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REGIONAL DISTRICT OF CENTRAL OKANAGAN
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CARRS LANDING PREPLAN

20 October 1993

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Carr's Landing Preplan
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INTRODUCTION

The Carr's Landing preplan of Electoral Area "A" had traditionally been an area of rural lakeside cottage/recreational properties, which over time gave way to establish a permanent rural residential community. Development in the area has been stable with slow growth by infill development and creation of country residential lots.

However, like all areas of the Okanagan Valley, development pressure has increased to the point that the Regional Board of the Central Okanagan Regional District has required that the four landowner groups of the subject preplan area work together with the consulting team and their planning staff to prepare a comprehensive preplan for the area.

This preplan has been prepared in accordance with the terms of reference prepared by Regional District staff. The plan describes a comprehensive inventory of existing natural and manmade features peculiar to the site, as a prelude to defining the future physical form of development of land use, roads and infrastructure in balance with community and environmental concerns. The plan provides a guide to future applications for phased implementation through the zone amendment and subdivision processes.

Recognizing the trend to development of sloping lands and retention of arable farms lands, the broad goal of this study is to blend public concerns, stakeholder objectives, infrastructure availability and environmental objectives to create a plan proposal placing appropriate uses and density in the most appropriate locations. The plan proposes parkland dedication in excess of 24% of the study area in order to balance open space objectives of existing residents with density objectives of the stakeholder group. The study team is of the opinion that this plan is supportable, as it provides direction to accomplish its goal.

This report summarizes the planning and engineering activities carried out since the approval of the plan to proceed in October, 1992. The plan will be discussed in six sections with appendices, documenting public input at Phase 1, Inventory Review and Phase 2, Concept Plan Review. The plan is supplemented by a comprehensive map series as prescribed by the terms of reference and noted as follows:

Map 1	Slope Analysis
Map 2	Existing Zoning
Map 3	Existing Ownership
Map 4	Existing Road System and Land Use
Map 5	Drainage and Water Table
Map 6	Unstable Soils
Map 7	Soil Limitations
Map 8	Existing Water System
Map 9	Existing Utilities

Map 10	Existing Education and Recreation Facilities
Map 11	Natural Features
Map 12	Preliminary Concept Plan
Map 13	Visual Analysis

The Six Sections of the Plan Summary are:

1.0	Establishment of Plan Goals and Objectives
2.0	Environmental and Visual Protection
3.0	Natural Open Space and Parks
4.0	Roadway Layout, Linkages and Lot Distribution
5.0	Approach to Services
6.0	Financing of Services
7.0	Assessment of Fire Hazards

STUDY AREA DESCRIPTION

The study area of some 105 Ha (261 acres) is located approximately 14 km north-west of Winfield via Carr's Land Road, and 28 km south-southeast of Vernon via Commonage Road. The area is bound by Okanagan Lake to the west, vacant land to the north and northeast, Commonage Road to the southeast, and vacant and vineyard land to the south.

The study area is generally developed except for 67 Ha (165 acres) which is subject of this plan. There are four owner groups of the 67 Ha whose parcels vary in size from 8 to 40 Ha. Table 1, Density and Land Use calculations, provides details of ownership, legal descriptions, and lot sizes, while Map 3, Existing Ownership, illustrates the ownership pattern for the subject 67 Ha, as well as the balance of the study area.

Physically, the site is varied in both topographic and vegetation patterns. Map 1, Slope Analysis, illustrates that the site has one significant peak in the northeast corner and is transversed by the Anderson Creek drainage corridor from the southeast corner, westward to Okanagan Lake. Much of the foreshore is steeply sloping (in excess of 30%) extending across the north end of the area. The central area of the subject 67 Ha, north of Anderson Creek is moderate to steeply sloping, predominately in the 10 - 30% range. The area has been logged in the past but does have areas of significant tree cover. Map 11, Natural Features, illustrates the extent of the tree cover, major escarpments, and drainage. Anderson Creek is not a flowing water course, but has springs in the upland area.

Golder Associates Ltd. have prepared a geotechnical overview of the study area which is shown on Map 6, Soil Stability and Map 7, Soil Limitations. Their investigations revealed the following:

> The study area forms the east valley slopes that rise up form Okanagan Lake at angles ranging from 10 to 45 degrees with local steeper slope sections. In general, the steeper

slopes are present within the north part of the study area.

Examination of aerial photographs did not indicate any apparent evidence of slope instability and/or groundwater seepage discharge. However, observations indicate minor ravelling or sloughing of the steep road side cuts. A potential rockfall/rolling rock hazard was identified in the areas as shown on Map 6.

The soil and bedrock geology of the study area is shown on Map 7. In general, the majority of the area in underlain by bedrock exposed at surface or at shallow depths. Bedrock within this area is comprised of granitic type rocks. Fan deposits which represent a post glacial depositional feature and consists of poorly sorted clay to gravel size material are present within the extreme upper east and lower west central part of the study area.

The south part of the study area is underlain by lacustrine sediments comprised primarily of silt containing minor clay and sand. These sediments are generally greater than 3.0 m in thickness and represent a stage of glacial retreat.

It is understood that any development in the area will use ground disposal as the means of disposing of sewage. Based on the results of the review, the following presents our comments regarding the site.

* No apparent evidence of major slope instability was noted except for minor sloughing of steep road side cuts. However, the area outlined on Map 6 was noted to pose a potential hazard for rockfall and/or rolling rock. A further detailed study of these areas is recommended to assess the potential risk of rockfalling/rolling rock as well as to accurately define the limits of the hazard area. In any case, it is recommended that residential developments be prohibited from these areas. In addition, it may be required to design and construct suitable rock protection works in areas downslope of the hazard areas. This may include construction of a ditch and berm catchment system and/or scaling, rock bolting or implementation of other measures to stabilize the rock faces.

* Residential developments located along the crest of steep slopes may or may not require establishment of safe building areas. This would have to be assessed on an individual development basis. The area which may require establishment of safe building lines is approximately delineated on Map 6.

* As indicated above, septic fields would be utilized within the study area as the means of disposing of effluent. The area underlain by the fan deposits is considered to be the most favourable for developing disposal fields. Local areas with sufficient soil cover underlain by bedrock may also be favourable, however it is considered likely that only septic fields for single family homes

could be developed in these areas. The least favourable area for construction of septic fields is the area underlain by lacustrine sediments. It should be noted that a detailed study of the various areas should be undertaken to assess the impact of ground disposal of effluent.

* Development of an area generally increases stormwater run-off. As discussed above only the fan deposits would be considered a suitable medium in which to develop drywells/ rock pits to dispose of stormwater. If consideration is given to using a system of roadside ditches and the existing drainage courses to handle stormwater flows, then it is important to ensure that the flows do not cause erosion of the soils and subsequent instability of the slopes. In addition, it is important to ensure that any localized groundwater mounding does not impact on nearby residential properties.

* A major portion of the study area is underlain by exposed and/or bedrock at shallow depths consisting of granitic type rocks. The shallow overburden overlying the bedrock is expected to consist of loose to compact mixed silt to gravel size material. The upper east and lower west central portion of the site is underlain by fan deposits consisting of clay to gravel size materia while the south part of the area is underlain by lacustrine sediments. All the stable conditions will provide a suitable bearing strata on which to found buildings and/or to construct roadways.

1.0 ESTABLISHMENT OF PLAN GOALS AND OBJECTIVES

Goals and objectives are based on identification and evaluation of values, issues and concerns, related to the consulting team through dialogue with the stakeholder group, government agency representatives and consultation with the general public through a series of public meetings. Three public meetings were held during the course of evolving this plan and copies of questionnaire and exit survey summaries are appended to this report.

The following is a summary of the values, issues and concerns documented from the three public meetings, which serve as the basis of the broad study goals and objectives.

1.1 VALUES, ISSUES AND CONCERNS

1.1.1 Public Meeting No. 1, Tuesday, June 22, 1993/ Background Data

1. Public support was only for conventional single family housing.
2. Natural open space and developed parks were strongly desired.
3. High value was placed on preservation of natural open space, tree and wildlife preservation.
4. Other valued features were access to the lookout, view preservation and lake access.

5. There was widespread concern for the quality and level of all infrastructure services from roads, and septic disposal to water supply and storm drainage.
6. Other values and concerns were for:
   - inadequate beach access
   - need for linear parks/ravine
   - desire for large lots
   - maintain rural character
   - need for better fire protection
   - require minimum house sites

1.1.2 Public Meeting No. 2, Tuesday, July 26, 1993/ Concept Plan Review

1. Public responses to the plan's ideas were as follows:

   - marginally negative to all RU5 (.62 ac) lots
   - generally neutral to the proposed road system
   - marginally positive to the approval to services
   - marginally positive to the open space/ park proposal
   - marginally positive to the proposal for financing services
   - positive to the environmental protection objectives

2. Outstanding issues to address included:

   - lot sizes vs. storm drainage
   - how parks may develop
   - development options
   - servicing costs
   - proposed density
   - fire hall expansion
   - affect on Coral Beach water supply
   - traffic problems/road upgrading
   - lake access
   - size and siting of buildings
   - public safety/ health
   - school housing for children

Based on the lack of positive public support and the need to address outstanding issues, the stakeholders, consulting team and Regional District staff agreed to make revisions to the plan and hold a further public meeting.

1.1.3 Public Meeting No. 3, Wednesday, Sept 15, 1993/ Revised Plan Review

1. Public Response to the plan's ideas were as follows:
   - overwhelmingly positive to the mix of RU4 (1.24 ac) and RU5 (.62 ac) lots.
   - overwhelmingly positive to all other aspects of the plan including: roadway system, approach to services, open space/ park proposals, financing of services and environmental protection objectives.

2. Outstanding Issues:
   - who will develop the park space?
   - desire for a community water system
   - desire for developer contributions to road improvements
   - desire for .62 ac lots in all non-treed areas — ? wording. minimum
   - emergency services
   - control of tree cutting

1.2 GOALS & OBJECTIVES OF THE PLAN

Based on the values, issues and concerns, documented during the evolution of the plan, a series of goal statements may be formulated for the various components of the plan. The broad goal statements illustrate how the plan has responded to the influence of the natural landscape character, existing services capacity, and stakeholder and public opinion. With the goal's in place, they will guide the form and character of the implementation of the plan over the next 5 to 10 years.

Plan objectives are defined to set courses of action to achieve the stated goals.

Environment

Goal: "To assess the study area's landscape character to confirm environmentally sensitive and significant features, and to maximize retention/protection of notable features."

Objectives:

"Maintain the natural character of the Anderson Creek water course and adjacent bank areas."

"Seek to provide and upland water supply for migrating wildlife, especially during dry seasons when animals would otherwise seek water from Okanagan Lake."

"Maintain the pristine area of the lookout and bluffs in the northeast study area."

"Encourage the Regional District to adopt a tree cutting bylaw to permit tree cutting only where required for road and housing construction; to maximize bird habitat; and to retain the visual quality of the natural landscape."

"Encourage local landscape nurseries to supply native plant species and other plant species which are drought tolerant to re-vegetate disturbed soils with minimal irrigation demand on the water supply."

Parks and Recreation

Goal: "To provide sufficient and varied park dedication areas that may be evaluated in conjunction with Regional District Park staff and local residents to provide parks appropriate to local needs."

Objectives:

"Dedicate all lands not designated for lots, roads or utilities as park land."

"Within the dedicated park land provide a minimum of 5% of the gross study area as park land that may be improved for active play/recreation uses. The balance of the park land should be maintained for passive use in a natural setting."

"Based on stakeholder initiatives, to contribute funds to develop the central .88 Ha(2.17 ac) park for active use with a ball diamond and tennis court."

Residential Use

Goal: "To provide quality lots for future single family development in a manner consistent with the natural landscape character and in balance with stakeholder; local residents' concerns and infrastructure capacity."

Objectives:

"For the area west Commonage Road and east of Juniper Cove Road, lots should be created per RU-4 zone, with a minimum size of .5 Ha (1.a) except for the central open/ non-treed area where lots should be of the RU-5 zone size, .25 Ha(0.64 ac) to allow future residents to economically develop approaches to revegetation of the area."

"Subject to the future subdivision approval stage, a building scheme should be created and attached to the title of future lots to address issues such as the following: siting of buildings and structures; minimum and maximum size of dwellings and accessory structures; use of and colour of materials to encourage integration with the natural landscape character; location of satellite dishes, and limitations on on-site storage, among others."

"Building siting should be carefully evaluated in high and medium visually sensitive units to maximize natural features such as rock bluffs, drainage channels and tree cover. Slope sensitive construction techniques should be employed in hillside areas."

Infrastructure and Road Services

Goal: "To provide new and improved infrastructure and roads to serve new and existing development to standards of good engineering practices for the benefit of all residents in the service areas."

Roads

The public expressed concern over the condition of existing roads leading to the study area. Of particular concern was Carr's Landing Road as many residents consider Carr's Landing road to be inadequate at present.

The Ministry of Highways was contacted to determine their plans for upgrading roads leading to and from the area, and a questionnaire was circulated to residents in or near the study area to determine driving habits.

Status of Roads

1) Commonage Road North

The Ministry of Highways considers this to be a medium priority road, with upgrading subject to financing. It is anticipated that the remaining ± 5 km of road from the study area to Preditor Ridge Golf Course which is not paved will be completed within five (5) years.

The section of Commonage Road from Baillie Road to Vernon is a low priority road as the Ministry wants to encourage traffic to go to Vernon via Bailee Road and Hwy 97.

2) Commonage Road South

From the Carr's Landing Fire Hall to Carr's Landing Road. This section is scheduled for upgrading and should be completed in 1993.

3) Barkley Road - future grid road, with no definite plans for upgrading.

4) Carr's Landing Road - existing rural standard paved road, no definite plans for upgrading.

