Cement costs rise, paving way for higher concrete rates

By STEVEN D. JONES

The concrete business, the foundation of the building industry, is going through a shake-up.

After nearly a decade of stability, prices have risen as much as 15 percent since December for concrete delivered to construction sites. A rise in the price of cement, the "glue" that hardens the sand and gravel mixture into concrete, triggered the increase.

Because of strong demand for concrete, producers are passing along higher prices without fear of losing customers, industry sources said. That, in turn, is putting contractors in a bind who bid jobs last fall when prices were lower. Many have had to absorb the difference.

In the future, all contractors will figure price hikes into new work, and everyone from developers to a family building a new home will feel the effect.

"Prices are up substantially since Jan. 1," said Rick Grigsby, president of Grigsby Construction Co. of Beaverton.

"Concrete prices reflect demand, and demand is up," said Cliff Hamlow, manager of the systems building division of R & H Construction Co. in Portland.

Concrete is in high demand.

File photo

In the four-county area, estimates show that about 840,000 square feet of new office space will be completed in 1990, about 50 percent more than last year. About 1.5 million square feet of retail space will be completed, a 15 percent increase over last year. Contractors expect the pace of new construction to quicken through 1990.

Ron Schwarz, senior vice president and general manager of Lone Star Northwest in Portland, confirmed that concrete prices were up, but he would not discuss why. Chuck Steinwandel, vice president of Ross Island Sand and Gravel Co., would not comment either.

Concrete prices are a touchy subject, because so much is sold to large contractors under long-term purchase agreements. A contractor buying 100,000 cubic yards in a year will get a better price than one buying 10,000. Discussing prices in print could tip a company's hand to competitors in future negotiations, said Schwarz.

Concrete was selling last summer for about $35 a cubic yard on purchase agreements. Now, contractors are paying about $45, said Hamlow. Most of the price hike has come since December, said Grigsby. He paid $38.60 for concrete in December, 15 percent less than the current price.

The hike is more of a shock because prices had moved in a narrow range around $35 per cubic yard since the recession of the early 1980s. That was an artificially low price, said Grigsby, recalling that he paid $34.50 per cubic yard for concrete as far back as 1974. In a sense, the recent change is "a long-overdue delay in price hikes for concrete," he said.

The trigger for the hike was a $5 increase in the price of cement. The clay and limestone mixture that is the most costly component of concrete, rose to $60 per ton in January—a 9 percent increase. Concrete companies charged their customers for the increase plus a little more to cover other increased costs and improve their profit margins.

"If you increase the price of that raw material, it's going to have an effect on your price," said Hamlow.

While prices head up, occasionally deliveries get bogged down, said Hamlow. Time was when a job supervisor could call at 4 p.m. for a delivery the next morning. But with demand so high, concrete companies don't have idle trucks to dispatch on short notice. Now "field people must think further ahead," said Grigsby. Failure to do so could mean lengthy delays.

"We're talking about delays of two or three days, and that is significant," said Hamlow.

Competition heating up in local concrete business

By STEVEN D. JONES

Booming construction business in the Portland area is drawing more competitors into the concrete business.

Onoda Cement Ltd. has bought controlling interest in Lone Star Northwest, one of Portland's largest concrete producers. And downstate power, Morse Bros. Inc. of Lebanon, is pushing north with plans to build a concrete plant in Washington County—its second in the metropolitan area.

"It looked like there was an opportunity for another supplier up there," said Frank Morse, president of Morse Bros.

In 1988, Morse Bros. opened a concrete plant on Scholls Ferry Road one mile west of 135th Avenue. Its second plant is planned for a site between Tualatin and Wilsonville, where it can haul in sand and gravel by rail, Morse said.

"Anytime a new supplier comes into town, sure it's new competition," said Ron Schwarz, senior vice president and general manager of Lone Star Northwest, which has large concrete plants here and in the Seattle area.

Lone Star is moving into Washington County as well, purchasing an unfinished concrete plant in Hillsboro. Lone Star will haul sand and gravel to the site by truck from its gravel pits in Scappoose. Lone Star will complete construction and open the plant by mid-summer, said Schwarz.

The new Morse Bros. plant should open at about the same time.

The stage is set, said an industry source, for a battle for market share in growing Washington County. Lone Star has the advantage with the strength of Japanese partner Onoda.

"Morse Bros. is quite formidable," said the source. "But I think having a company the size of Onoda in here is going to be more formidable than any of us hometown boys."

Onoda, Japan's oldest private cement manufacturer, previously held a minority interest in Lone Star Northwest. Lone Star Industries Inc. of Connecticut held controlling interest.

However, Lone Star Industries is selling assets to improve its finances and in March sold controlling interest in the Northwest unit to Onoda.

ROBERT W. STRAUB
GOVERNOR

DEPARTMENT OF ENVIRONMENTAL QUALITY

1234 S.W. MORRISON STREET • PORTLAND, ORE. 97205 • Telephone (503) 229- 5913

October 6, 1975

Clackamas County Planning Department
940 Warner Milne Road
Oregon City, Oregon 97045

Re: S.W.-Clackamas County
Alford-Goheen Site
CU-28-75

Attention: Bruce R. Davis-Planner

Gentlemen:

The Department of Environmental Quality (DEQ) has received your request for written comments in reference to the Alford/Goheen Project. The project as outlined consists of (1) Sand and Gravel Removal and Processing, (2) Sanitary Landfill and (3) Reclamation as a park site.

Regarding item (1) Sand and Gravel Removal the Department has the following comments:

WQ Considerations:

1. The overburden removed from areas to be mined must be stored on relatively level property well away from natural or artificial drainage ways and entirely out of any flood plain. Measures such as seeding and/or planting shrubs must be taken to reduce erosion. In addition, the overburden must be contoured in such a fashion so as to minimize erosion.

2. All natural drainage ways, including intermittent streams, must be diverted around any area which will be disturbed by the mining operation or transport facilities. Erosion control measures, including the use of culverts and riprap, must be used in the relocation of any natural or artificial waterway. All disturbed area must be promptly seeded and maintained to reduce erosion.

3. Aggregate washing and wastewater handling systems must be designed and engineered by a professional engineer registered in the State of Oregon. DEQ Waste Disposal Permit must be applied for and issued prior to the operation of any wash water facilities. The design of the waste water disposal and/or treatment facilities must be consistent with the special water quality standards defined for the Clackamas River Basin in Oregon Administrative Rules (OAR) Chapter 340-41-090. Special consideration should be given to the movement of contaminated wastewaters which have entered the groundwater system.

AQ Considerations:

1. A DEQ Contaminant Discharge Permit must be applied for and issued prior to the start of operation of any aggregate processing equipment. Air contaminant control devices must be installed and operated at all particulate emission point sources so that full compliance with the Specific Air Pollution Control Rules for Clackamas, Columbia, Multnomah and Washington Counties, as defined by OAR Chapter 340-28-001 through 28-090, is achieved. In addition, prior to the installation or modification of any control device, a Notice of Constuction must be filed and approval of plans received.

2. The proposed operation would be considered a new industrial noise source and therefore subject to all of the Department's noise regulations. The regulations are defined in OAR Chapter 340-35-035. Particular notice should be given to Section 35-035(1)(b) which prohibits a new noise source from increasing the ambient statistical noise level more than 10DBA from existing levels. The company would also have to comply with the noise level restrictions given in Table H of the regulations.

Regarding Item (2) Sanitary Landfill, the Department has the following comments:

1. The area was picked as a possible regional disposal site by the Metropolitan Service District (MSD) Solid Waste Management Plan. The plan has been adopted by MSD and approved by DEQ.

2. The Department feels that of the potential sites picked in the plan the Alfords site is one of the most favorable.

3. There is a good possibility that leachate would be produced and without full hydrogeologic information on which to base proper engineering, leachate drainage is very likely to enter and contaminate Clear Creek.

Potential for leachate generation was confirmed on September 30, 1975 by a field visit to the site. It was noted that numerous springs are present above the mudstone strata and spring water surfaces year round near the toe of the terrace slope.

It appears that the gravel removal project is heavily dependent upon the ability to refill and restore the property. The information provided to the Department is not sufficient, however, to make a complete evaluation of the feasibility of back filling with refuse. Primarily needed are test borings to determine groundwater levels, permeability of the soils and other hydrogeologic characteristics. Preliminary engineering design to intercept, treat and/or otherwise prevent leachate contamination of Clear Creek must also be developed to complete the feasibility analysis.

Before the Department can grant final approval of any proposed disposal site and issue a solid waste disposal permit, a complete application including fully detailed engineered construction and operational plans must be submitted. A positive response by the Department to a complete feasibility study, however, could be sufficient to make other land use decisions.

If you desire further discussion regarding this matter please contact the Portland Regional Office at 229-5263 or the Solid Waste Management Division at 229-5913.

Sincerely,

LOREN KRAMER
Director

Kenneth H. Spies

Kenneth H. Spies
Assistant Director
Land Quality

RLB:mm
cc: Metropolitan Service District
cc: Clackamas County Department of Public Works
cc: Portland Region

TO: Dick Dopp

FROM: Carl Knee

DATE: October 1, 1975

SUBJECT: File No. CU-28-75 (Alford/Goheen Project)

I made a field study of this project on September 30, 1975. The site appears to be isolated enough to provide a good location for a gravel processing operation. Access to the site should be from Springwater Road with construction details of the entrance to the road worked out with the Public Works Department before final approval of the Conditional Use.

The access road connecting the main portion of the developers property with Springwater Road should be paved to eliminate the dust nuisance.

The crusher should be in such a location that will reduce the noise level to the surrounding area.

CARL. T. KNEE - Development Construction Engineer

/fh

ORD.	DISTRIBUTION	DATE	INT.
2	Director	10/3	
	Engineer		
	Utilities		
1	Development	10/2	
	Maintenance		
	Design		
	Traffic		
5	Office Files		
4	Knee		
3	Phillips		

MEMORANDUM

DEPARTMENT OF PUBLIC WORKS

COUNTY OF CLACKAMAS

JOHN C. McINTYRE
DIRECTOR

WINSTON W. KURTH
County Engineer

DAVID J. ABRAHAM
Utilities Director

RICHARD L. DOPP
Development
Services
Administrator

TO: SOLID WASTE DEPARTMENT

DATE: OCTOBER 7, 1975

RE: ALFORD/GOHEEN APPLICATION FOR GRAVEL OPERATION

In reference to the application of Alford/Goheen for the zoning of a gravel operation in the Logan Area off Springwater Road - I would make the following comments.

