

N I C H E L I N I
GENERAL ENGINEERING
STATE LICENSE No. 621267

ATTACHMENT 5:

**POPE CREEK ROCK QUARRY/GRAVEL PIT
RECLAMATION PLAN DETAIL**

Revised May 1997

Note: The following Attachments are cross-referenced with the Prototype Reclamation Plan Form provided by the State Mining and Geology Board:

- Attachment 1: Site Plan (Existing)
- Attachment 2: Topographic Map (Existing)
- Attachment 2A: Report of Environmental Setting
 - Vegetation Survey
 - Sensitive Species/Habitat
 - Proposed Revegetation Plan/discussion
 - Soil Fertility Guidelines - A&L Agricultural Labs
- Attachment 3: Financial Assurances Cost Estimate
- Attachment 4: Notice to Owner of Proposed End Use.
- Attachment 5: Reclamation Plan (This Document)
- Attachment 5A: Proposed Reclaimed Site Topographic Map

I. ROCK QUARRY (HARD ROCK QUARRY)

1. Reclamation and Reclamation Schedule. This schedule assumes that all hard rock permitted to be extracted will have been extracted when the time for reclamation (site closure) occurs. As described in the Project Revision Statement, Item 1, Geology and Ecosystems, the northern boundary of the site will contain an undisturbed ridge extending no closer than 10 horizontal feet from the sharp break in slope defining the southern edge of the existing natural terraces along the rim of the inner rock-cut Pope Creek gorge, or, where there is no existing natural terrace, the line connecting the southern edge of the two nearest terraces. This northerly area of undisturbed property is designated the "unworked portion of the site".

Reclamation of the "worked" portion of the site would include site cleanup (described below), regrading of the approximately 6

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ATT 5.1

acre site to establish natural-appearing contour and drainage, and revegetation, described below.

2. Cleanup. All processing equipment, related structures and improvements would be removed:

- Truck scale and scale shack, backfill of the scale pit
- Culvert drain pipes
- Steel frame fixed conveyor, elevator and elevated storage bunkers
- Steel/timber headwall
- Utility pole and lines
- Miscellaneous "Boneyard" scrap metal and debris

3. Post-Reclamation and Future Mining. Upon completion of reclamation activities the site would have the appearance of open space/wildlife habitat with a crescent-shaped, rocky hill approximately forty feet high at its highest point and five hundred feet long at the northern boundary of the site (farthest from Pope Canyon Road). The southern face of this hillock would be rocky and would roughly match the slope of the undisturbed hill on the opposite (north) bank of Pope Creek. The reclaimed site would have no adverse future effect on adjacent or nearby properties for mining purposes. See Attachment 5A: "Proposed Reclaimed Site Topographic Map."

4. Subsequent Uses. The site would be suitable for open space/wildlife habitat.

5. Slopes and Slope Treatment. Unimproved access roads and graded work areas would be regraded to conform to natural terrain. Additionally, compacted areas, such as haul roads and equipment work areas, would be "decompacted" by deep ripping. Finished slopes would be contoured to blend with the terrain. Slopes would not exceed 2% at any point on the reclaimed site. The front-facing (south) slope of the undisturbed hillock along the northern boundary would approximately replicate the existing slope of the undisturbed rocky hill on the opposite (north, "off-property") bank of Pope Creek.

6. Ponds, Reservoirs, Tailings, Wastes.

- a. The surface runoff silt/settling pond would be backfilled with select overburden material. There would be no tailings and/or mine waste piles.

7. Soils and Fine Textured Waste. Approximately 10,000 cubic yards of select stockpiled soil will be stored (shown on

Attachment 1: "Site Plan - Existing") for end-use spreading over the approximately six acre flat working pad area to a depth of approximately 12 inches, fine graded to establish natural contour and drainage.

8. Revegetation. Refer to Attachment 2A: "Proposed Revegetation Plan/Discussion" prepared by Joe Callizo dated 6 May 1997 and "Soil Fertility Guidelines" prepared by A&L Western Laboratories dated 23 April 1997 (This analysis is based upon two soil samples taken from the Hard Rock Quarry site, designated HR1 and HR2, and one sample taken from the Wash/Batch plant site, designated GP3. The Hard Rock soil samples were taken from overburden piles and are of poor quality. In a phone conversation with A&L Western's analyst Mike Buttress on 14 May 1997, it was determined that the site is high in mangesium, which inhibits drainage and subsequent nutrient uptake, requiring a large amount of gypsum amendment. Mr. Buttress suggested that adding 2% organic material to the existing soils could substantially reduce the amount of gypsum and "NPK" fertilizers suggested in the A&L Western report. The Financial Assurances Cost Estimate - Attachment 3 - reflects this suggestion.)

Mr. Callizo's general intent is to induce a replication of native plant species presently found in the local area. A performance standard (success criteria) of 80% of "baseline" is suggested. Mr. Callizo's suggested plant list and seed rates are used in the Reclamation Cost Estimate. Revegetation would include tree planting at the rate of two new trees of like species for every one tree currently growing on the site, with protective tree tubes and a drip irrigation regime lasting 3 - 5 years (or until established).

9. Drainage and Erosion Controls. Final drainage patterns would be established to ensure no measurable impact on the surrounding watershed or Pope Creek.

10. Public Safety. There would be no public safety impact from the reclamation of the site.

11. Monitoring and Maintenance.

a. There is no evidence of baseline monitoring having been performed at the site.

b. Periodic site inspections would be performed to ensure that revegetation occurs, as recommended in Attachment 2A: "Proposed Revegetation Plan/discussion."

Monitoring of erosion control measures would be

performed once per week for the first wet season month after reclamation is completed, followed by bi-weekly inspections for the following three months, followed by monthly inspection in dry months and/or continued bi-weekly inspection in wet season months, for a total of twelve months.

c. The Applicant would be responsible for carrying out the aforementioned revegetation, erosion control, and monitoring program, to include a written record describing each inspection visit. The record would be retained for a five year period.

12. Reclamation Assurance. The Applicant is a licensed and bonded general engineering contractor possessing the equipment and expertise to perform all aspects of the Reclamation Plan. Additionally, a surety bond in an amount and form satisfactory to the County would be secured to guarantee reclamation of the site. Refer to Attachment 3: "Financial Assurances Cost Estimate."

II. GRAVEL PIT (WASH PLANT AND CONCRETE BATCH PLANT)

1. Reclamation and Reclamation Schedule. Reclamation would ensue upon closure of the Pope Creek Gravel Pit (creek extraction) operation. Reclamation would include site cleanup, regrading of the 5.5 acre (approx.) site back to establish natural contour and drainage, and revegetation, described below.

2. Cleanup. All processing equipment, related structures and improvements would be removed from the site:

Concrete Batch Plant:

Headwall

3 Aggregate Bins

Portland Cement Silo

Water batch tank (approx. 200 gal)

Feed belt system

Batch Hopper, support structure

Electrical motors, switch gear, panels

Wash Plant:

Pope Creek electric suction pump assembly, panel

Water feed valves and piping

Waste water valves and piping

Settling Pond recycling pump, valves, piping, panel

Feed hopper and headwall

24" Jaw Crusher

Internal combustion engine (crusher power plant)

Feed belts, two wash decks, support structure

Electric motors, switch gear, panels

Salvage rolling stock
 Utility poles and lines
 16ft X 30ft Storage Shed
 13ft X 24ft Office
 Misc. Wood Frame/Corrugated Metal Sheds:
 4ft X 6ft
 8ft X 16ft
 3 ft X 8ft
 Skid-mounted diesel storage tank (200 gal)
 Miscellaneous "Boneyard" scrap metal and debris

Note: The abandoned 10ft X 60ft house trailer is the property of the Landowner, and is not related to the Batch/Wash Plant operation.