A survey was conducted and 42 residences replied. The significant points from the survey were as follows:

No. of residences	42
Adults	76
Children	41
Homes with working parent(s)	31
Retired	11
Families with school aged children	15
Number of school aged children	30
Mode of transportation to and from school - bus	14
- car	1

The types of trips and destinations were as follows:

Weekday Trips To:

	Winfield/ Kelowna	Vernon
Work	170	56.5
Shopping	56	13
School	20	2
Recreation	54	6
Church	1.5	-
Other	12	10.5

Weekend Trips To:

	Winfield/ Kelowna	Vernon
Work	2	
Shopping	5	4
School		
Recreation		4
Church	7	2
Other	3	

The effect of the study area on existing roads can be related to the traffic study as follows:

- anticipated weekday trips based on existing road conditions:

94 residences x 2 trips/day 188
To Vernon 38
To Winfield/Kelowna 150

As 83% of respondents indicated that they would use Commonage Road once it is paved, it is anticipated that the number of shopping and recreation trips to Vernon will increase significantly. This will include existing residences as well as the proposed development. The effect will be to shift a significant portion of the traffic load to Commonage Road, which will lessen the study areas impact on Carr's Landing Road

Domestic Water Supply

There are three (3) alternatives for the supply of water for domestic and fire protection purposes. They are:

1. Extension of the Eastside Utilities System.
2. Purchase and upgrading of existing Coral Beach Water System by developers. System to remain as a private utility.
3. Purchase and upgrading of existing Coral Beach Water System by developers, and turn the completed system over to the Regional District of Central Okanagan.

What ever alternatives is selected, it should be designed to be compatible with the existing Eastside System - ie: same pressure zones.

Alternatives

1. Eastside Utility
   - results in only one utility for the area
   - will have the lowest up front costs
   - will require second pumphouse at Coral Beach in order to provide for future expansion.
   - in order to serve Coral Beach area existing watermains must be upgraded.

2. Separate Private Utility
   - requires new pumphouse, intake and reservoir for first phase of development - i.e: high up front costs
   - Coral Beach Utility would be purchased by developers
   - upgrading of existing Coral Beach watermains will be required

3. Regional District of Central Okanagan
   - same as separate private utility, but Regional District of Central Okanagan assumes responsibility for operation and maintenance of system as well as upgrading of existing system

All the alternatives will provide adequate water for the proposed development, and all will provide a safe secure water supply to the existing Coral Beach residents.

Extension of the Eastside System has the advantage of lower up front costs, and can allow the upgrading of the Coral Beach system to be differed until a later date.

The costs of all works will be paid for by the developers, with the exception of the upgrading of the existing mains within the Coral Beach System.

If the developers are required to complete those works, it is likely that a charge back to

the existing residents will be allowed by the approving authorities. If the Regional District of Central Okanagan operates the system , the upgrading can be accomplished by a specified area.

the area to be developed is not within the Carr's Landing Fire Protection District. The developers have agreed to a gifting agreement for fire protection, and the amount of the gifting agreement will be subject to negotiation between the fire department and the developers.

Storm Sewer

The subdivision roads will be built to Ministry of Highways Rural Standards. Storm water will be conveyed to natural drainage courses by the roadway ditches. page 5 dry wells.

The main drainage course through the development area is Anderson Creek, which has a well defined channel, and is contained within the designated park areas on the plan (Map 12).

As the Plan calls for restrictions on tree removal, the lot sizes are large, and the total area of roads is only ± 5% of the total land within the study area. There will be no significant impact on Anderson Creek by this development.

All natural drainage courses should be protected by easements, and all downstream channels must be checked for obstructions. All drainage works should be designed to Ministry of Environment guidelines, and all major drainage courses and roadway ditches should be capable of handling at least a 100 year return period storm. ?

2.0 ENVIRONMENTAL AND VISUAL PROTECTION

2.1 Environmental Protection

2.1.1 Issues and Concerns

1. Overall concern is that any development continues to deplete the area of the natural Ponderosa Pine parkland habitat, therefore development should be sensitive to minimal environmental disturbance.

2. Animals, deer and Black Bear, venture down the hillsides to Okanagan Lake in late summer of during drought periods for water, but their populations in the local area are not significant.

3. Development should tend toward minimal disturbance to the natural landscape as resident and migratory birds rely heavily on Ponderosa Pine and local native plant communities.

4. Development historically has gone too far in cutting trees beyond the needs for road clearing and siting of buildings, resulting in loss of shade, shelter, habitat, and pond sources.

2.1.2 Environmental Recommendations

Recommendations

1. Provide upland water sources for wildlife in low water periods.

2. Tree cutting/clearing should be by permit and then restricted to only those areas required for roads and buildings.

3. Pressure should be placed on local nurseries to provide adequate supplies of native plan species and other cultivated species which will survive in this local area.

4. Areas of cut and fill and other disturbances to natural areas should be revegetated with natural plant species in order to enhance the areas natural character and to reduce the future irrigation demand from the water supply.

2.1.3 Conclusion

The limited area of the preplan, to be developed for housing purposes, does not, in itself, represent a significant loss of habitat. Concern will rise as more and more of the natural landscape is lost.

The study area does not exhibit any significant, unique plant or animal communities.

2.1.4 Background/ Environmental Review

Source: Dan Bruce, B.Sc.
Central Okanagan Naturalist Club

Wildlife Habitat

Ponderosa Pine Zone - General Description from the Ministry of the Environment.

The two factors that most influence the assemblage of wildlife species in this zone are short winters, and a strategic location between the Western Great Basin to the south and the boreal forests to the north. The short, largely snow-free, winters attract many animals during the winter months. Mule Deer, White-tailed Deer, Bighorn Sheep, and Rocky Mountain Elk may migrate long distances (up to 80 km) to winter in this time. Mixed species flocks of passerine birds that have descended form higher elevations are also found in this zone during the winter months.

This strategic location between the boreal forests and Western Great Basin results in a tremendous diversity of wildlife species. Some norther species (i.e. Snowy Owl and Gyrfalcon) are near the southern limit of their range, and some southern species (i.e. Canyon Wren and Spotted Bat) are near the northern limit of their range. Wildlife habitats in this zone are also diverse. A rich and varied collection of habitat niches are created by the mosaic of grasslands and dry forest, the juxtaposition of wetlands and dry shrub steep, and the abundance of rugged cliffs and broken rock.

Ponderosa Pine Parklands provide habitat for species that forage on large conifer seeds (i.e. Clark's Nutcracker, Pygmy Nuthatch and Yellow-pine Chipmunk), bark insects (i.e. Northern Flicker and White-headed Woodpecker), or flying insects (i.e. Common Poorwill). The open forest canopy allows in light for the production of shrubs palatable to wintering ungulates. Denser stands of Douglasfir and Ponderosa Pine provide thermal cover for wintering ungulates and abundant seed and insect source for a variety of birds and small mammals.

Rugged cliffs and talus are relatively common in this zone. They provide breeding habitat for several rare bat species (Spotted Bat, Pallid Bat, and Long-eared Myotis) as well as some of the less abundant bird and reptile species such as the Canyon Wrenn and Western Rattlesnake. When adjacent grassy forage areas are present, Bighorn Sheep will use these low elevation cliff habitats as lambing grounds.

Shrub-grass steppe habitats contain the same wildlife species as similar habitats in the Bunchgrass one. These areas provide winter grass forage for California Bighorn Sheep and Rocky Mountain Elk, shrub forage for Mule and White-tailed Deer, and breeding habitat for sagebrush adapted birds such as the Sage Thrasher and Brewer's Sparrow.

Wetlands meadows and moist shady draws provide habitat for reptiles and amphibians such as the common Garter Snake, Tiger Salamander, and Northern Leopard Frog, species that are poorly adapted to the dry forests that dominate this zone. Lakes and potholes are breeding grounds for the Canada Goose, and various dabbling and diving ducks. Small non-stagnant ponds provide year-round habitat for Painted Turtles.

Agricultural areas are restricted to lower elevation valleys and riparian areas, areas often previously used by ungulates as winter range. Species such as Coyote, Rocky Mountain Elk, Mule Deer, and White-tailed Deer are often considered pests because of crop depredations. Some species of wildlife species benefit form the change in vegetation associated with agriculture, such as Coyote, Canada goose, Bohemian Waxwing, and European Starling.

The Ponderosa Pine Zone contains several non-native bird species. The California Quail, Ring-necked Pheasant, Chukar, Grey Partridge, Rock Dove, European Starling, and House Sparrow all occur in this zone as a result of direct of indirect introductions

from elsewhere.

The Sage Grouse once occurred in this zone, but is now considered extirpated in British Columbia. The White-tailed Jackrabbit may also belong in this category.

Representative Wildlife Species

Rocky Mountain Elk, Mule Deer, White-tailed Deer, Coyote, Badger, Northern Pocket Gopher, Golden Mantled Ground Squirrel, Deer Mouse, Black Bear.

American Kelstrel, Blue Grouse, Hairy Woodpecker, Common Nighthawk, Black-billed Magpie, Brewer's Blackbird, clark's Nutcracker, Pygmy Nuthatch, Red Breasted Nuthatch, Duskey Flycater, Rufous Hummingbird (of which Calliope is the most common species in this area).

Western Yellow-bellied Racer, Rubber Boa, Bull Snake, Rattlesnake probably absent.

Wildlife Species of Special Concern

Townsend's Big-eared Bat, Spotted Bat, Flammulated Owl, Common Poorwill, White-breasted Nuthatch, Black-chinned Hummingbird.

Nuttall's Cottontail, Southern Red Bat, Lewis' Woodpecker, White-headed Woodpecker, Grey Flycatcher, Gopher Snake.

2.2 VISUAL ANALYSIS

Objective: To assess the visual impact of proposed development on the existing landscape.

2.2.1 Basic Landscape Units (Map 13)

The plan area was analyzed to identify areas described by the following visual characteristics:

1. Natural drainage courses and waterways.
2. Bottom of valley.
3. Lower slopes of valley sides.
4. Upper slopes of valley sides.
5. Ridge lines and hilltops.

2.2.2 Visual Sensitivity of Basic Landscape Units

The landscape units vary in visual sensitivity, that is their natural visual quality may be subject to varying degrees of visual degradation (negative impact) from development as observed from various view points. The following criteria of visual sensitivity may be applied to the landscape units:

1. High Visual Sensitivity	- Natural drainage courses and waterways - Upper slopes of valley sides - Ridge lines and hilltops
2. Medium Visual Sensitivity	- Lower slopes of valley sides
3. Low Visual Sensitivity	- Bottom of valley

2.2.3 Guidelines for Mitigation of Negative Visual Impact

Guidelines may be prepared to mitigate the negative visual impacts from land development by consideration of the following:

1. Site Planning Issues
   - Maximize retention of significant natural features (i.e. rock bluffs, cliffs, and natural drainage courses).
   - Restrict development to specific locations in areas of high visual sensitivity.
   - Retain natural vegetation on visible slopes.
   - Cluster development to minimize loss of vegetation on slopes.

2. Servicing Issues
   - Seek to minimize road widths and the impact of cut and fill slopes on steeper hillsides.
   - Design road and service corridors to follow natural contours to avoid cut lines and grading scars.

3. Architectural Issues
   - Restrict development to specific locations in areas of high visual sensitivity.
   - Cluster development to minimize loss of vegetation on slopes.
   - Employ slope adaptive construction techniques to minimize disruption of natural slopes.
   - Use colours and materials that promote harmony of buildings and structures with the natural landscape character.

4. Landscaping Issues
   - Maximize retention of all natural trees and other vegetation.
   - Remove deadfall and all plant debris to minimize fire hazard.
   - Revegetate disturbed soils with native plan species and minimize use of lawn areas

to reduce both visual impact of development and irrigation water demand.

2.2.4 Conclusion

The Anderson Creek corridor will be preserved as a linear park system. The visually dominant "lookout" at the northeast corner is in a highly sensitive area and is to be protected and preserved by the proposed park credit dedication of a proportion of the highly sensitive upper slope unit is subject to development of some 8 lots, and the balance of this visual unit is to be dedicated as natural parkland. The majority of the balance of the proposed development area is of moderate visual sensitivity and much of this area was previously logged out in the earlier part of the century. Due to the large lot sized .5 Ha(1.24 ac) and spacing of future housing within treed areas, visual impact will be minimal.

As previously noted, a portion of the central site area was logged out. Due to the "openness" of this area it was concluded that .5 Ha (1.24 ac) lots would be a potential burden for reclamation and revegetation by future home owners. It was therefore recommended that this area be developed for 24 .25 Ha (.62 ac) lots as a manageable lot size. Revegetation of this area concurrent to house construction will create visual quality improvement.

3.0 NATURAL OPEN SPACE AND PARKS

The plan proposes four separate parks areas to be dedicated for P-1 Park use. The total area of proposed park is 16.14 Ha (39.9 ac) or 24.1% of the subject 67 Ha. study area. Of this park area, 5.35 Ha (13.2 ac) is proposed for park credit toward minimum 5% park dedication. Based on current park dedication policy, this equates to a 9.5% park dedication of the subject 67 Ha.

The 5.35 Ha (13.2 ac) park area is provided in three park distributed along Anderson Creek from Coral Beach Road, east of Juniper Cover Road, to the area west of Commonage Road. The Anderson Creek linear park is further linked by pathways to the internal road system, Ha (6.28 ac) to a central .88 Ha (2.7 ac) park and further walkways to the 2.54 Ha (6.28 ac) lookout park in the northeast. Refer to Table 1 - Density and Land Use Calculations and Map 12, Preliminary Concept Plan.