Gravel for road maintenance construction is rapidly becoming a very scarce item in Clackamas County. We have watched practically all the gravel operations which have been near the streams in our County be condemned by the public because of their incompatibility with the general public's use. I believe that this application is situated in such a matter that it would be a real asset to the tri-city areas as well as the Clackamas County residents immediately to the east. Springwater Road in my opinion, provides adequate access to transport the gravel both northwesterly and southeasterly, however, it would appear that access could be served off of Fisher's Mill Road by the extension of Deininger Road and the purchase of some additional right-of-way to the site.

As far as the site is concerned, the topography is such that this property can be mined with very little disruption to the adjacent lane.

The rock in this area is of a quality that is hard to come by in the eastern or southerly parts of the County. It has the necessary hardness to make oil rock, a quality which a lot of rock does not have.

Whether this site is improved or not, it is imperative that new rock sources be located and opened for commercial use. Our rock prices have quadrupled in the last 10 years and will continue to go higher if new sources are not developed. Clackamas County would be in a position to purchase rock from this establishment at which time its operation would be allowed.

I understand further that there is consideration for this to become park property once the gravel is removed. It would appear with the rising costs of gasoline that more centralized camping and recreational facilities must be established close to the metropolitan area. With this in mind whether this park would become municipally owned or private enterprise, I believe it has real potential as a park site.

I hope that this memo will aid you in some manner in preparing your comments on this application.

If I can be of further assistance, let me know.

DONALD D. BROADSWORD - Chief of Maintenance

/hb

MEMORANDUM

DEPARTMENT OF PUBLIC WORKS

COUNTY OF CLACKAMAS

JOHN C. McINTYRE
DIRECTOR

WINSTON W. KURTH
County Engineer

DAVID J. ABRAHAM
Utilities Director

RICHARD L. DOPP
Development
Services
Administrator

TO: Planning Department

FROM: Department of Public Works

DATE: October 6, 1975

SUBJECT: Alford/Goheen Conditional Use Permit - CU-28-75

Reference is made to the request made by Alford/Goheen for a Conditional Use Permit No. CU-28-75. Traffic Engineering in the Department of Public Works has reviewed the assessment report and site location and based on the tremendous impact the operation will have on our road system, we will make the following comments to include with the conditions of approval:

1. The access points for ingress and egress to the site should be located as to provide adequate sight distance and safety for the motoring public on Springwater Road.

2. An agreement will be required with the rock extraction operations and the sanitary landfill operations that will provide their involvement in the maintenance, repair and reconstruction of the County roadways used by their operations.

3. Requests for reconstruction of specific locations could involve re-alignment of the 90° turn on Springwater Road just west of Bakers Ferry Road, widening and realignment of Springwater Road at the site access points, realignment of the Springwater Road approach to Oregon State Highway 224 just north of the Clackamas River Bridge and the rebuilding of that length of Springwater Road from the site to the Carver Bridge.

4. An adequate program will be required for policing and cleanup of leaking, sifting, spillage and distributing aggregate, mud and debris on County roads.

Please contact us if any further information is needed.

WINSTON W. KURTH - County Engineer

BY Bernard L. Straight

BERNARD L. STRAIGHT - Traffic Engineer

/fh

MEMORANDUM

DEPARTMENT OF PUBLIC WORKS

COUNTY OF CLACKAMAS

JOHN C. McINTYRE
DIRECTOR

WINSTON W. KURTH
County Engineer

DAVID J. ABRAHAM
Utilities Director

RICHARD L. DOPP
Development
Services
Administrator

TO: Dominic Mancini - Planning Department

FROM: David G. Phillips

DATE: October 3, 1975

SUBJ: Alford/Goheen Conditional Use Permit No. CU-28-75

The Alford/Goheen application and assessment report. This application deals with three phases of operation but my comments will deal mainly with one phase, that of the landfill.

Clackamas County and the Metropolitan Service District have engaged in a solid waste management study that resulted in an action plan that was adopted by the MSD Board of Govenors and approved by the Clackamas County Board of Commissioners. This plan calls for a disposal site in Clackamas County. Of all the sites that were reviewed in the Metropolitan area, the Alford site, in my opinion, holds the most promise and this is due to several factors.

1. First of all is the isolation of the site. This allows for adequate screening of noise and appearance. Thus affecting very few people.

2. The geology of the site is such that an environmentally safe disposal site can be engineered and operated. The impervious mudstone bottom, that was explained in the assessment, precludes any downward movement of water and thus allows for the containment of leachate to the fill area. The net result being no pollution of Clear Creek or the ground water.

3. There is adequate cover material available for the daily cover required by regulations for a sanitary landfill. This factor is of prime importance and is lacking at all of the other proposed sites in the Metropolitan area.

4. The site is not in a flood plain and thus is not subject to flooding and reduces the site preparation costs to protect it against flooding. The other most probable sites in the Metro area are in flood plains.

5. The size of the site is also of importance. This site would hold 10-12 million cubic yards of refuse and would last the Metropolitan area for some 20-25 years depending on the success of MSD's resource recovery program. Much of the site preparation that needs to be done at any landfill like entrances, screening, etc., would thus be amortized over a long period of time.

6. Its location is near enough to the Metropolitan area to be practical. Haul cost to the site would be reasonable.

7. In my opinion expected use of the site after completion is another good factor.

The traffic conditions to this site seem to be of a significant concern and it appears that Springwater Road will need some upgrading to handle the rock truck traffic. The hauling of waste into this site will not have near the impact of the gravel truck. This is due to the fact that the refuse would not, under the MSD action plan, be brought in directly by the many garbage trucks and home owners. The waste would be hauled in from transfer stations by large trucks, thus drastically reducing the traffic associated with solid waste disposal and also it would eliminate the litter problem associated with landfills. If MSD's plan is implemented the landfill would be disposing of milled refuse instead of raw refuse. This material is much easier to fill and doesn't produce near the odor and is free of vectors. Even if the MSD program doesn't get funded it is quite probable that the County will institute a program of milling the waste before transferring it.

The information that was submitted in the assessment that relates to the MSD action plan is quite correct. The maximum life expectancy of Rossman's is only seven more years without milling and with milling up to 1987. But after that time a new site will be needed. Some lead time will be needed by the gravel operation in order for preparation work to be done and to allow the mining operation to stay ahead of the landfilling. This is critical.

The Department of Environmental Quality, The Metropolitan Service District and Clackamas County Solid Waste Division will be very critical of the operational plan when it is completed. These departments will set conditions that will insure that the landfill will operate in a manner so as to prevent any detrimental effects on the environment.

If this site is approved, the Solid Waste Division would recommend the following conditions be placed on the applicant:

That the applicant submit to and receive approval of a detailed landfill operation plan from the Department of Environmental Quality, Clackamas County Public Works and the Metropolitan Service District prior to commencement of filling.

This operational plan is to include:

Screening
Ground Water Control
General landfill layout and cell construction
Compaction methods
General traffic flow
Fire prevention and control
Hours of operations

No matter to what degree resource recovery is carried there will always be a need for a landfill to dispose of the residues in some form or another and these landfill needs are becoming critical. This site would fullfill the needs of the entire metropolitan area for disposal for a long period of time. Thus, I feel there is a real public need.

The concept of the entire operation (Gravel removal, reclamation through landfilling solid waste, and final development of a park) is excellent. In this manner three separate needs are fullfilled.

Therefore, I would strongly recommend in favor of granting a conditional use permit for the applicant of Alford and Goheen.

David G Phillips

DAVID G. PHILLIPS - Solid Waste Administrator

/rn

DEPARTMENT OF PUBLIC WORKS
COUNTY OF CLACKAMAS

JOHN C. McINTYRE
DIRECTOR

WINSTON W. KURTH
County Engineer

DAVID J. ABRAHAM
Utilities Director

RICHARD L. DOPP
Development
Services
Administrator

October 7, 1975

TO: BRUCE DAVIS
Planning Department

RE: ALFORD/GOHEEN
Conditional Use Permit
CU-28-75

I have reviewed the proposal for this site to be developed for gravel removal and sanitary land fill. The site location for this project is outside of the area that is now proposed to be served by sanitary sewers. Therefore, any development of shop or office facilities to serve the gravel removal operation will have to be served by an individual subsurface sewage disposal system. At this time the state regulations are very concise in the requirement for soil conditions for disposal areas. Care should be taken to insure the preservation of undisturbed areas of acceptable natural soil for such purposes.

It is possible that alternate disposal methods can be developed but at this time, the Department of Environmental Quality is moving cautiously in these areas and approval of a non-standard system might prove cumbersome.

The long-range plans for development of a golf course and recreation park will be subject to all regulations governing sewage disposal that are in effect at the time time development takes place.

If I can provide any further information, please contact me.

RICHARD L. DOPP - Development Services Administrator

BY J. A. Marshall

JERRY A. MARSHALL - Chief Soil Scientist

JAM:ejm

(ALFORD & GOHEEN)

NOTICE OF PUBLIC HEARING

CLACKAMAS COUNTY PLANNING COMMISSION
940 WARNER MILNE ROAD
OREGON CITY, OREGON 97045
655-8491

REVISED CORRECTED NOTICE REVISED CORRECTED NOTICE

FILE NUMBER: CU-28-75

HEARING DATE: Monday, October 13, 1975 MEETING TIME: 7:00 p.m.

PLACE: Circuit Court Room No. 2, 2nd floor, County Courthouse, Oregon City, Oregon

TO: Property owners within 500 feet of the property in question as listed on the County Assessors Roll.

SUBJECT: Request for a Conditional Use Permit.

(a)	Location:	Southwest of Springwater Road approximately 1½ miles S.E. of Carver and approximately 1/5 mile west of the intersection of Springwater Road & McCubbin Road; Carver-Redland Road Area.
(b)	Legal Description:	Tax Lots 2100 & 2200, Section 29, T2S, R3E; Tax Lots 2801, 2100 & 2900, Section 30, T2S, R3E; Tax Lots 100 & 200, Section 31, T2S, R3E
(c)	Total Area Involved:	Approximately 360 Acres - The entire property
(d)	Applicant:	Robert A. & Anna Alford; R. C. Goheen
(e)	Owner of Property:	Same
(f)	Present Zoning:	RA-1, Rural (Agricultural) Single Family Residential
(g)	Applicant's Proposal:	A Conditional Use Permit to allow: (1) sand & gravel removal and processing of said aggregate; (2) sanitary landfill in area in which the aggregate is removed; (3) followed by the reclamation of the site into a park site.