3. Post-Reclamation and Future Use. Upon completion of reclamation activities the site would be open space/wildlife habitat. The reclaimed site would have no adverse future impact on adjacent or nearby properties.

4. Subsequent Uses. The site would be suitable for open space/wildlife habitat.

5. Slopes and Slope Treatment. Unimproved access roads, graded work areas, and settling ponds would be regraded to conform to natural terrain. Additionally, compacted areas, such as haul roads and equipment work areas, would be "decompacted" by deep ripping. Finished slopes would be contoured to blend with the terrain. The natural, slight ground slope towards Pope Creek would be restored. It is anticipated that no reclaimed slopes would exceed 3 horizontal to one vertical.

6. Ponds, Reservoirs, Tailings, Wastes.

a. The two settling ponds would be filled in by redistributing the earth berms back into the excavations. Any remaining stockpiles of aggregate would be removed from the site. Wash Plant tailings, consisting of silts washed out of the creek aggregate, would be mixed with the fill. Hydrated portland cement/concrete tailings (i.e. Batch Plant slough/waste) would be loaded and offhauled to a legal recycling operation.

b. No dams have been constructed or are contemplated during the operational phase. Small embankments (berms) created to channelize runoff would be levelled.

7. Soils and Fine Textured Waste. Site soils consist of weak topsoil overlaying alluvium containing cobbles, gravel, sand, and silt. Fine textured waste consists of native silt tailings from

the Wash Plant.

8. Revegetation. Refer to Attachment 2A: "Proposed Revegetation Plan/Discussion" prepared by Joe Callizo dated 6 May 1997 and "Soil Fertility Guidelines" prepared by A&L Western Laboratories dated 23 April 1997 (This analysis is based upon two soil samples taken from the Hard Rock Quarry site, designated HR1 and HR2, and one sample taken from the Wash/Batch plant site, designated GP3. The Gravel Pit soil sample was taken from relatively undisturbed ground in the "Work Area" west of the main access road and is moderately fertile. In a phone conversation with A&L Western's analyst Mike Buttress on 14 May 1997, it was determined that the site is high in mangesium, which inhibits drainage and subsequent nutrient uptake, requiring a large amount of gypsum amendment. Mr. Buttress suggested that adding 2% organic material to the existing soils could substantially reduce the amount of gypsum and "NPK" fertilizers suggested in the A&L Western report. The Financial Assurances Cost Estimate - Attachment 3 - reflects this suggestion.)

Mr. Callizo's general intent is to induce a replication of native plant species presently found in the local area. A performance standard (success criteria) of 80% of "baseline" is suggested. Mr. Callizo's suggested plant list and seed rates are used in the Reclamation Cost Estimate. Revegetation would include tree planting at the rate of two new trees of like species for every one tree currently growing on the site, with protective tree tubes and a drip irrigation regime lasting 3 - 5 years (or until established).

9. Drainage and Erosion Controls. Final drainage patterns would be equivalent to or flatter than existing patterns to ensure no measurable impact on the surrounding watershed or Pope Creek.

10. Public Safety. There would be no public safety impact from the reclamation of the site.

11. Monitoring and Maintenance.

a. There is no evidence of baseline monitoring having been performed at the site.

b. Periodic site inspections would be performed to ensure that revegetation occurs, as recommended in Attachment 2A: "Proposed Revegetation Plan/discussion."

Monitoring of erosion control measures would be performed once per week for the first wet season month after reclamation is completed, followed by bi-weekly inspections for

the following three months, followed by monthly inspection in dry months and/or continued bi-weekly inspection in wet season months, for a total of twelve months.

c. The Applicant would be responsible for carrying out the aforementioned revegetation, erosion control, and monitoring program, to include a written record describing each inspection visit. The record would be retained for a five year period.

12. Reclamation Assurance. The Applicant is a licensed and bonded general engineering contractor possessing the equipment and expertise to perform all aspects of the Reclamation Plan. Additionally, a surety bond in an amount and form satisfactory to the County would be secured to guarantee reclamation of the site. Refer to Attachment 3: "Financial Assurances Cost Estimate."

REVEGETATION PLAN

The following recommendations for a revegetation plan are based upon 30 years of study of the native plants of Napa County, and even more years, of Pope Valley. During those periods I have developed comprehensive checklists for the woodland and riparian plant communities in Pope Valley and specifically for the area of Walters Springs Bridge. These checklists are composit, i.e., compiled from many visits to many sites. Copies are available from me upon request.

My Revegetation Plan is to be part of an approved Reclamation Plan.

Although the 2 quarries are not prime agricultural lands, it is highly likely that livestock grazing will occur there in the distant future. There is even a chance that the batch/wash plant site will someday be used for crops!

Introduction:

REVEGETATION

The following parameters pose limits on the plant species that might be used:

Desired habitat

Plant Community

Suggests what plants would, or would not, likely grow well in the area.

Suggests what plants to avoid, or not avoid, that are common in the area.

Sunlight

Temperature

Slope

Moisture

Proximities

Availability of plants

4

TWO GRAVEL QUARRIES IN POPE VALLEY; NICHELINI

REVEGETATION

Site: 2 riparian borders

The following characteristics of the site place limitations on the species that ought to be planted:

Desired habitat: natural + predisturbance + native

Plant Community: VALLEY OAK RIPARIAN

Species present: Valley Oak, Willows, Oregon Ash,
Gray Pine, Elderberry

Sunlight: full sun

Temperature: seasonal frost

Slope: steep riverbanks

Moisture: summer moist

Soil: gravelly, rocky

Proximity to: Pope Creek

Other: _____

Additional limitation: Availability of plant material.

Sketch: see inclosed maps.

Recommended: Plant many of the following:

Trees: Valley Oaks (*Quercus lobata*), Oregon Ash (*Fraxinus latifolia*) Fremont Cottonwood (*Populus fremonti*) Elderberry (*Sambucus caerulea*), Red Willow (*Salix laevigata*), Sandbar Willow (*S. sessifolia*) Arroyo Willow (*S. lasiolepis*), Black Walnut (*Juglans hindsii*) Big Leaf Maple (*Acer macrophyllum*)

Shrubs: Snowberry (*Symphoricarpos albus* var *laevigatus*), Mugwort (*Artemisia douglasiana*), Calif. Wild Rose (*Rosa californica*), Calif. Wild Grape (*Vitis californica*)

Herbs: see the following discussion.

TWO GRAVEL QUARRIES IN POPE VALLEY: NICHELINI 9

REVEGETATION

Site: graded areas + roadside strips

The following characteristics of the site place limitations on the species that ought to be planted:

Desired habitat: natural + predisturbance + native

Plant Community: Woodland

Species present: Valley Oak, Blue Oak

Sunlight: full sun except under remnant trees

Temperature: seasonal frost

Slope: more or less flat

Moisture: summer/fall dry

Soil: gravelly, rocky clay

Proximity to: Pope Creek

Other: _____

Additional limitation: Availability of plant material.