Actual uses of the park areas are to be determined through consultation between the Regional District Parks department and local residents. However, the stakeholder group in response to public concerns has indicated willingness to contribute funds for development of the .88 Ha (2.17 ac) park in the central area for uses such as a ball diamond and tennis court. It is under stood, through discussions with Regional District staff, that the stakeholders may contribute to a "local services area" fund on a specified area basis as lots are developed to fund the park's development cost, yet to be determined.

4.0 ROAD LAYOUT AND LINKAGES AND LOT DISTRIBUTION

In order to reduce traffic impact in the Juniper Cover - Terrace View area, the subject area has been divided into two separate sub-areas. The sub-areas will promote efficient distribution of future traffic away from existing lakeshore development. Map 12, Preliminary Concept Plan illustrates the proposed road network.

4.1 Commonage Road Access Area

The upper area for proposed development of some 72 lots has access on Commonage Road with a crossing of Anderson Creek to the internal road network. The main access road is proposed as a 20 m public collector with linkages to three private 15 m local roads.

This development area has an 8 m emergency access link for fire and other emergency vehicles, to the development area accessed from Juniper Cove.

4.2 Juniper Cove - Terrace View Access Area

This lower development area is proposed to have 8 lots below Juniper Cover and 14 above. All but one of the lots use Juniper Cove Road for access/ egress. One lot fronts lower Terrace View Crescent.

4.3 Population and School Enrollment Projections - Table 2

Based on discussions with the school board and a review of census data, it is estimated that a population of 235 persons will be generated by 94 units. There may be some 38 kindergarten to grade 7 students, and 19 secondary school students.

TABLE I

CARR'S LANDING CONCEPTUAL PREPLAN – DENSITY AND LAND USE CALCULATIONS FOR NET DEVELOPMENT AREA – 66.93Ha (165.38 ac.)

	DENSITY CALCULATION			LAND USE DISTRIBUTION				
LEGAL DESC. OWNER	GROSS AREA (ha)	TOTAL UNITS	DENSITY U/gHa	GROSS (Ha) P–1/%	P–1 CREDIT (Ha) /%	AREA (Ha) ROADS	RU4 LOTS/%	RU5 LOTS/%
1. J.&F. TOPLAK REM. SE 1/4, SEC20, TP14	42.89	62	1.44	8.48/20.8	3.42/8.4	4.28	43/69	19/31
2. G. JOHNSTON LOT A, PLAN 32357	8	12	1.5	2.61/52.6	.7/8.75	.54	7/58	5/42
3. 390538 B.C. LTD. REM. NW 1/4 of NE. 1/4 SEC14, TP23	8.3	14	1.68	1.75/21	.42/5	.36	10/71	4/39
4. 422193 B.C. LTD. LOT B, PLAN 32357	7.74	6	.99	3.3/42.6	.81/10.5	.20	6/100	--
SUMMATION METRIC	66.93	94	1.4	16.14/24.1	5.35/8	5.38	66/70	28/30
IMPERIAL	165.38acres		1u/1.75ac.	39.9acres	13.2acres	13.3acres		

1. RU4 UNITS = 5000sq.m. (1.235acres)
2. RU5 UNITS = 2500sq.m. (0.62acres)

TABLE 2

POPULATION AND SCHOOL ENROLMENT PROJECTIONS
20-July-1993

Population Projection		
Total Units	(1) Persons Per Unit	Population Estimate
94	2.5	235

(2) School Enrollment Projection	
Students K-7 @ .4/u	Students 8-12 @ .2/u
38	19

(1) Based on Economic Development Commission Statistics from 1986 Census
(2) Based on School Board 23 Statistics for Mission Area of Kelowna

QUESTIONNAIRE RESPONSE SUMMARY

PUBLIC OPEN HOUSE: CARR'S LANDING PREPLAN **TUESDAY, JUNE 22, 1993**

Public Responses to Questionnaire

Future Use of this Land

1. Do your support residential development within the plan area for:

1.1 Mobile Homes?	__1__ Yes	_37__ No
1.2 Conventional single family residential e.g. RU-5 .25 HA (26,900 sq.ft.)?	_14__ Yes	_23__ No
1.3 Attached residential e.g. duplexes and townhouses?	__5__ Yes	_31__ No

2. Which "areas" of the plan area would be acceptable for the types of residential development you would support?

2.1 The lakeshore below Coral Beach Road would be acceptable for: **it is adequately developed (7); park (7); acreage only (4); marina (2); public beach (1); single family (1)**

2.2 The semi-lakeshore above Coral Beach Road, below Juniper Cove Road, would be suitable for: **it is too steep to develop (5); acreages (4); park (4); single family (3)**

2.3 The sloping land above Juniper Cove Road would be suitable for: **open space (8); single family (6); too steep to develop (4); acreages (3); golf course (1)**

3. What other land uses would you like to see considered for the future use of this area?

3.1 Natural Open Space	_33__ Yes	_____ No
3.2 Developed Park Land	_22__ Yes	_____ No
3.3 Commercial / Convenience Store	_18__ Yes	_11__ No

3.4 Other Uses? _____

4. Are there any areas of significant natural features you feel are worthy of preservation, conservation, or enhancement?

Preserve natural areas (8)

Minimize tree cutting (5)

Preserve wildlife (3)

Access to lookout (1)

Views (1)

Lake access (1)

5. Do you have any concerns with respect to the quality and level of infrastructure services in the plan area?

5.1 Roads — __32_ Yes _____ No
Comments:
Upgrade roads (8)

5.2 Septic Disposal — __29_ Yes _____ No
Comments:
Sewage eventually gets to lake; put in a sewage system (3)

5.3 Water — __26_ Yes _____ No
Comments:
Make storage for drinking water

5.4 Storm Drainage — __23_ Yes _____ No
Comments:
Need better storm ditches (2)

Background Information about yourself

1. Do you reside within 1 km of the site? __30_ Yes _____ No

2. Do you rent _**(0)**_ or own _**(36)**_ your residence?

3. Do you own non-residential property within 1 km of the site? ___0_ Yes _____ No

Additional Comments:

1. **200' beach access is inadequate**
2. **Don't change the area - we moved here for rural character**
3. **Need community lake access and linear parks (3)**
4. **Need better fire protection (5)**
5. **Developers should pay upgrading costs (2)**
6. **Covenant for square footage of houses (2)**
7. **Large lots only; small lots overload services (3)**
8. **Let's do it**
9. **Plan should provide for a store, school, and community hall**
10. **Carr's Landing Road is used by farm equipment, and is getting more dangerous**
11. **Not suitable for 1/2 acre lots**
12. **Maintain ravine**

EXIT SURVEY SUMMARY

PUBLIC OPEN HOUSE: CARR'S LANDING PREPLAN/PHASE 2 CONCEPT PLAN TUESDAY, JULY 26,1993

Public Response/ Exit Survey: There were 29 survey's returned

1. Please indicate your strength of opinion in relation to the ideas presented in the concept plan:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Single Family Areas RU-5	8	1	4	1	11
Roadway Layout / Linkages	6	5	2	2	9
Approach to Services	5	5	5	2	4
Natural Open Space/ Dedicated Park P-1	6	4	7	1	5
Financing of Roads / Services	5	3	5	2	4
Environmental Protection Objectives	5	7	4	1	4

2. Would you care to express your views of the plan?

1) Mix RU5 with larger lots
2) Plan is hypothetical; lacks definitive answers.
3) Commonage Road should not join Carr's Landing Road.
4) Swimming pool in the park would ease pressure at Coral Beach and reduce pollution from swimmers near the water intake.
5) More beach parking will reduce our property values.
6) Carr's Landing Road is dangerous and overused (3).
7) Anderson Creek cannot handle upper drainage at its base.
8) The plan looks good, and it's good to see the community growing. There should be a grocery store in the community.
9) Lots should be larger; 1 to 2½ acres.
10) More usable parks.
11) Golder Report on septic is not well defined.
12) Consult Western Canada Wilderness Community to address environmental concerns.
13) Wait until Official Community Plan is reviewed.
14) More traffic will go to Kelowna/ Winfield for school, jobs and shopping.
15) The plan fits well into the community.
16) Concerns are adequately dealt with (2).
17) Concerns not adequately dealt with; did not listen to residents.
18) Current population not considered.
19) Short sighted plan.
20) Lots should be 1 acre.
21) Great fire potential.
22) Very well done (2).
23) In favour of planned approach.
24) Minimize road cuts and fills.
25) The plan is organized with a beautiful layout based on a great deal of thought.

26) Road to Rainbow Hill is dangerous; improve before approval.
27) Minimum 2 acre lots should be compatible with the rest of Juniper Cove.
28) The plan should look at a larger area.
29) Local convention is 2.5 acre lots (2).
30) The majority of residents opinion should rule.
31) Inadequate research; not satisfied with roads, beach access and sanitation (2).
32) Lots should be 1 to 2 acres.
33) The plan has many good points and should go through with proper scrutiny.
34) Looks viable.
35) Park area is inadequate.
36) More consistency with upgrading overall infrastructure in a larger area.

3. What issues should have been more thoroughly addressed in you opinion?

1) Lot size versus drainage.
2) Affect of water supply on Coral Beach.
3) How will recreation areas be developed?
4) Traffic problem (5).
5) What are options? (2)
6) Lake access (5).
7) Cost of services (2).
8) Restrict size and siting of buildings.
9) Concern with Area A overall plan.
10) Sewers are a must.
11) Density (2).
12) Health and public safety relation to roads, drainage, and sewer (2).
13) Fire hall expansion.
14) Road upgrading (5).
15) Need percolation tests.
16) Positive aspects of the development.
17) Show how the parks will be developed (1).
18) Developers should contribute to existing local parks.
19) School busing of children.

4. Did you attend the Public Open House on Phase 1, Background, on Tuesday, June 22, 1993?

__20__ YES __9__ NO

5. Background about yourself:

5.1 Do you reside within 1 km of the study area? __19__ YES __10__ NO
5.2 Do you __0__ rent of __27__ own your residence?
5.3 Do you own non-residential property within 1 km of the study area? __7__ YES __22__ NO

Exit Survey Summary

PUBLIC OPEN HOUSE: CARR'S LANDING PREPLAN/PHASE 2 CONCEPT PLAN WEDNESDAY, 15 SEPT 1993

Public Response/ Exit Survey - There were thirty-seven (37) respondents.

1.Please indicate your strength of opinion in relation to the ideas presented in the concept plan:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2500m² (.62 ac) RU5 lots	13	11	3	1	7
5000m² (1.24 ac) RU4 lots	15	15	5	-	2
Roadway Layout / Linkages	7	17	7	-	3
Approach to Services	7	18	7	-	1
Natural Open Space/ Dedicated Park P-1	12	13	6	1	2
Financing of Roads / Services	7	18	7	1	2
Environmental Protection Objectives	7	15	7	3	2

2. Would you care to express your views of the plan's revisions?

1) Developers have been fair; had a lot of consideration for the land and the development should be a nice addition to the area.
2) Much of an improvement, can go for this. Good concept.
3) Just the mixed changed, not the impact on existing develpment.
4) Very positive.
5) Why some .02 acre lots and some 1.24 acre lots? Prefer 1.24 acre lots.
6) Development should not proceed until OCP review.
7) Traffic will increase drastically, and there is a need for more park space.
8) Concern about ecological effect of septic tanks.
9) The plan is very acceptable.
10) Highways issue is still unresolved.
11) Changing the ration of RU4/RU5 lots addresses both density and environmental concerns.
12) Great balance to RU4 and RU5 lots. Good effort in meeting public concerns.
13) Seems illogical to create a subdivision so far from commercial services.
14) Good comprehensive plan, will lead to better services for the whole area.
15) The owners and consultants made a sincere effort to address residents' concerns.
16) Robbing Peter to pay Paul. Larger lots and a reduction of only 16 lots is very condescending.
17) Development should not go ahead until Highway Improvements are made.
18) All past concerns are well addressed.
19) Agree with it; will be nice to see.
20) Seems a reasonable and genuine approach to Winfield area growth.
21) Like the plan now.
22) Larger lots are better.
23) Would prefer to see traffic split 25% Commonage and 75% Juniper Cove.
24) Road discharge should be 50/50 Juniper Cove/ Commonage Road.
25) Agree to expand Coral Beach water system and turn over to the Regional District.

26) Thought through very well.

