for which the County has all or partial approval authority) which are likely to impact the quality of ocean resources in the area.

- D. The County should build and maintain an "information bank" consisting of state- or federally-generated information about ocean resources, using such information as it is supplied to the County. This information should be made available to County decision-makers in evaluating proposals which may affect ocean resources.
- E. Programs or regulations arising from County compliance with LCDC Coastal Goals 16 through 18 should be cognizant of, and seek to enhance the quality of, ocean resources as defined in Goal 19.

SHORELANDS

 NATURAL RESOURCE CONSERVATION

 SIGNIFICANT NATURAL AREA

 MIXED DEVELOPMENT

 PRIME WILDLIFE AREA

 RESIDENTIAL DEVELOPMENT

 DREDGED MATERIAL DISPOSAL SITE

ESTUARY

 DEVELOPMENT

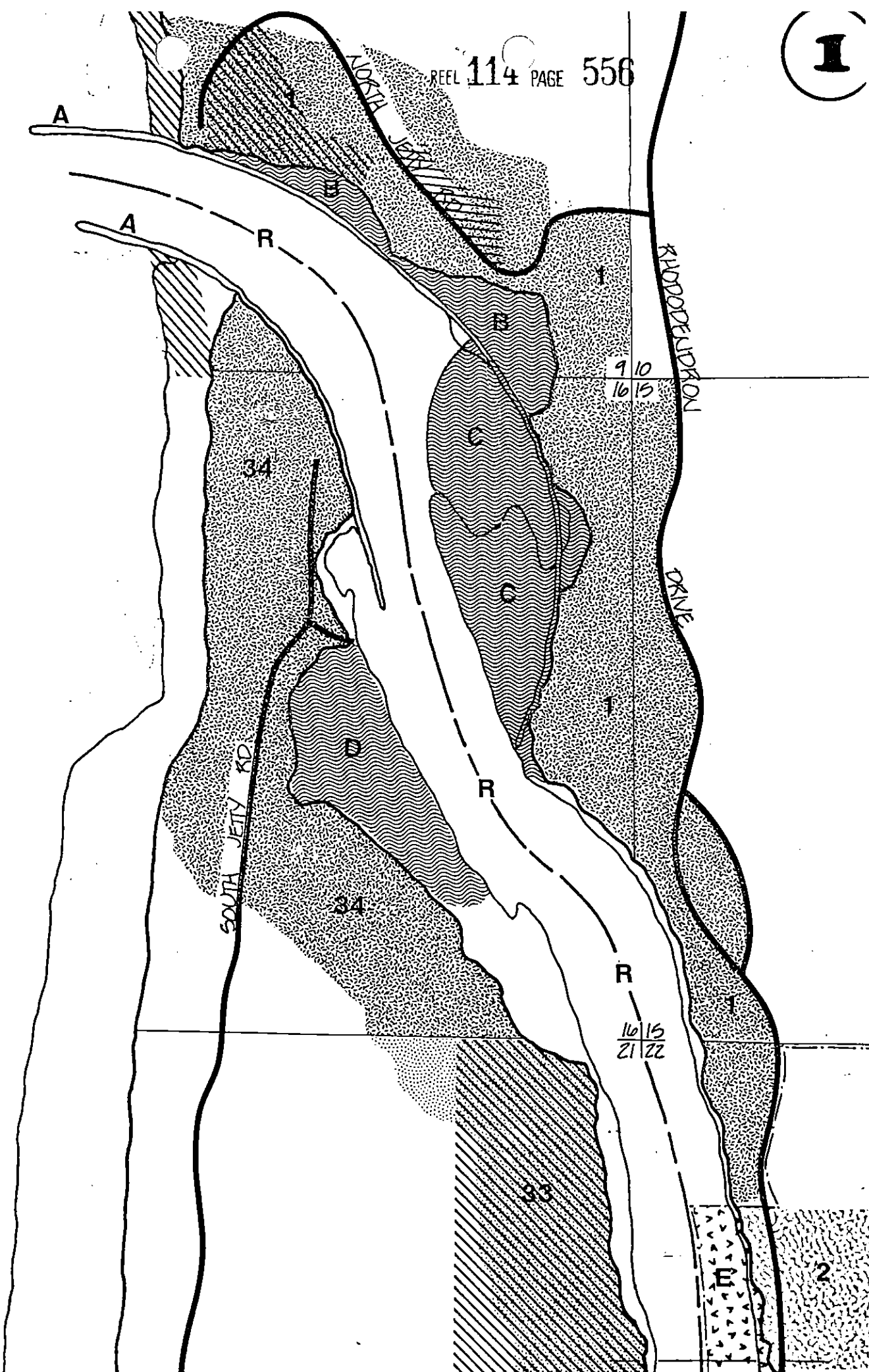
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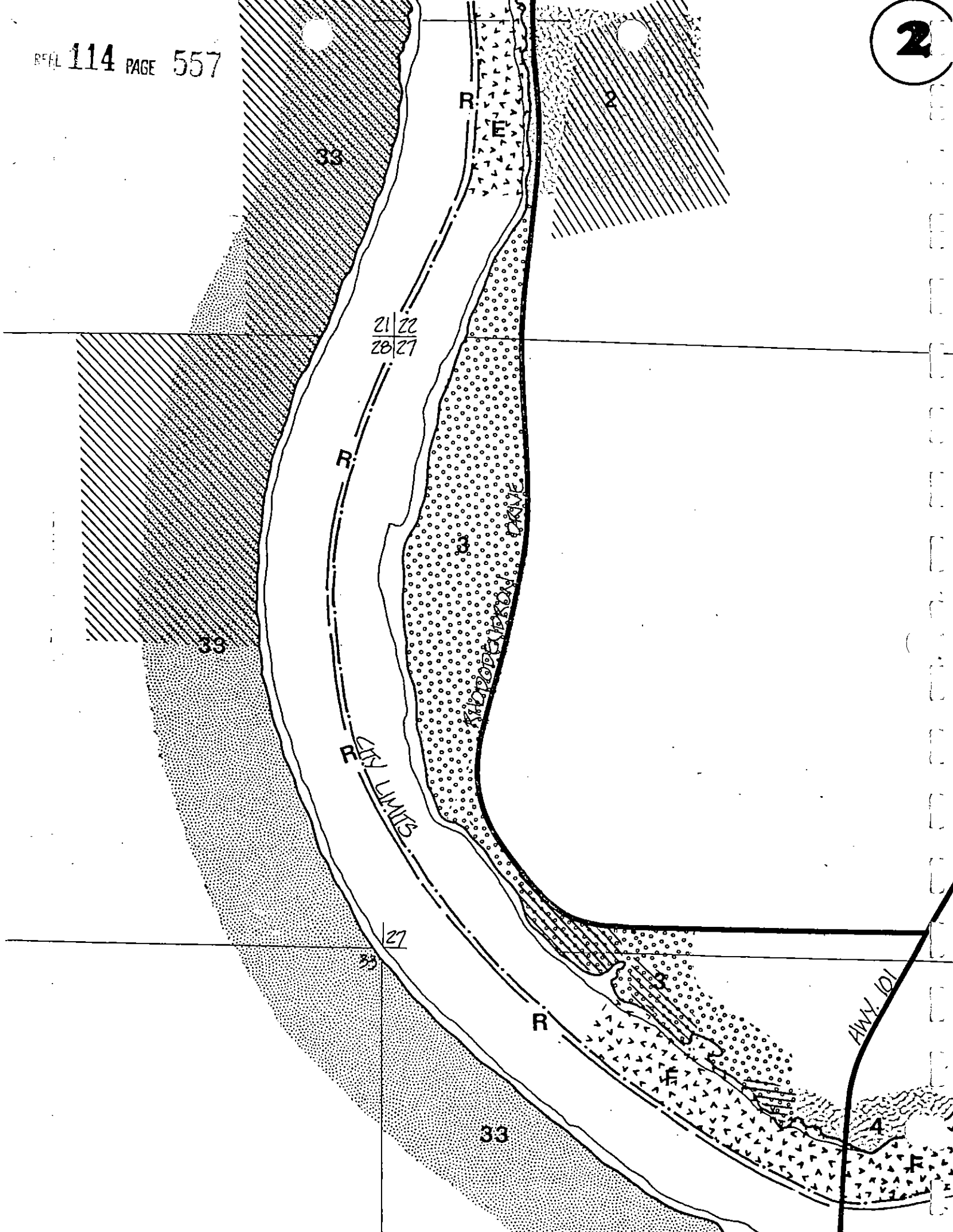
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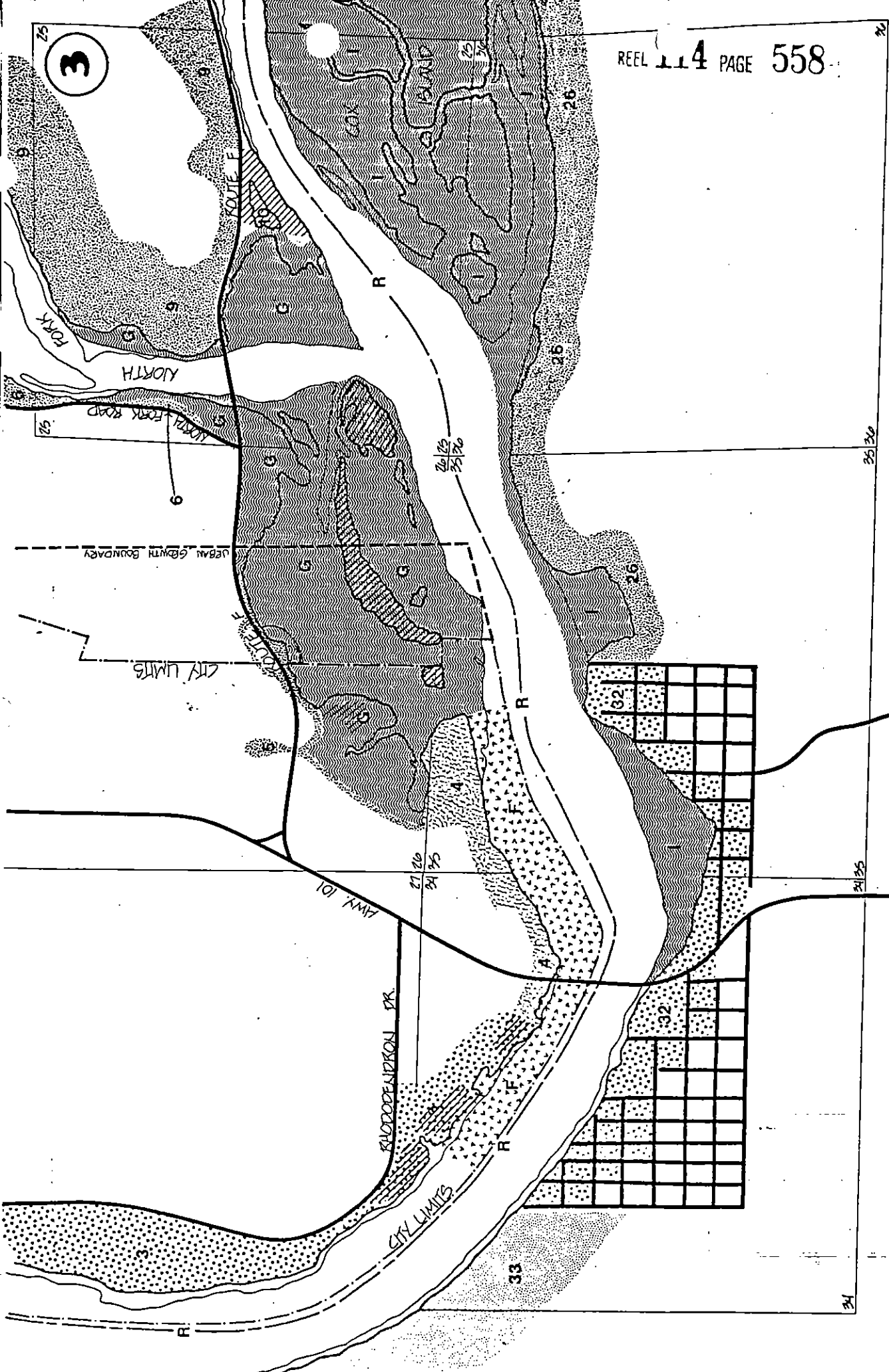
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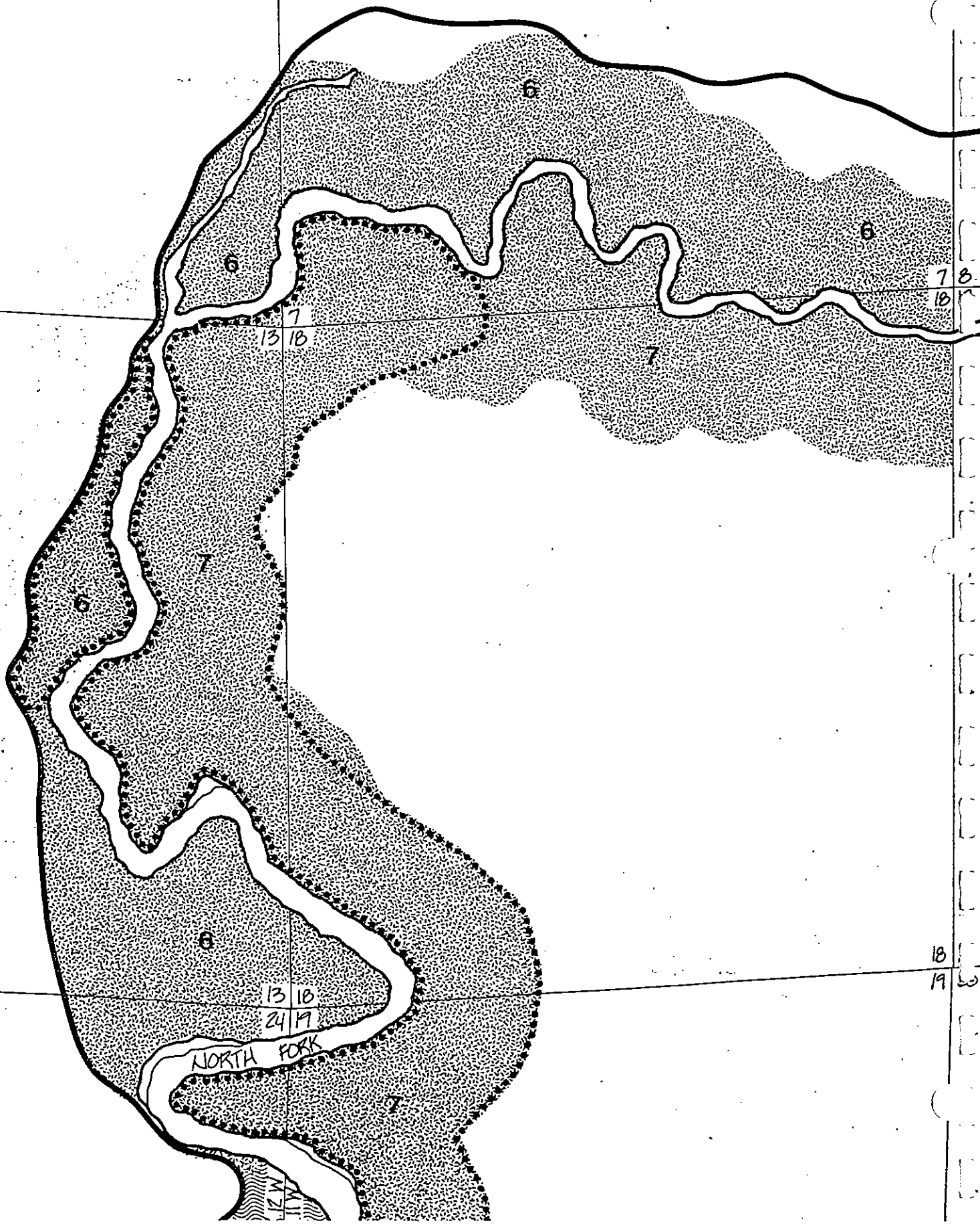
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MURIEL LAKE ROAD