Sketch: see included maps.

Recommended: Plant many of the following. Live Oak (*Q. agrifolia* or *wigleyi*)

Trees: Valley Oak (*Quercus lobata*), Blue Oak (*Q. douglasii*), Oregon Ash (*Fraxinus latifolia*), Elderberry (*Sambucus caerulea*), Gray Pine (*Pinus sabiniana*), Black Walnut (*Juglans hindsii*), Buckeye (*Aesculus californica*), Bay (*Umbellularia californica*)

Shrubs: Common Manzanita (*Arctostaphylos manzanita*), Coyote Brush (*Baccharis pilularis*), Common Buckebush (*Ceanothus cuneatus*), Wild Licorish (*Glycyrriza lepidota*), Summer Lupine (*Lupinus formosus*), Jepson's Wild Pea (*Lathyrus jepsonii* var. *californicus*), Toyon (*Heteromeles arbutifolia*), Squaw Bush (*Rhus trilobata* var. *gumata*)

Herbs: see discussion which follows

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Quarry in Pope Valley: NICHELINI

REVEGETATION

Site: South slope of knob.

The following characteristics of the site place limitations on the species that ought to be planted:

Desired habitat: natural + predisturbance + native

Plant ~~Community~~ ^{Habitat}: steep, dry, rocky, grassy, subbarren slope.

Species present: none

Sunlight: full sun

Temperature: seasonal frosts

Slope: steep

Moisture: summer-fall dry

Soil: rocky

Proximity to: _____

Other: _____

Additional limitation: Availability of plant material.

Sketch: see map inclosed.

Recommended: Plant many of the following:

Trees: none,

Shrubs: Common Buckbrush (*Ceanothus cuneatus*), Bush Monkey Flower (*Mimulus aurantiacus*), Nude Buckwheat (*Eriogonum nudum*), Bush Lupine (*Lupinus albus*), Yerba Santa (*Eriodictyon californicum*), Common Coyote Mint (*Monardella villosa*), Blue Penstemon (*Penstemon heterophyllus*)

Bulbs: Brodiaeas (*capitata*, *laxa*, *congesta*, + *elegans*)

Herbs: (see discussion which follows)

TREES & SHRUBS TO PLANT

The following pages present my recommendations for trees and shrubs to plant. I do not feel it is necessary to plant all the species named, only a goodly number of them, depending on what is available, what can be gathered from the field, and what can be successfully grown.

As an almost strict rule, it is best to use seed sources and cuttings from near the sites where they will eventually be planted.

Beware: start growing trees and shrubs 1 or 2 years in advance of when they are to be planted. If growing them will be under contract, start 2-3 years in advance. Do not depend on plants to be available at wholesale nurseries when they are needed; order in advance.

Fencing: Deer, squirrels, gophers, livestock, and other herbivores must be excluded, if the trees and shrubs are to survive. Use plastic growth tubes (see appended literature), wire cages, and/or tall fences. Install the latter before planting!

The best time to plant is in the early-mid winter (see planting instructions which follow).

It is a good idea to put a two-foot circle of thin mulch (straw, wood chips, cloth, or rock) around each plant, but not against their trunks. Keep clear a six-inch circle around each trunk, to discourage small rodents.

Irrigation: It is a good idea to irrigate the newly planted trees and shrubs. My suggestion is that they be irrigated/soaked once a week during the first summer-fall (do not stop until there is a heavy rain), about every two weeks the second summer-fall, and about every 3-4 weeks the third. Once established, that is, when they can continue to grow on their own, without human care, they should not need any further irrigation. They would flourish, however, if watered monthly during the future dry seasons.

The following tables give recommendations for the number of each tree and shrub species to plant, sources of plant material, places to plant, and comments. Numbers recommended are based on the assumption that 50% of canned plants, 25% of seeded plants, and 50% of cuttings/live stakes will survive and become established.

SHRUBS

QUANTITY

SOURCE

AREAS

Snowberry (<i>Symphoricarpos rivularis</i>) *	40 root cuttings	local plants	Edge of creekbank
Mugwort (<i>Artemisia douglasiana</i>) *	40 root cuttings	local plants	creekbank
Calif. Wild Rose (<i>Rosa californica</i>) *	40 root cuttings	local plants	Edge of creekbank
Calif Wild Grape (<i>Vitis californica</i>) *	40 stem cuttings	local vines	creekbank
Common Margarita (<i>Arctostaphylos manzanita</i>)	20 cans	local seed or cuttings	Graded areas Roadside strips
Coyote Brush (<i>Baccharis pilularis consanguinea</i>)	20 cans	local cuttings	Graded areas Roadside strips
Common Buckbrush (<i>Ceanothus cuneatus</i>) *	20 cans	local seed	Graded areas Roadside strips
Wild Licorice (<i>Glycyrrhiza lepiota</i>)	40 root cuttings	local patches (Wentworth Preserve)	Graded areas
Summer Lupine (<i>Lupinus formosus</i>)	20 cans	local seed	Graded areas
Jepson's Wild Pea (<i>Lathyrus jepsoni californicus</i>)	20 cans	local seed	Edge of creekbank
Toyon (<i>Neoromuletes arbutifolia</i>) *	20 cans	local seed	Graded areas
Spacaw Bush (<i>Rhus trilobata graveola</i>) *	40 root cuttings	local patches	Edge of creekbank
Bush Monkey-Flower (<i>Mimulus aurantiacus</i>) *	20 cans	local cuttings	knob
Blue Penstemon (<i>Penstemon heterophyllus</i>)	20 cans	local seed	knob

* ~~recombinant~~ ^{recombinant} The rest are alternated.

SHRUBS
(continued)

<u>QUANTITY</u>	<u>SOURCE</u>	<u>AREAS</u>
Nude Buckwheat (<i>Eriogonum nudum</i>) *	20 cans	local seed
Common Coyote Mint (<i>Monarda villosa</i>) *	20 cans	local seed
Bush Lupine (<i>Lupinus albus</i>)	20 cans	local seed
Yerba Santa (<i>Eriodictyon californica</i>) *	20 cans	local seed

SOURCES

- (1) Appleton Forestry Nursery
1369 Tilton Road
Sebastopol, CA 95472
- (2) California Flora Nursery
P.O. Box 3
Fulton, CA 95439
(707) 528-8813
- (3) California Native Plant Society
P.O. Box
Napa, CA 94558
(707)
- (4) Circuit Rider Productions
Native Plants Nursery
9619 Old Redwood Highway
Windsor, CA 95492
(707) 838-6641
- (5) Conserva Seed
P.O. Box 455
Rio Vista, CA 94571
(916) 775-1676
- (6) Cornflower Farms
P.O. Box 896
Elk Grove, CA 95624
(916) 689-1015
- (7) Mostly Natives Nursery
27215 Highway One
Box 226
Tomales, CA 94971
(707) 878-2009
- (8) Pacific Coast Seed
7074 D Commerce Circle
Pleasanton, CA 94588
(415) 463-1188
- (9) Ramsey Seed, Inc.
P.O. Box 352
Manteca, CA 95336
(209) 823-1721

(10) Live Oak Nursery
P.O. Box 2463
Oakdale, CA 95361

(11) North Coast Native Nursery
P.O. Box 744
Petaluma, CA 97953
(707) 769-1213

HERBS TO PLANT

In my opinion, it will be practically impossible to establish native herbs at the two sites. The areas are either two choked with non-native, invasive grasses and broad-leaf weeds; or they are, or will be, graded. In the latter places these same herbs will invade and dominate. Success is unlikely. In order to make a descent attempt to establish native herbs, much money, time, energy, and care would be expended. My best recommendation is to concentrate on establishing the new trees and shrubs. Let the herb layer develop naturally, if it will at all. If native species will not invade naturally, it is not likely that they can be established by seeding, unless they are "gardened". If any native species can grow there, they will probably invade and persist naturally.