3. What issues should have been more thoroughly addressed in you opinion?

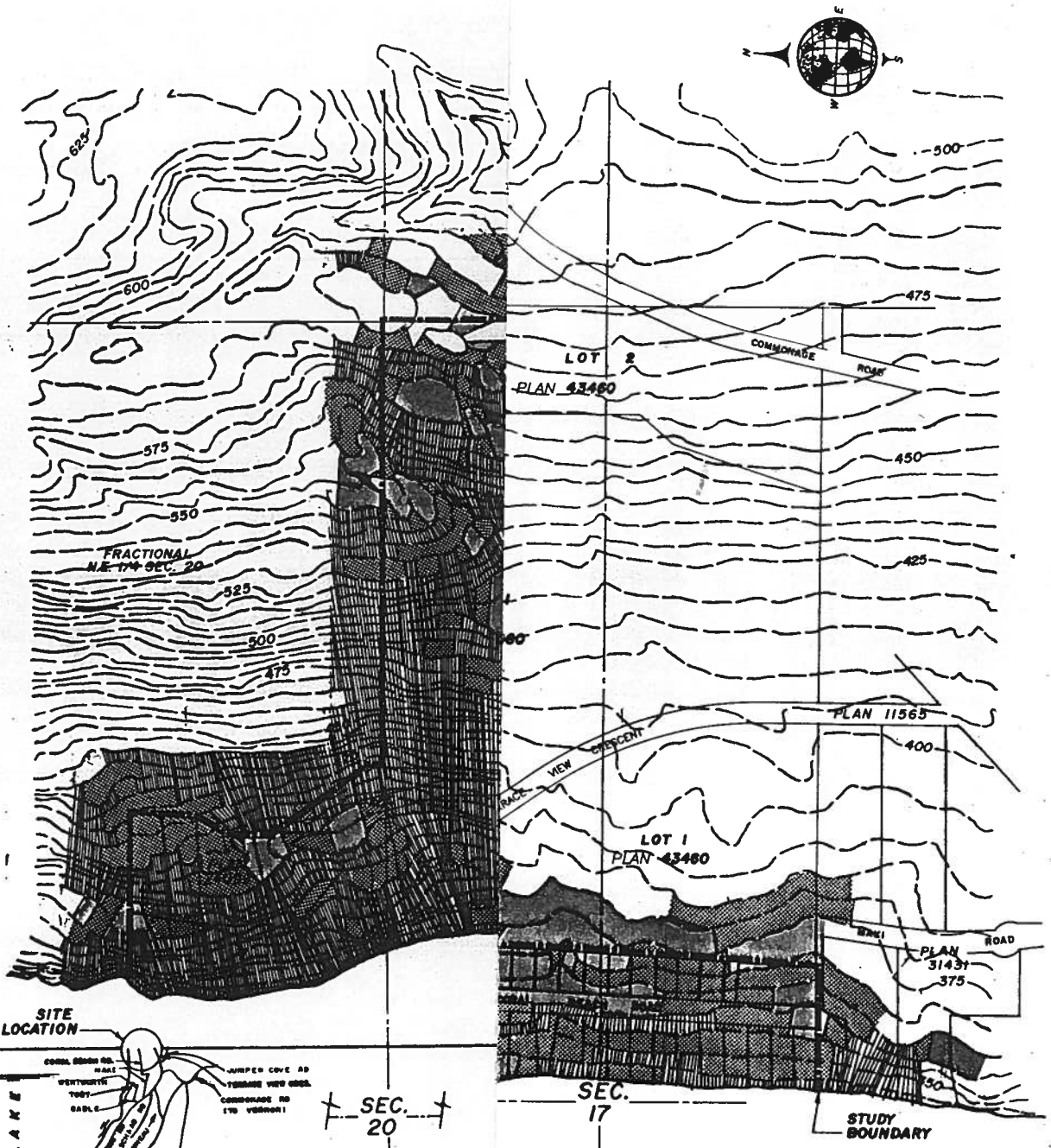
1) Would be interested to know future building requirements.
2) Who will develop the park space?
3) If Barkley Road is improved, lifestyles will be drastically changed. Traffic issues need more study.
4) Emergency services.
5) Roads and water, water should be community, not private.
6) Control of tree removal.
7) Developer should contribute to financing of Carr's Landing Road improvements.
8) .62 acres lots should be in all un-treed areas.

4. Did you attend the Public Open House on Phase 2, Concept Plan, on Tuesday, July 27, 1993?

13 YES 18 NO

5. Background about yourself:

5.1 Do you reside within 1 km of the study area? 22 YES 16 NO
5.2 Do you 2 rent of 28 own your residence?
5.3 Do you own non-residential property within 1 km of the study area? 6 YES 30 NO



SLOPE CATEGORIES

- 0 - 10%
- 10 - 20%
- 20 - 30%
- 30+%

SITE PLAN

N. T. S.

LEGEND

WATER		MANHOLE	MH
SAN. SEWER		POWER POLE	PP
STORM SEWER		LAMP STANDARD	LS
GAS		CATCH BASIN	
U.G. TELEPHONE		HYDRANT	HYD
U.G. ELECTRICAL		TREES	T

D. E. PILLING and ASSOCIATES
CONSULTING ENGINEERING Ltd.
#200, 1960 SUTTON ST., KELOWNA, B.C. V1Y-7V6
TEL: 763-3315
FAX: 763-8566

IPER RIDGE DEVELOPMENT LTD.

-1 C-85, WESTBANK, B.C. V0H2A0

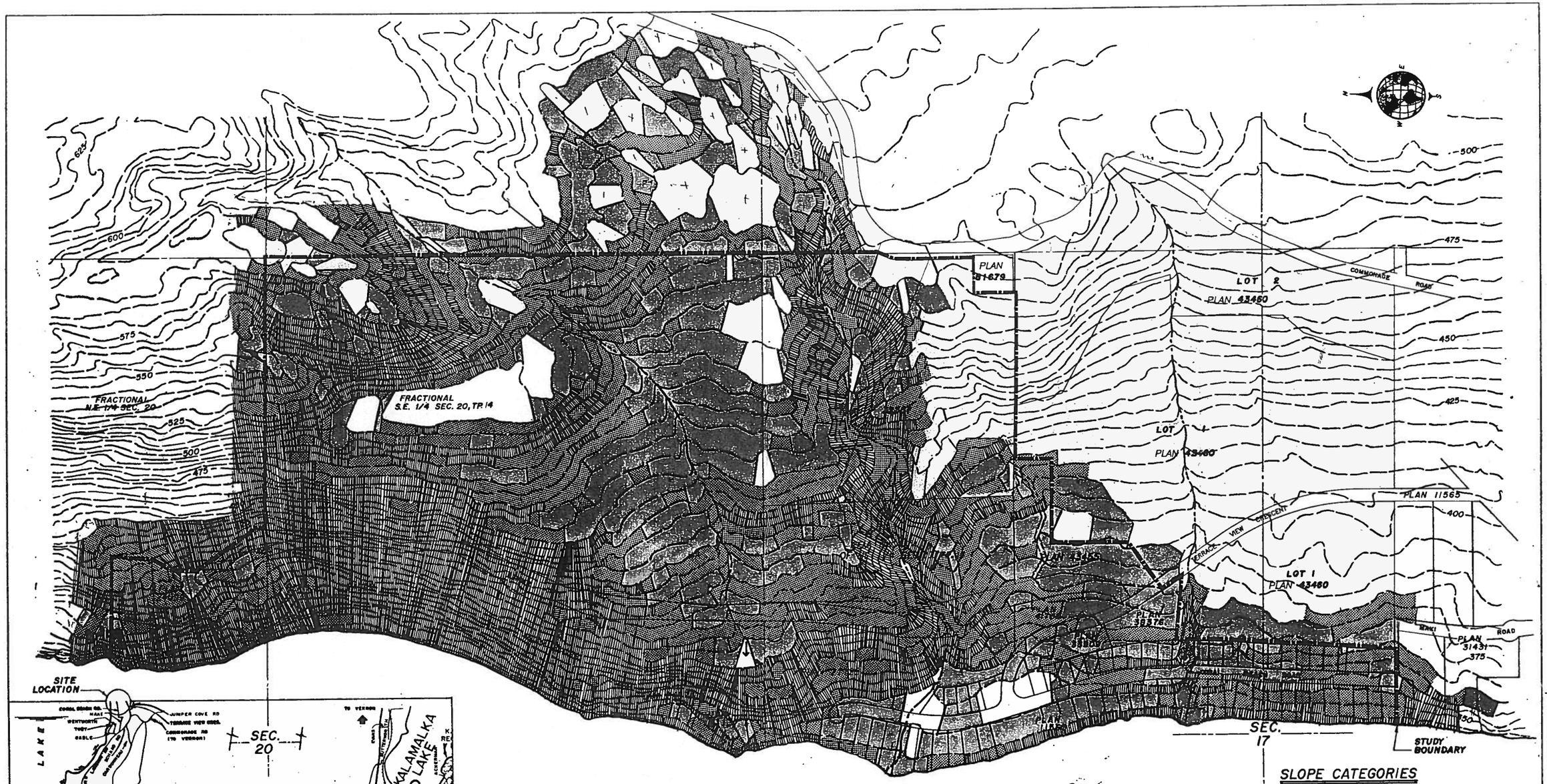
IPER COVE ROAD SUBDIVISION

E ANALYSIS

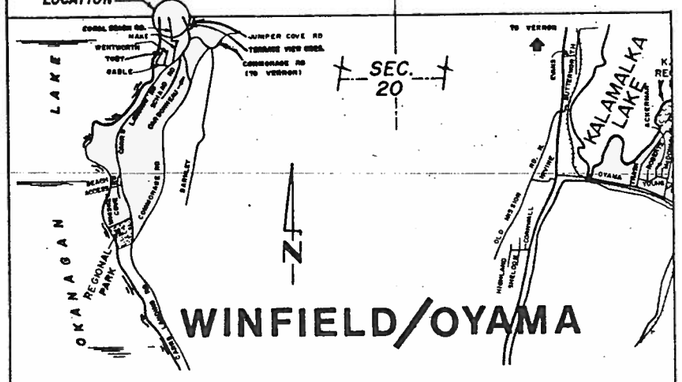
DRAWING NO. 91457-PI

DIVISION MAP 1

REV. NO.



SITE LOCATION



WINFIELD/OYAMA

SITE PLAN

N.T.S.

OKANAGAN LAKE

SLOPE CATEGORIES

- 0 - 10%
- 10 - 20%
- 20 - 30%
- 30+%

LEGEND

WATER		MANHOLE	MH
SAN. SEWER		POWER POLE	PP
STORM SEWER		LAMP STANDARD	LS
GAS		CATCH BASIN	
U.G. TELEPHONE		HYDRANT	HYD
U.G. ELECTRICAL		TREES	T

No.	DATE	BY	REVISION	Chk'd

No.	DATE	BY	REVISION	Chk'd

DALE E. PILLING, P.ENG.

DRAWN	E.B.B.
DESIGN	
APPROVED	D.E.PILLING P.ENG.
DATE	NOV. 20, '92
SCALE	1:3000

PACE

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JUNIPER COVE ROAD SUBDIVISION
SLOPE ANALYSIS

DRAWING NO.	91457-PI
DIVISION	MAP 1
REV. NO.	

SITE PLAN

N.T.S.

LEGEND

WATER		MANHOLE	○ MH
SAN. SEWER		POWER POLE	• PP
STORM SEWER		LAMP STANDARD	□ LS
GAS		CATCH BASIN	▨
U.G. TELEPHONE		HYDRANT	✦ HYD
U.G. ELECTRICAL		TREES	○ T

No.	DATE	BY	REVISION	Chk'd	No.	DATE	BY	REVISION	Chk'd

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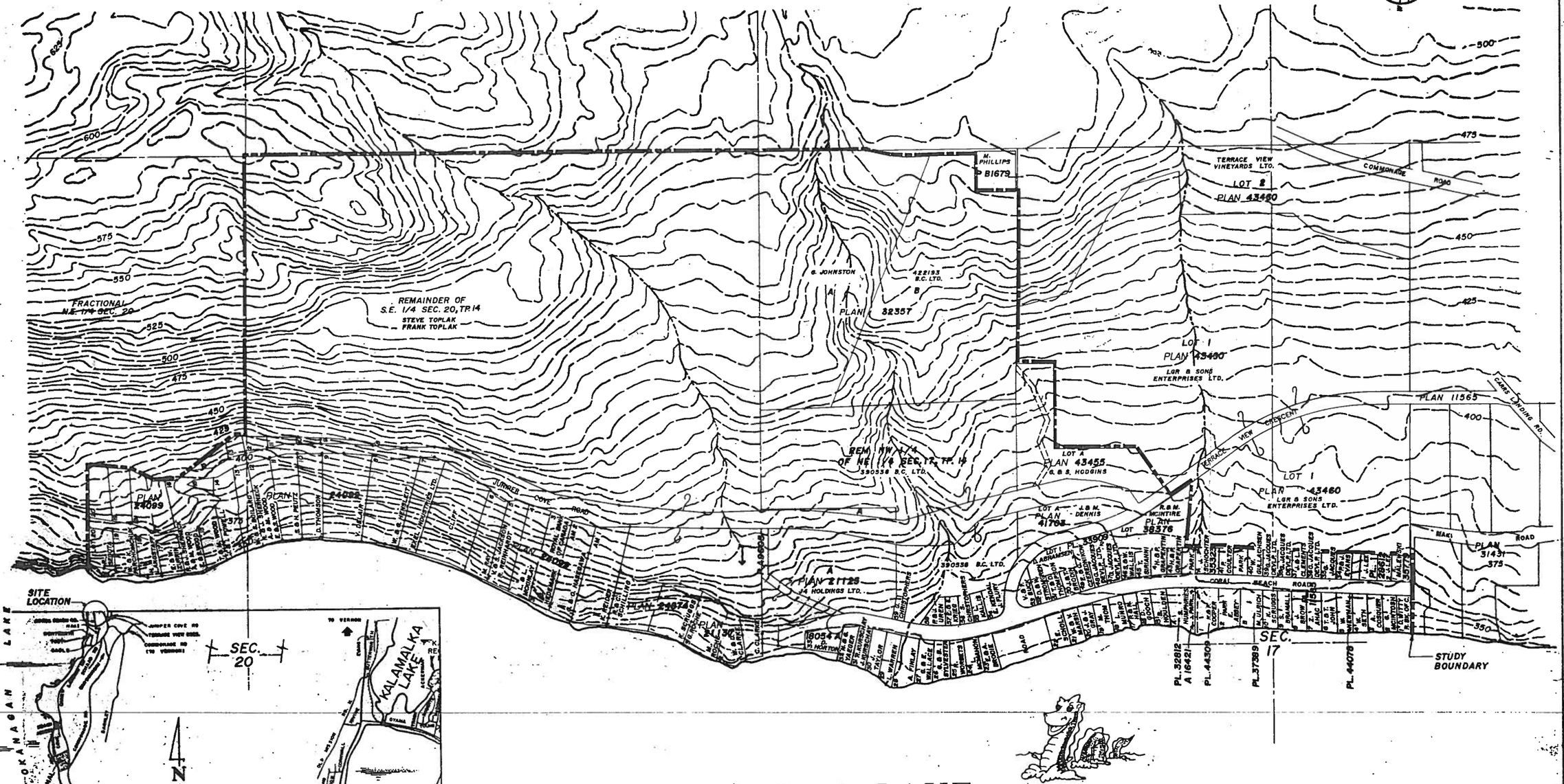
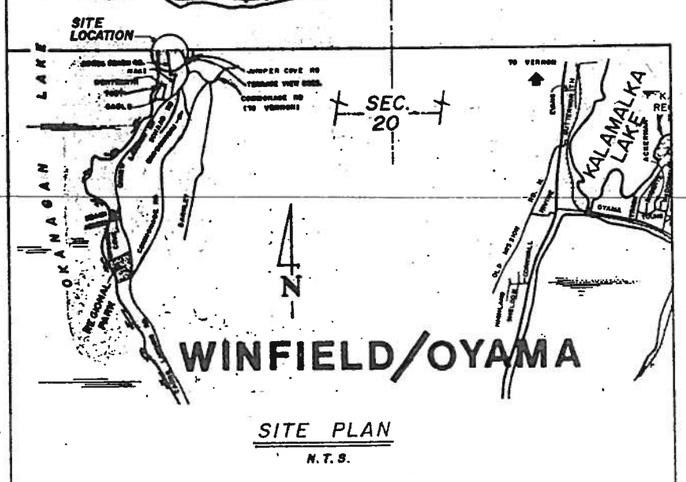
JUNIPER COVE ROAD SUBDIVISION
EXISTING ZONING

DRAWING NO. 91457—P2

DIVISION MAP 2

REV. NO.