Interested citizens and the general public are invited to attend this public meeting and the hearing on the above noted item. Many matters are to be considered besides the one listed above. The evenings agenda will be provided at the meeting, together with the approximate hearing time for each item. To assist in following this agenda in an orderly manner, the following ground rules have been established.

1. The length of time given those individuals wishing to speak for or against an item will be indicated by the chairman just prior to the item being considered.

2. A spokesman representing each side of an issue is encouraged. The applicant or his representative and the initial spokesman for any opposition shall be limited to ten (10) minutes. All other persons shall be limited to five (5) minutes. These times shall not include the questioning time for the Commission and such times may be extended at the discretion of the chairman.

3. Only specifically relevant testimony to the item being considered will be allowed, at the discretion of the chairman.

4. In order to minimize duplication, only testimony involving relevant new points concerning the issue before the Commission will be taken.

5. If written [illegible] submitted they shall be filed in the Planning Depart

September 25, 1975

Mr. Jerry Grey
Department of Geology
Albany, Oregon

RE: File No. CU-28-75

Dear Mr. Grey:

Attached please find a copy of the Assessment Rep[illegible]port of the Alford/Goheen Conditional Use Request [illegible] consists of the following: (1) Sand and Gra[illegible]2) Sanitary Landfill; and (3) Reclamatio[illegible]

This office would like your [illegible] by October 6, 1975. Also, [illegible] 1975, at the Clackama[illegible] Warner-Milne Roa[illegible] of the proje[illegible] time wou[illegible]

CONFERENCE PREVIOUSLY INDICATED TO BE HELD AT 1:30 P.M. ON OCTOBER 6, 1975, POSTPONED TO 1:30 OCTOBER 7, 1975.

[illegible] you have any [illegible]s office. Comments [illegible]ini or Bruce Davis on [illegible]

Since[illegible]

GUSTAVO
Planning

BRUCE. T. DAVIS
Planner

BTD:cb

Attachment

NPDPL 28 March 1978

Bonneville Lock & Dam
Additional Information

ITEM 1: For Sand & Gravel based on State Data determine;

a. Demand
b. Supply & Resource inventory
c. Point to Point Movements

RESPONSE: Projected Portland area Aggregate Demand. The Portland market area includes Multnomah, Washington, Clackamas, and Columbia counties, Oregon and Clark County, Washington. Projections adopted for this supplemental analysis are those of the Oregon Department of Geology and Mineral Industries (ODG & MI) to be published in spring of 1978. The ODG & MI projections include sand and gravel, and crushed quarry stone. The division between sand and gravel and quarry rock is currently 64%-36% changing to 55-45% by 2000. The following table depicts ODG & MI projections to and including the year 2000. The demand through 2040 was extended at a moderate increase.

Year	Total Aggregate Demand	Sand & Gravel (Millions of Tons)	Quarry Stone
1980	13.5	8.4	5.1
1990	17.3	10.0	7.3
2000	21.3	11.7	9.6
2010	23.9	13.1	10.8
2020	25.5	14.0	11.5
2030	27.0	14.0	13.0
2040	28.0	14.0	14.0

WITH PROJECT CONDITION - 1990

COSTS OF LAYDOWN PER TON

ORIGIN OF TONS DIVERTED	NEW ORIGIN	DIST / MODE	MINE / PROCESS	LOAD	LINEHAUL	UNLOAD	LOCAL DISTRIB *	ADMIN & PROFIT	TOTAL LAYDOW	TONS DIVERTED (1000)	SAVINGS Per Ton
PORTLAND (10 Mi Radius)											
SW PORT QUARRY	Avery	/B	1.42	.15	1.35	.10	—	1.21	4.23	2700	2.47
DUNDEE	"	"	"	"	"	"	—	"	"	1000	.25
Beaverton/Hillsboro											
Avery by Rail	Avery	/B	1.42	.15	1.35	.10	2.01	~~2.17~~ 2.01	~~7.60~~ 7.04	400	~~1.61~~ 2.17
Gresham											
SW QUARRY	AVERY	/B	1.42	.15	1.35	.10	1.44	1.78	6.24	900	.87
	BOARDMAN	/B	"	"	1.75	"	"	1.94	6.80	600	.31
										5600	1.52

NPD Form 3
Nov. 1958

SCHEDULE SHEET

B = Barge

* Total costs required to provide local delivery from central discharge point to center of demand area. Includes stockpile, loading and transportation costs.

WITHOUT PROJECT CONDITION — 1990

COSTS OF LAYDOWN PER TON

DESTINATION	ORIGIN	DIST/MODE	MINE/PROCESS	LOAD	LINEHAUL	UNLOAD	LOCAL* DISTRIB	ADMIN† PROFIT	TOTAL LAYDOWN	TONNAGE (000)
PORTLAND (10 mile radius)	DUNDEE	53/B	1.65	.15	1.30	.10	—	1.28	4.48	1,000
	SW PORT QUARRY	18/Tr	2.10	.10	2.59	—	—	1.92	6.70	2,700
	Misc	—							—	300
Clark County	ClarkCo									1,000
Beaverton/Hillsboro (>10 mile radius)	SW PORT Quarry	10/Tr	2.10	.10	1.44	—	—	1.46	5.10	1,600
	Avery	/R	1.42	.15	2.90	.10	2.01	2.87	9.21	400
	Misc								—	200
Gresham (>10 mile radius)	ClarkCo	15/Tr	1.90	.05	1.23	—	—	1.27	4.45	500
	Quarry	30/Tr	2.10	.10	4.32	—	—	2.61	7.11	1500
	Misc									200
Other	DUNDEE	TR								400
	Misc									200
										10,000

NPD Form 3
Nov. 1958

SCHEDULE SHEET

B = Barge
Tr = Truck
R = Rail

* Total costs required to provide local delivery from central discharge point to center of demand area. Includes stockpile, loading and transportation costs.

SOURCES OF SAND, GRAVEL AND CRUSHED QUARRY ROCK WITH AND WITHOUT BONNEVILLE LOCK REPLACEMENT

The choice of deposits that will serve various points of use depends primarily upon (1) the physical quantity and quality of the deposits, (2) institutional constraints, viz., whether or not extraction of the various deposits will be permitted, and (3) comparative costs at point of use.

Based on these considerations it was noted previously that essentially all sand and gravel operations in the market area will be depleted by 1990 except those in Clark County. Remaining, however, are approximately 180 million known tons of quarry rock.

Sources of SG&S for the Portland area beginning in 1990 would depend on the comparative advantage of the various deposits to serve the various demand centers. The major considerations were lay-down cost at point of use and quality of the material. To determine delivered costs all production costs and delivery costs by the least cost mode was used. Quarry rock, except that used for concrete aggregate, was assumed to be substituted for sand and gravel if delivered cost was less. For concrete aggregate, gravel would hold the market (about 27% of the sand and gravel market) because of its inherent advantages.[1/] Apart from these costs and quality considerations, 3 assumptions were made: (1) amount mined from Avery would not exceed 5 million tons annually, (2) extraction from deposits in the upper Willamette would not exceed 1.4 million tons annually, and (3) Clark County output would not be more than 3 times current output, or 1.5 million tons annually.

With depletion of nearby low-cost deposits, more distant and higher-cost sources will have to be used. Transportation cost is a significant factor in delivery cost of sand and gravel. The lower the shipping costs, the more distant can be the source of supply. Given the considerations previously mentioned, an analysis was made to determine the most economical supply source for each demand center with lock improvement compared to without lock improvement. The benefit to lock improvement is the difference in delivery cost at point of use. The following table presents the analysis for the year 1990.

1/ Sand and gravel (round rock) are required or preferred for several aggregate uses, the most prevalent being concrete. USBM figures were used to estimate the 27%

Bonneville Lock & Dam

Substitutions for Sand & Gravel

There are many materials which can be substituted for various sand and gravel uses. Flyash, expanded clay, shale, slate, vermiculite, perlite, natural pumice, and slag, all can be significant substitutes. These materials are not locally in enough abundance to replace sand and gravel to any significant degree. Crushed quarry rock, however, may be used for many sand and gravel applications. It exists locally in sufficient and retrievable quantity for economical substitution.

The allocations of supply shown under without project laydown cost derivations include considerably more use of crushed quarry rock than was projected by the ODG & MI study. 1/ This shift occurred because sand and gravel sources have become depleted locally and must come from progressively greater distances at higher cost. Under these conditions crushed quarry rock becomes a more competitive source and its use as a substitute increases. With greater substition, it should be recognized that the quarry rock depletion rate is also escalated. This may eventually impose limitations on the amount of quarry rock substitution. A further limitation is that some aggregate uses (concrete mfg for instance) will still desire round rock and still require sand as an additive. Therefore, some importation of sand and gravel can be expected even though it may be more expensive than crushed quarry rock.

1/ ODG & MI estimates crushed quarry stone to increase from 36% of total aggregate to 45% by 2000.

truck traffic, associated pollution impacts and non aesthetic features have weighed heavily in decisions not to grant new permits. The failure rate of permit applications has risen steadily over the last decade. By 1990, this resistance is expected to intensify as residential and other competing land uses expand. Those areas having the largest S&G resources are among the fastest growing areas in or near the SMSA: Clark County, Washington and the Willamette Valley.

Competition for resources involves an area's resistance to exporting out of the local market into the Portland SMSA. Increasingly, the trend is to use resources locally at moderate rates. This insures long term use of capital investment and delay problems associated with future expansion. Already this has occurred on the Willamette River. As late as 1976 S&G was moving through the Oregon Locks into the Portland waterside market at over 400,000 tons annually. However, in 1977 only small amounts of sand and gravel passed through the locks. It was barged locally to Wilsonville. According to industry, the limited resources are being retained for local distribution and use. In the future, it is expected that Willamette Valley demands will exert considerable pressure to mine only resources needed in the Valley.

Incompatibility with land use trends has two effects on permits. For example, in green belt areas such as along the Willamette, gravel operations are not a desired type of operation. They do not conform to fishery or aesthetic goals, etc. Another limitation is imposed as residential development encroaches on aggregate resource areas. Limitations are usually placed on operations which both preclude new development and restrict annual output of operating pits to the current production rate. 2/ New demand must go elsewhere for material.

2/ This has been verified for Clackamas, Marion and Yamhill Counties by Tom Emmit; and for Clark County, Wash., by Gary Jenks (Planning Dept.).