Warning: Unless the planter of native grass seed intends to follow through on all of the instructions for establishing native grasses, better if he/she not even start. They are difficult to germinate, grow, and establish, requiring much care for years to follow.

In any case, if an attempt to establish a native herb layer is required, my recommendations are as follow. After final grading of the sites, prepare the seed bed for the graded areas:

1. Cultivate deeply in the late spring and allow areas to lay follow for the summer & fall.
2. Allow grass and weed seeds near the surface to germinate after the first heavy rains in the late fall.
3. Spray all the seedlings with a systemic, non-selective herbicide like Roundup.
4. Cultivate the areas as shallowly as possible, just enough to break the crust.
5. Seed the recommended herbs at once.
6. Cultivate once more as shallowly as possible, just enough to bury most of the seed.
7. Hope & pray!

Seeding of the riparian borders and the south slope of the knob, must be done by hand without any preparation of the soil. Burying the seed with a hand rake will increase the chances of germination.

The roadside strips should not be cultivated or sprayed, since they already harbor native species. Seeding might result in more native plants, but don't expect much.

SEED SOURCES

HERBS

QUANTITIES	SOURCES	AREAS
Meadow Barley (<i>Hordelymus</i>) *	Garden locally or purchase	Graded areas knot
Blue Wild Rye (<i>Elymus glaucus</i>) *	same as above	Graded areas knot
Caly Brome (<i>Bromus cernuus</i>)	"	Graded areas knot
Purple Needlegrass (<i>Stipa pulchra</i>) *	"	Graded areas knot
Twisting Needlegrass (<i>Stipa cernua</i>)	"	Same as above
Pine Blue Grass (<i>Poa secundata</i>) *	"	"
Brodiaea { <i>capitata</i> <i>congesta</i> <i>elegans</i> }	many	"
Globe Gilia (<i>Gilia capitata</i>) *	?	"
Yarrow (<i>Achillea millefol.</i>) *	1 lb/acre	"
Blow-wines (<i>Achyrachasma mollis</i>)	?	"
Goldenrod (<i>Solidago</i> spp. or <i>S. canadensis</i>) ? (found locally on stream bank)	"	"
Elegant Clarkia (<i>Clarkia unguiculata</i>) *	3 lb/acre	"
Bird's Eye (<i>Clarkia tricolor</i>) *	2 lb/acre	"
* recommended; the rest are alternates.		
Calif. Poppy (<i>Eschscholzia caly</i>) *	8 lbs/acre	Graded areas knot

Seed gathered near the sites is the best to use. However, this will be impractical for most species. As an alternative, I recommend buying from a seed supplying company. The following are some names and addresses:

Mike Landis, 707-963-9446
Wildflower Seed Company
P.O. Box 406, St. Helena, CA 94574

Laura Quatroche, 707-877-3503
Wildflowers International
P.O. Box 131, Elk, CA 95432

Larner Seeds, 415-868-9407
P.O. Box 407, Bolinas, CA 94924

Dr. John Anderson, 916-662-4570
Hedgerow Farms, 21740 County Rd. 88, Winters, CA 95694

Moon Mountain, FR
P.O. Box 725, Carpinteria, CA 93014

Conserva Seed, 916-775-1676
P.O. Box 455, Rio, Vista, CA 94571

Pacific Coast Seed, 415-463-1188
7074 D Commerce Circle, Pleasanton, CA 94588

Ramsey Seed, Inc. 209-823-1721
P.O. Box 352, Manteca, CA 95336

FALL PLANTING INSTRUCTIONS

By Marje Sweeney

Plant after the rains begin. Plants will grow new roots during the winter and/or spring, establish themselves, and withstand the summer drought.

New plants must be watered deeply several times during the first two summers, or until their root systems are well developed.

Established plants, even drought-tolerant species, benefit from monthly waterings during the summer and fall.

Plants kept in containers must be watered regularly (e.g., twice weekly during the summer and fall), except those which go dormant in the summer, such as Brodiaea, Trillium, Delphinium, Saxifrage, etc.

Add mulch to prevent weed growth, keep roots cool, and reduce evaporation. (Organic material makes the best mulch, but rock will help.)

Avoid frequent, shallow irrigation. Water slowly, deeply; avoid run-off. Do not let the soil dry out completely between waterings; it is easier to maintain moisture than to re-wet the soil.

Avoid having water stand at the base of the plant. The soil should never remain saturated for more than a few hours to avoid root-crown rot.

SPRING PLANTING INSTRUCTIONS

By Marje Sweeney

Plant as soon as possible. Water frequently during the first summer and fall, at least once a week.

New plants must be watered deeply several times during the second summer and fall, or until their root systems are well developed.

Established plants, even drought-tolerant species, benefit from monthly waterings during the summer and fall.

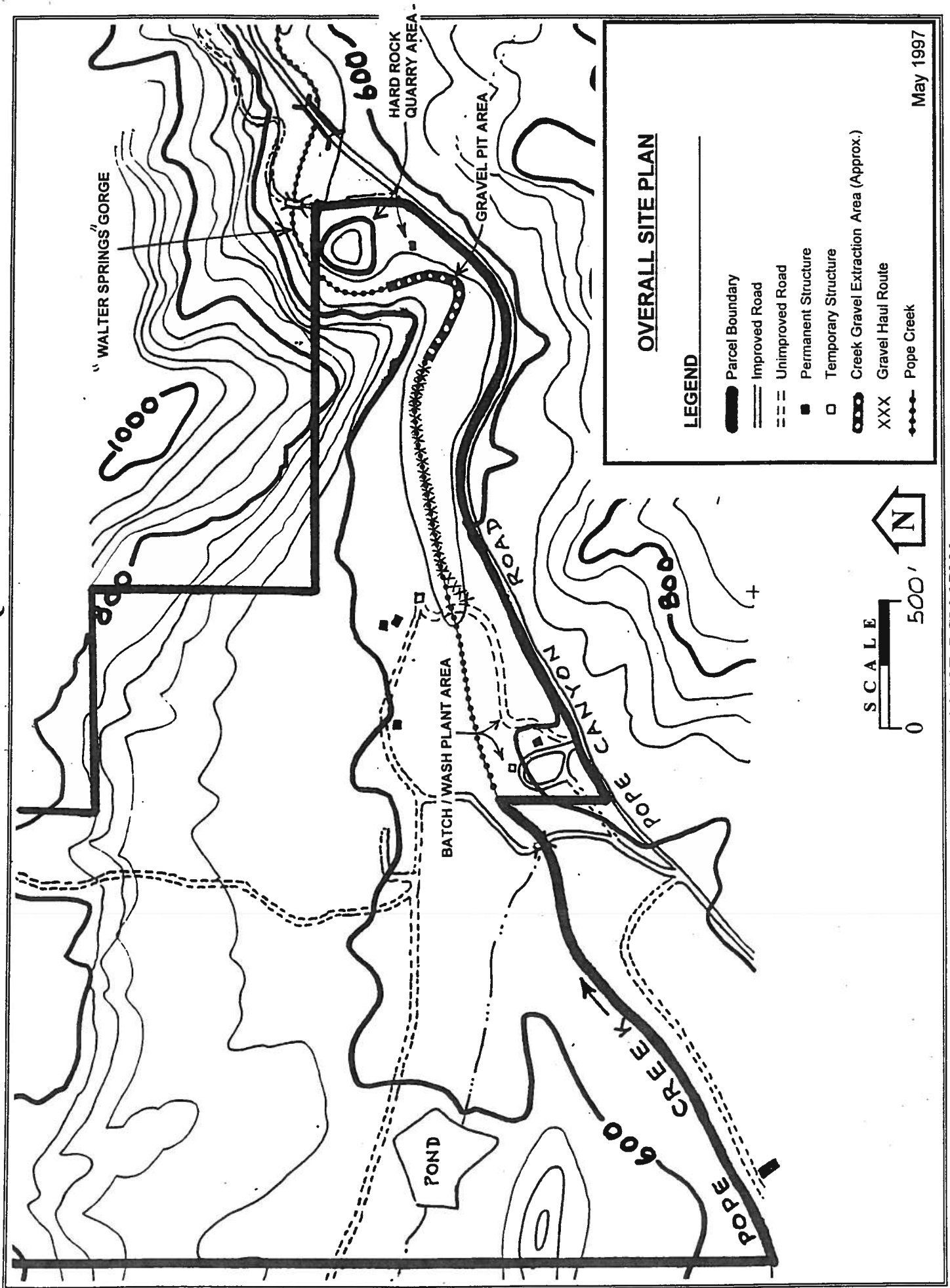
Plants kept in containers must be watered regularly (e.g., twice weekly during the summer), except those which go dormant in the summer, such as Brodiaea, Trillium, Delphinium, Saxifrage, etc.