NORTH FORK ROAD

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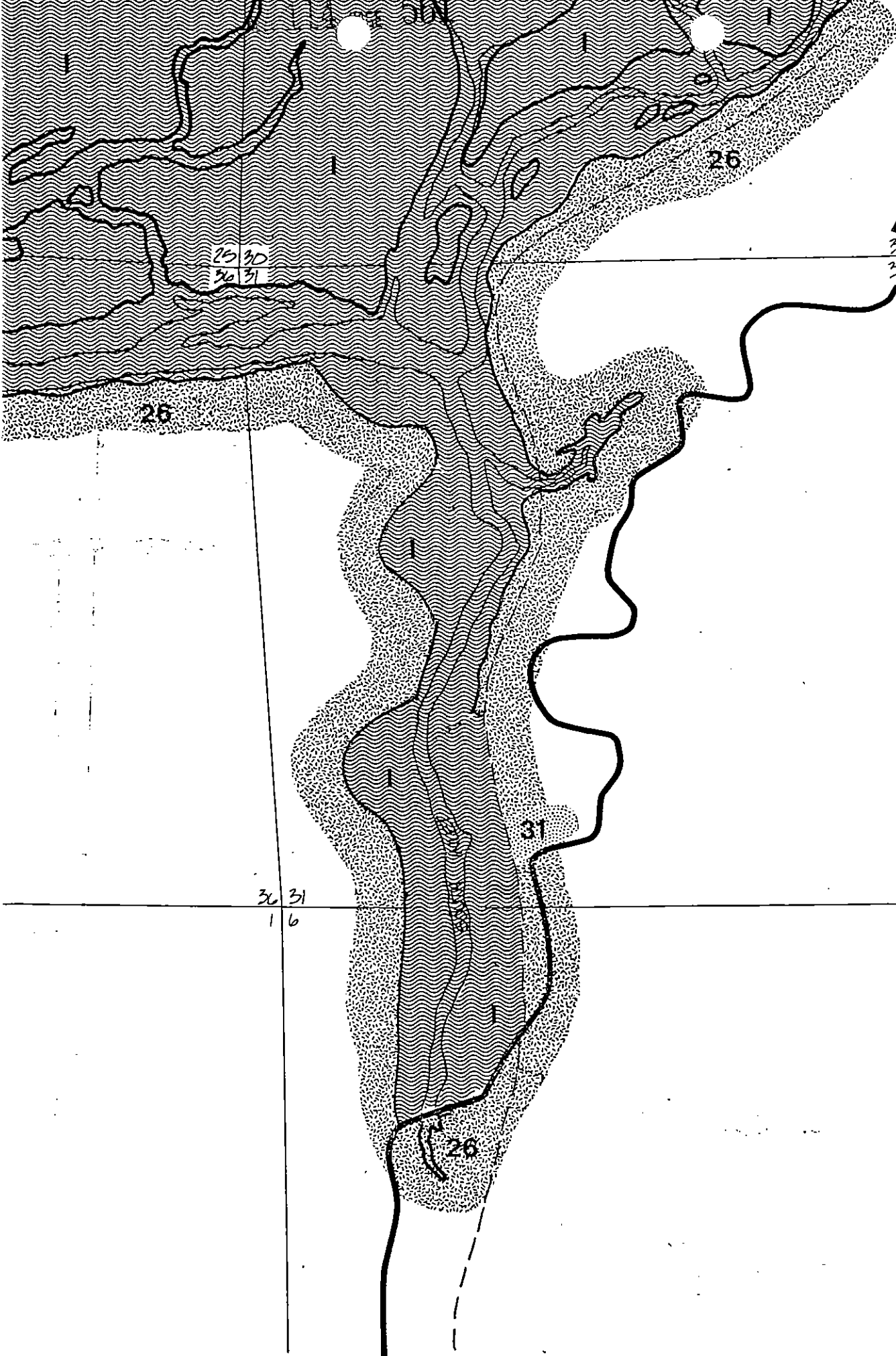
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NORTH FORK

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ROUTE F





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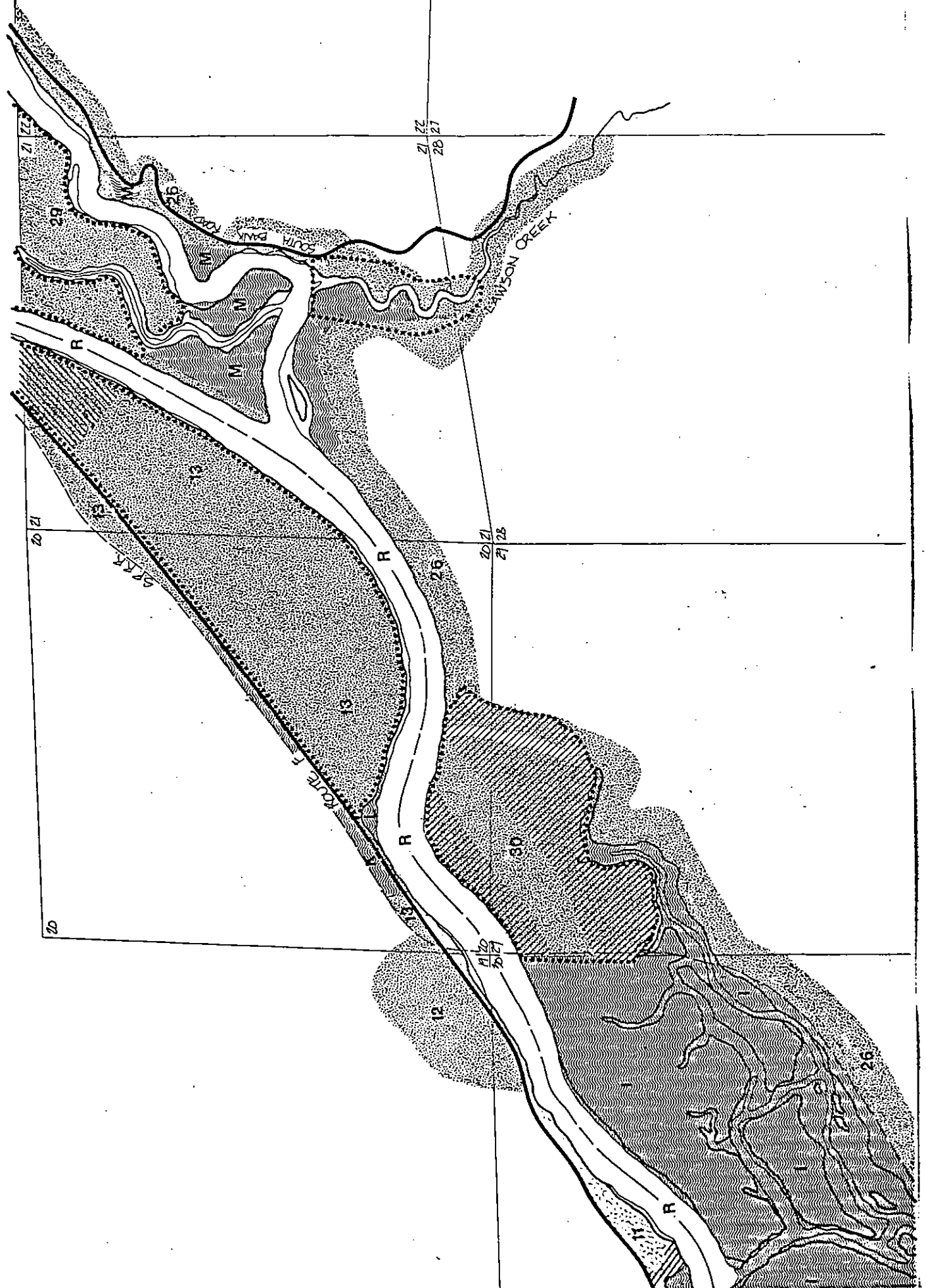
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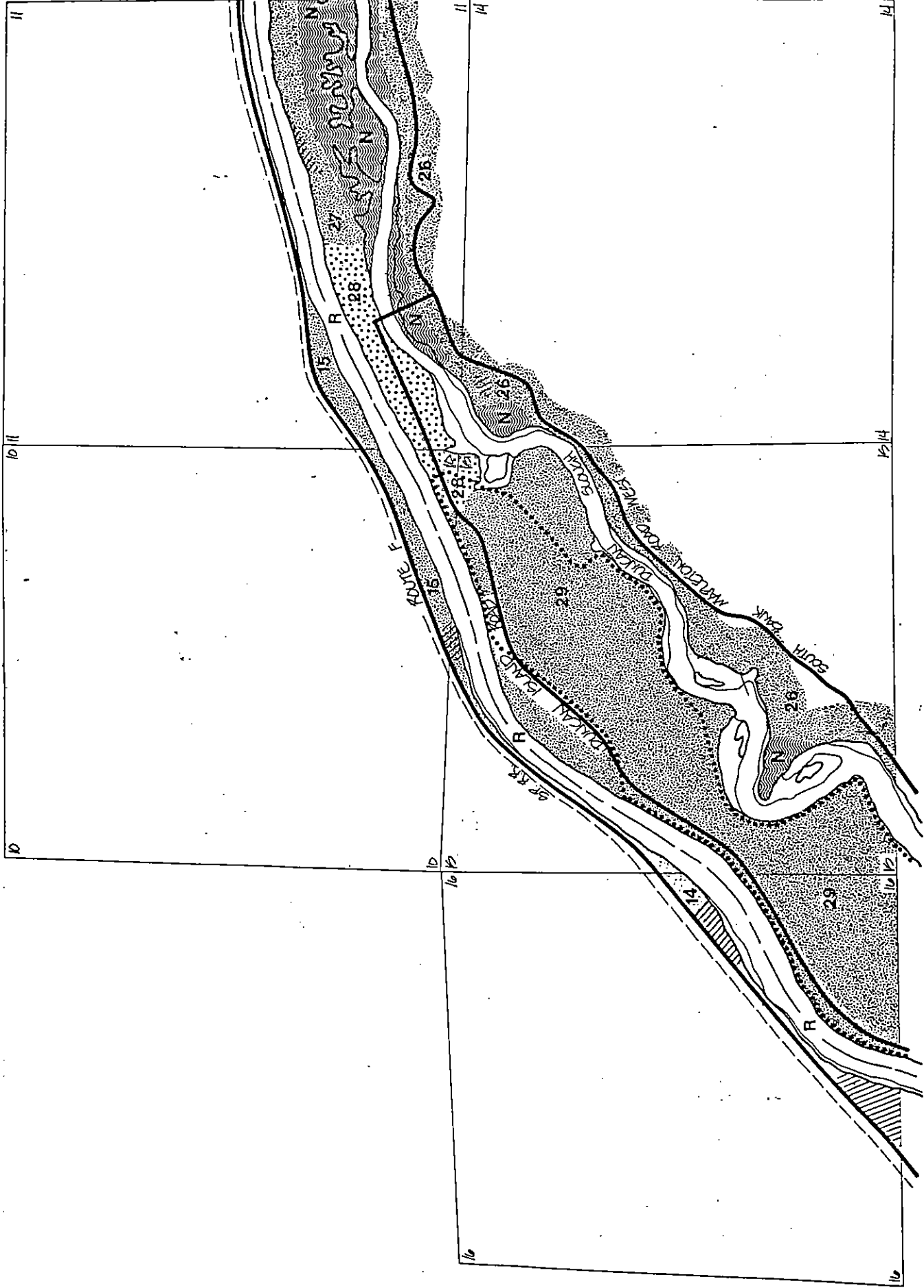