Bonneville Lock & Dam

Future Aggregate Supply - 1990 to 2040

Aggregate resources currently mined to supply the Portland market are expected to be seriously depleted by 1990. With the exception of Clark County, all sand and gravel reserves in existing pits will be fully depleted. Quarry rock sources will be reduced about 25% by 1990 and by over one half in the year 2000. This does not assume any large proportional increase in quarry rock due to substitution. This substitution may occur as discussed under the point-to-point analysis.

Although quarry rock should continue to be in good supply for several years, the market area will experience rising prices as this material is transported from increasingly greater disctances. Some increases in close-in pit production is to be expected, but large scale new development is not expected due to limitations imposed by residential and other related development.

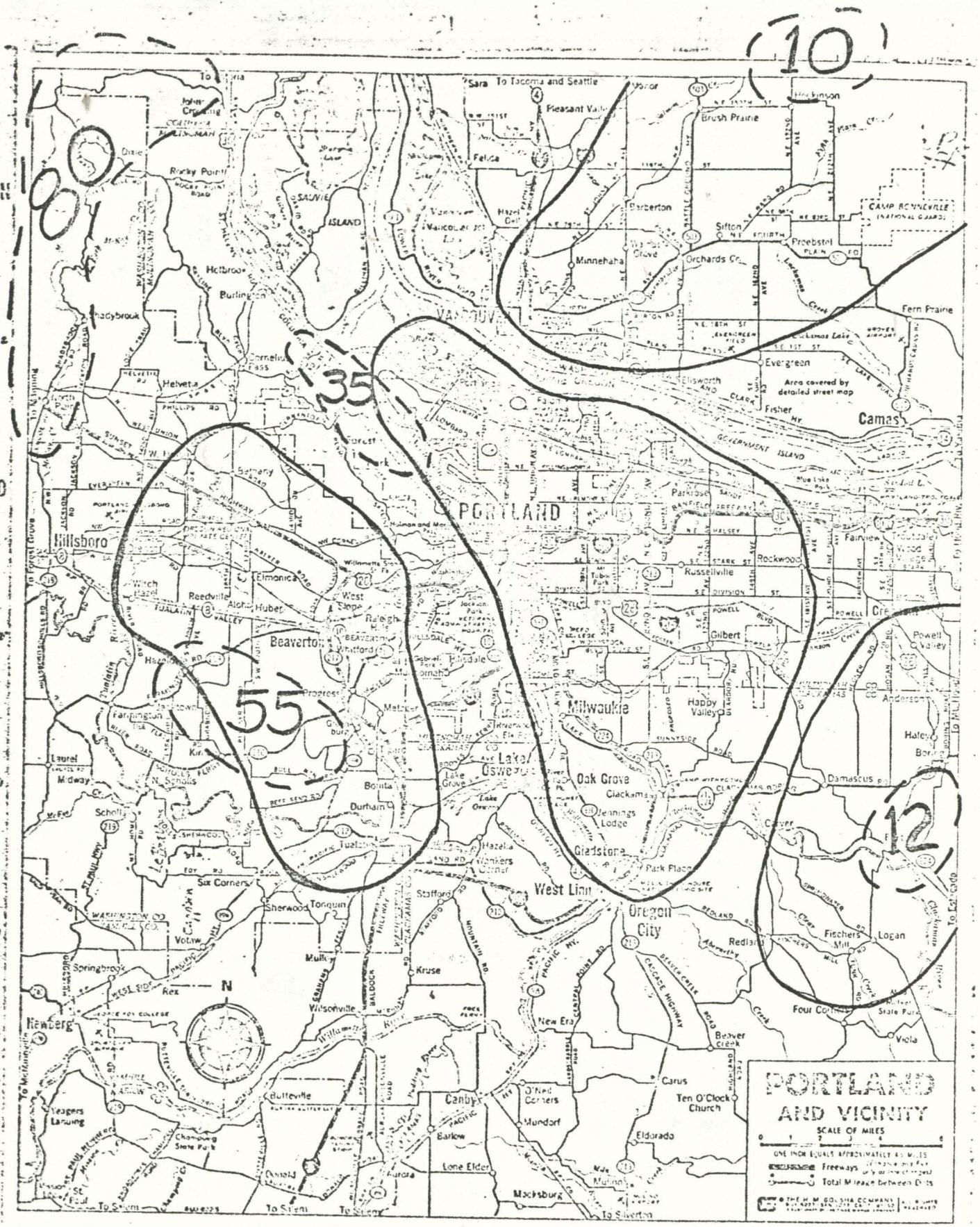
With past sand and gravel mining sources depleted, demands for sand and gravel must turn to the Upper Willamette Valley, Clark County or the Mid-Columbia for new material. Both the Upper Willamette and Clark County are expected to be landside pit operations. As such, they will be sensitive to competing uses for land. No Upper Willamette landside operations currently supply the Portland market. Owing to the restrictions cited below, there appears to be limits to how much material can be expected to be mined from the Upper Willamette Valley. For purposes of this report an annual production of about 1.4 million tons seems to be an upper limit to exploitation. While no absolute figures exist, many in industry and others who deal with the constraints cited below would view this figure as optimistic. Clark County sand and gravel operations are also expected to expand over their current production levels. Again, however, the operations are located in an area which is the fastest growing in the SMSA. The tripling of current production to 1.5 million tons annually, as shown under the without project condition, is an optimistic expectation. Such an increase will accelerate considerably the depletion of these resources. Considering operator desires to preserve a long term share of market supply, this rate appears to be a reasonable upper limit.

Constraints to Landside Sand & Gravel Development

Development of new sources of sand, gravel, and quarry rocks for the Portland SMSA is expected to face stiff challenges in the future. Major factors include increasing resistence to new permits for operation, competition for the S&G resource and incompatibility with land use trends.

Counties have been very cautious about new permit applications. No major (>20,000 tons annually) pit permits have been approved for several years in the counties in and around the Portland SMSA. 1/ Large increases in

1/ Tom Emmit, who processes permit applications for Oregon, cites local resistence as the primary reason for disapproval. The two most recurring complaints are dust and truck traffic.



1 2 3 4

MAJOR QUARRY ROCK SUPPLIES

As of 1975

(millions of tons)

8

(10) Demand Centers

Rock Source

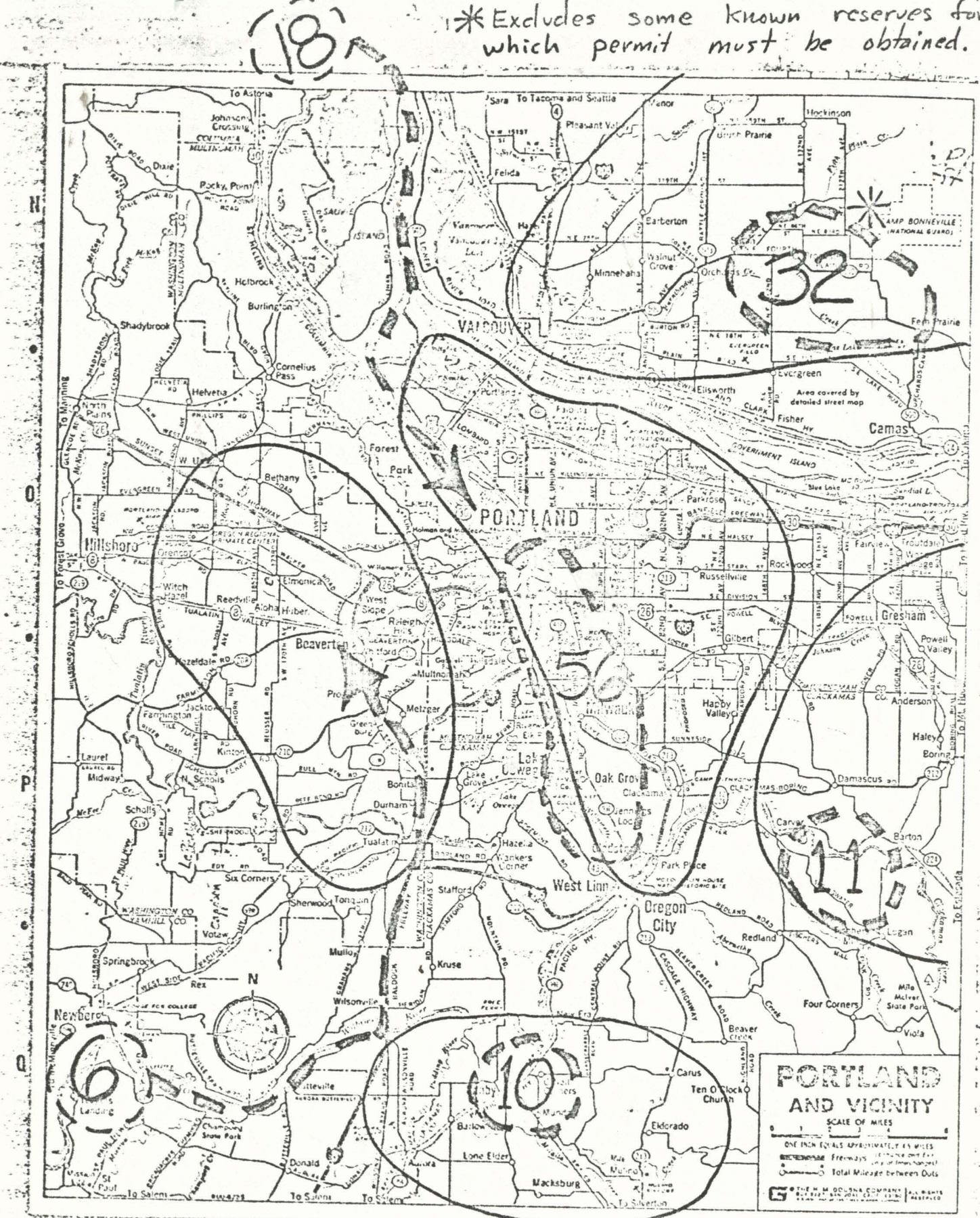
Quarry rock sources are generally located 15 or more miles from the city center. There are two fairly large operations serving the city center now. Few quarries of the outer radius are competitive at Portland waterside. In addition, the following table compares accumulated quarry rock demand by demand center with reserves now serving.