Add mulch to prevent weed growth, keep roots cool, and reduce evaporation. (Organic material makes the best mulch, but rock will help.)

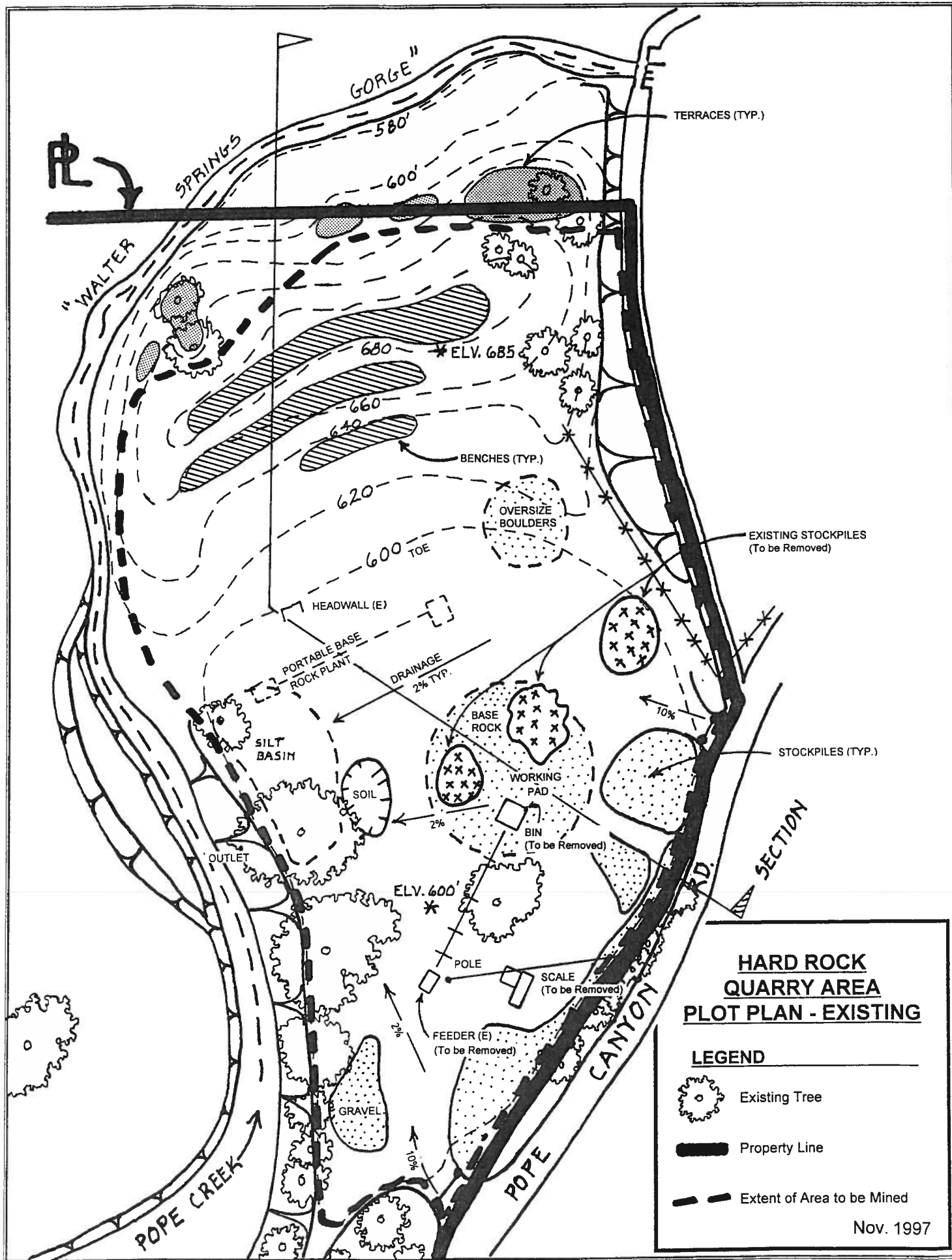
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Avoid having water stand at the base of the plant. The soil should never remain saturated for more than a few hours to avoid root-crown rot.