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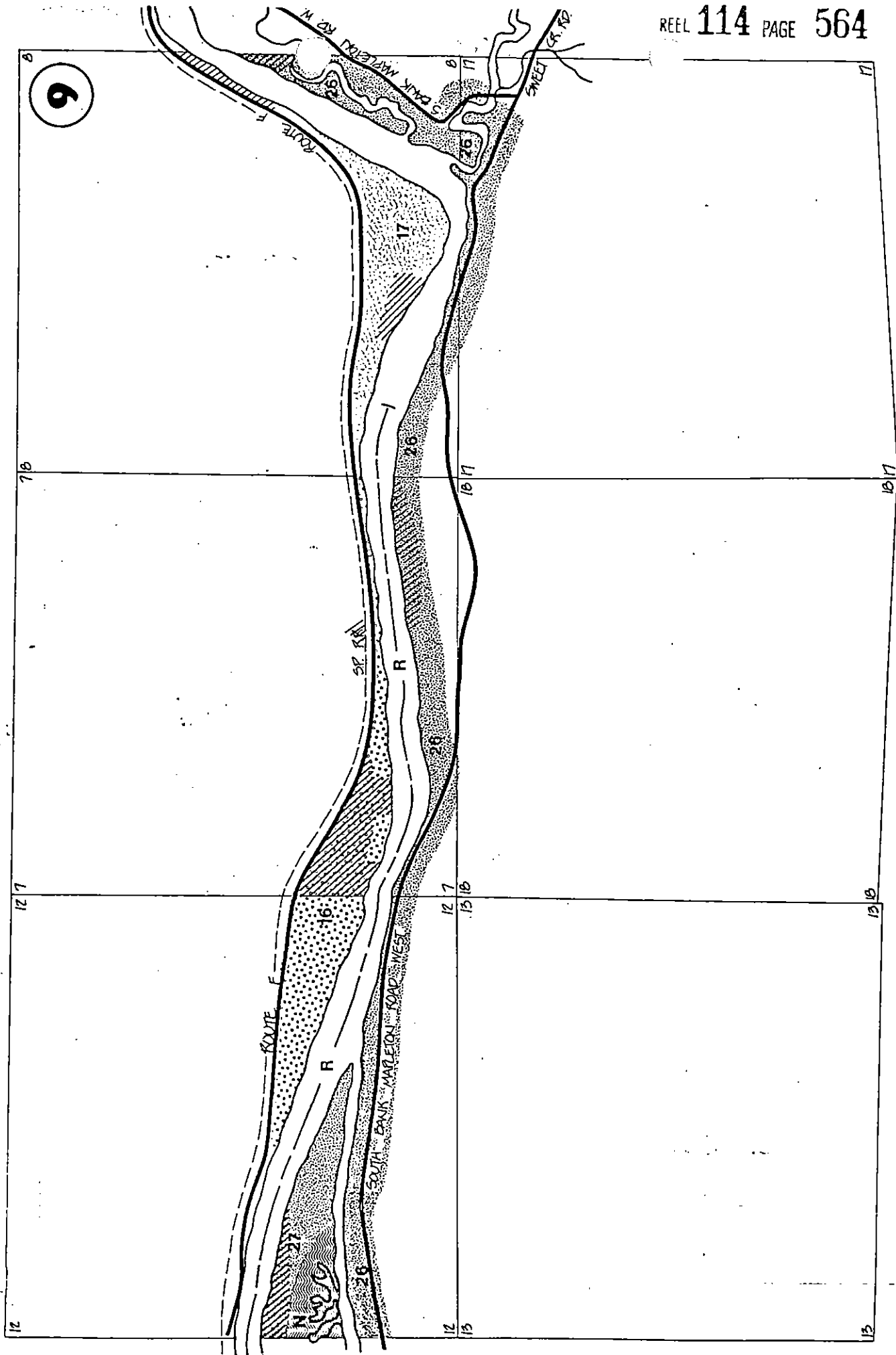
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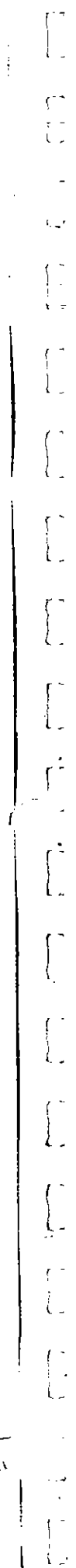
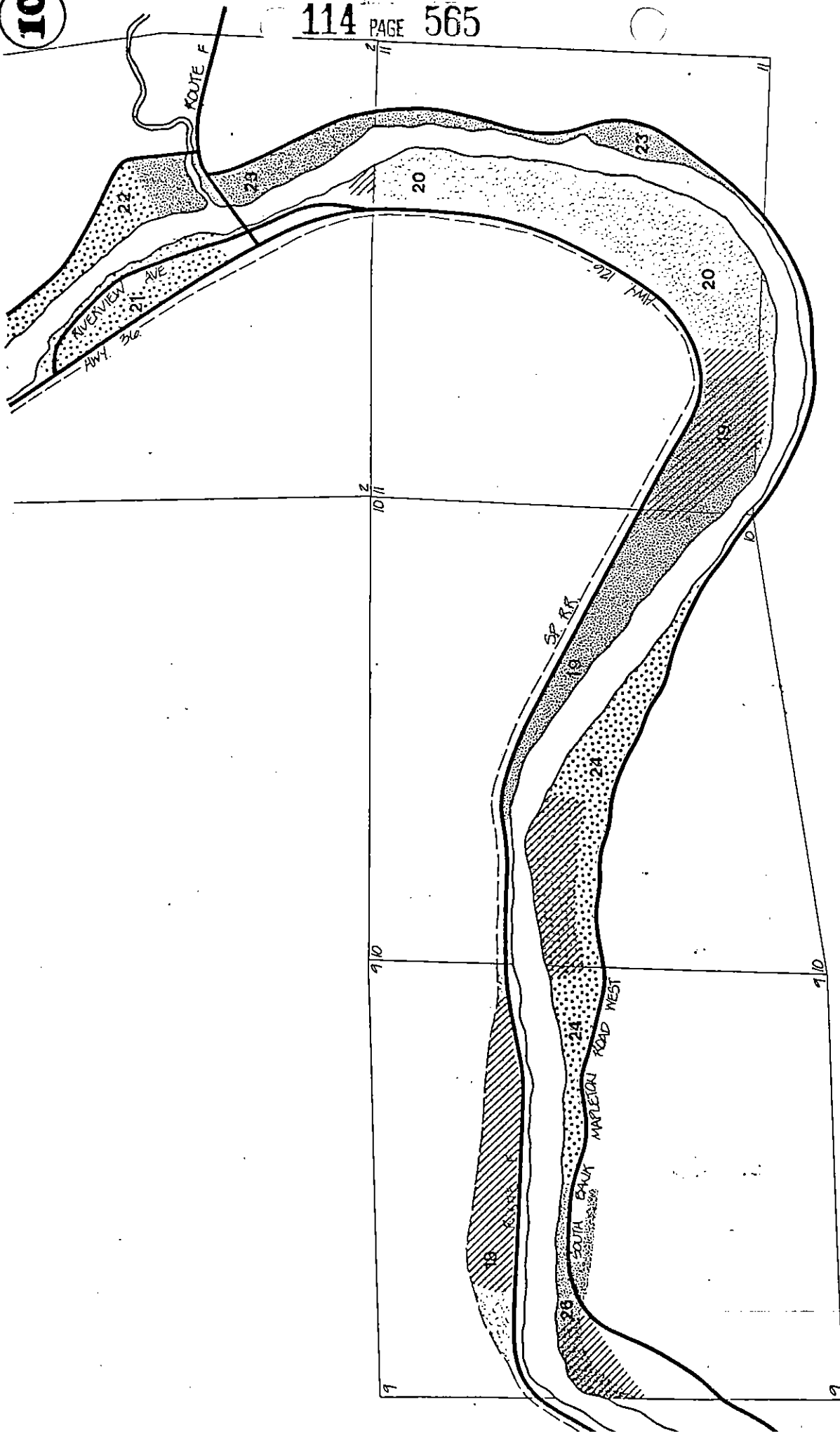
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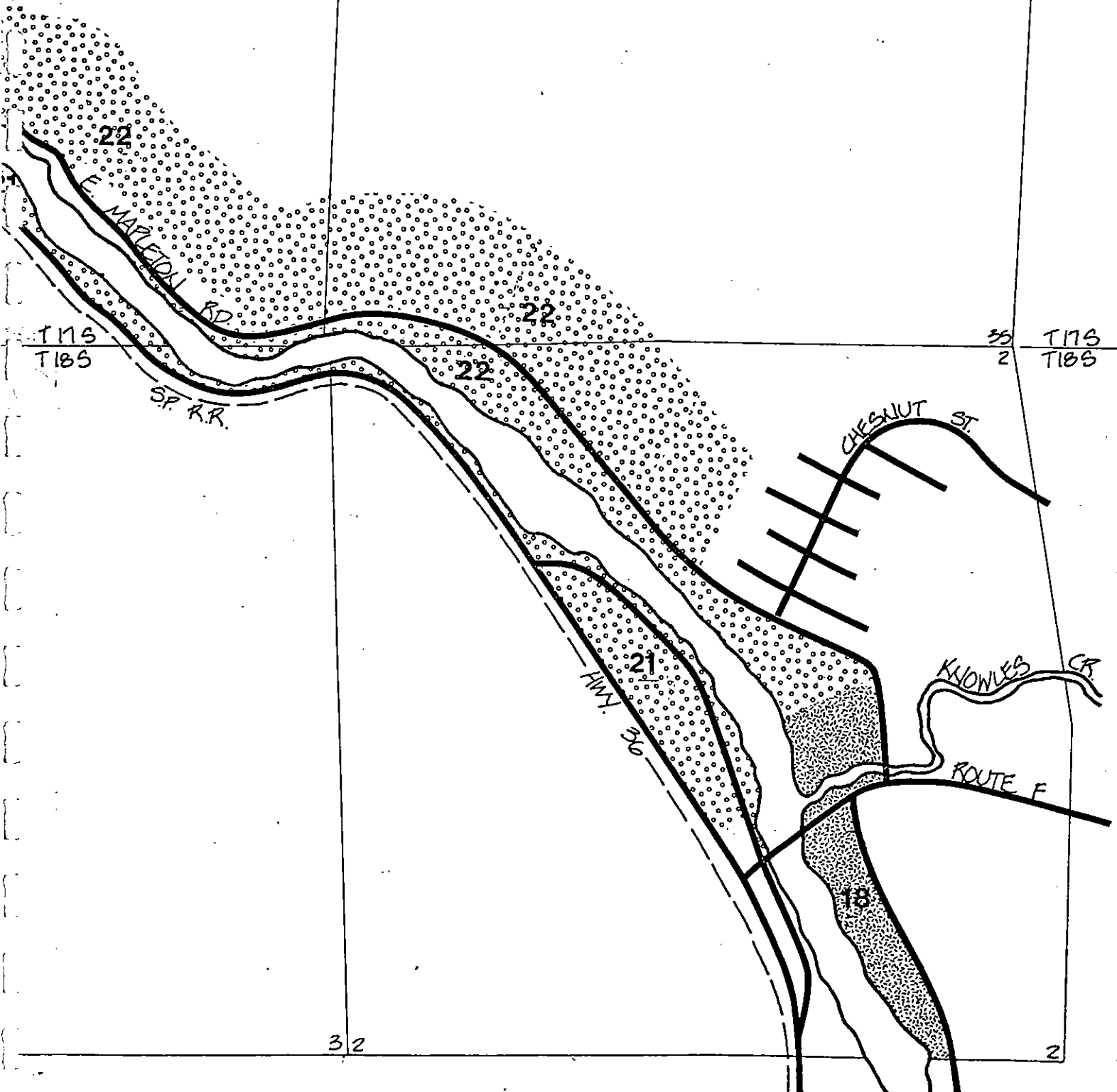
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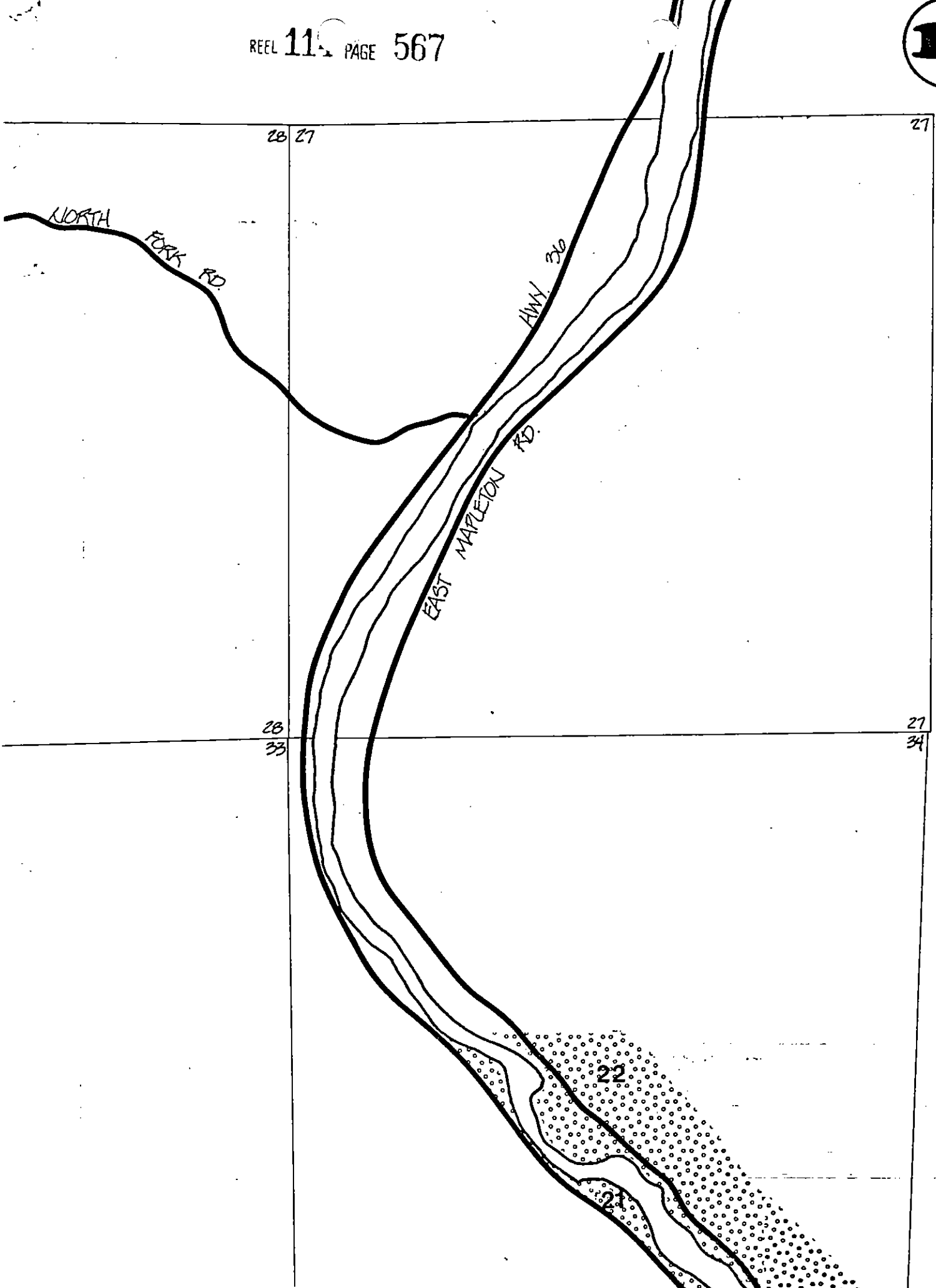