CRUSHED QUARRY ROCK
(Million Tons)

Demand Center	Reserves Now Serving	Accumulated Demand Beginning 1975			
		1980	1985	1990	2000
Portland (within 10 mi)	~~28~~35	3	7	12	24
Gresham & Beaverton-Hillsboro	~~64~~67	3	9	14	31
SUB-TOTAL	~~92~~102	6	16	26	55
Clark County	10	4	8	13	23
Outside 20 mi Radius	~~130~~120	4	8	14	27
TOTAL	232	14	32	53	105

Ample known reserves remain even until the year 2000, although they are nearly absent close in to Portland. These Portland sources might also serve some of Clark County's needs depleting them more rapidly than shown. Expansion of the reserves inside 20 miles is not likely to be significant due to resistance to new permits created by rapidly encroaching development. Satisfaction of higher or new demand will likely have to go to more distant sources. This has, and would occur as zoning laws limit the productions of existing operations.

The following map depicts the general distribution of the major quarry rock sources.


(18)
*Excludes some known reserves for which permit must be obtained.
(32)
(50)
(11)
(6)
(10)
PORTLAND AND VICINITY
SCALE OF MILES
Area covered by detailed street map
Major Sand + Gravel Supplies As 1975 (millions of tons)
Demand Centers
Gravel Sources

AGGREGATE SUPPLIES 1975 to 1990

The relevent supplies of aggregate include sand and gravel, and crushed quarry rock. Relatively inexpensive sources used for many years in and around the Portland SMSA are depleting rapidly. After 1975, approximately 141 million more tons of sand and gravel and 232 million more tons of crushed quarry rock are available from operating sources in or near the Portland SMSA. 1/

The sand and gravel sources are primarily dredging and landside pit operations in the alluvial deposits of the Columbia, Willamette, and (to less extent) Clackamas Rivers. The sources currently serving Portland waterside have an estimated 74 million ton reserve. Estimates for Clark County and the Gresham or Beaverton-Hillsboro area are 32 and 27 million tons, respectively. This leaves a remainder of about 8 million tons.

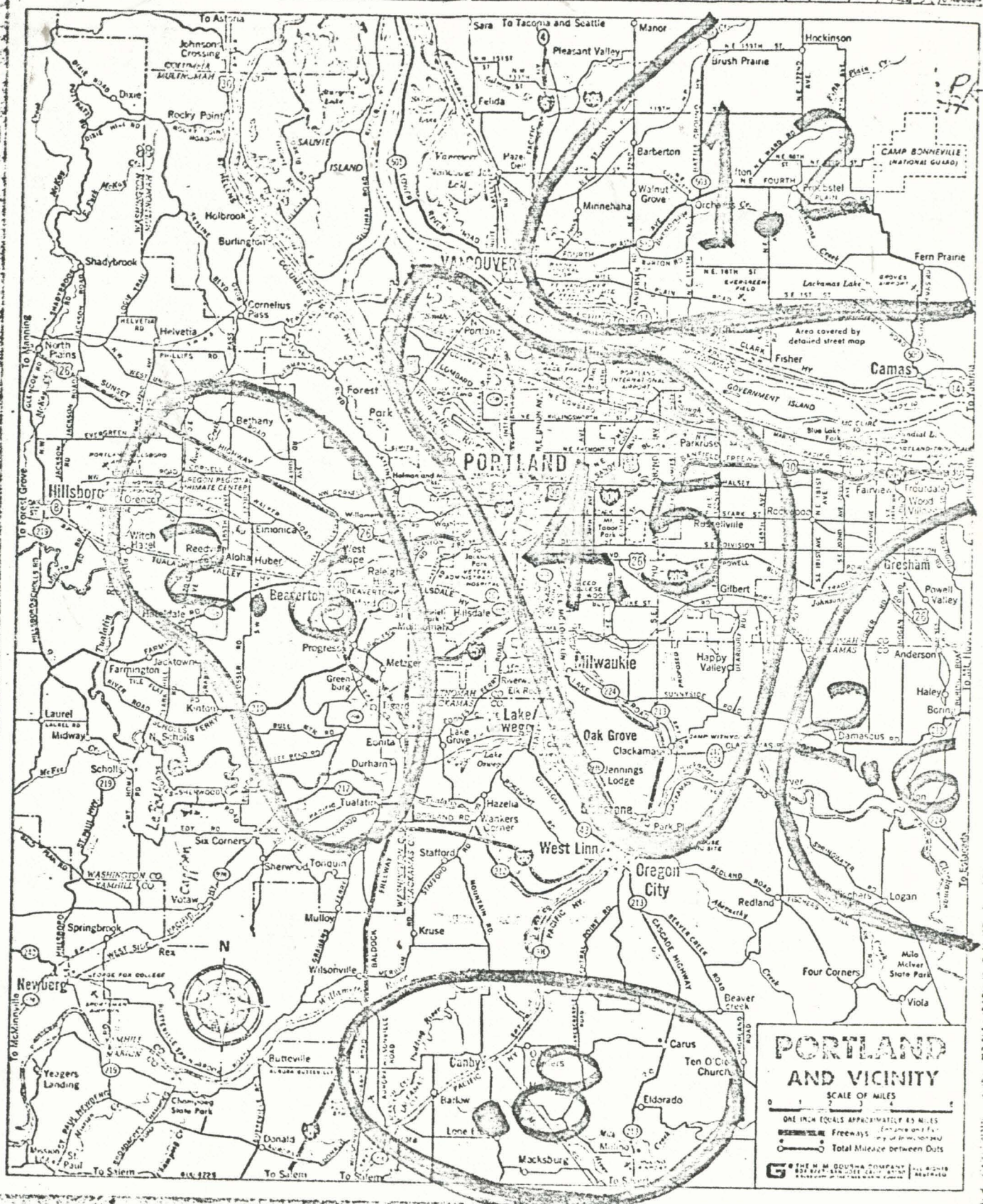
The following map depicts the general distribution of the major deposits. The accumulated sand and gravel demand by demand center from 1975 through 1990 is compared to reserves as follows:

(Millions Tons)

Demand Center	Reserves Now Serving	Accumulated Demand Beginning 1975		
		1980	1985	1990
Portland (within 10 mi)	74	18	38	58
Gresham & Beaverton-Hillsboro	27	14	32	52
SUB TOTAL	101	32	70	110
Clark County	32	4	8	13
Outside 20 mi radius	8	2	5	8
TOTAL	141	38	83	131

By 1985 the Beaverton-Hillsboro and Gresham demand centers will have totally consumed local reserves from operating pits. When this occurs the Santosh operations which now serve Portland waterside could also competively supply the Beaverton-Hillsboro area via Cornelius Pass Highway. The Gresham area could be supplied by Ross Island and landside pits operating near the eastern fringe of the central demand area. In total, all sand and gravel reserves from operating pits except those of Clark County, Washington, are expected to be fully depleted before 1990. The above sand and gravel sources represents the full amount available within the SMSA. River deposits are not being renewed as in the past and new landside permits are increasingly more difficult to obtain in developed areas.

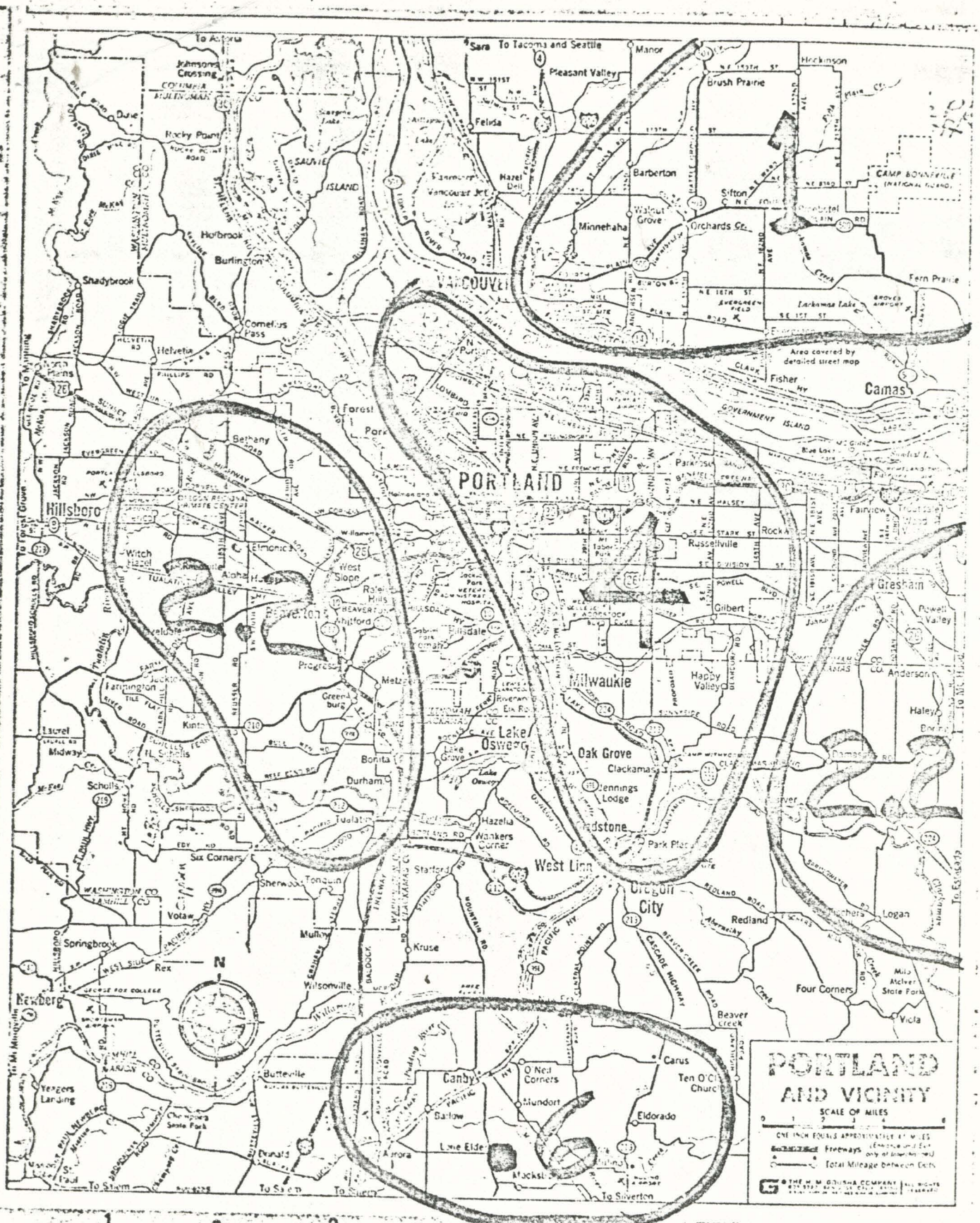
1/ ODG & MI



2000 DEMAND DISTRIBUTION

Sand & Gravel

(millions of tons)



1990 DEMAND DISTRIBUTION

Sand & Gravel

(millions of tons)

SMSA DEMAND DISTRIBUTION (SPACIAL)

The distribution of aggregate demand in the Portland market area was estimated using ODG & MI study data. The study thoroughly surveyed past pit and quarry operations in the Oregon counties of the market area. The data estimated both past production from inception and future potentials. To this information we added the past output of river sources and Clark County. By plotting the type and magnitude of past operations on a map of the market area, a pattern for historical production was obtained. In the past a typical truck haul has usually been no more than a 10 mile radius. A reasonable estimate of the location of demand centers was obtained by noting concentrations of past production and assuming that material would be hauled no more than 10 miles from these concentrations. These demand centers were check against data from industry officials, area growth, and records of barge movements.