POPE CREEK QUARRY

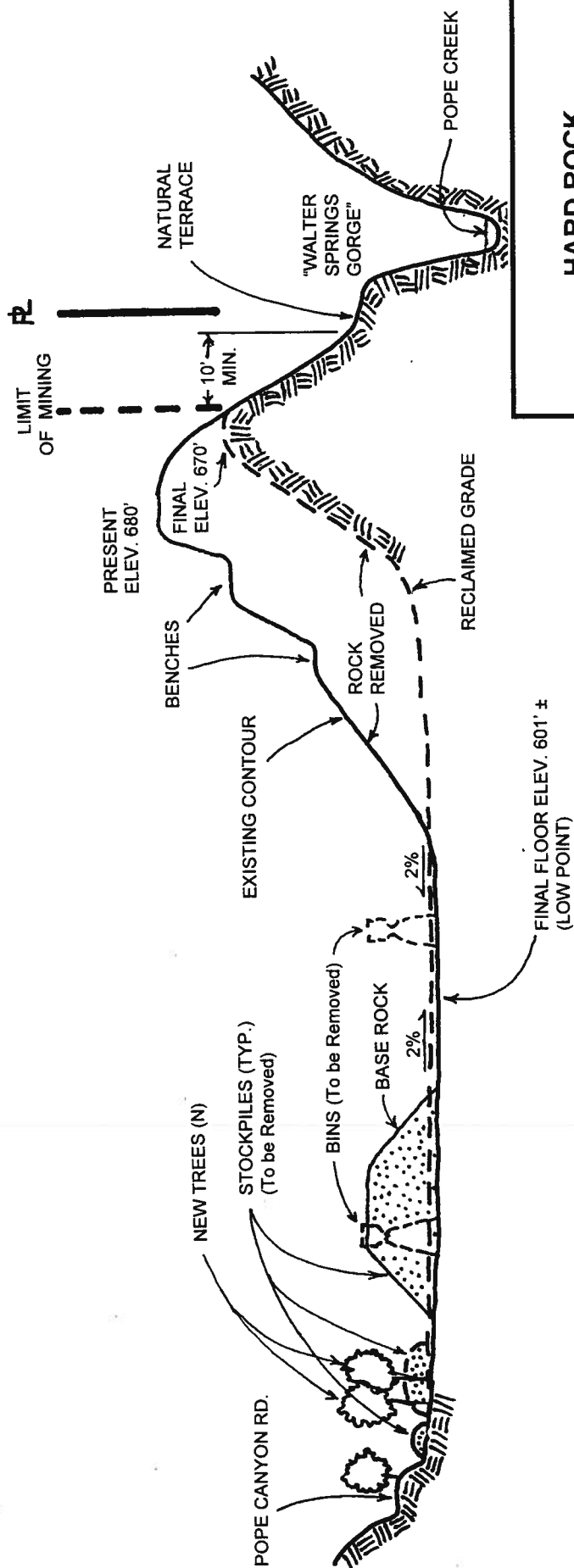


POPE CREEK QUARRY



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POPE CREEK QUARRY



HARD ROCK QUARRY AREA SECTION

LEGEND

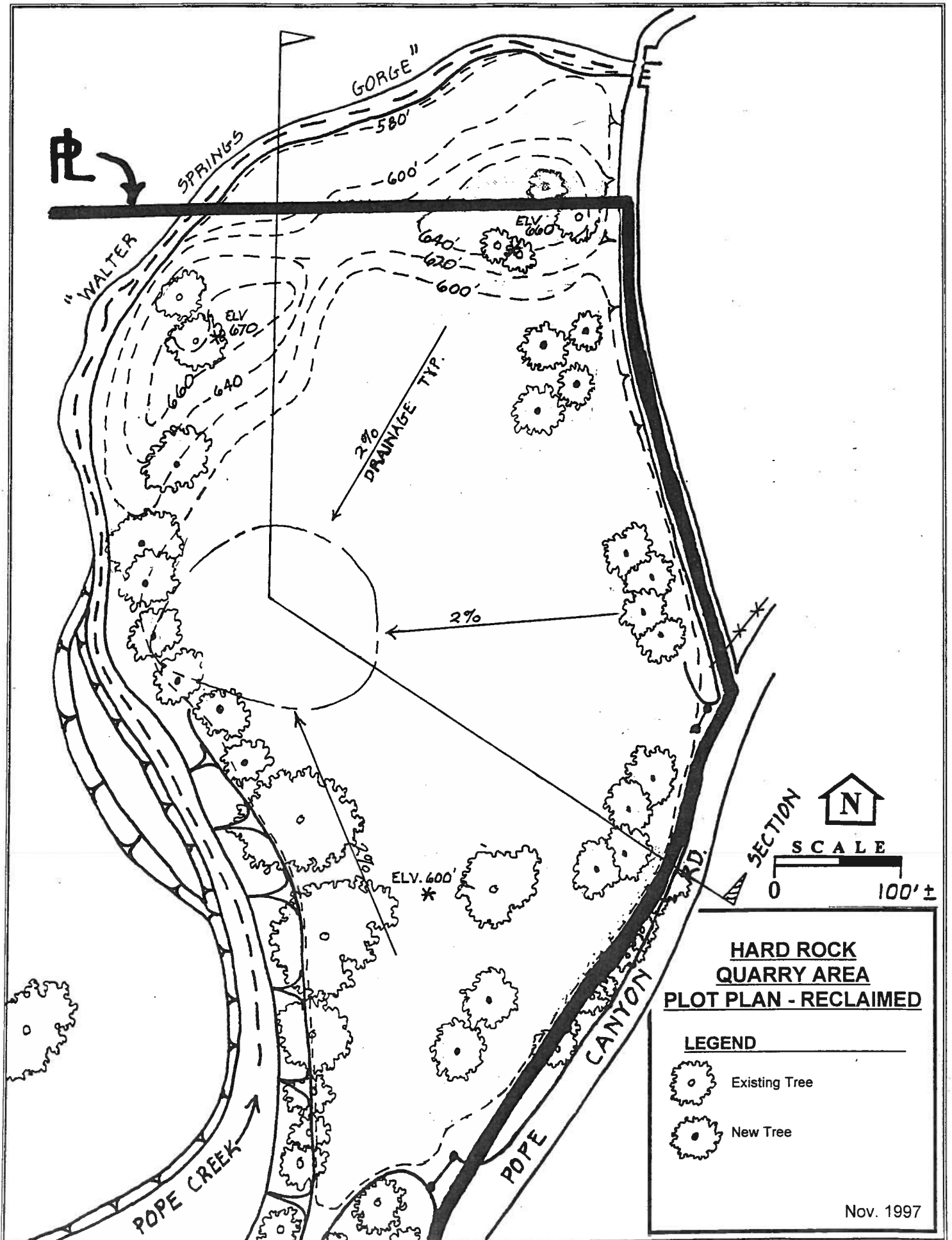
- Existing Contour
- - - Final (Reclaimed) Contour

Scale: 1" = 100' Horiz.