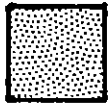
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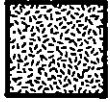




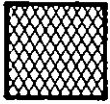
COASTAL LAKES



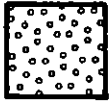
SIGNIFICANT NATURAL AREA



NATURAL RESOURCE CONSERVATION

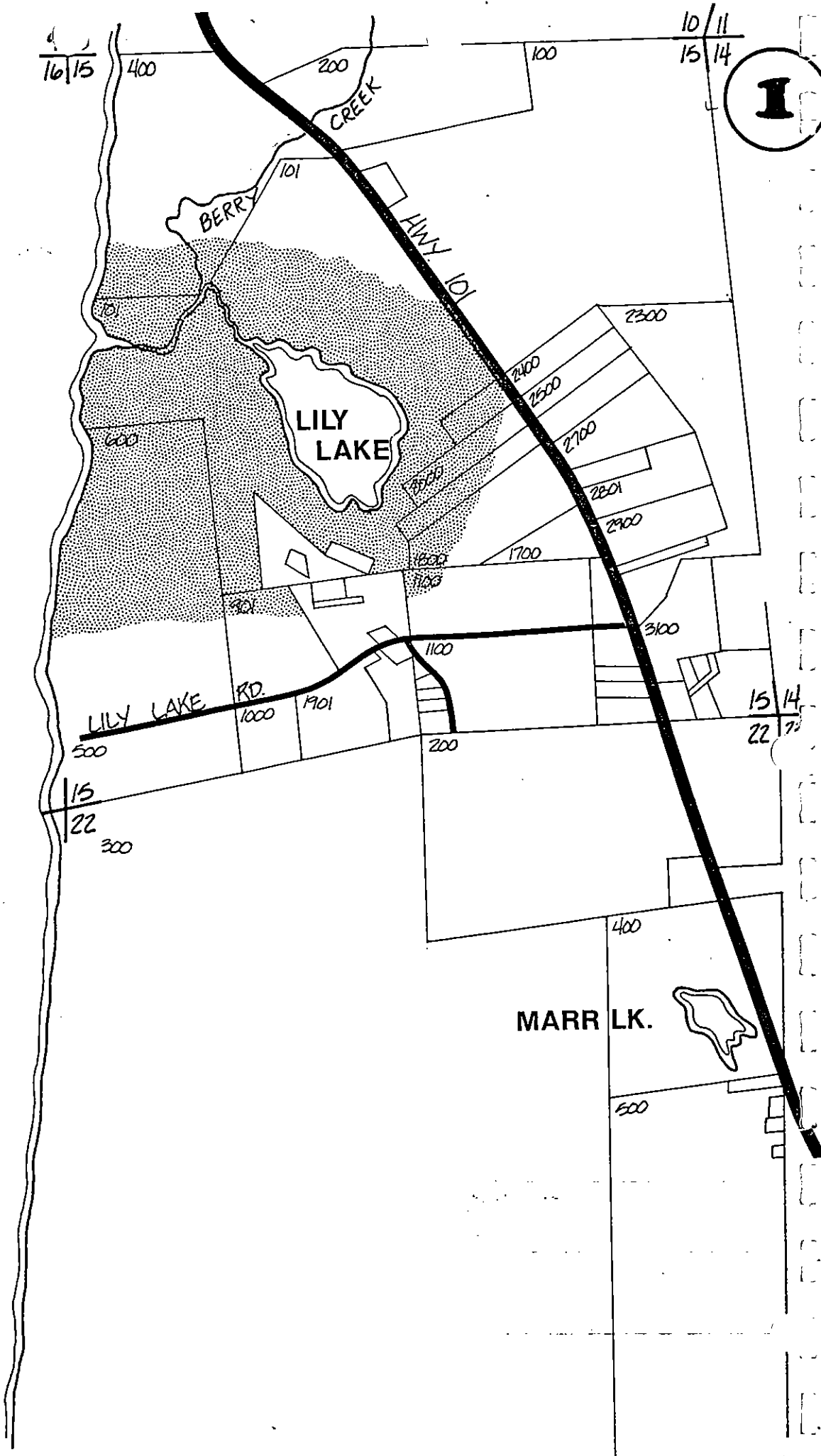


PRIME WILDLIFE AREA



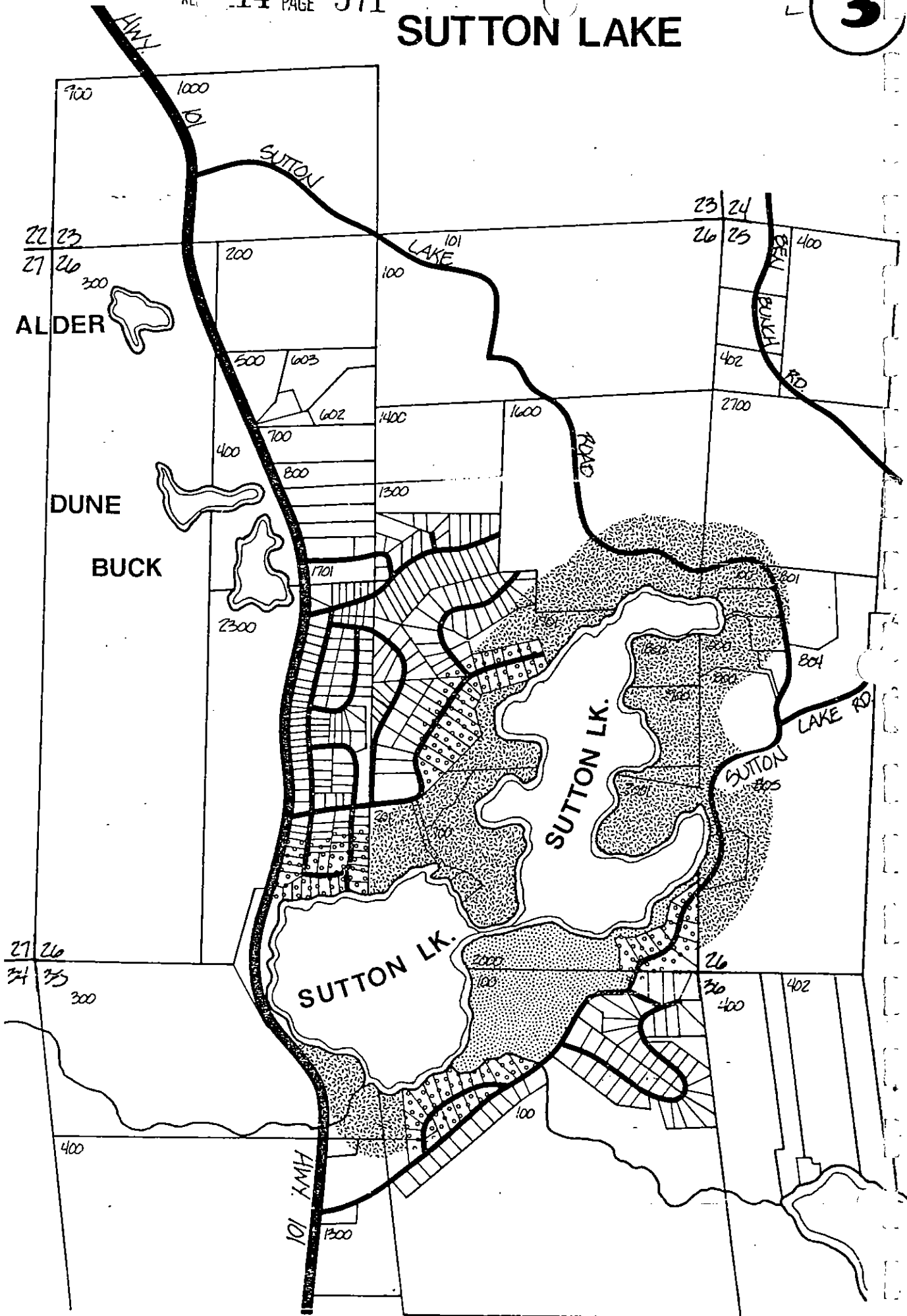
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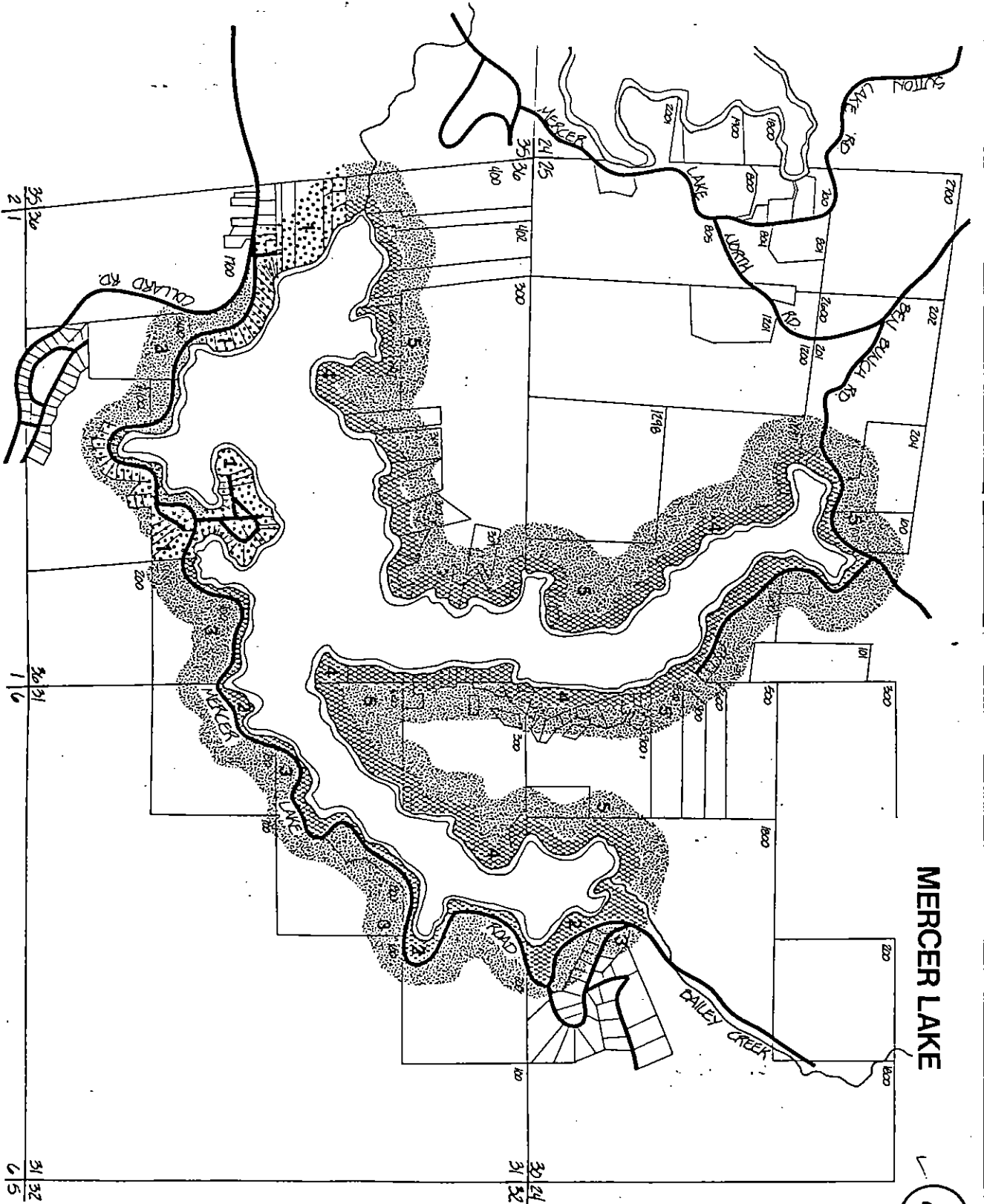
LILY LAKE



SUTTON LAKE

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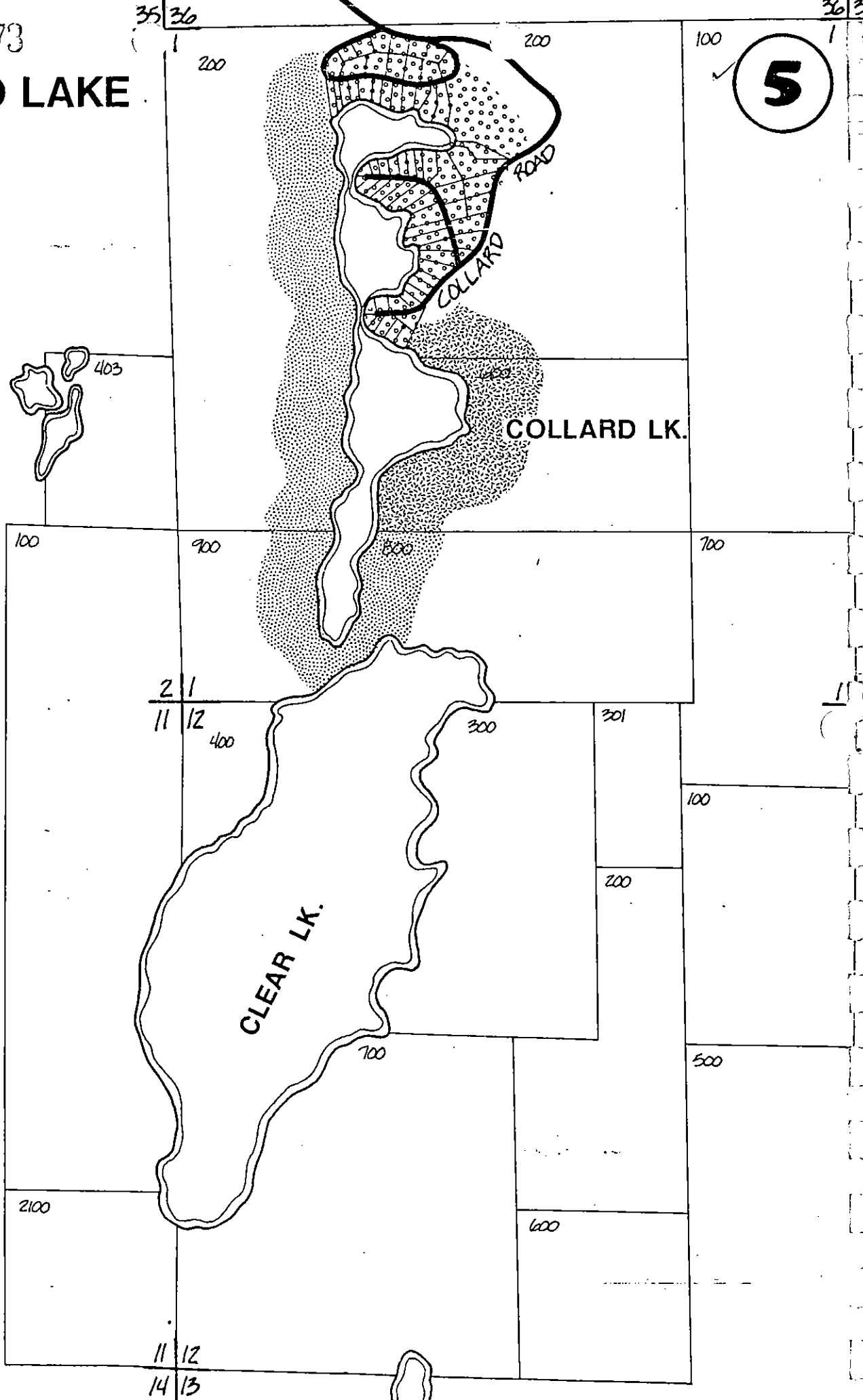


MERCER LAKE

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COLLARD LAKE

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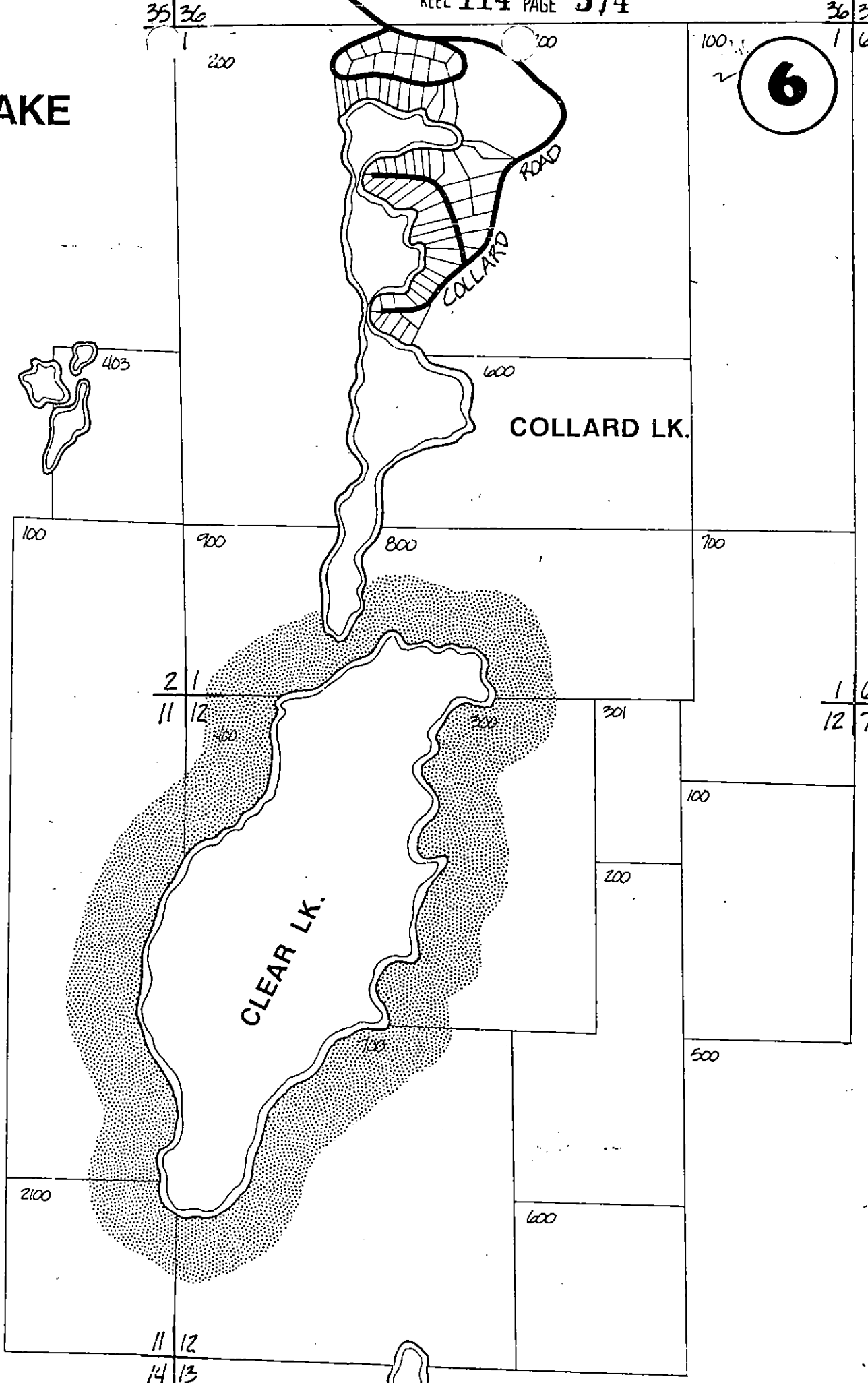


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CLEAR LAKE

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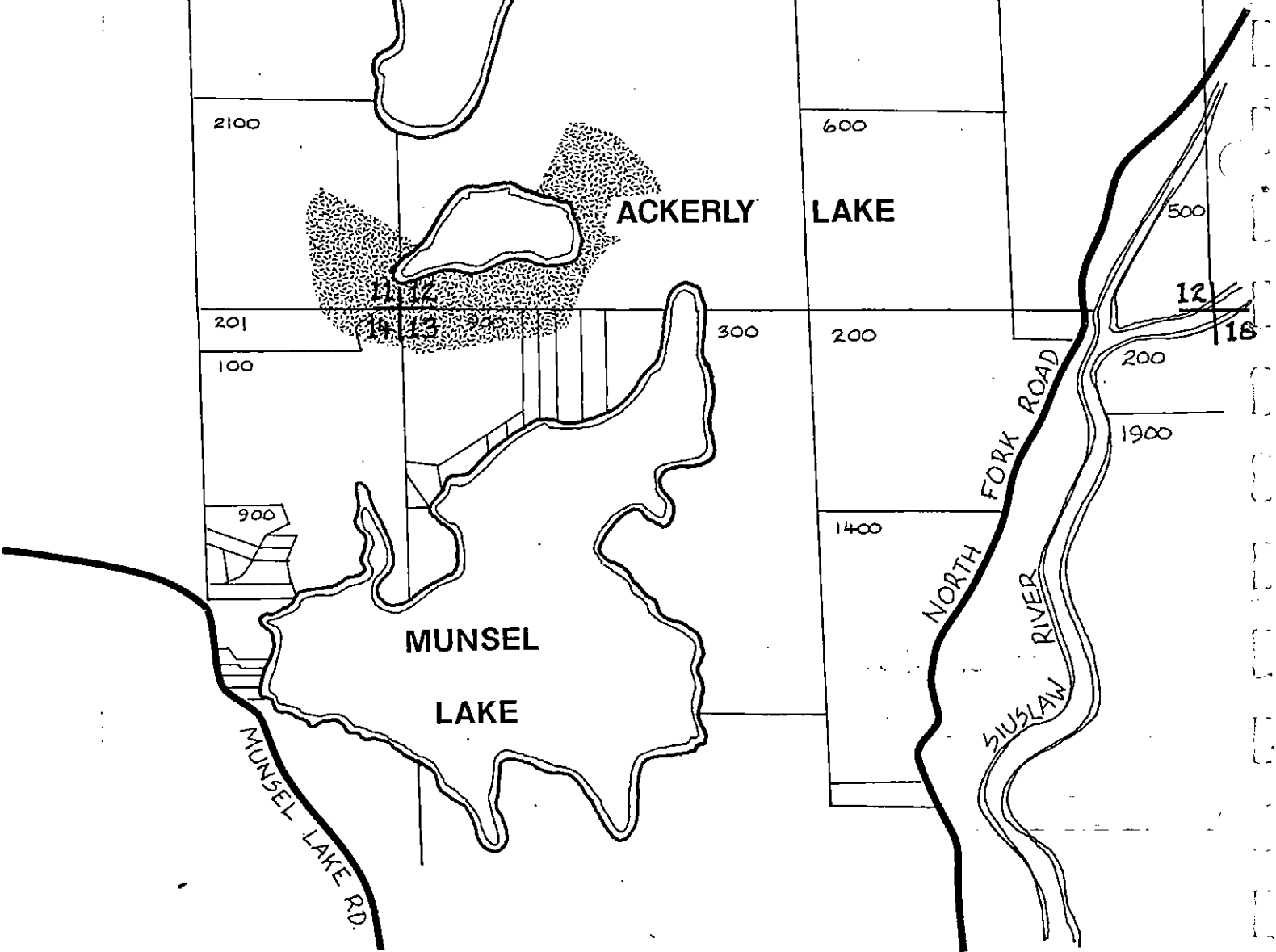
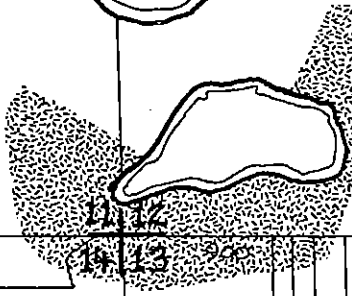
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MUNSEL
LAKE

MUNSEL LAKE RD.