The resulting use patterns are plotted in a general fashion on the following maps for years 1990 and 2000. These distributions include growth in demand as well as a shift of demand towards outlying, developing areas. The greatest concentration of aggregate use occurs approximately within a 10 mile radius from the city center. This range encompasses the commercial and industrial core of Portland. Water transportation to initial point of delivery enjoys a relative advantage. In fact, of the 4.4 million tons that moved by barge in 1977, 3.4 million tons were delivered in this area.

Outward from this central demand center are four generalized production-demand centers. The one to the South is served primarily from riparian sources. The Beaverton-Hillsboro area to the West, the Gresham area to the East, and the Clark County area to the North are primarily served by truck from inland pits. These centers recognize the location of active deposits and typical truck-haul distances. Between the center market border and the outlying centroids is an area where neither land storage or water storage points have a clear advantage.

In addition to demand centers within the SMSA, one must also consider adjacent areas which have traditionally bid away part of the available resource base. In 1977, 500,000 tons of sand and gravel was barged from Portland to Longview, Astoria, and other points along the Lower Columbia River. The greater part was consumed at the Mouth of the Columbia, particularly Astoria and the Hewite and Megler plants of Washington State. The fact that this region must incur substantial transportation costs may be indicative of the study areas future. Exports are assumed to continue at the 1977 level until SMSA sources become depleted. Therefore, total demand figures were adjusted to account for this "local export competition."

1/ Oregon Dept. of Geology and Mineral Industries report to be final in June 1978

NEIL GOLDSCHMIDT
GOVERNOR

Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE

910 STATE OFFICE BLDG., 1400 SW 5th AVE., PORTLAND, OR 97201-5528
PHONE (503) 229-5580 FAX (503) 229-5639

April 13, 1990

The Honorable Gladys McCoy, Chairperson
Board of County Commissioners
1021 SW Fourth Avenue
Portland, Oregon 97204

Dear Ms. McCoy:

Recently the Oregon Department of Geology and Mineral Industries has been assisting Multnomah County in understanding the resource aspects of the Angell Brothers' site. Our calculations are general and are intended for general understanding and orientation. We hope this is of some assistance to the county, the company and the public.

Taking a broader look for a moment, we feel that planning issues such as this one can be better addressed in total with a more rigorous Goal 5 effort tied to regional supply and demand data. Traditionally we focus our agency involvements on these kinds of issues on the regional rather than the site specific approach.

After appropriate adjustments for overburden, benches, buffers, and mined areas, it is of interest that both parties are forwarding similar resource numbers and that their numbers are generally accurate.

By using a 1981 topographic map with a scale of 1 inch equals 200 feet, a mining plan with benches 40 feet high and 60 feet, a planimeter (a device to measure area), an estimate of the total yards that can be mined from Angell Brothers' 40 acre site, as of 1981, is shown to be 6.5 million cubic yards.

Of this total, overburden and waste would be 1.0 million cubic yards assuming the overburden would be 20 feet thick. To get the saleable yards, the amount of material mined since 1981 (estimated at 2 million cubic yards) must be subtracted as well as any other areas that cannot be mined. Remaining reserves is, therefore, about 3.5 million cubic yards. This figure may may include unidentified pockets of low quality material.

A copy of the working map with the 40 foot bench is enclosed.

The area measured was that area formed by the contour moving during mining. An average was taken between the top contour and

the bottom contour of a bench. This yields the area. A square inch of map is equal to 40,000 square feet.

This figure is multiplied by the bench height (40 feet) to give cubic feet. This figure is divided by 27 (27 cubic feet equals one cubic yard) to give cubic yards.

The following table gives the bench by bench statistics.

Sincerely,

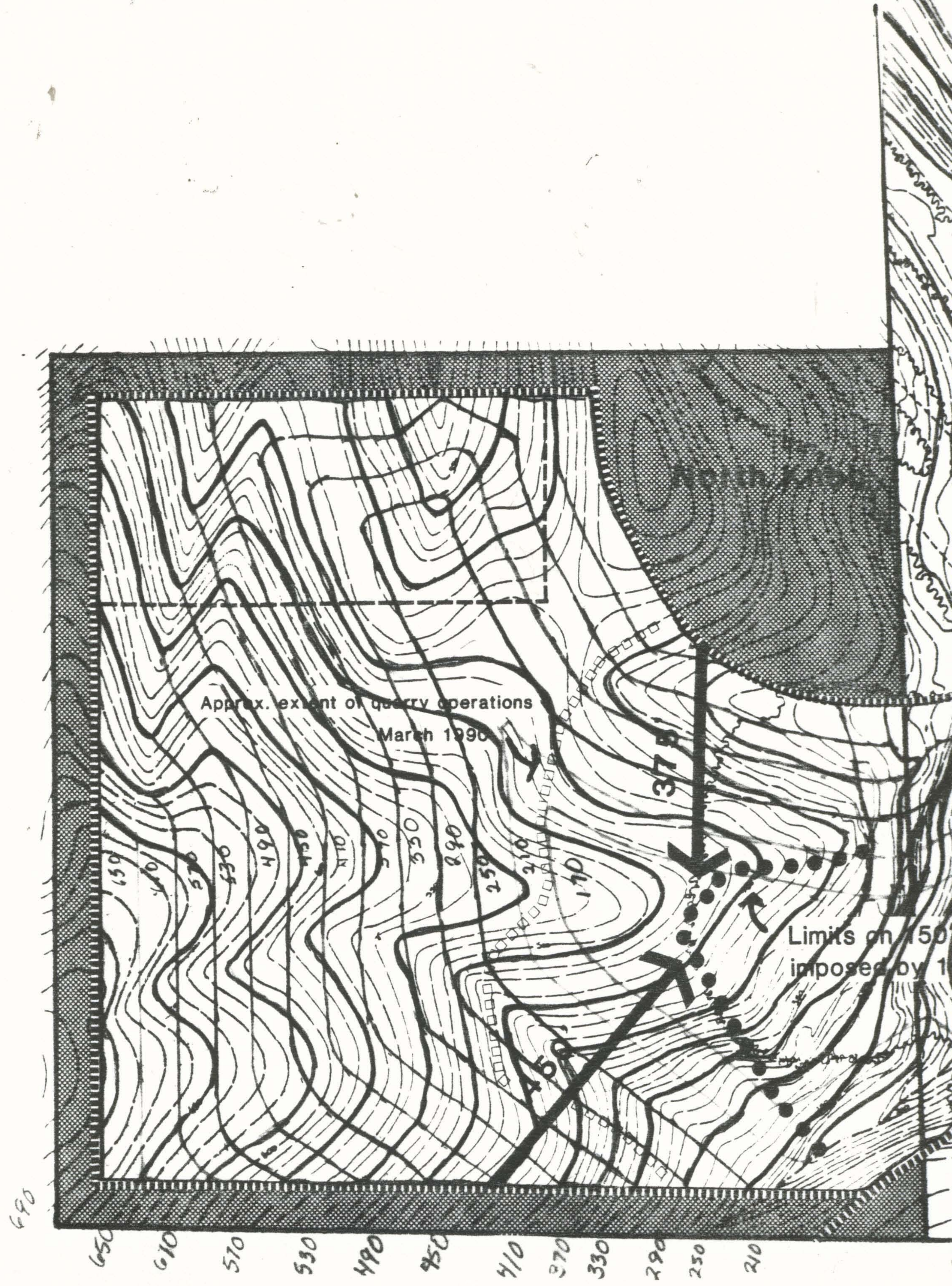
Jerry J Gray

Jerry J. Gray
Economic Geologist

JJG/llg
Enclosures

C:JJGMINE

Bench	Average In^2	ft^2 (in^2 x 40,000 ft^2/in^2)	ft^3 (ft^2 x 40 ft bench height)	yd^3 ft^3 ÷ 27 ft^3/yd^3
650	0.94	37,600	1,504,000	55,704
610	2.34	93,600	3,744,000	138,667
570	3.92	156,800	6,272,000	232,296
530	5.88	235,200	9,408,000	348,444
490	7.98	319,200	12,758,000	472,518
450	10.17	406,800	16,272,000	602,667
410	13.68	547,200	21,888,000	810,667
370	18.24	670,800	26,832,000	993,778
330	15.21	608,400	24,336,000	901,333
290	12.73	509,200	20,368,000	754,370
250	9.67	386,800	15,472,000	573,037
210	6.14	243,200	9,728,000	360,296
170	4.23	169,200	6,768,000	250,667
		TOTAL	175,350,000	6,494,444
Over-burden 20" thick	34.00	1,360,000	27,200,000	1,000,741
		NET		5,493,703


Approx. extent of quarry operations
March 1990
375
Limits on 150
imposed by 1
690
650
610
570
530
490
450
410
370
330
290
250
210


quarry floor
1 side slopes
South Knob

April 6, 1990

Mr. Jerry Gray
Economic Geologist
Oregon Department of Geology and Mineral Industries
910 State Office Building
Portland, Oregon 97201

Dear Jerry:

In response to Multnomah County's request, and on behalf of our client Angell Brothers, Inc., please find enclosed information regarding the **Angell Brothers aggregate site** on NW St. Helens Road which responds to the concerns of Multnomah County regarding the demand for and supply of aggregate material on the remaining site acreage.