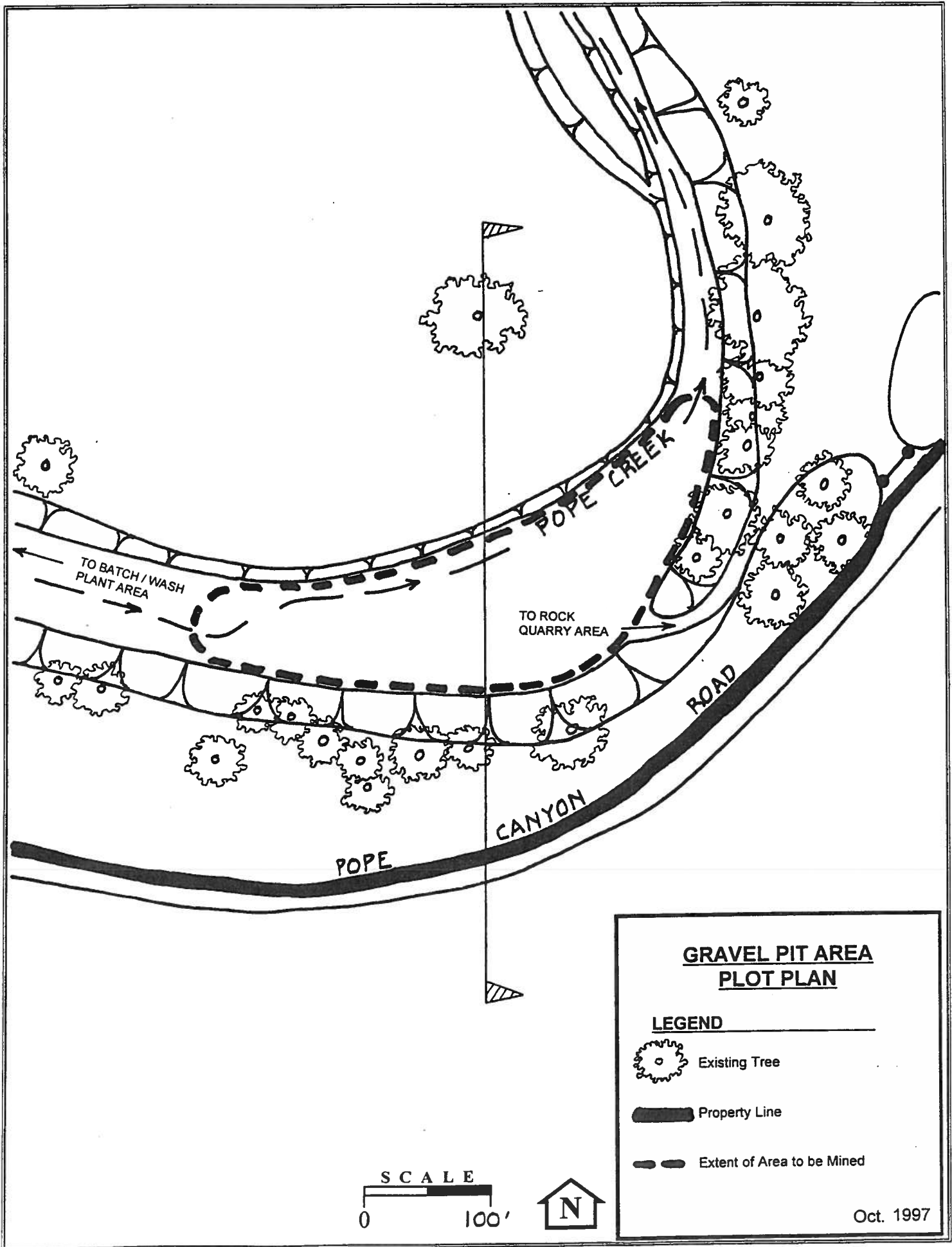
1" = 50' Vert.

Nov. 1997

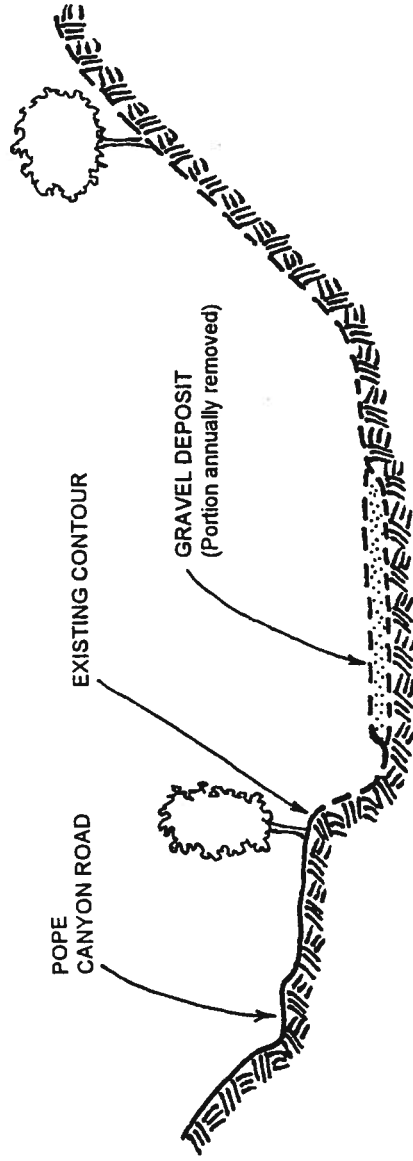
POPE CREEK QUARRY



POPE CREEK QUARRY



POPE CREEK QUARRY



GRAVEL PIT AREA SECTION

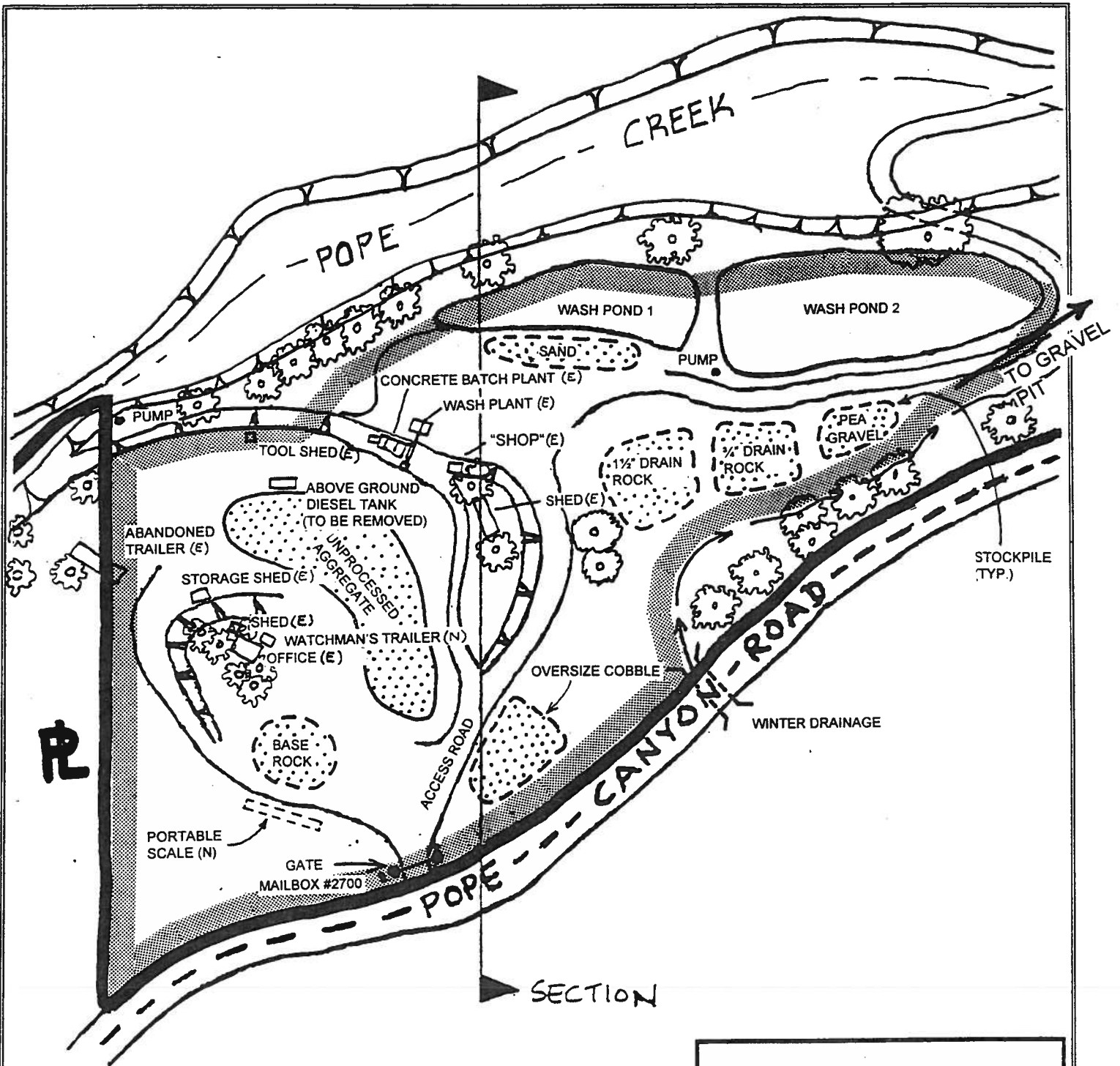
LEGEND

— (E) Contour

Scale: 1" = 100' Horiz.
1" = 50' Vert.