NORTH FORK ROAD
SIUSLAW RIVER



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MUNSEL LAKE ROAD

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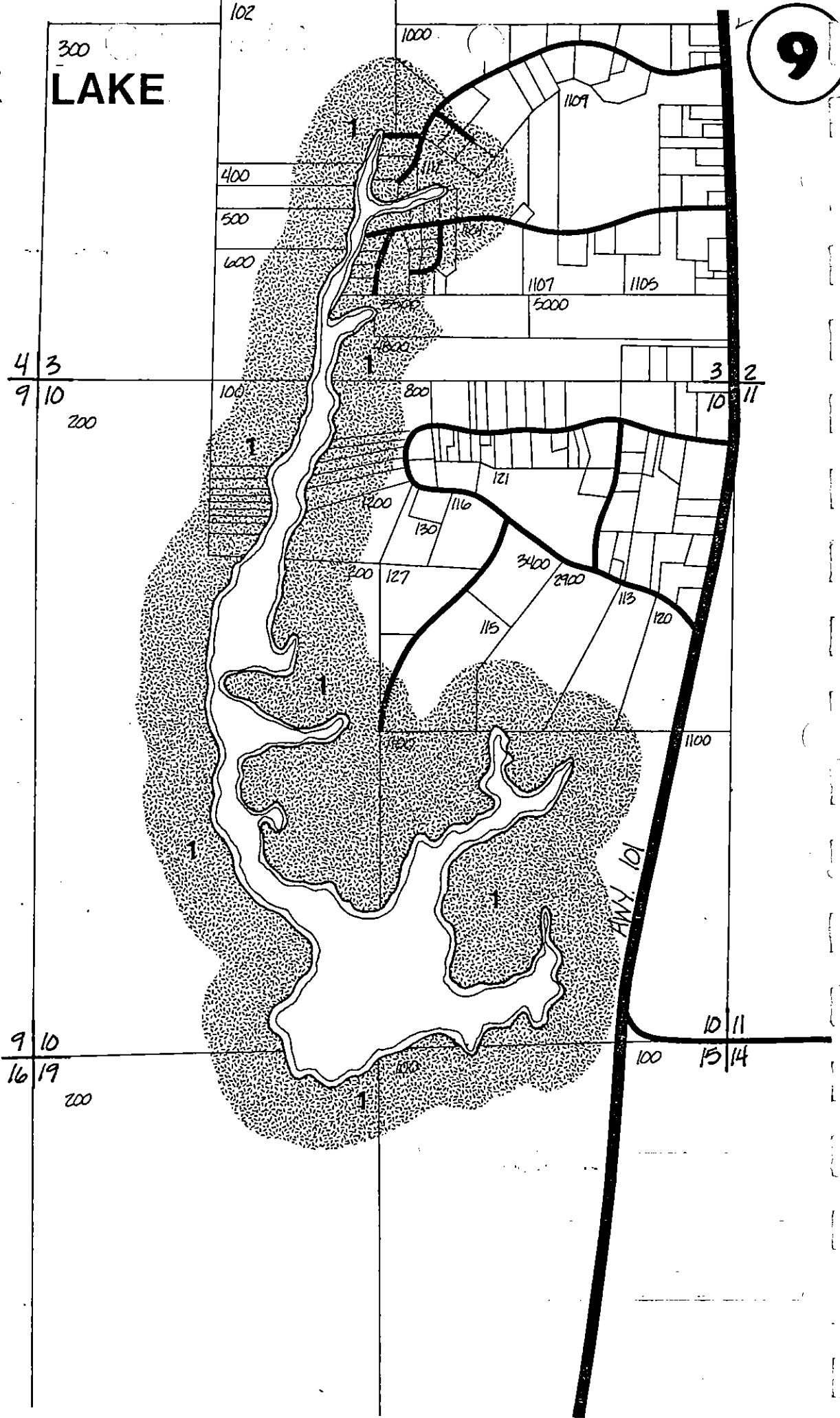
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FLORENCE CITY LIMITS

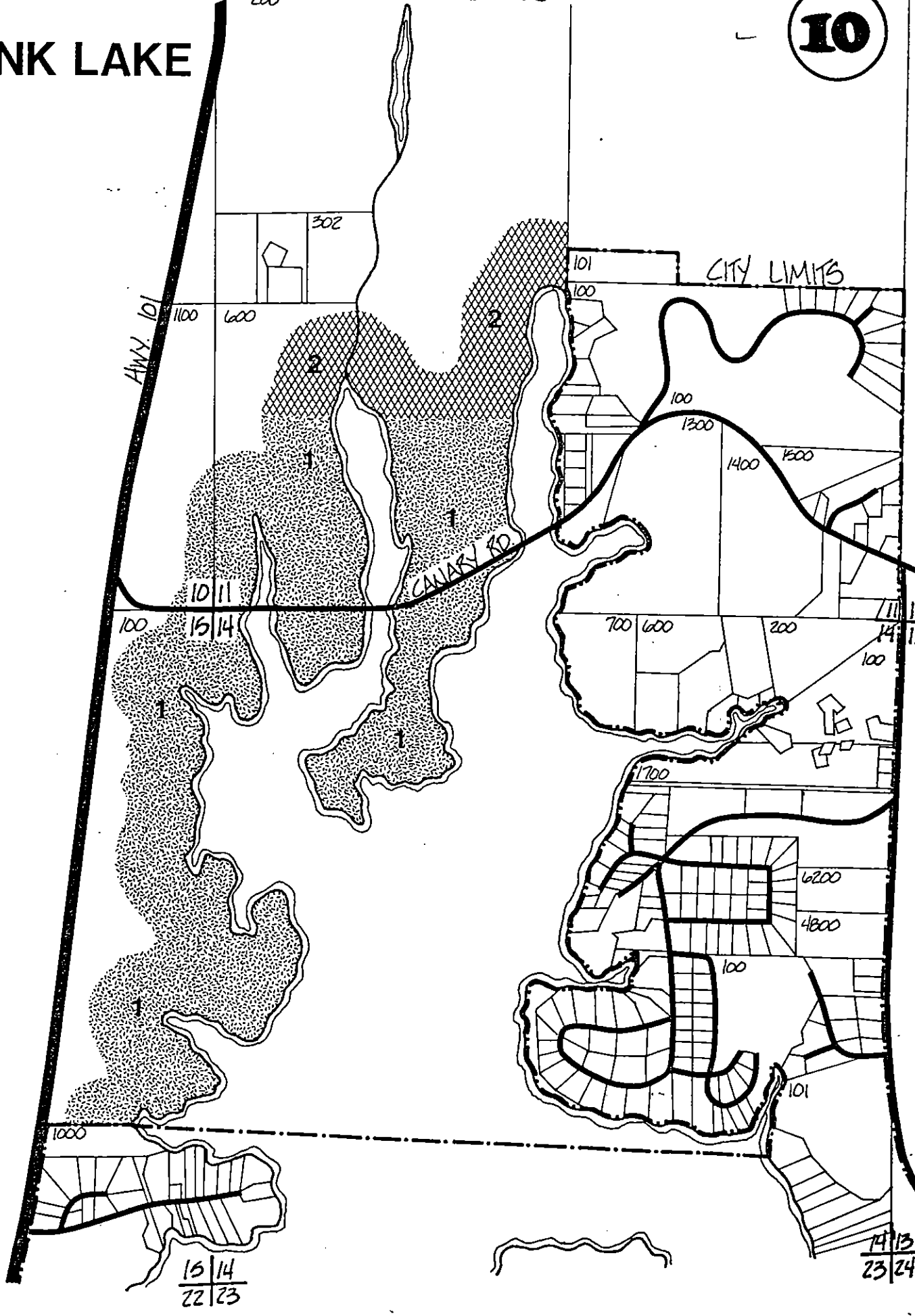
CLEAWOX LAKE

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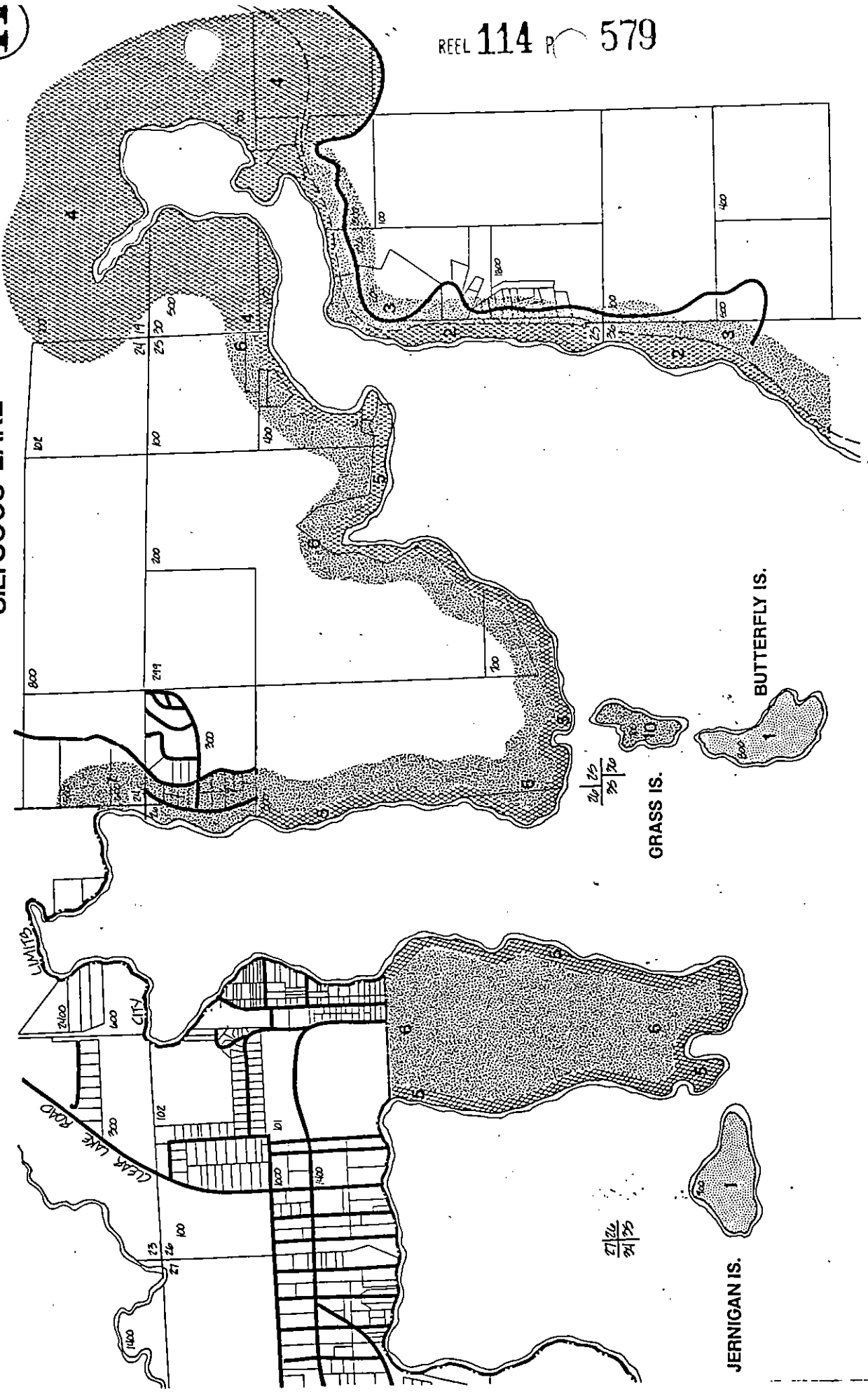
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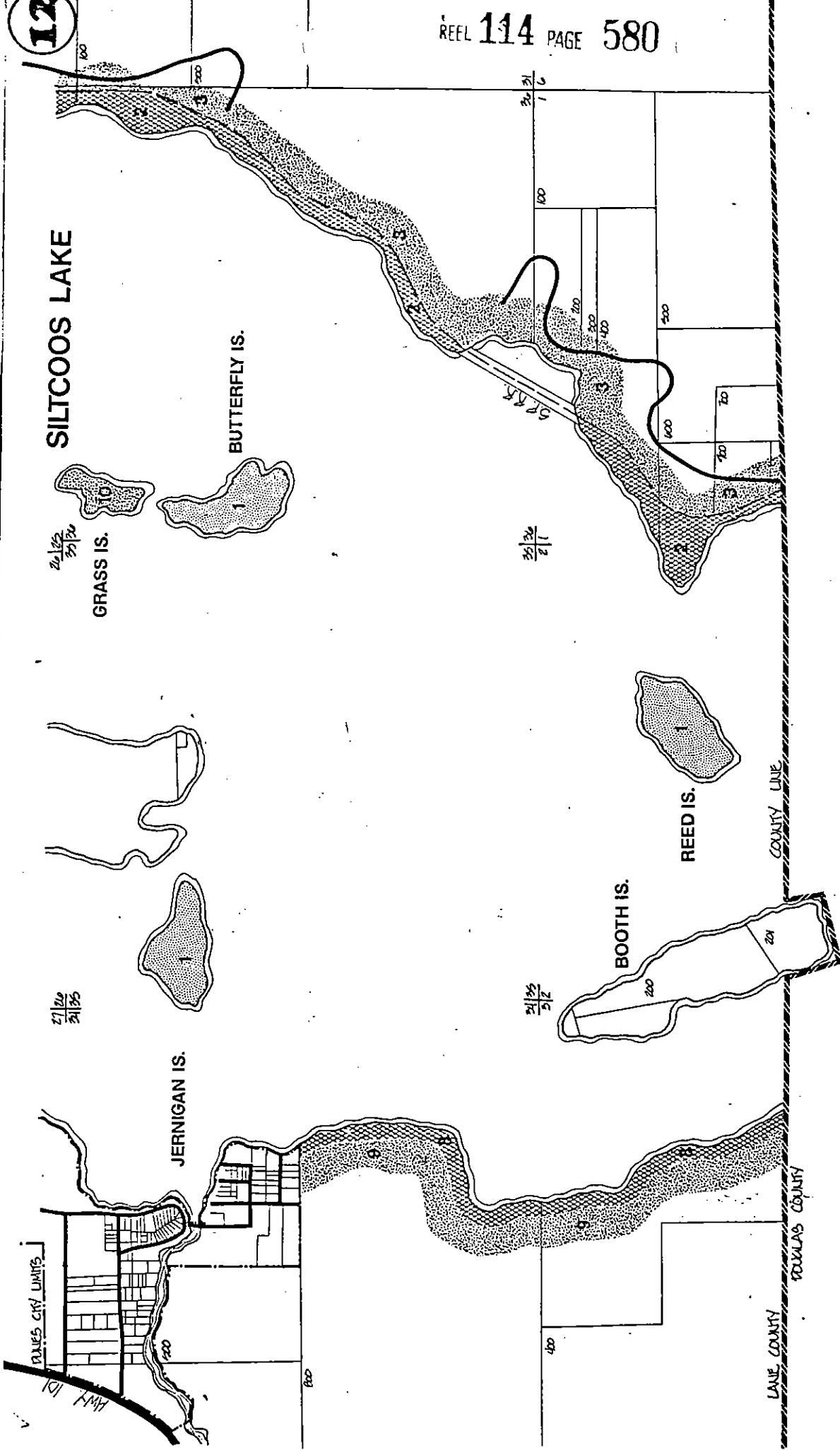
SILTCOOS LAKE



JERNIGAN IS.