SITE PLAN
N.T.S.

LEGEND

WATER		MANHOLE	MH
SAN. SEWER		POWER POLE	PP
STORM SEWER		LAMP STANDARD	LS
GAS		CATCH BASIN	CB
U.G. TELEPHONE		HYDRANT	HYD
		TREES	

No.	DATE	BY	REVISION	Chk'd
No.	DATE	BY	REVISION	Chk'd

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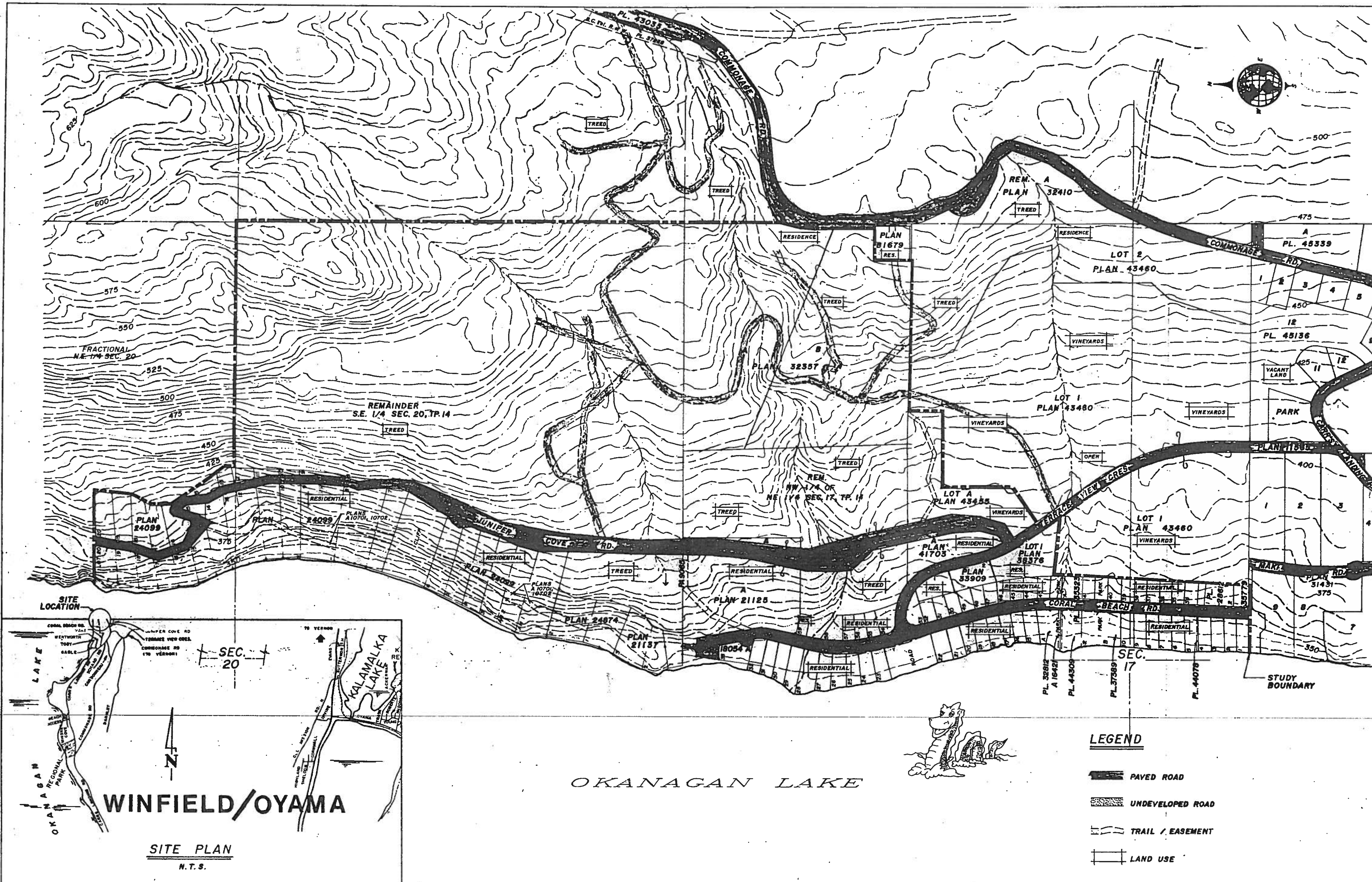
JUNIPER COVE ROAD SUBDIVISION
EXISTING OWNERSHIP

DRAWING NO. 91457-P3
DIVISION MAP 3
REV. NO.



COMMONAGE RD.
REM. A PLAN 32410
TREED
RESIDENCE
PLAN 31679
RES.
PL. 45339
LOT 2 PLAN 43460
PL. 45136
VACANT LAND
PARK
FRACTIONAL N.E. 1/4 SEC. 20
REMAINDER S.E. 1/4 SEC. 20, TP. 14
PLAN 32357
VINEYARDS
LOT 1 PLAN 43460
OPEN
REM. NW 1/4 OF NE 1/4 SEC. 17, TP. 14
LOT A PLAN 43455
TERRACE VIEW CRES.
PLAN 24099
RESIDENTIAL
JUNIPER COVE RD.
A PLAN 41703
LOT 1 PLAN 38376
PLAN 33909
PLAN 21125
PLAN 24674
PLAN 21137
CORAL BEACH RD.
SEC. 20
SEC. 17
STUDY BOUNDARY
SITE LOCATION
WINFIELD/OYAMA
KALAMALKA LAKE
SITE PLAN
N.T.S.
OKANAGAN LAKE
LEGEND
PAVED ROAD
UNDEVELOPED ROAD
TRAIL / EASEMENT
LAND USE

LEGEND		
WATER		MANHOLE
SAN. SEWER		POWER POLE
STORM SEWER		LAMP STANDARD
GAS		CATCH BASIN
U.G. TELEPHONE		HYDRANT
U.G. ELECTRICAL		TREES

No.	DATE	BY	REVISION	Chk'd	No.	DATE	BY	REVISION	Chk'd

DRAWN E.B.B.
DESIGN
APPROVED D.E. PILLING P.ENG.
DATE NOV. 20, '92
SCALE 1:3000

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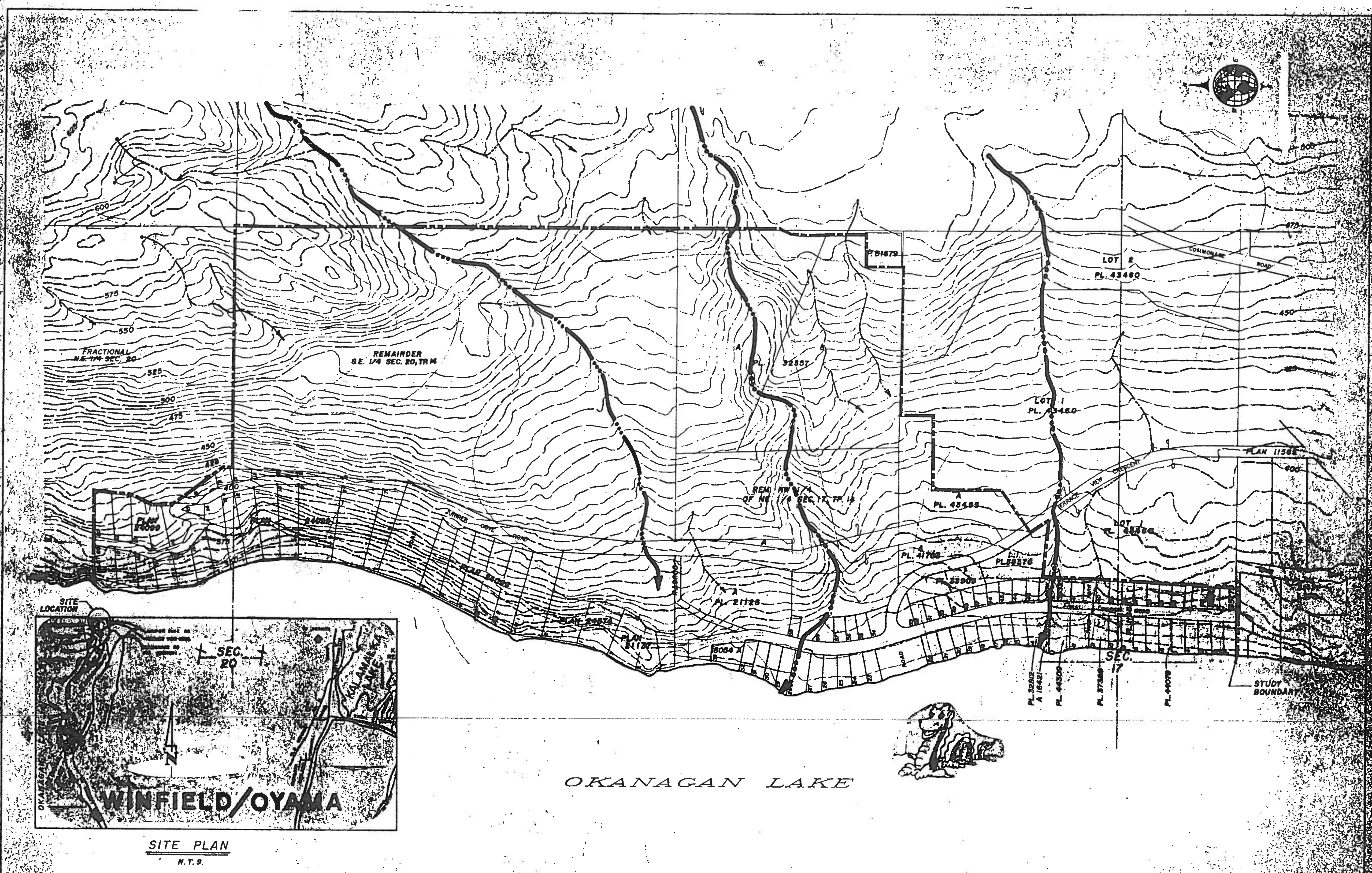
JUNIPER COVE ROAD SUBDIVISION
EXISTING ROAD SYSTEM & LAND USE

DRAWING NO. 91457-P4
DIVISION MAP 4
REV. NO.



SITE PLAN

N.T.S.