You will find enclosed three documents:

(1) A packet of information provided to the Multnomah County Commissioners, dated March 1, 1990, which includes information on the projected supply of and demand for quarry material at the Angell Brothers Rock Quarry.

(2) An addendum to this packet, dated March 6, 1990, which corrects the values for projected demand from the March 1 packet which were in error.

(3) A map showing the general features of the site, including the North Knob which Angell Brothers has agreed to protect under their 1986 Conditional Use Permit, and the existing topography limiting the possible extent of the 150 foot quarry floor.

These materials summarize the information which we have provided to Multnomah County to date concerning this issue. As you will note, the calculations and evidence presented in these documents are based on our engineer's analysis of available site information, which involved a level of analysis far beyond that required of most aggregate producers involved in the periodic review process.

In addition, we wish to respond briefly to the information presented by the opponents of the aggregate resource site expansion regarding volumes of rock material they estimated are available within the existing quarry area. The information they presented grossly inflated the amount of rock which remains available on the site. Specifically:

DAVID EVANS AND ASSOCIATES, INC.
ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS, SCIENTISTS
OFFICES IN OREGON, WASHINGTON AND CALIFORNIA
2828 S.W. CORBETT AVENUE
PORTLAND, OREGON 97201-4830
(503) 223-6663 FAX (503) 223-2701

(1) All volumetric calculations made by the opponents and presented at the March 27 Multnomah County Commissioner's hearing were based on the assumption that there are **9 cubic feet** in one cubic yard. Of course, 27 cubic feet make up one cubic yard. Thus, all volumetric values presented by the opponents were exaggerated by a factor of at least three, due to this factor alone.

(2) All volumetric calculations presented by the opponents on March 27 presumed that Angell Brothers can extend their existing 150-foot MSL quarry floor as far into the interior of the 40-acre lot as necessary. This is in fact **not** possible, due to the fact that a 150-foot quarry floor will be effectively "choked off" a short distance into the site if 1-1/2 to 1 slopes are to be maintained from the protected "North Knob" and from the south property boundary (and its 65-foot setback buffer). In other words, on most of this site Angell Brothers **cannot** achieve cuts which come close to approaching the 1-1/2 to 1 slopes assumed by the opponents, due to the confining nature of the existing site topography. To avoid this problem, access to the interior of the site must be "opened up" by making available additional acreage south of the existing quarry, or Angell Brothers must re-establish their quarry floor at a higher elevation which allows them to more efficiently work the interior of the existing site.

For this reason, the calculations made by our engineering staff, as described in the attached materials, were based upon the location of a new quarry floor at 450-foot MSL elevation. At this elevation, Skip Anderson, Angell Brother's president, felt the operating bench would be of adequate size to ensure that the quarry could be operated safely and efficiently.

Finally, we emphasize that both the projected demand and the estimated available volumes of aggregate material are only approximations. As you know, variations in terrain, depth of overburden material, and variable rock quality will all effect the available volumes, and the degree to which demand will increase is impossible to gauge. Moreover, many areas which are technically "mineable", in the sense of having recoverable rock, may well be uneconomical to mine because relatively large amounts of forest and overburden material must be removed to recover a relatively small quantity of marketable rock. Taking all of these factors into account, we feel that the 875,000 tons (700,000 cubic yards) estimate of available rock material on the 40-acre site is reasonable, given the assumptions spelled out in the attached report.

Jerry, if you have additional questions concerning our methodology and results, please do not hesitate to contact me at 223-6663. We appreciate your assistance in helping Multnomah County to resolve this issue.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Robert W. Price DMA

Robert W. Price
Associate

Enclosures

cc: Skip Anderson - Angell Brothers, Inc.
Andy Jordan - Bollinger, Hampton and Tarlow
Gladys McCoy - Chair, Multnomah County board of Commissioners
Lorna Stickel - Multnomah County Planning
Jim Sitzman - Dept. of Land Conservation and Development

MINUTES

April 2, 1990

Present: County Chair, Gladys McCoy
Commissioner Pauline Anderson
John Sherman
Jerry Gray
Andrew Jordan
Chris Wrench
Bob Price
Jim Sitzman
Molly O'Reilly
Skip Anderson
Lorna Stickle
Gary Clifford
Merlin Reynolds

Present but did not take part in discussion:

Nora Riches

County Chair McCoy called the meeting to order at 1:40 P.M. She explained that this was a meeting to see if the two sides of this issue could come to an agreement. Commissioner Anderson and Chair McCoy are only at the meeting to give their perspective and listen to the discussion and not to make any decisions.
Anything that comes from this or any subsequent meetings must be taken to the Board of County Commissioners at a public hearing.

Chair McCoy introduced Merlin Reynolds, one of her staff members that is also a professional facilitator that she has asked to facilitate this and any future meetings of this group. Merlin explained his role as facilitator: to move the group through the agenda and give anyone present an opportunity to say what they needed to say in a non-threating environment.

A. <u>Introductions/Expectations</u>

Merlin using a round-robin technique, asked each person to identify themselves and state what they hoped to get out of the meeting.

B. Review Ground Rules

After introductions Merlin reviewed the ground rules with the group and asked if the group would like to make any additions. The group agreed to the ground rules and Merlin explained he would hold the group to them:

* One person speaks at the time;
* Treat each other with respect
* Finish meeting by 2:45 P.M.

C. Identify Issues

Using the round robin technique Merlin asked each person to identify one to two issues until all issues for this group were on the table:

1. Amount of agragate material in current area
2. Clarify the clay issue
3. Consider the meaning and topographical impacts on any agreement
4. How does the County protect a Wildlife corridor if it exists
5. Angle Brothers needs to remain operational
6. Will this meeting tie Angle Brothers to a specific area?
7. Explore seven acre buffer impact
8. Protection of Wildlife
9. This meeting does not lead to a long range solution (there is not enough information now)
10. These meetings can only lead to a short term solution
11. Any agreement has to provide a comfort level for all participants
12. Completed Wildlife study can be finished in 12-18 months
13. Angle Brothers can not operate on a year by year basis
14. Concern about objectivity of Jerry
15. Scenic and Wildlife factors have to be part of solution
16. Reclamation is part of solution

Chair McCoy suggested that the group take a brief brake.

D. What Next

After some discussion about how to proceed, the group agreed that the three representatives on each side should determine what of the issues identified should be delt with first by a show of hands as the facilitator reviewed them with the group.

Issues 1, 2, 3, & 7 received the highest number of votes and the group identified that they are really the ones that must be delt with first.

1. Amount of agregate material in current area
2. Clarify the Clay issue
3. Consider the meaning and topographical impacts in any agreement
7. Explore seven acre buffer impacts

Other issues that received votes by the group that will have to be considered in any agreement:

* How does the County protect a Wildlife corridor if it exists
* Angle Brothers needs to remain operational
* Protection of Wildlife
* Scenic and Wildlife factors have to be part of solution
* Reclamation is part of solution

A concern was stated about how neutral Jerry could be in a review of the material. Merlin stated that if either side was uncomfortable with Jerry conducting an analysis of both sides information then they should state so now and another person would be sought. No one stated an objection.

Jerry stated that he believed he could conduct an impartial analysis of the information provided by both sides and make a report to the group.

The group agreed that Jerry will review information provided by both sides that deals with the current permit area and the proposed expansion area, 54 acres. Angle Brothers will provide Jerry with their latest information by Friday, April 6th. He will report his findings to this group at the next scheduled meeting for the group: April 13, 1990 at 2:00 P.M. in room 602 of the Court House. Jerry will also conduct a site review if he needs to.

Jerry made it clear that he would first have to get approval from his boss to conduct the analysis.

The meeting adjourned at 3:00 P.M.

Special Note: Jerry has received approval to analyse the information provided by both sides, but he will not be conducting a site visit.

MR:iar

March 26, 1990

County Executive Gladys McCoy
County Commissioners
1021 S.W. Fourth
Portland, OR 97204

Honorable County Executive and Commissioners:

At the March 6, 1990 Angell Bros. Periodic Review hearing we offered to meet with Angell Bros. to attempt an agreement based on that day's testimony. **That testimony has proven inaccurate.** We have **not met** for several reasons:

* **Information** you have been given is **false**, and **no** demonstrated **need for more mining area** exists.

* Our further calculations demonstrate Angell Bros. **has enough material today for more than 5 years of operation.**

* The contradictions and inaccuracies to which you have been subjected mean **you have no more conclusive information on the gravel than on the wildlife.**

Thus, we urge you to support the original staff recommendation of 3C designation for the 71.22 acres, floating 2 for the remainder.

We fully expect Angell Bros. to expand in the future. However the proper time to do this is after the Wildlife Corridor study is complete, and confusing issues regarding the aggregate operation are resolved. Expansion today is unneeded and premature.

Complete documentation is attached, hopefully in easily readable form. We welcome questions. We had assumed we could make a presentation explaining our position, and scheduled the weekend to prepare it. Late Thursday, we realized a presentation was not possible. This report replaces that presentation, and we apologize for its timing. Volunteers have scheduling challenges!

Respectfully,

Molly O'Reilly, Friends of Forest Park
Nora Riches, Skyline Neighborhood Association
Carol Canning, Linnton Neighborhood Association
Chris Lightcap, West Hills and Island Neighbors

Inaccurate/Contradictory Statements

* Setbacks in Evans map are 65', Price says 100'.

* **Problems converting tons to cu yds:** Evans report 3/1/90, P. 9, line 8: 875,000 tons x 1.25 = 1,093,750 cu yds, not 700,000 as stated., P. 9, line 22: Mislabled 700,000 cu yds as 700,000 tons. (This compounds their error in calculating available material.) P. 6, line 15: 552,000 tons x 1.25 = 690,000, not 442,000 as stated. P. 6, line 17: 1984 production, 207,355 tons x 1.25 = 259,193, not 166,000 as stated.

* Evans Report 3/1/90, P. 8, line 25: Statement (emphasis added):

> "(2) Under new Mining Safety and Health Administration (MSHA) site operation requirements, benched slopes along the quarry faces can be no steeper than 60 feet wide by 40 feet high, for an average 1-1/2 to 1 slope;
>
> **Fact:** MSHA has no bench width and height operating requirements. DOGAMI (not MSHA) has final (not working) slope requirements of 1-1/2 to 1 as stated in their 1982 letter. We are **unable to find any regulatory changes since April, 1987.**

* Bob Price Testimony 3/6/90: "Previously we could mine on a 1 to 2 slope....This is the old standard. Starting this year MSHA has a new standard: 40' and 60'....all of a sudden what the MSHA requirements have done, they have cut the material in half,..."