GRASS IS.

BUTTERFLY IS.



SILTCOOS LAKE

GRASS IS.

BUTTERFLY IS.

JERNIGAN IS.

BOOTH IS.

REED IS.

LANE COUNTY

DOUGLAS COUNTY

COUNTY LINE

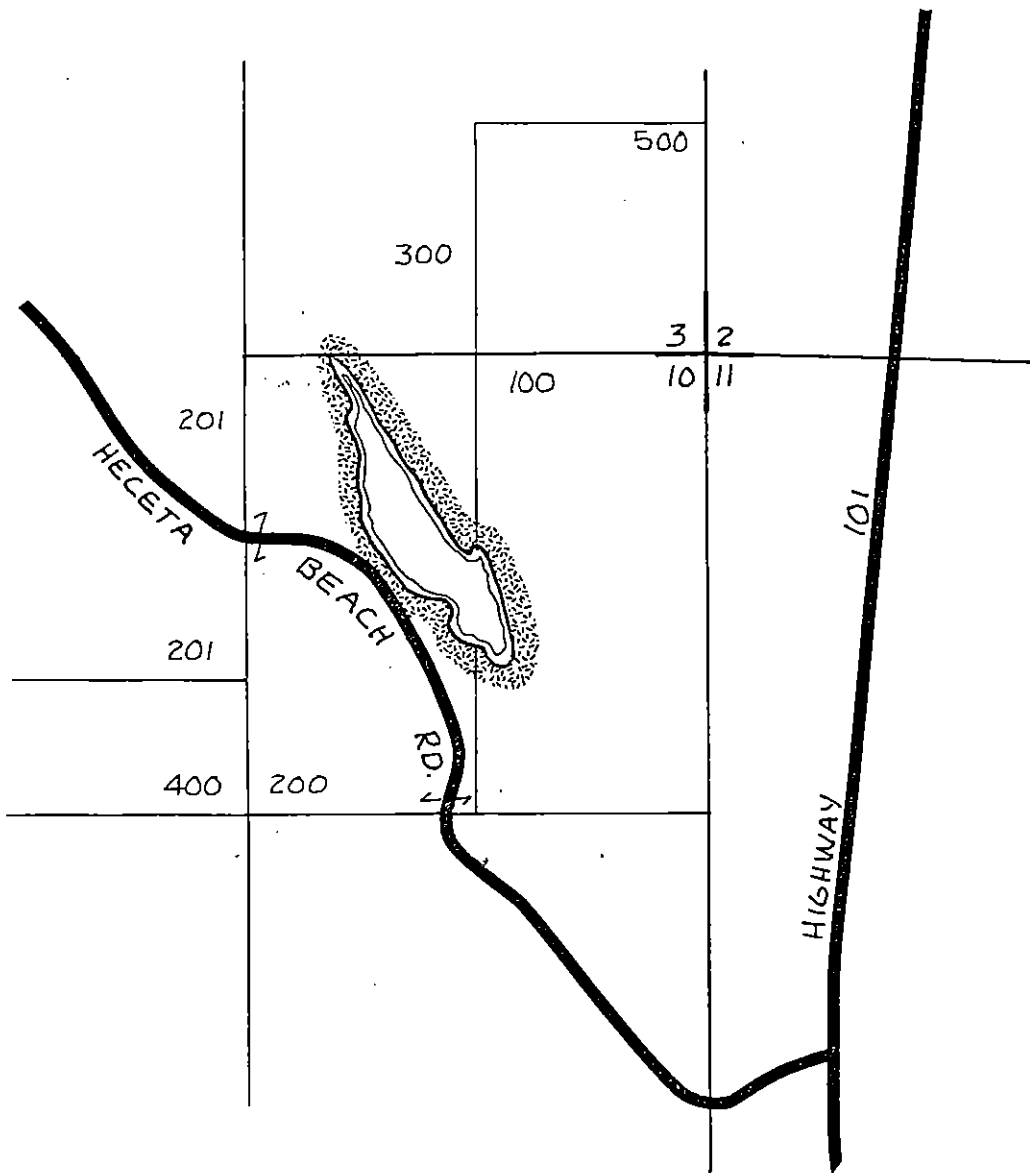
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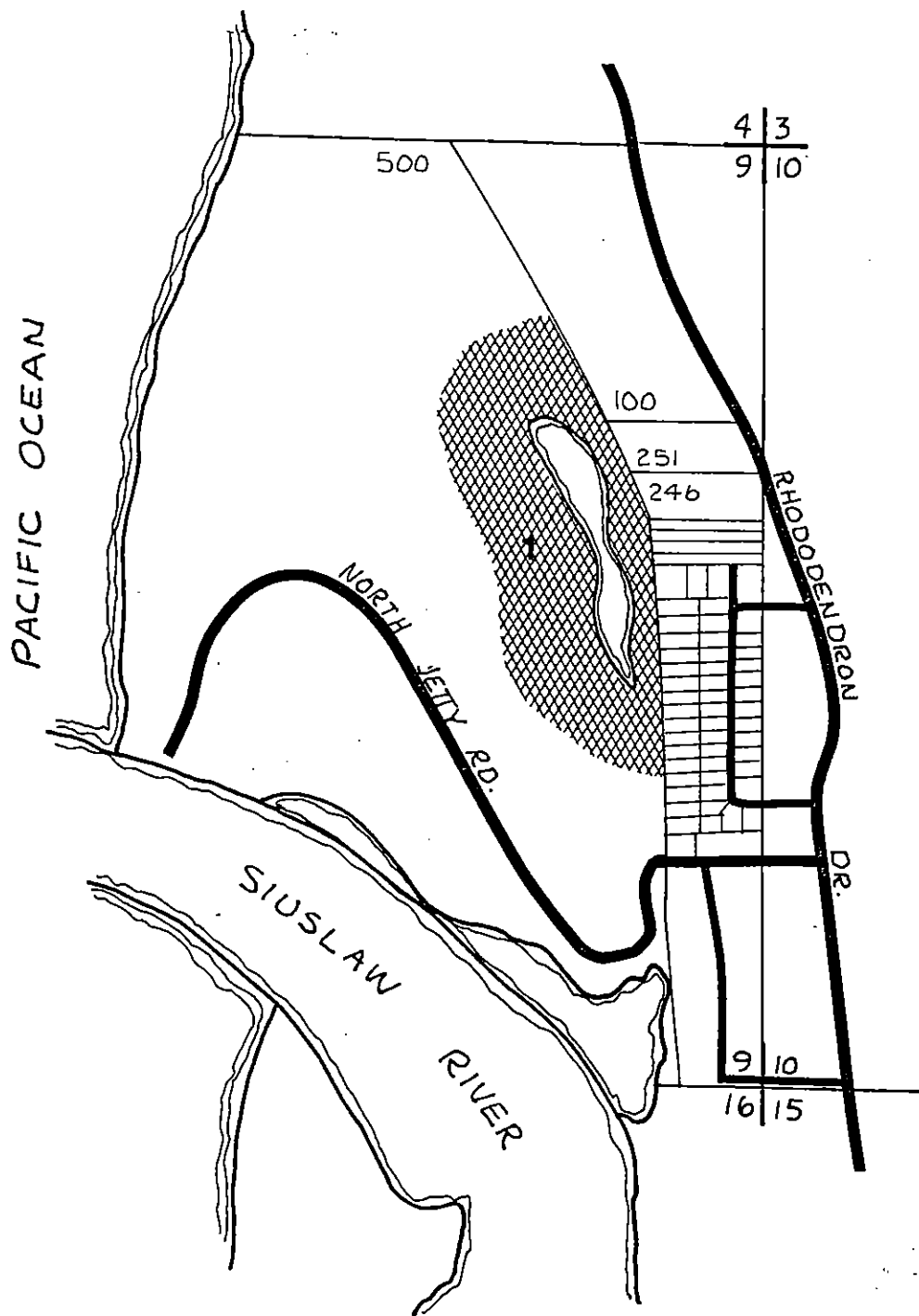
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HECETA JUNCTION LAKE