MANHOLE	SH
POWER POLE	PP
LAMP STANDARD	LS
CATCH BASIN	
HYDRANT	HYD
TREES	T

No.	DATE	BY	REVISION	Chk'd	No.	DATE	BY	REVISION	Chk'd

DRAWN	E.S.B.
DESIGN	
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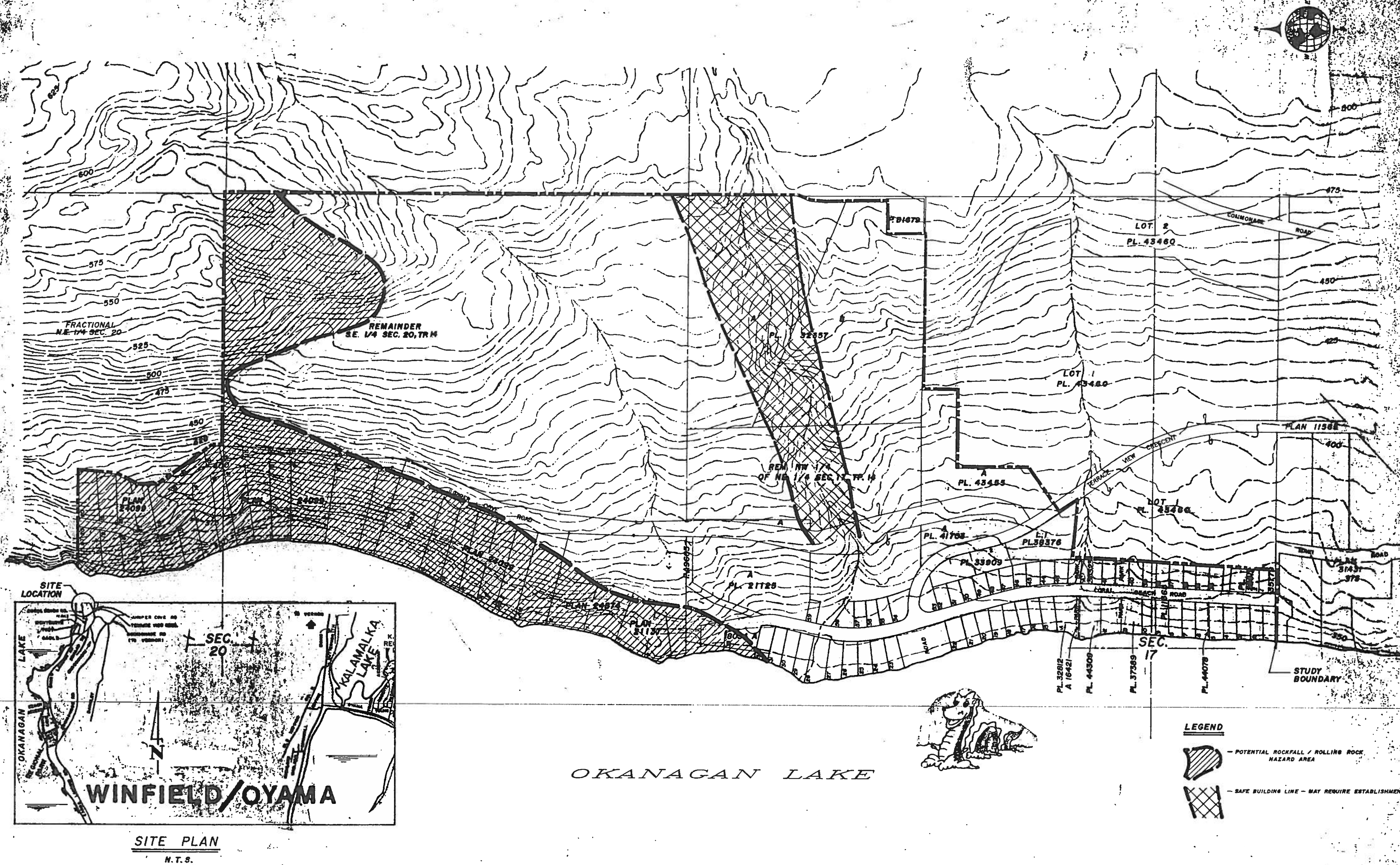
JUNIPER COVE ROAD SUBDIVISION
DRAINAGE & WATER TABLE

91457-P5

MAP 5


FRACTIONAL N.E. 1/4 SEC. 20
REMAINDER S.E. 1/4 SEC. 20, TP 14
REM. NW 1/4 OF NE 1/4 SEC 17, TP 14
LOT 2 PL. 43460
LOT 1 PL. 43460
PL. 43455
PL. 41703
PL. 38376
PL. 33909
PL. 21125
PL. 32557
PLAN 24093
PLAN 24074
PLAN 11566
CORAL BEACH ROAD
TERRACE VIEW CRESCENT
SEC. 17
SEC. 20
STUDY BOUNDARY
OKANAGAN LAKE
LEGEND
POTENTIAL ROCKFALL / ROLLING ROCK HAZARD AREA
SAFE BUILDING LINE - MAY REQUIRE ESTABLISHMENT
SITE LOCATION
KALAMALKA LAKE
OKANAGAN LAKE
WINFIELD/OYAMA
SITE PLAN
N.T.S.

DRAWN	E.B.B.
DESIGN	
APPROVED	D.E. PILLING P.ENG.
DATE	NOV. 20, '92
SCALE	1:3000

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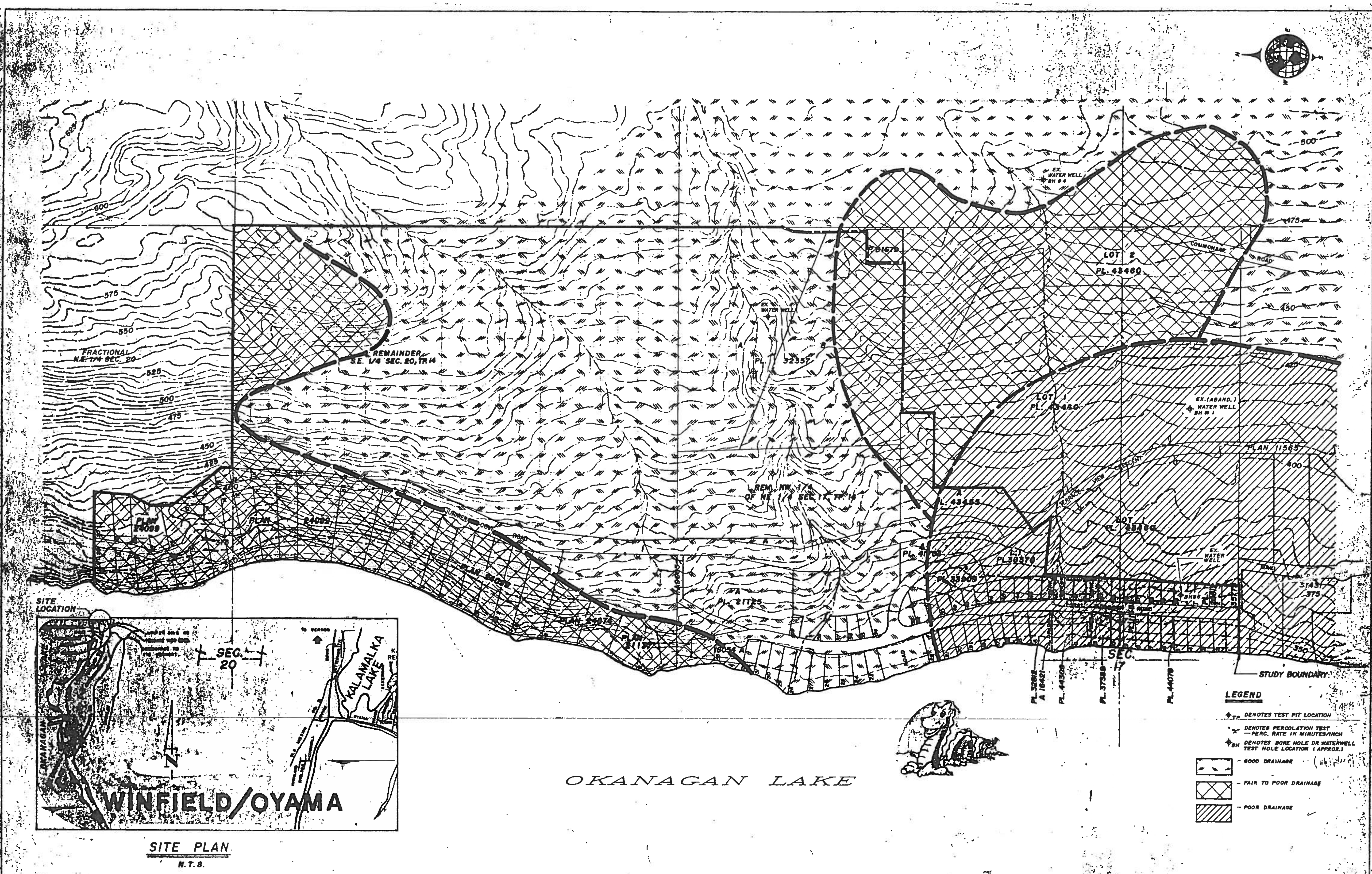
JUNIPER RIDGE DEVELOPMENT LTD.

R.R.#1 S-1 C-85, WESTBANK, B.C. V0H2A0

JUNIPER COVE ROAD SUBDIVISION
SOIL STABILITY

DRAWING NO. 91457 P6

MAP 6



OKANAGAN LAKE
SITE LOCATION
SEC. 20
SEC. 17
KALAMALKA LAKE
WINFIELD/OYAMA
REMAINDER S.E. 1/4 SEC. 20, TP 14
FRACTIONAL N.E. 1/4 SEC. 20
REM. NW 1/4 OF NE 1/4 SEC. 17, TP 14
LOT 2 PL. 43460
LOT 1 PL. 43460
PLAN 11565
PLAN 24022
PL. 21125
EX. WATER WELL
EX. (ABAND.) WATER WELL BH # 1
COMMONAGE ROAD
JUNIPER COVE ROAD
STUDY BOUNDARY
LEGEND
DENOTES TEST PIT LOCATION
DENOTES PERCOLATION TEST —PERC. RATE IN MINUTES/INCH
DENOTES BORE HOLE OR WATERWELL TEST HOLE LOCATION (APPROX.)
- GOOD DRAINAGE
- FAIR TO POOR DRAINAGE
- POOR DRAINAGE

SITE PLAN

N.T.S.

MANHOLE	POWER POLE	LAMP STANDARD	CATCH BASIN	HYDRANT	TREES

No.	DATE	BY	REVISION	CHK'd	No.	DATE	BY	REVISION	CHK'd

DRAWN	E.B.S.
DESIGN	
APPROVED	D.E.PILLING P.ENG.
DATE	NOV. 20, '92
SCALE	1:3000

PACE — D. E. PILLING and ASSOCIATES CONSULTING ENGINEERING Ltd.

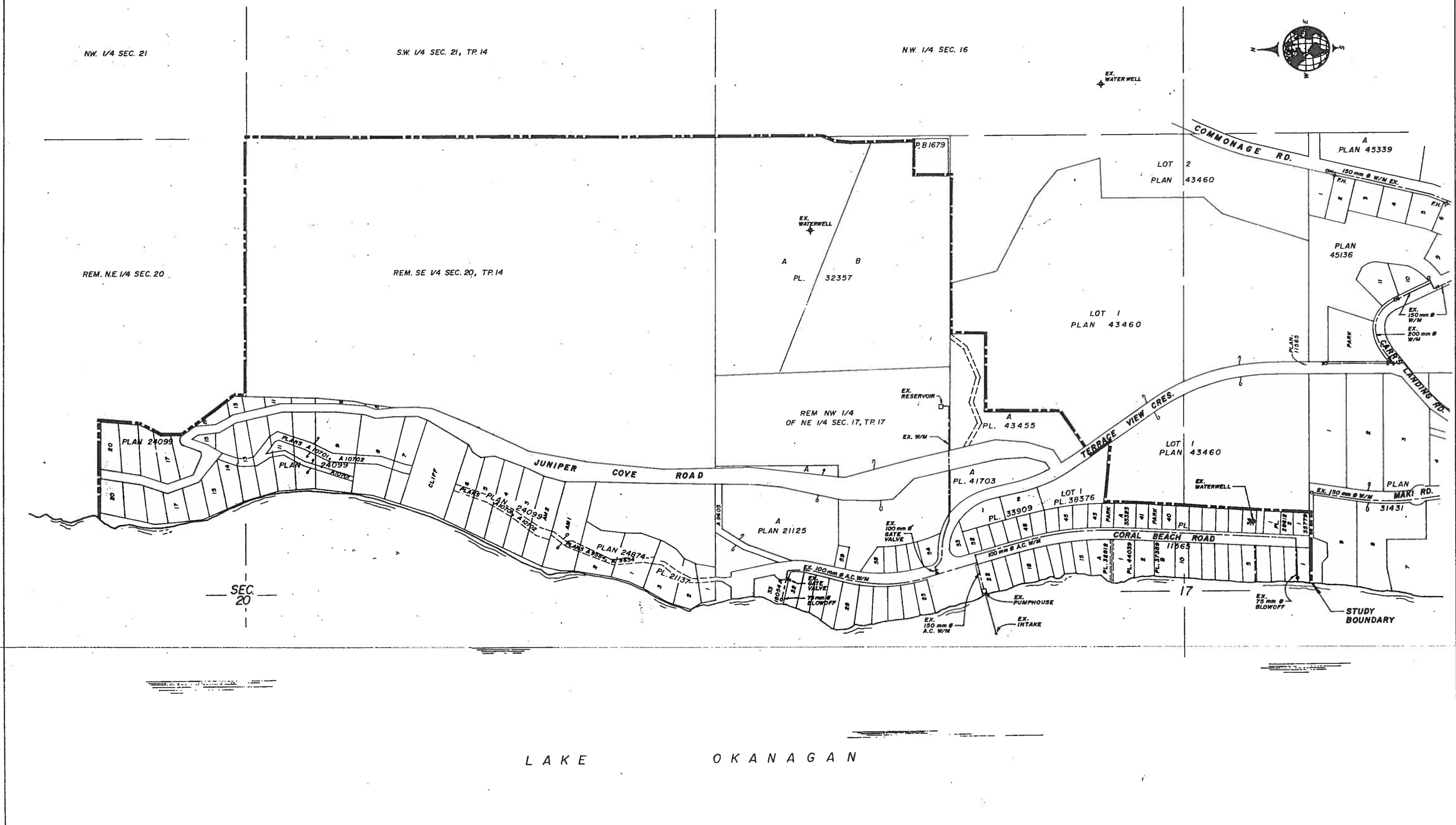
JUNIPER RIDGE DEVELOPMENT LTD.