Dec. 1997

POPE CREEK QUARRY



BATCH / WASH PLANT AREA PLOT PLAN - EXISTING

LEGEND



Existing Oak



Seasonal Drainage

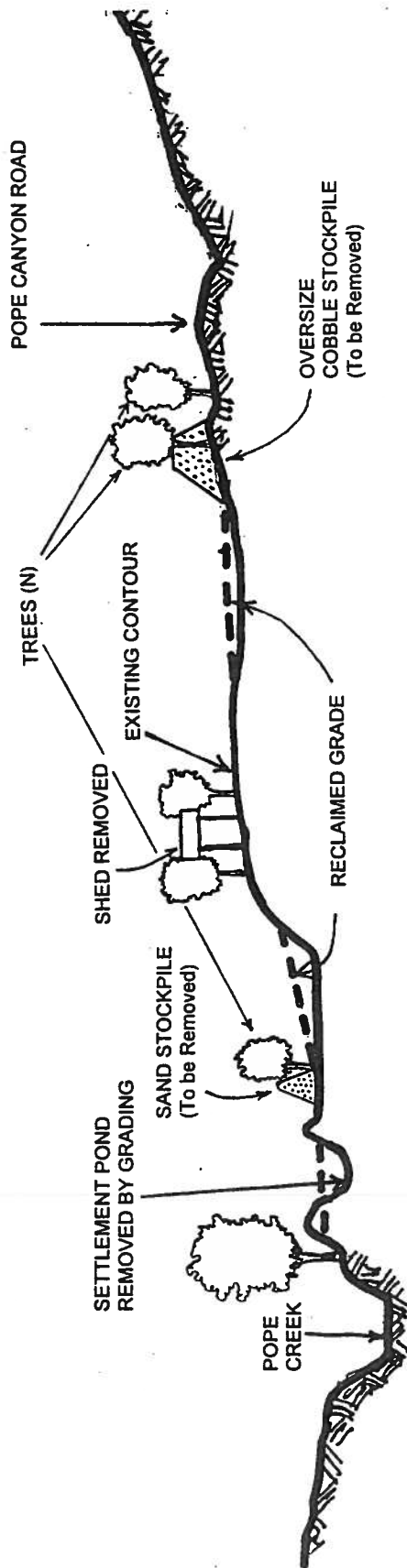


Boundary of Area to be
Employed for Mine-Related
Activities

Nov. 1997



POPE CREEK QUARRY



BATCH / WASH PLANT AREA SECTION

LEGEND

— (E) Contour

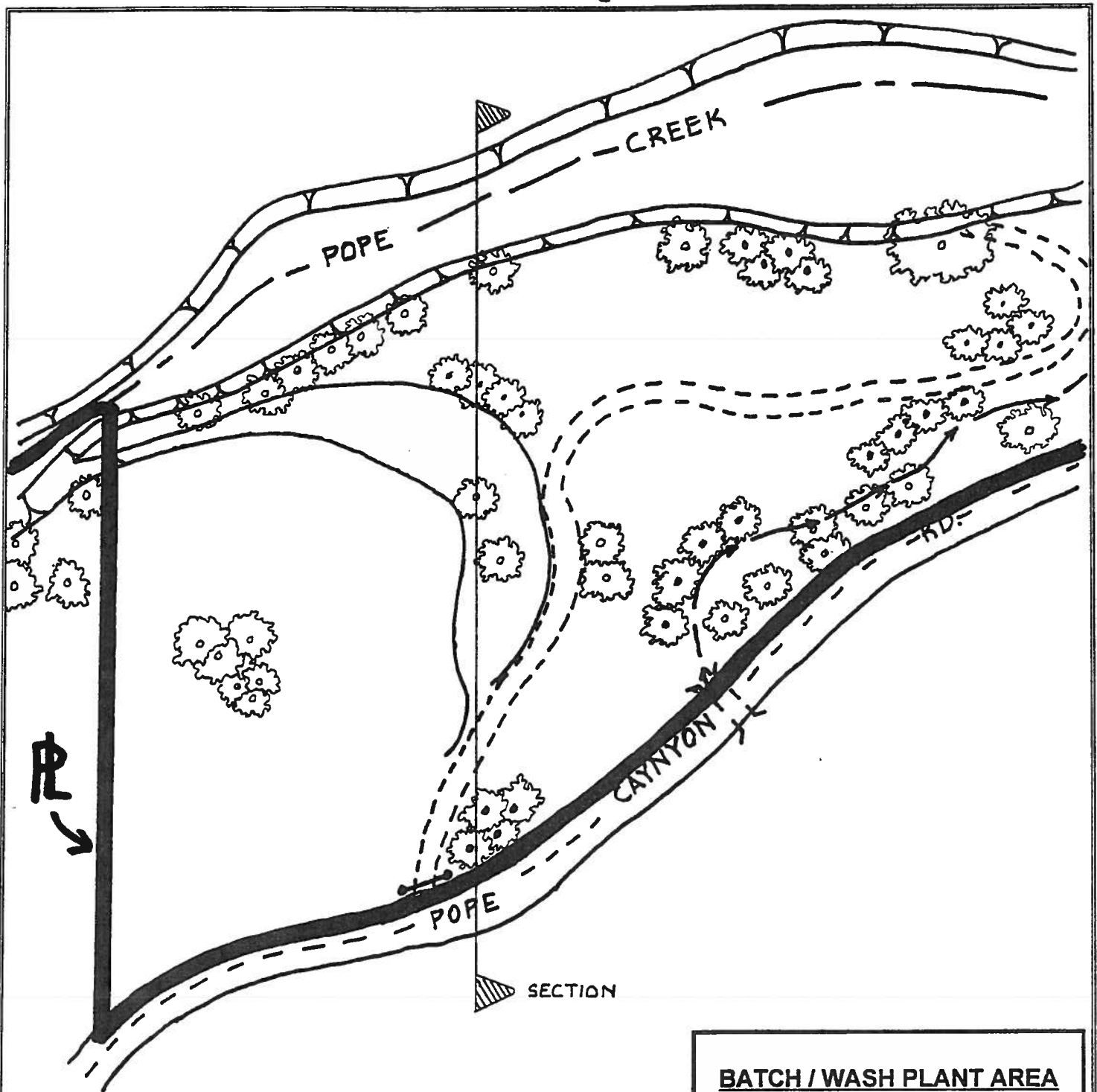
- - - Final (Reclaimed) Contour

Scale: 1" = 100' Horiz.

1" = 40' Vert.

Nov. 1997



POPE CREEK QUARRY



ALL COMPACTED ROADS / WORK
AREAS TO BE RIPPED AND
CONDITIONED AT TIME OF
RECLAMATION

BATCH / WASH PLANT AREA PLOT PLAN - RECLAIMED

LEGEND

-  Existing Oak
-  New Tree (TYP.)



Oct 1997