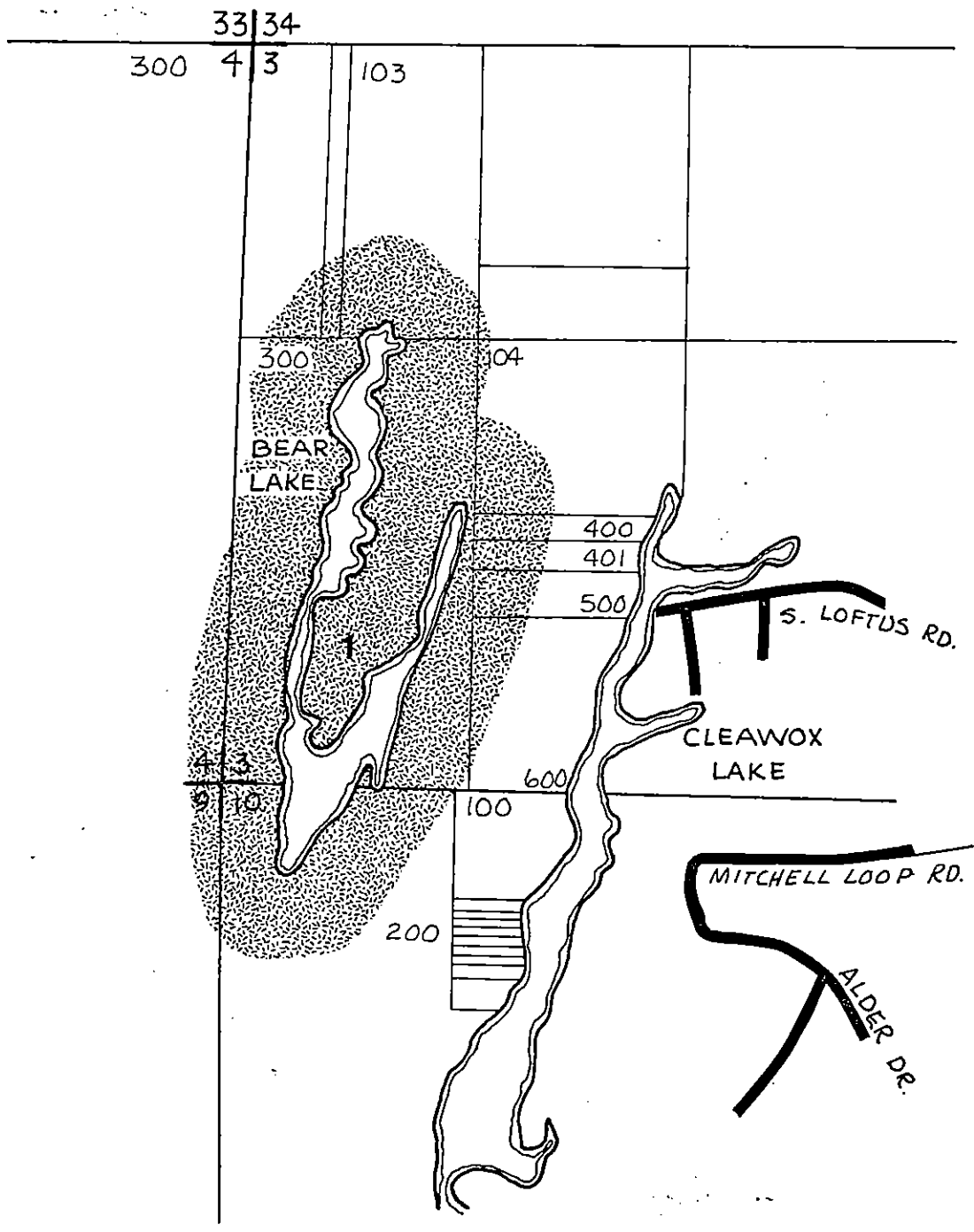


14

NORTH JETTY LAKE

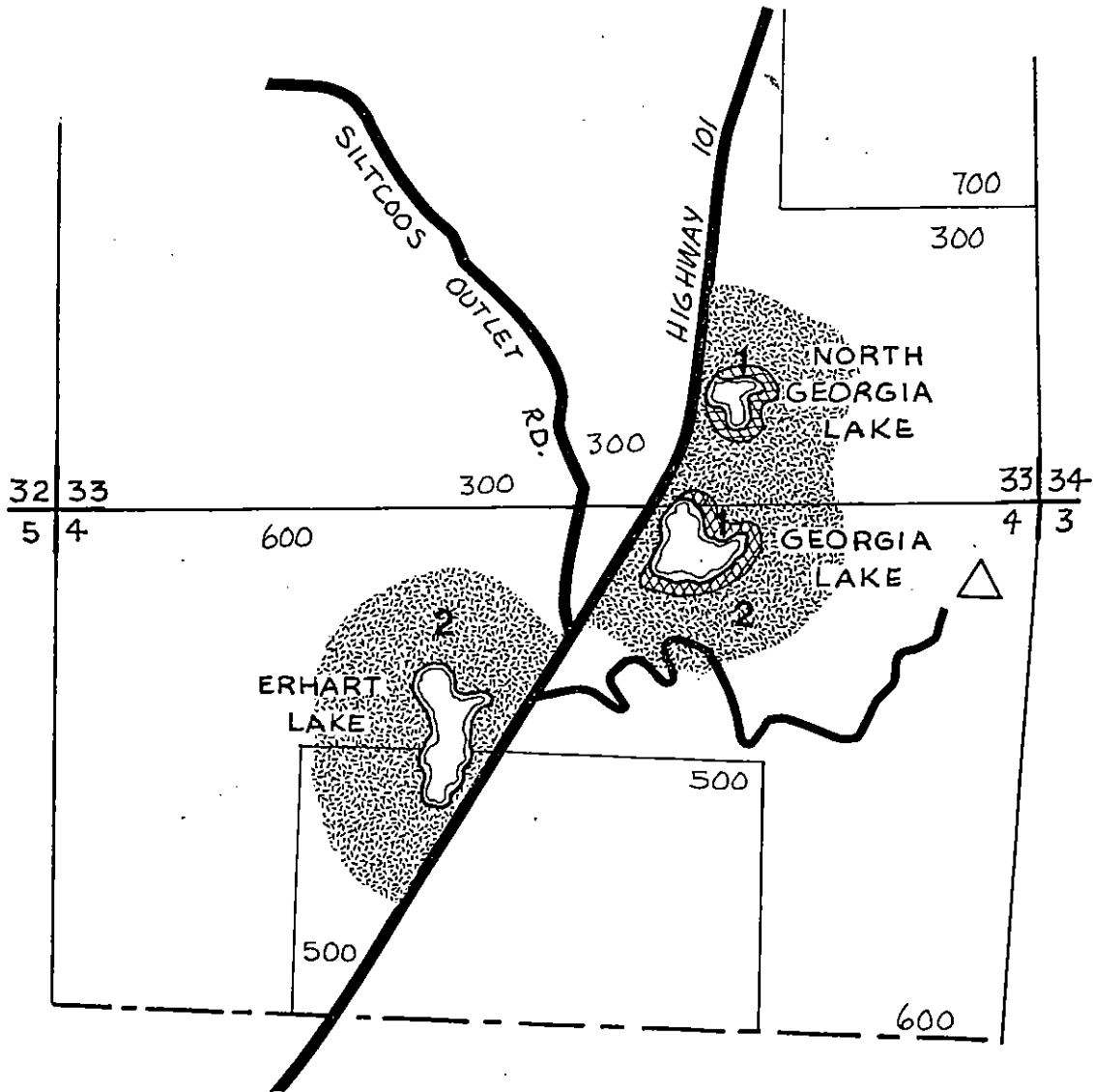


BEAR LAKE



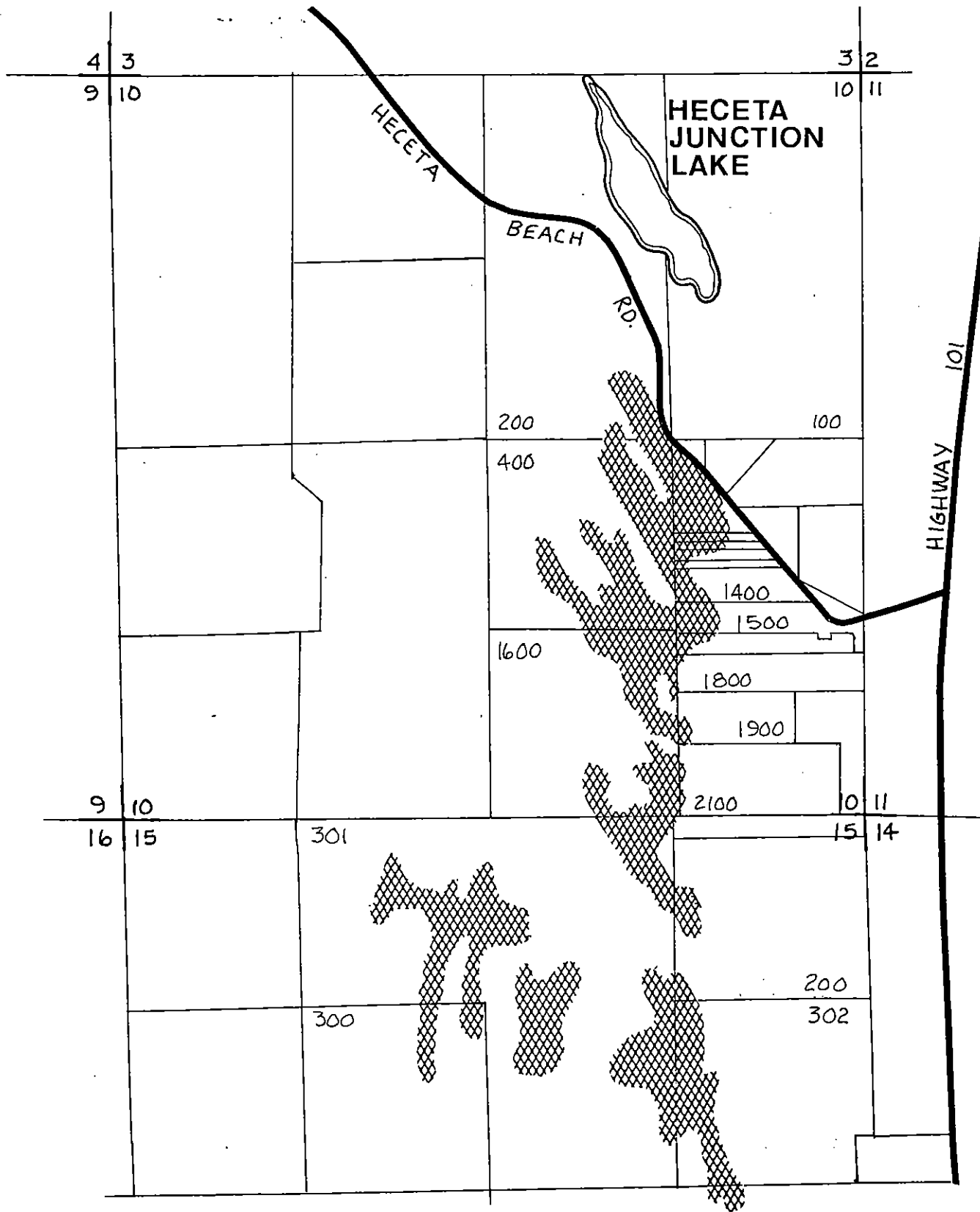
✓ 16

NORTH GEORGIA LAKE GEORGIA LAKE ERHART LAKE



SOUTH HECETA JUNCTION SEASONAL LAKES

17



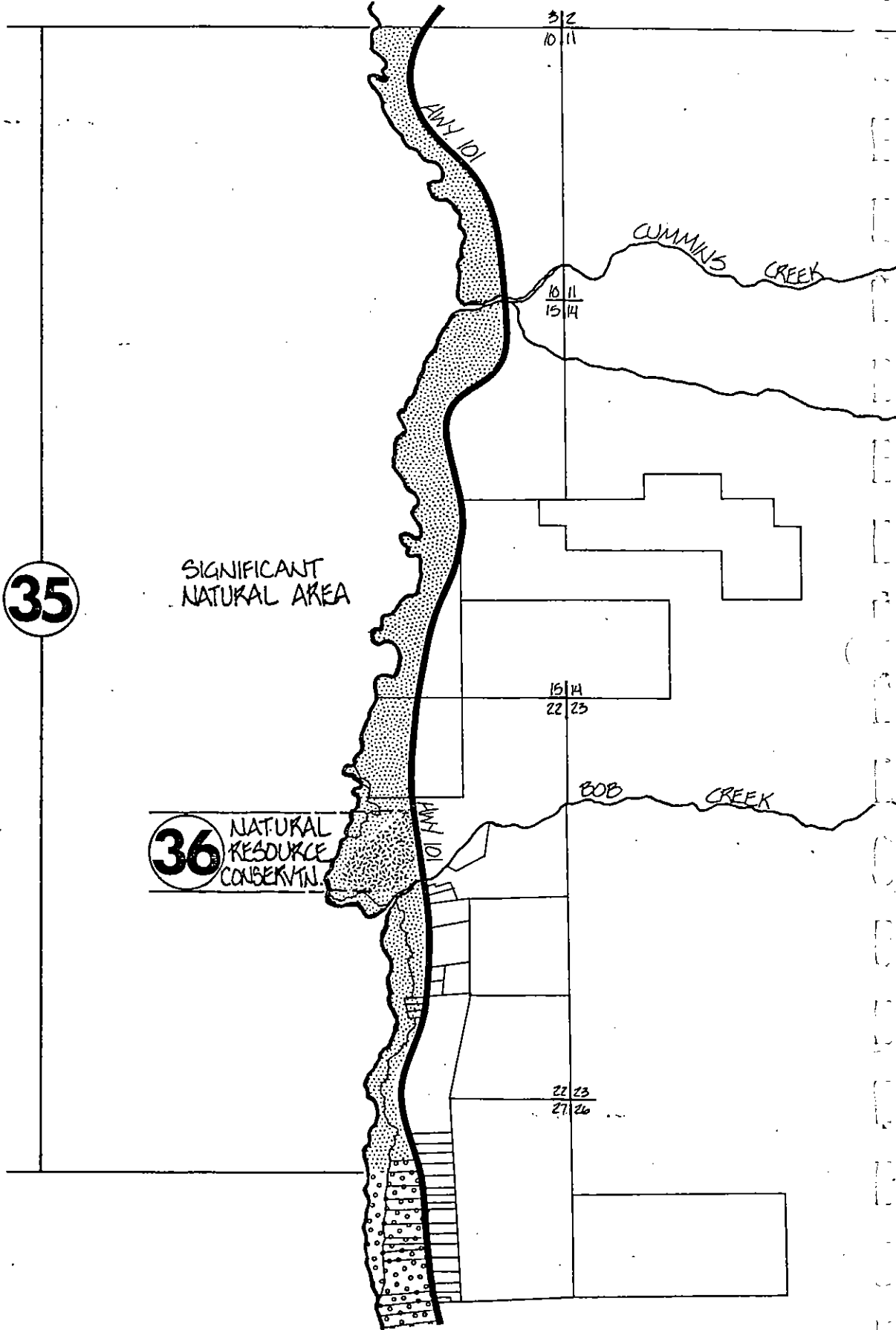
SHORELANDS - OCEAN & MINOR ESTUARIES

 NATURAL RESOURCE CONSERVATION

 SIGNIFICANT NATURAL AREA

 PRIME WILDLIFE AREA

 RESIDENTIAL DEVELOPMENT



TEN MILE CREEK:

NATURAL ESTUARY MU EXTENDS BETWEEN THE ELEVATIONS OF MEAN HIGHER HIGH WATER UPSTREAM TO A LINE WHICH IS THE NORTHERLY EXTENSION OF THE EAST BOUNDARY OF TAX LOT 15-12-34-200.