JUNIPER COVE ROAD SUBDIVISION

SOIL LIMITATIONS

DRAWING NO. 91457 P7

MAP 7



NW. 1/4 SEC. 21
S.W. 1/4 SEC. 21, TP. 14
N.W. 1/4 SEC. 16
EX. WATER WELL
REM. N.E. 1/4 SEC. 20
REM. SE 1/4 SEC. 20, TP. 14
P.B 1679
EX. WATERWELL
A
B
PL. 32357
COMMONAGE RD.
LOT 2
PLAN 43460
A
PLAN 45339
150 mm Ø W/M EX.
F.H.
PLAN
45136
LOT 1
PLAN 43460
EX. 150 mm Ø W/M
EX. 200 mm Ø W/M
CARR'S LANDING RD.
PARK
TERRACE VIEW CRES.
REM NW 1/4
OF NE 1/4 SEC. 17, TP. 17
EX. RESERVOIR
EX. W/M
A
PL. 43455
PLAN 24099
PLANS A10701, A10702
CLIFF
JUNIPER COVE ROAD
A
PL. 41703
LOT 1
PLAN 43460
EX. WATERWELL
PLAN
EX. 150 mm Ø W/M
MAKI RD.
31431
PLAN 21125
EX. 100 mm Ø GATE VALVE
PL. 33909
LOT 1
PL. 38376
CORAL BEACH ROAD
11565
100 mm Ø A.C. W/M
PLAN 24874
PL. 21137
EX. 100 mm Ø A.C. W/M
EX. GATE VALVE
75 mm Ø BLOWOFF
EX. 150 mm Ø A.C. W/M
EX. PUMPHOUSE
EX. INTAKE
EX. 75 mm Ø BLOWOFF
STUDY BOUNDARY
SEC. 20
17
LAKE OKANAGAN

LEGEND

WATER		MANHOLE	M.H.
SAN. SEWER		POWER POLE	P.P.
STORM SEWER		LAMP STANDARD	L.S.
GAS		CATCH BASIN	C.B.
U/G TELEPHONE		HYDRANT	HYD
U/G ELECTRICAL		TREES	T

DRAWN	E.B.B.
DESIGN	P.A.C.E.
APPROVED	D. E. PILLING P. ENG.
DATE	DEC. 10, 1992
SCALE	1 : 3000

PACE

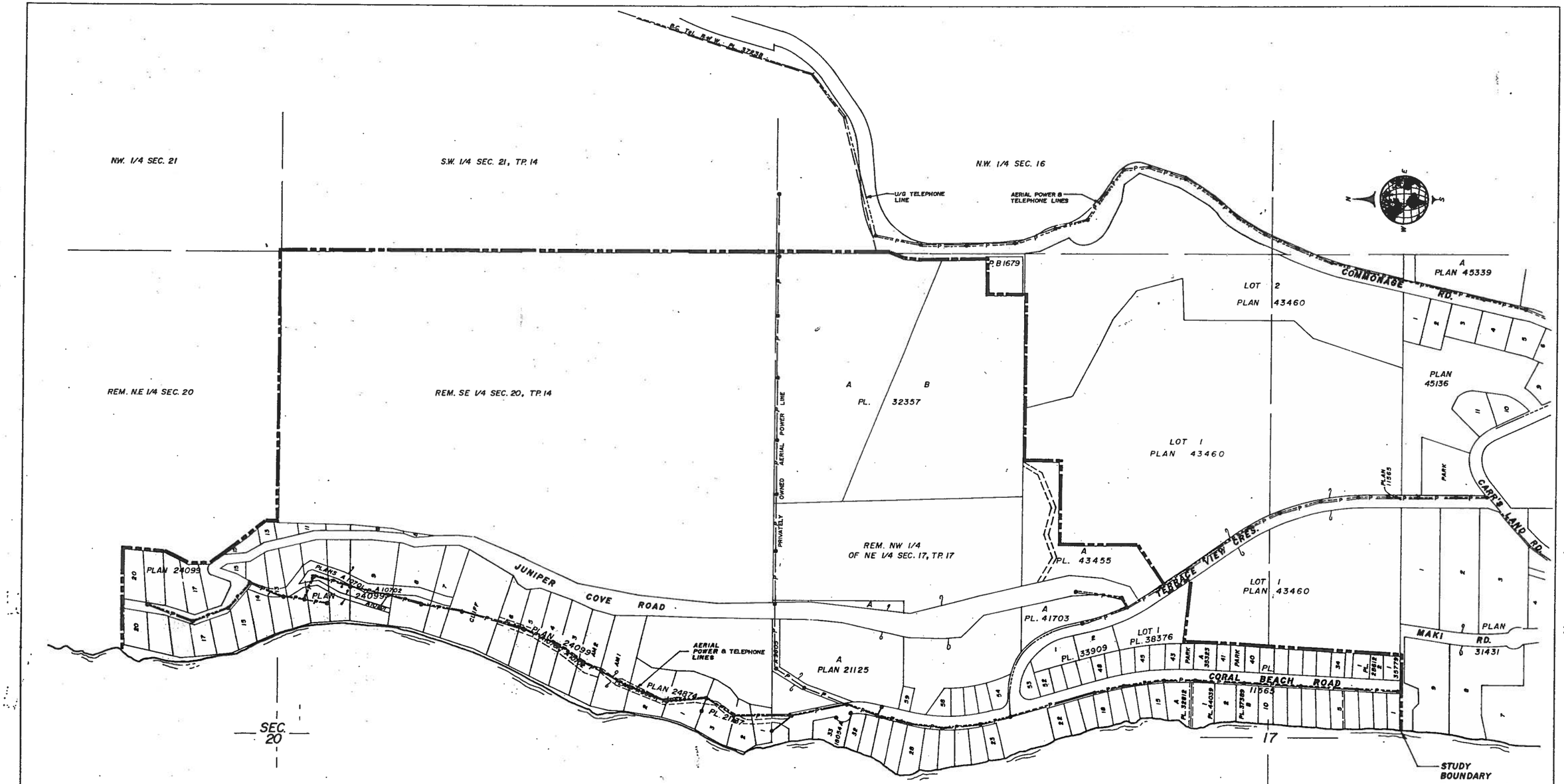
D.E. PILLING and ASSOCIATES
CONSULTING ENGINEERING Ltd.

JUNIPER RIDGE DEVELOPMENT LTD.
R.R. #1, S-1, C-85, WESTBANK, B.C. V0H 2A0
JUNIPER COVE ROAD SUBDIVISION
EXISTING WATER & SEWER SYSTEMS

DIVISION NO. 91457-P8

DRAWING NO. MAP 8

REV. NO.



LEGEND

WATER		MANHOLE	○ M.H.
SAN. SEWER		POWER POLE	⊗ P.P.
STORM SEWER		LAMP STANDARD	⊕ L.S.
GAS		CATCH BASIN	▣ C.B.
U/G TELEPHONE		HYDRANT	⊕ HYD
U/G ELECTRICAL		TREES	✿ T

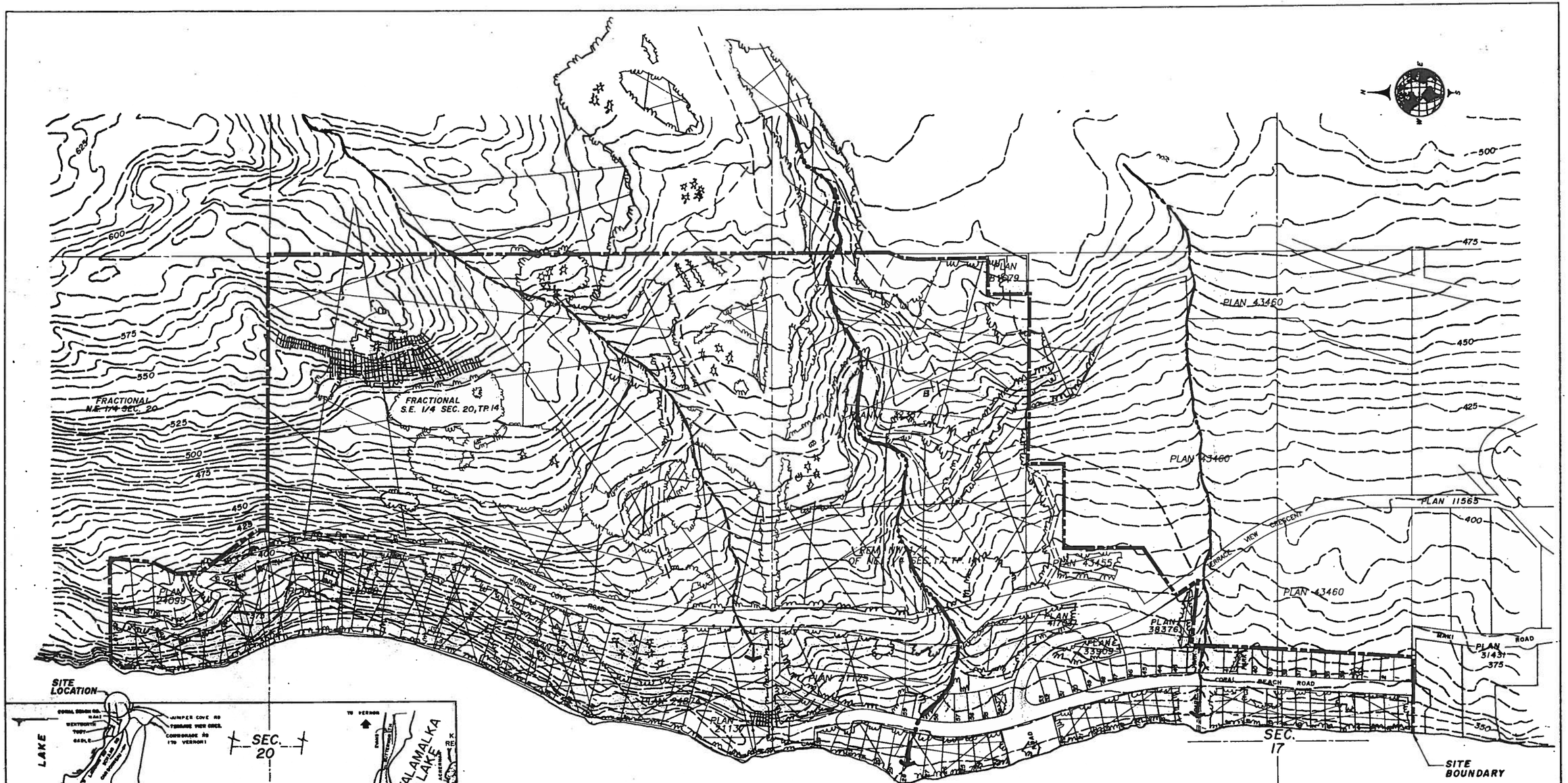
NO.	DATE	BY	REVISION	CH'KD	NO.	DATE	BY	REVISION	CH'KD

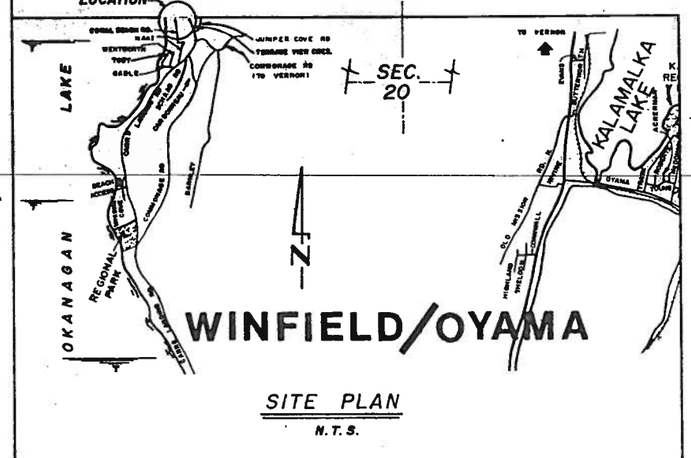
DRAWN	E.B.B.
DESIGN	P.A.C.E.
APPROVED	D. E. PILLING P.ENG.
DATE	DEC. 10, 1992
SCALE	1 : 3000

PACE
D.E. PILLING and ASSOCIATES
CONSULTING ENGINEERING Ltd.
200, 1980 PAYTON ST. KELOWNA, B.C. V1Y 7W8
TEL. 763-2313
FAX. 763-4338

JUNIPER RIDGE DEVELOPMENT LTD.
R.R. #1, S-1, C-85, WESTBANK, B.C. V0H 2A0
JUNIPER COVE ROAD SUBDIVISION
EXISTING UTILITIES

DWG/JOB NO.	
91457 - P9	
DRAWING NO.	REV. NO.
MAP 9	





LEGEND

- ESCARPMENT
- DRAINAGE
- TREE COVER
- TRAIL

LEGEND

WATER		MANHOLE	MH
SAN. SEWER		POWER POLE	PP
STORM SEWER		LAMP STANDARD	LS
GAS		CATCH BASIN	
U.G. TELEPHONE		HYDRANT	HYD
U.G. ELECTRICAL		TREES	T

No.	DATE	BY	REVISION	Chk'd

DALE E. PILLING, P.ENG.

DRAWN
DESIGN
APPROVED
DATE
SCALE 1:3000

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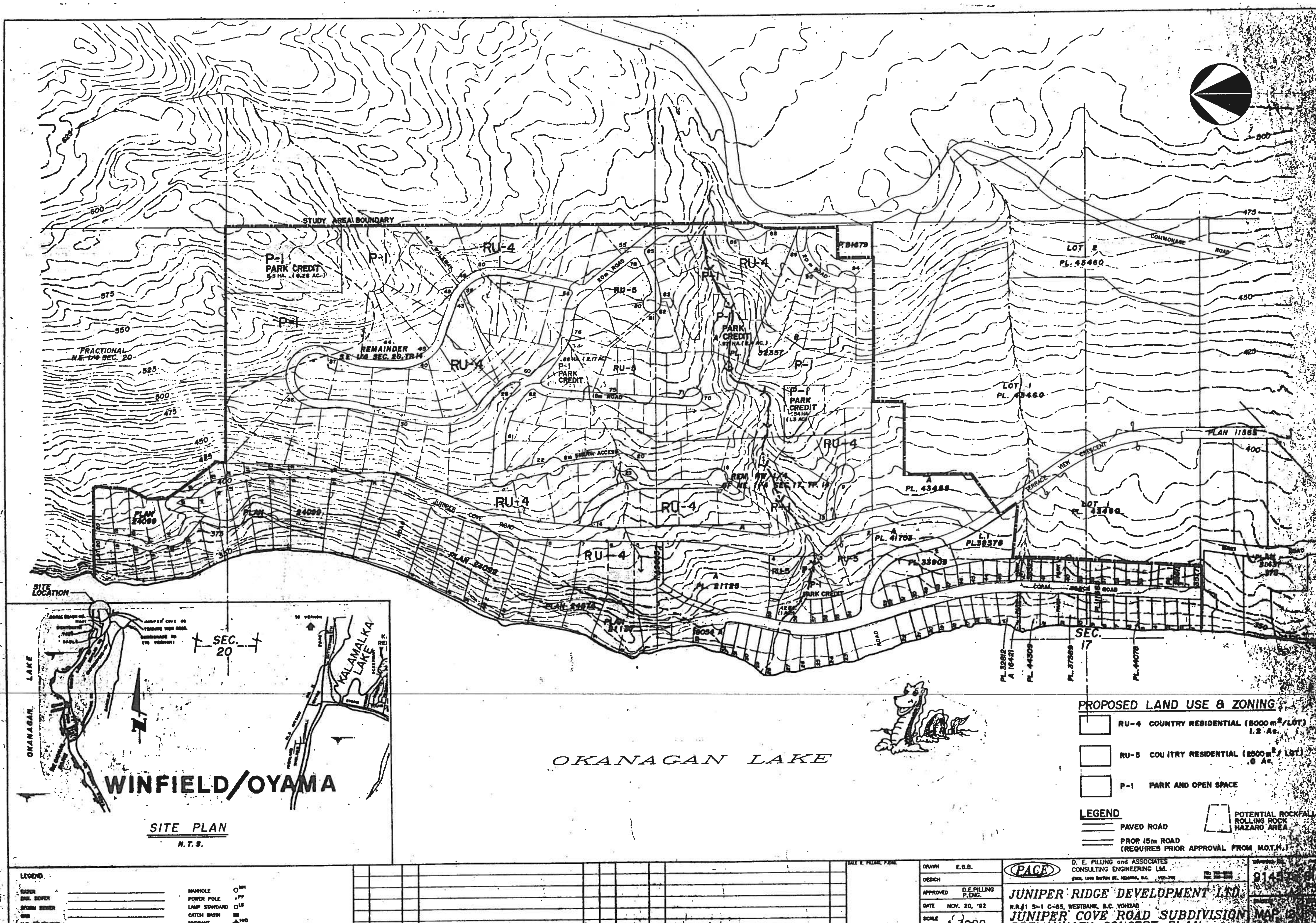
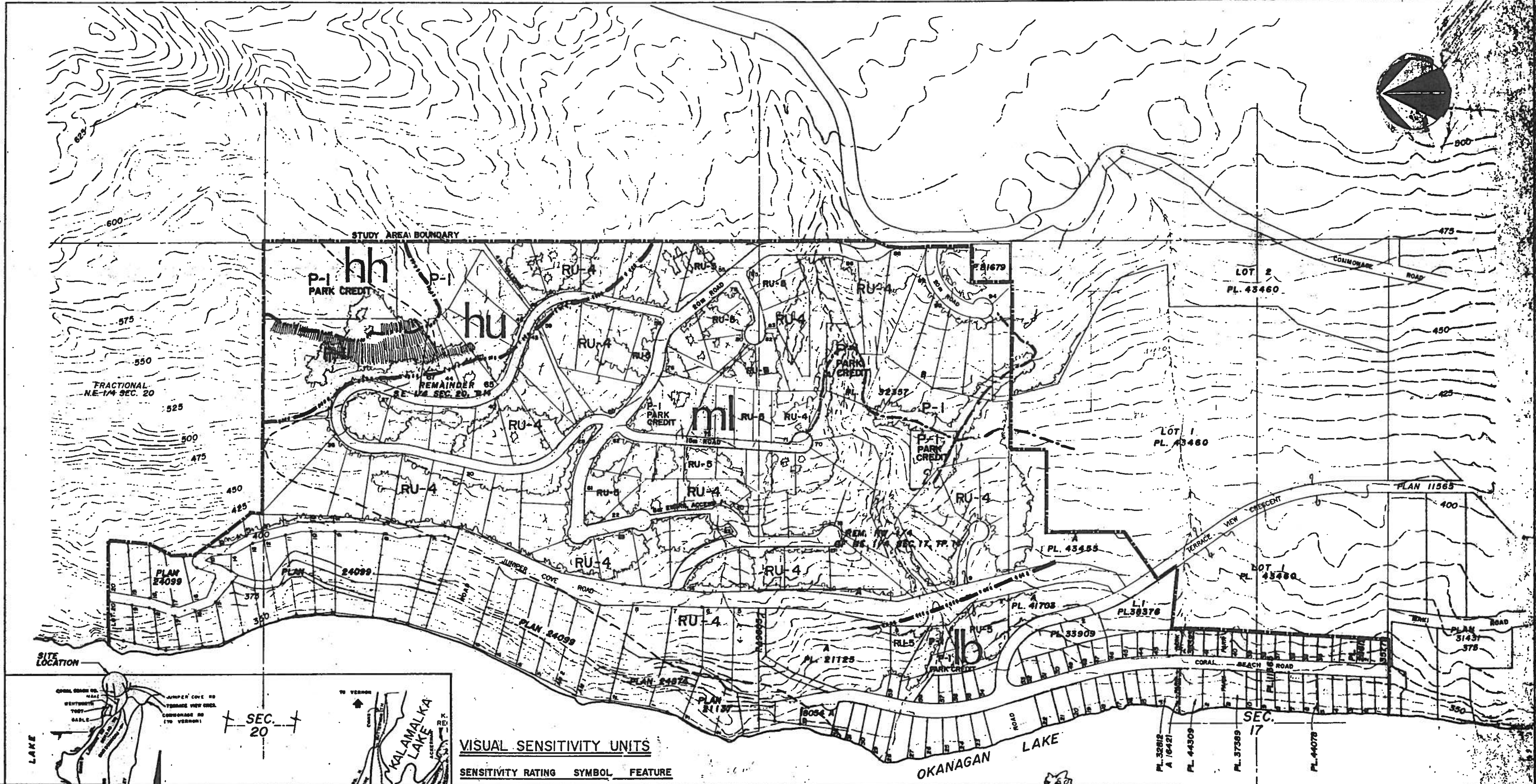
D. E. PILLING and ASSOCIATES
CONSULTING ENGINEERING Ltd.
#200, 1999 BOUTON ST., KELOWNA, B.C. V1Y-7W8
TEL: 763-3318
FAX: 763-8950

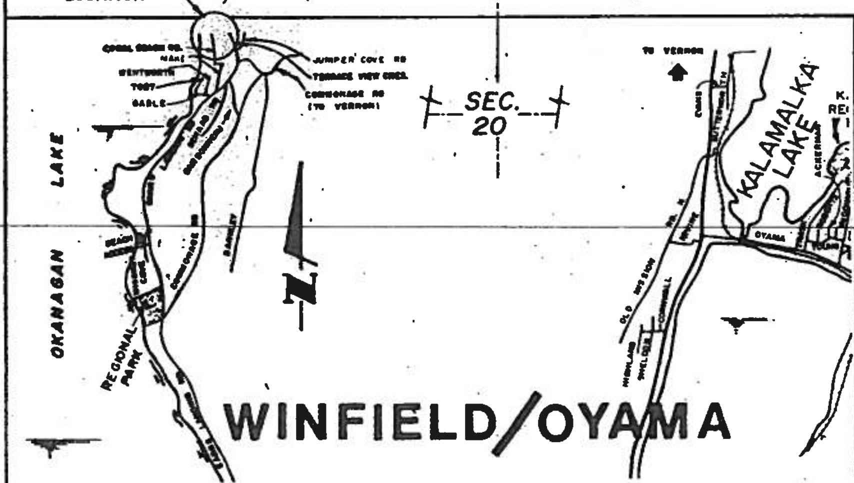
JUNIPER RIDGE DEVELOPMENT LTD.
R.R.#1 S-1 C-85, WESTBANK, B.C. V0H2A0

JUNIPER COVE ROAD SUBDIVISION
NATURAL FEATURES

DRAWING NO. 91457-P10
DIVISION MAP 10
REV. NO.


STUDY AREA BOUNDARY
P-1 PARK CREDIT 5.5 HA. (9.28 AC.)
P-1
RU-4
RU-5
FRACTIONAL N.E. 1/4 SEC. 20
REMAINDER S.E. 1/4 SEC. 20, TP.14
P-1 PARK CREDIT
PL. 52357
LOT 2 PL. 43460
LOT 1 PL. 43460
PLAN 11565
TERRACE VIEW CRESCENT
COMMONAGE ROAD
JUNIPER COVE ROAD
PLAN 24099
PLAN 36099
PLAN 24074
PL. 21125
PL. 41702
PL. 33909
PL. 39376
PL. 43455
CORAL BEACH ROAD
SEC. 17
SEC. 20
PL. 32612
PL. 44309
PL. 37389
PL. 44076
OKANAGAN LAKE
SITE LOCATION
KALAMALKA LAKE
OKANAGAN LAKE
WINFIELD/OYAMA
SITE PLAN
N.T.S.
PROPOSED LAND USE & ZONING
RU-4 COUNTRY RESIDENTIAL (5000 m²/LOT) 1.2 Ac.
RU-5 COUNTRY RESIDENTIAL (2500 m²/LOT) .6 Ac.
P-1 PARK AND OPEN SPACE
LEGEND
PAVED ROAD
PROP. 15m ROAD (REQUIRES PRIOR APPROVAL FROM M.O.T.H.)
POTENTIAL ROCKFALL, ROLLING ROCK HAZARD AREA
LEGEND
MANHOLE
POWER POLE
LAMP STANDARD
CATCH BASIN
HYDRANT
DRAWN E.B.B.
DESIGN
APPROVED D.E.PILLING P.ENG.
DATE NOV. 20, '92
SCALE 1:3000
PACE
D. E. PILLING and ASSOCIATES CONSULTING ENGINEERING Ltd.
JUNIPER RIDGE DEVELOPMENT LTD.
R.R.#1 S-1 C-85, WESTBANK, B.C. V0H2A0
JUNIPER COVE ROAD SUBDIVISION
PRELIMINARY CONCEPT PLAN
REVISION
DATE
BY





SITE PLAN

N.T.S.

VISUAL SENSITIVITY UNITS

SENSITIVITY RATING	SYMBOL	FEATURE
HIGH	hr	RIDGES
	hh	HILLTOP
	hu	UPPER SLOPES
MEDIUM	ml	LOWER SLOPES
LOW	lb	VALLEY BOTTOM
		UNIT BOUNDARY

IMPORTANT NATURAL FEATURES TO MAINTAIN

- ESCARPMENT / CLIFFS
- NATURAL TREE COVER
- EXISTING TRAILS

PROPOSED LAND USE & ZONING

- RU-4 COUNTRY RESIDENTIAL (5000 m² / LOT) 1.2 Ac.
- RU-5 COUNTRY RESIDENTIAL (2500 m² / LOT) .6 Ac.
- P-1 PARK AND OPEN SPACE

LEGEND

- PAVED ROAD
- PROP. 15m ROAD (REQUIRES PRIOR APPROVAL FROM M.O.T.H.)
- POTENTIAL ROCKFALL / ROLLING ROCK HAZARD AREA

LEGEND

WATER		MANHOLE	
SAN. SEWER		POWER POLE	
STORM SEWER		LAMP STANDARD	
GAS		CATCH BASIN	
U.G. TELEPHONE		HYDRANT	
U.G. ELECTRICAL		TREES	

No.	DATE	BY	REVISION	Chk'd	No.	DATE	BY	REVISION	Chk'd

DRAWN E.B.B.

DESIGN

APPROVED D.E. PILLING P.ENG.

DATE NOV. 20, '92

SCALE 1:3000

PACE — D. E. PILLING and ASSOCIATES CONSULTING ENGINEERING Ltd.

JUNIPER RIDGE DEVELOPMENT LTD.

R.R. 1 S-1 C-85, WESTBANK, B.C. V0H2A0

JUNIPER COVE ROAD SUBDIVISION VISUAL ANALYSIS

MAP 3

EDUCATION FACILITIES

▲ EXISTING

1 OYAMA ELEMENTARY
2 DAVIDSON ROAD ELEMENTARY
3 WOOD LAKE ELEMENTARY (closed)
4 WINFIELD ELEMENTARY
5 GEORGE ELLIOT SECONDARY
6 PETER GREER ELEMENTARY

RECREATION FACILITIES

★ EXISTING

1 KOPJE REGIONAL PARK
2 CORAL BEACH TENNIS COURTS
3 COMMONAGE COMMUNITY PARK
4 TERRACE VIEW COMMUNITY PARK
5 CARRS LANDING COMMUNITY PARK
6 CORAL BEACH COMMUNITY PARK
7 CARRS LANDING COMMUNITY PARK

KALAMACKA LAKE
SAWMILL
OYAMA
OYAMA RD.
OYAMA RD.
TO VERNON
OLD MISSION RD. N.
WOOD LAKE
HIGHWAY 97
LODGE
WINFIELD
WOODSDALE
WOODLAKE
LODGE
GRANT
TO KELOWNA
SHANKS
GLENMORE RD.
OKANAGAN CENTRE E.
OCEOLA
SEATON
DICK
CENTRE W.
OKANAGAN
SEATON
CHASE
CAMP
BOND
DAVIDSON
CAMP
TYNDALL RD.
FINCH
CAMP
OKANAGAN CENTRE RD. W.
COMMONAGE RD.
TERRACE VIEW CRESCENT
CARRS
BARKLEY
JUNIPER COVE RD
COMMONAGE RD.
CARRS LANDING RD.
CARRS LANDING RD
PRE-PLAN STUDY AREA
OKANAGAN LAKE

CARRS LANDING AREA PRE-PLAN

EDUCATION & RECREATION FACILITIES

NTS

MAP II