37 RESIDENTIAL

38 PRIME WILDLIFE AREA

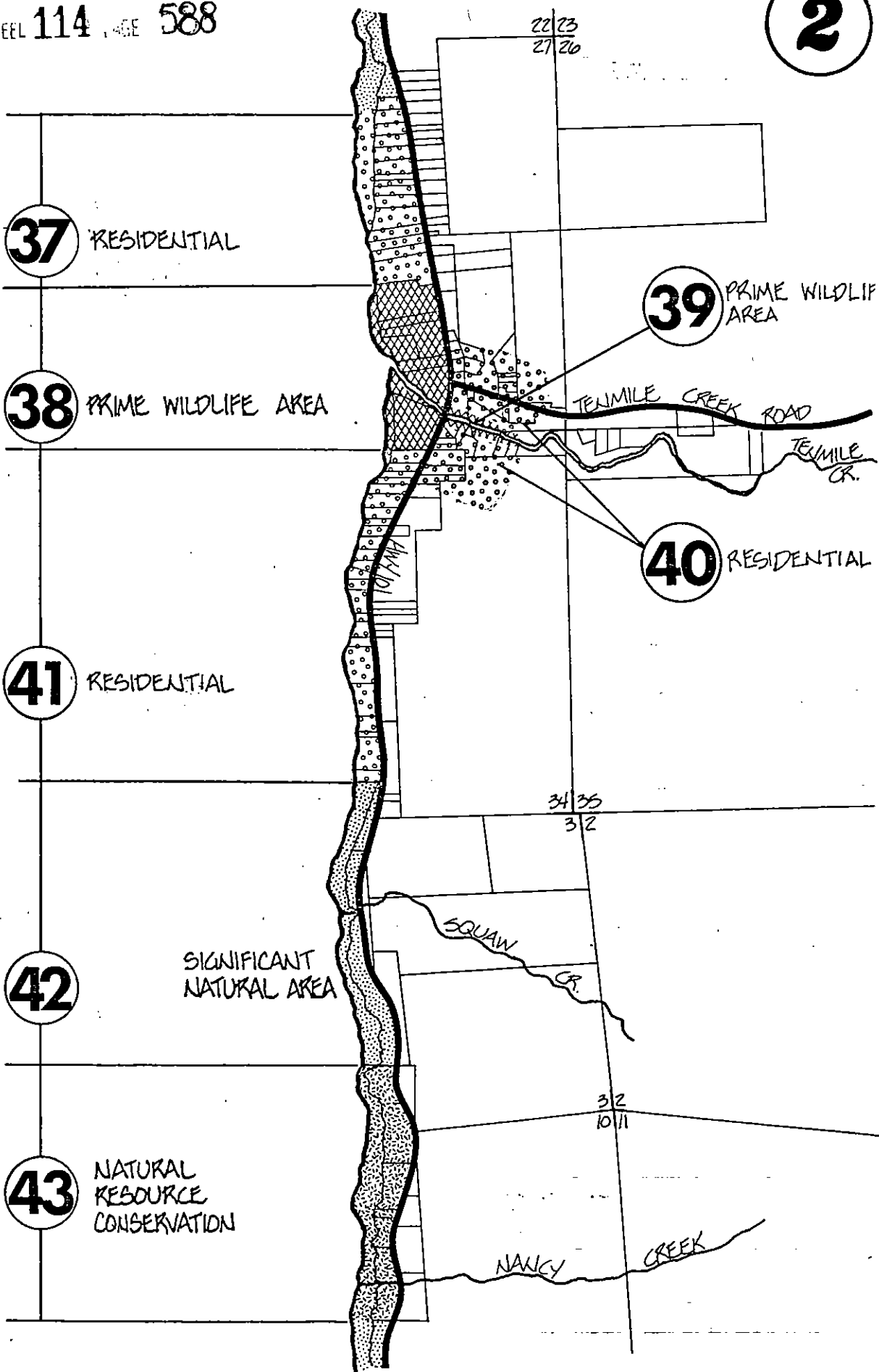
39 PRIME WILDLIF AREA

40 RESIDENTIAL

41 RESIDENTIAL

42 SIGNIFICANT NATURAL AREA

43 NATURAL RESOURCE CONSERVATION



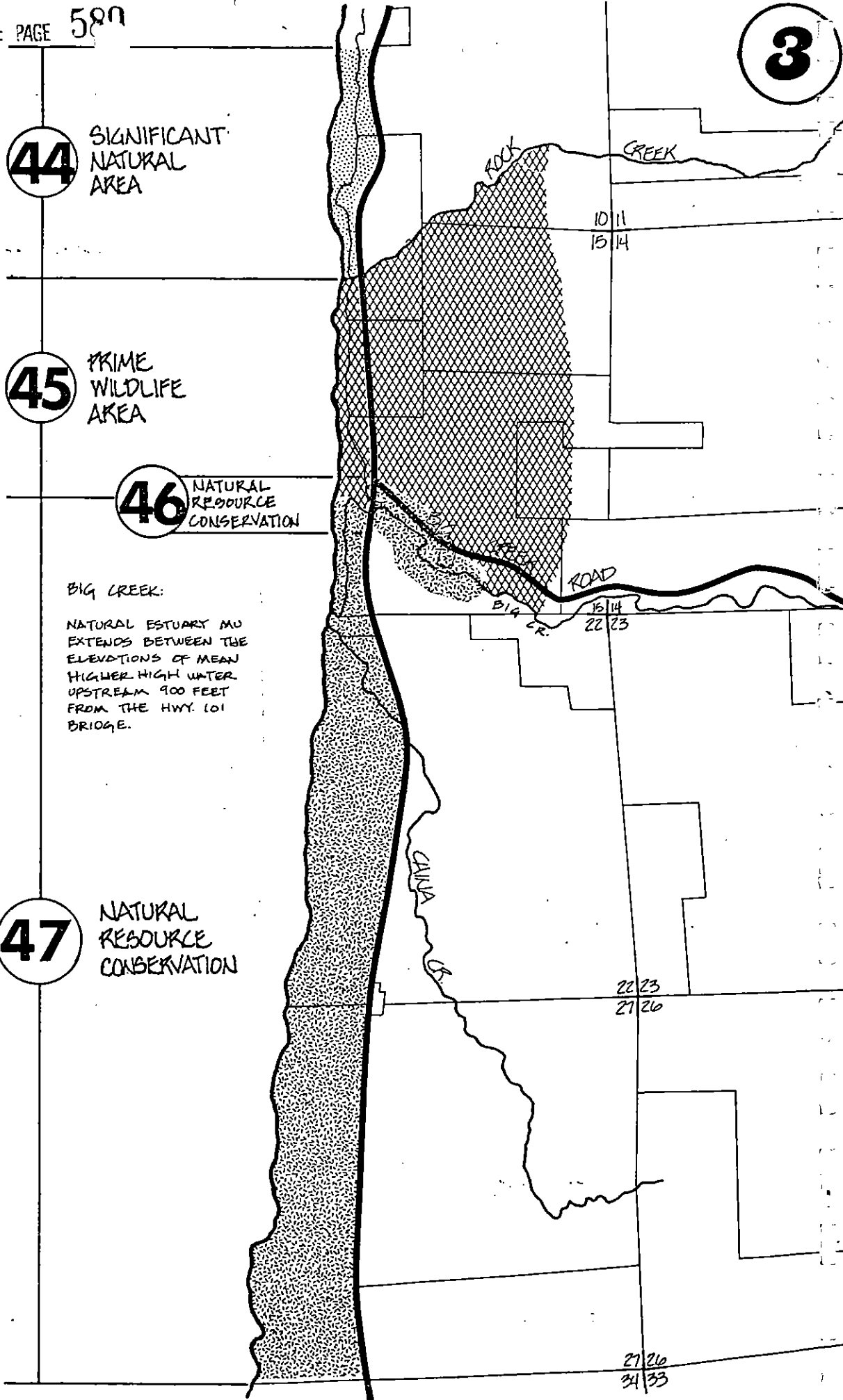
44 SIGNIFICANT NATURAL AREA

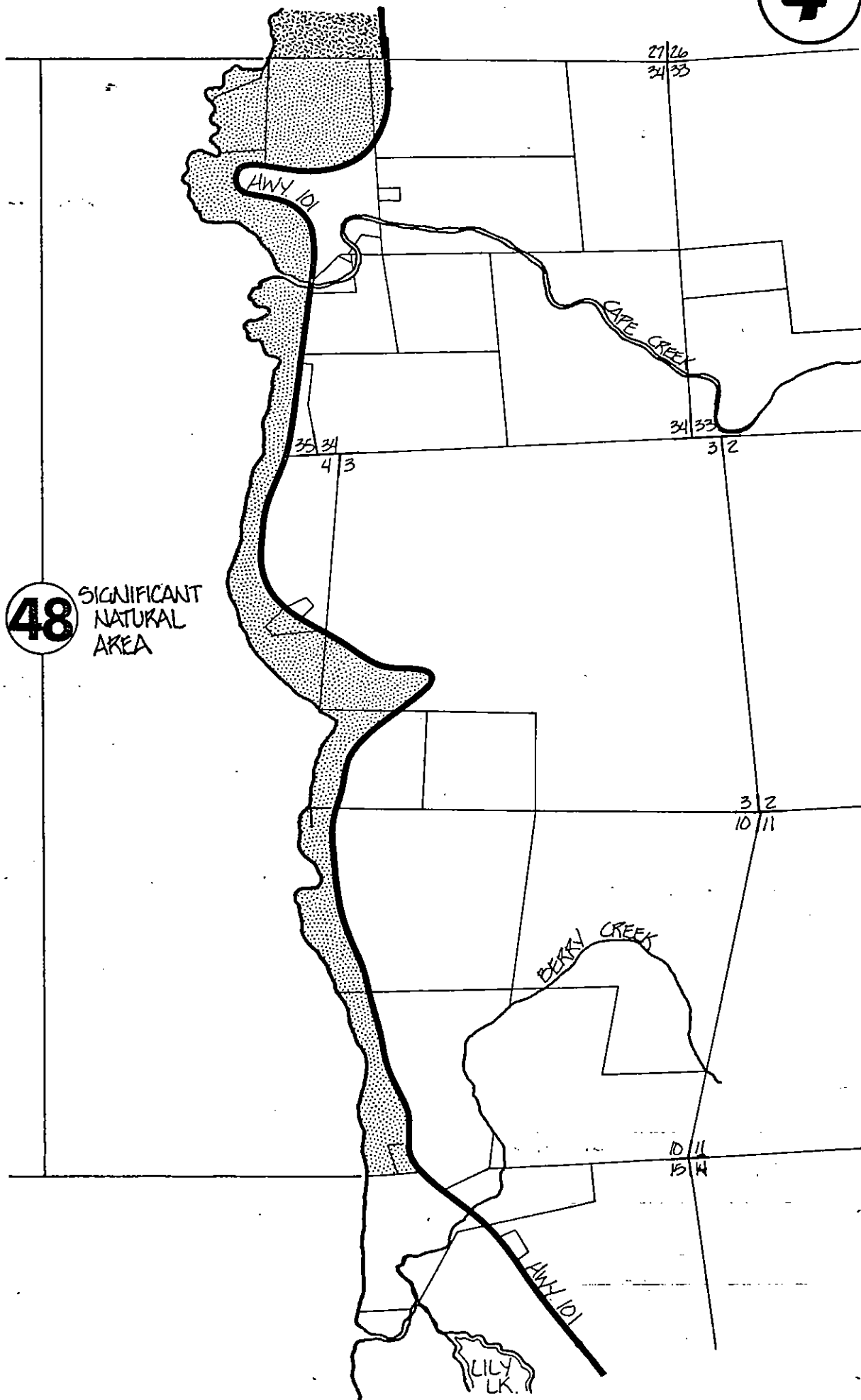
45 PRIME WILDLIFE AREA

46 NATURAL RESOURCE CONSERVATION

BIG CREEK:
NATURAL ESTUARY MU EXTENDS BETWEEN THE ELEVATIONS OF MEAN HIGHER HIGH WATER UPSTREAM 900 FEET FROM THE HWY. 101 BRIDGE.

47 NATURAL RESOURCE CONSERVATION





BERRY CREEK:

NATURAL ESTUARY MU EXTENDS BETWEEN THE ELEVATIONS OF MEAN HIGHER HIGH WATER UPSTREAM TO THE VEGETATION LINE ON THE FOREOUNE.

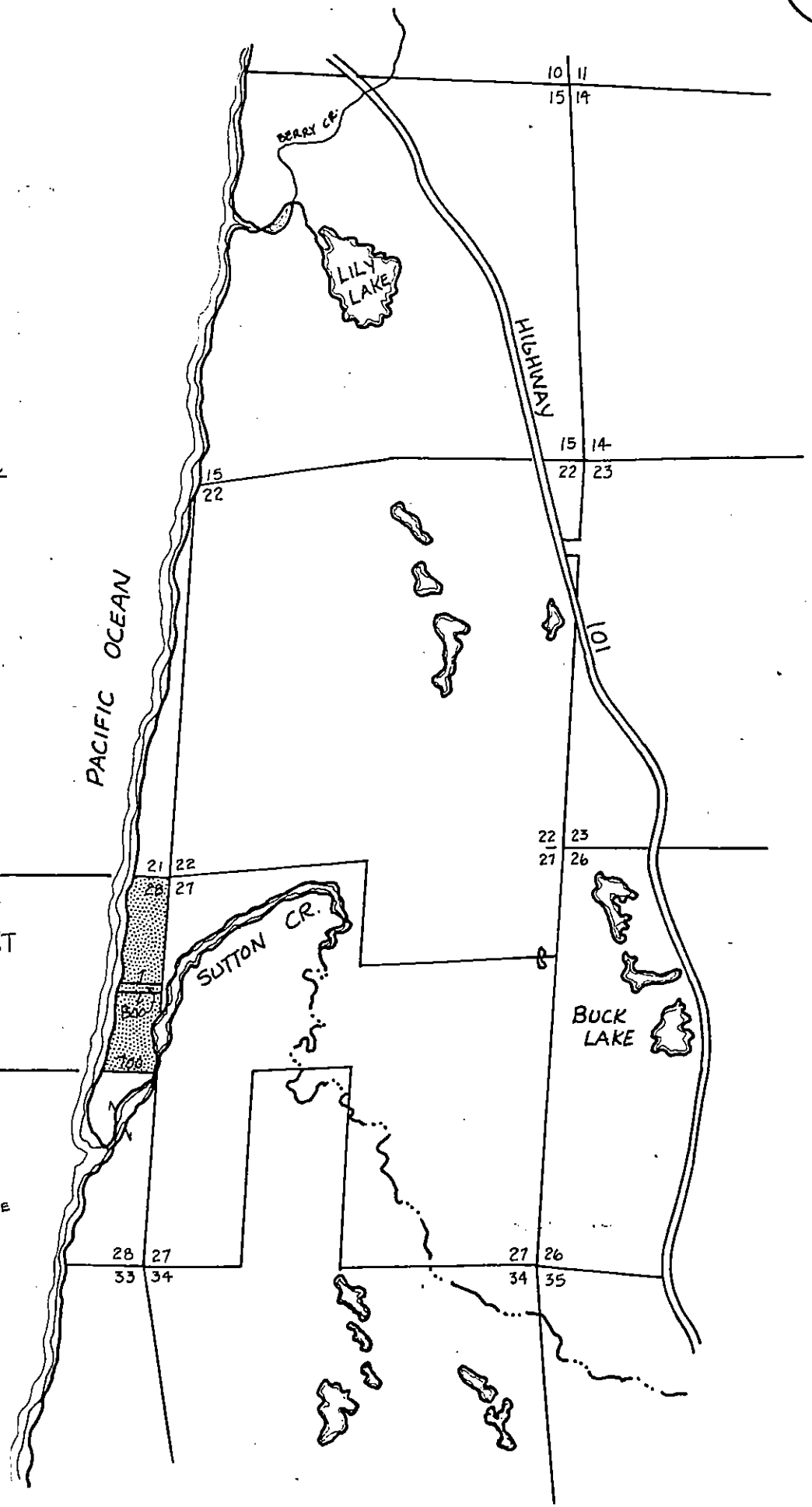
FOR BERRY CREEK SHORELAND MU SEE LILY LAKE MU.

49

SIGNIFICANT NATURAL AREA

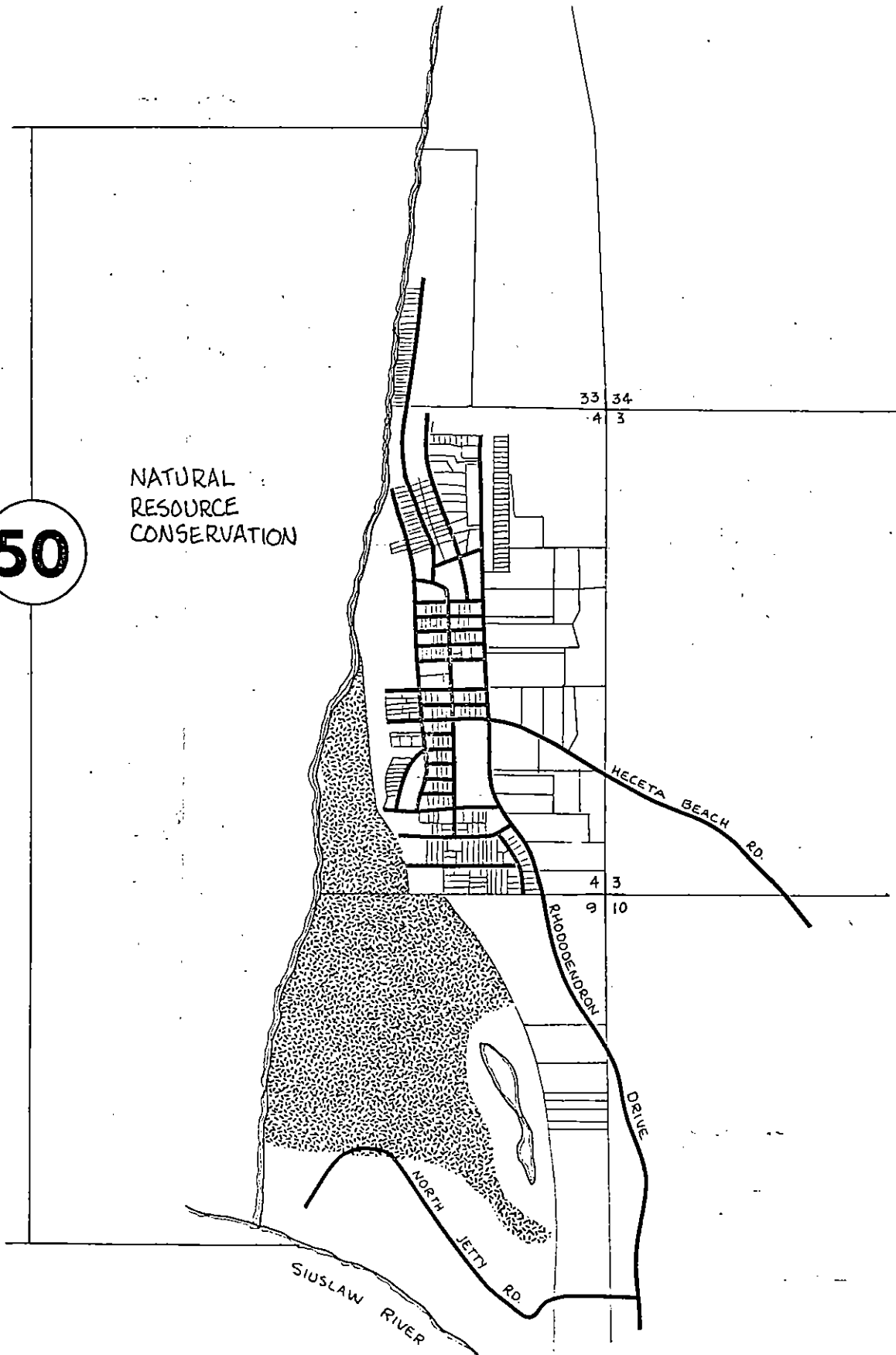
SUTTON CREEK:

NATURAL ESTUARY MU EXTENDS BETWEEN THE ELEVATIONS OF MEAN HIGHER HIGH WATER UPSTREAM TO A POINT JUST NORTH OF THE FOREST SERVICE PARKING LOT



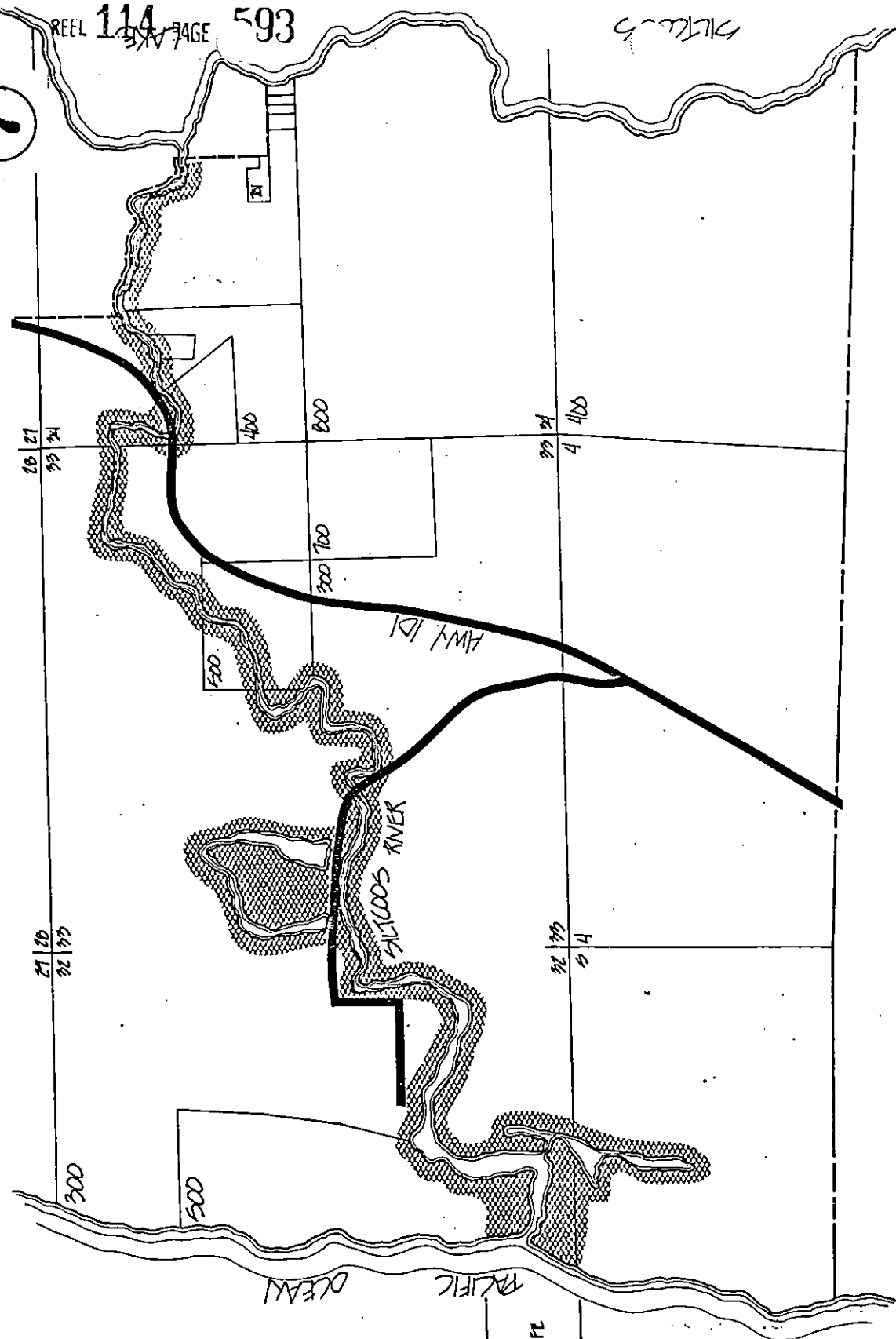
50

NATURAL
RESOURCE
CONSERVATION



511116

7



51 PRIME WILDLIFE AREA

SILTCOOS RIVER:
NATURAL ESTUARY AND
EXTENDS BETWEEN THE
ELEVATIONS OF MEAN
HIGHER HIGH WATER
WESTWARD TO THE
DUNES CITY HAYS.