> **Fact:** DOGAMI wrote the County in 1982 stating that the final overall slope of the mined area should be 1-1/2 to 1. This requirement is unchanged in 8 years. MSHA makes "recommendations" not "requirements" and has no new ones since 1977.

* Bob Price Testimony 3/6/90: "Another MSHA requirement is that the bench you are working on has to be 100' in width....it has to be 2-1/2 times the width of your longest piece of equipment, and the longest piece of equipment Angell Bros. has is 40'."

> **Fact:** There is no specific bench width requirement in the MSHA regulations nor is such required by DOGAMI. The MSHA inspector wants assurances that equipment can "turn around."

* **Raising Bench Height** Bob Price Testimony 3/6/90: "...the fact that we've got to increase our bench elevation ...by 300' MSL means we're leaving a lot of rock we can't get to anymore. We might have been able to in the past,..."

> **Fact:** There is no regulatory reason to raise bench height. Requirements are unchanged. 1-1/2 to 1 final slope has been required since 1982. Angell Bros. can still get to all the rock projected in the 1986 permit. (Staff has requested calculations based on the 1986 permit. Angell Bros. have refused. We have done them, and lots of rock is there.

Calculations of Material Available on Current Site

Assumptions

1. Operating plans set forth in the 1986 permit are still valid. **There are no new MSHA requirements.** A 1-1/2 to 1 final slope has always been required! **Bench and slope requirements are unchanged.** (see Inaccuracies/Contradictions).

2. Contradictions in boundary lines: David Evans and Schlicker reports show boundaries different from those in the 1986 permit. The 1976 and 1988 surveys and aerial photos support the 1986 permit boundaries. (If these 1986 boundaries are inaccurate, Angell Bros. has mined substantially south of its permitted area.) The boundaries shown by Evans and Schlicker minimize the available material due to steeper slopes. **We use the 1986 permit boundaries because they are better substantiated.**

How Much Aggregate is Needed?

It is generally agreed that Angell Bros. should be able to continue operating through the study and resource balancing period. The study is projected to take 1 to 1-1/2 years. Three years worth of aggregate is ample. Using the Evans Report 3/6/90 corrected production figures this would be:

Year	Projected Production (tons)	Proj. Prod. Cu Yds
1990 (full)	671,232	839,040*
1991 (full)	816,218	1,020,273
1992 (full)	992,521	1,240,651
1993 (3 mos.)	301,726	377,158
Total:	2,781,697	3,477,122*

* We consistently use cubic yards to avoid confusion.
Tons x 1.25 = cu. yds.

We have divided the current 40 acre active mining area into 5 unmined areas. **All 5 areas can be mined.** If they are, we calculate **12,839,500 cu yds** of aggregate.

Retaining the buffer (Area 5) Angell Bros. says makes adjoining Area 4 too narrow to mine. It also creates setbacks to achieve final 1-1/2 to 1 slopes (impacting Areas 2 and 3). These 2 areas will have some aggregate production, but we have not calculated that amount. If only **Area 1** is mined, a 7.34 acre piece, **available aggregate is 4,620,000 cu yds,** 33% more than needed for three years' production.

No additional acreage is needed at this time. The original staff recommendation of 3C for the current site, floating 2 for all others is generous. Please adopt it!

Calculations of Material Available on Current Site

Assumptions

1. Operating plans set forth in the 1986 permit are still valid. **There are no new MSHA requirements.** A 1-1/2 to 1 final slope has always been required! **Bench and slope requirements are unchanged.** (see Inaccuracies/Contradictions).

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No additional acreage is needed at this time. The original staff recommendation of 3C for the current site, floating 2 for all others is generous. Please adopt it!

U. S. Department of Labor

Mine Safety and Health Administration
620 Central Avenue, Building 7, AFC
Alameda, California 94501-3898

March 12, 1990

Ms. Carol Canning
13838 NW Riverview Drive
Portland, Oregon 97231

Re: Code of Federal Regulations 30, Subchapter N, Metal and Nonmetal Mine Safety and Health, Part 56, Subpart B, Ground Control

Dear Ms. Canning:

This letter will serve as confirmation regarding your telephone conversation with Mr. John Widows on March 7, 1990. The Mine Safety and Health Administration (MSHA) is a Federal agency with jurisdiction over all mining operations for safety and health. We do have jurisdiction at the Angell Brothers Inc. quarry in Multnomah County, Oregon (Mine I.D. No. 35-00910) and do conduct regular inspections at the quarry.

In answer to your question about mining methods and benching widths and heights at quarries, I have enclosed a copy of our regulations concerning this subject. Basically, our regulations require that the width and height of benches shall be based on the type of equipment used for cleaning and/or scaling. Our regulations have never required specific bench width and height dimensions nor are any proposed in the future. Additionally, our regulations have never required specific overall pit slope angles. Rather, these particular ground control standards contain performance-oriented language which provides alternatives for compliance so long as the safety of miners is achieved.

As mentioned earlier, we are a Federal agency and enforce Federal regulations contained in the Federal Mine Safety and Health Act of 1977, Public Law 91-173, enacted by the Senate and House of Representatives of the U.S. Congress. There may be state, county, or local agencies in Oregon which may also have jurisdiction/regulations for mining properties, and you would need to contact them for information on their requirements.

If you have any questions, please contact Mr. John Widows on my staff at (415) 273-7457.

Sincerely,

DAVID J. PARK
District Manager

Enclosure

cc: Lewis Scott, Oregon

MULTNOMAH COUNTY OREGON

Department of Environmental Services/Division of Planning and Development/2115 S.E. Morrison St./Portland, Oregon 97214 • 248-5270

DECISION OF THE
MULTNOMAH COUNTY PLANNING COMMISSION

Meeting of April 28, 1986

IN THE MATTER OF:

CU 9-86, #64

Renewal of Previous Conditional Use Permit
(Plus Modification of a Previous Condition).

Applicant requests renewal of a conditional use approval granted in 1981 under CU 34-80a for a rock quarry, plus request to modify a condition of that previous approval to allow piping of a small stream across the entirety of the property.

Location: NW Lower Columbia River Highway
(At Sauvie Island Bridge)

Legal: Tax Lot '2', Section 27, 2N-1W and
Tax Lot '12', Section 28, 2N-1W,
1986 Assessor's Map

Site Size: 40 Acres

Size Requested: Same

Property Owner: ME Rand, TR
1184 Sweetwater Drive, Reno, NV 89509

Applicant: Angell Brothers, Inc.
PO Box 3449, Portland, 97203

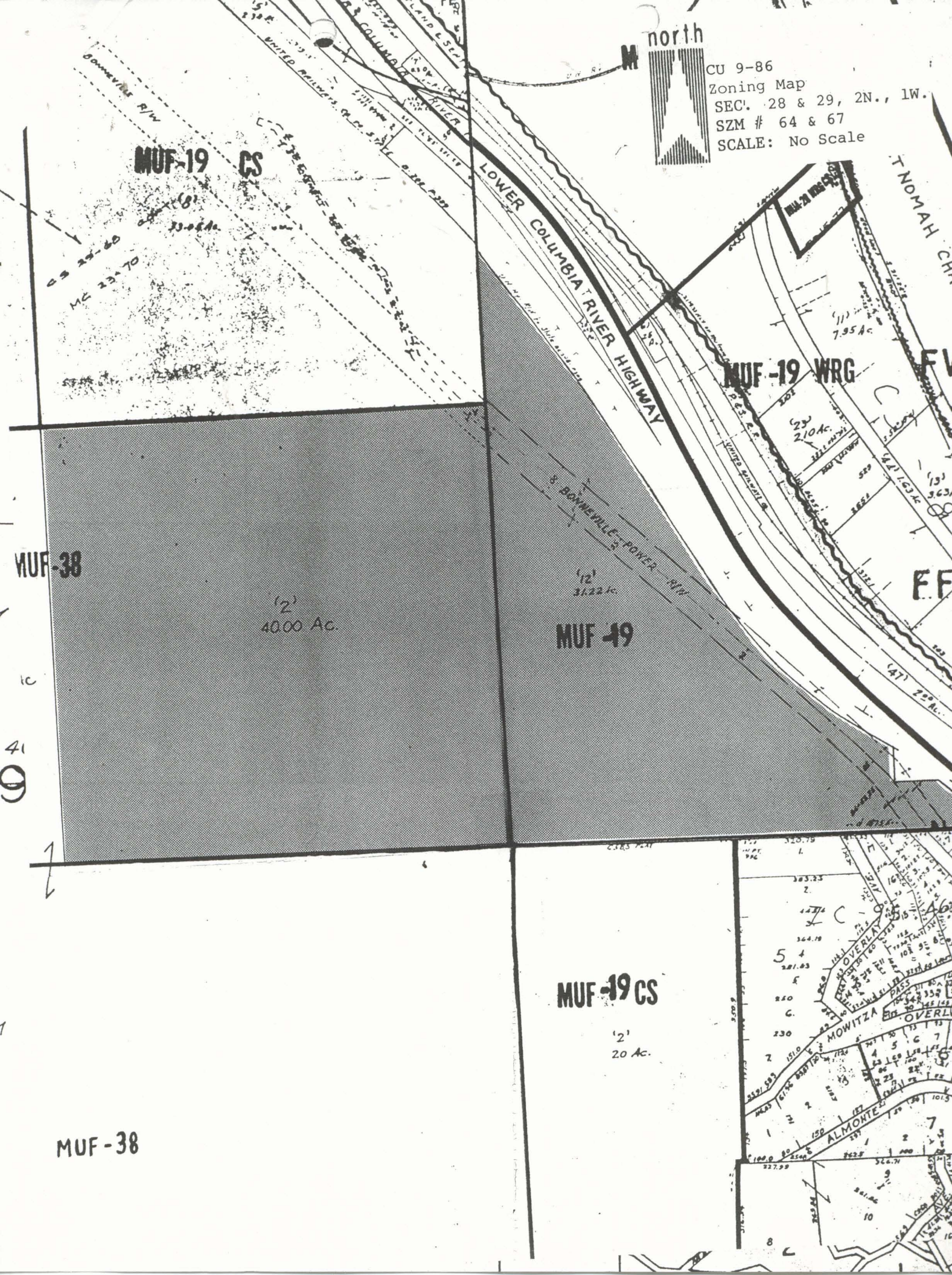
Comprehensive Plan: Multiple Use Forest

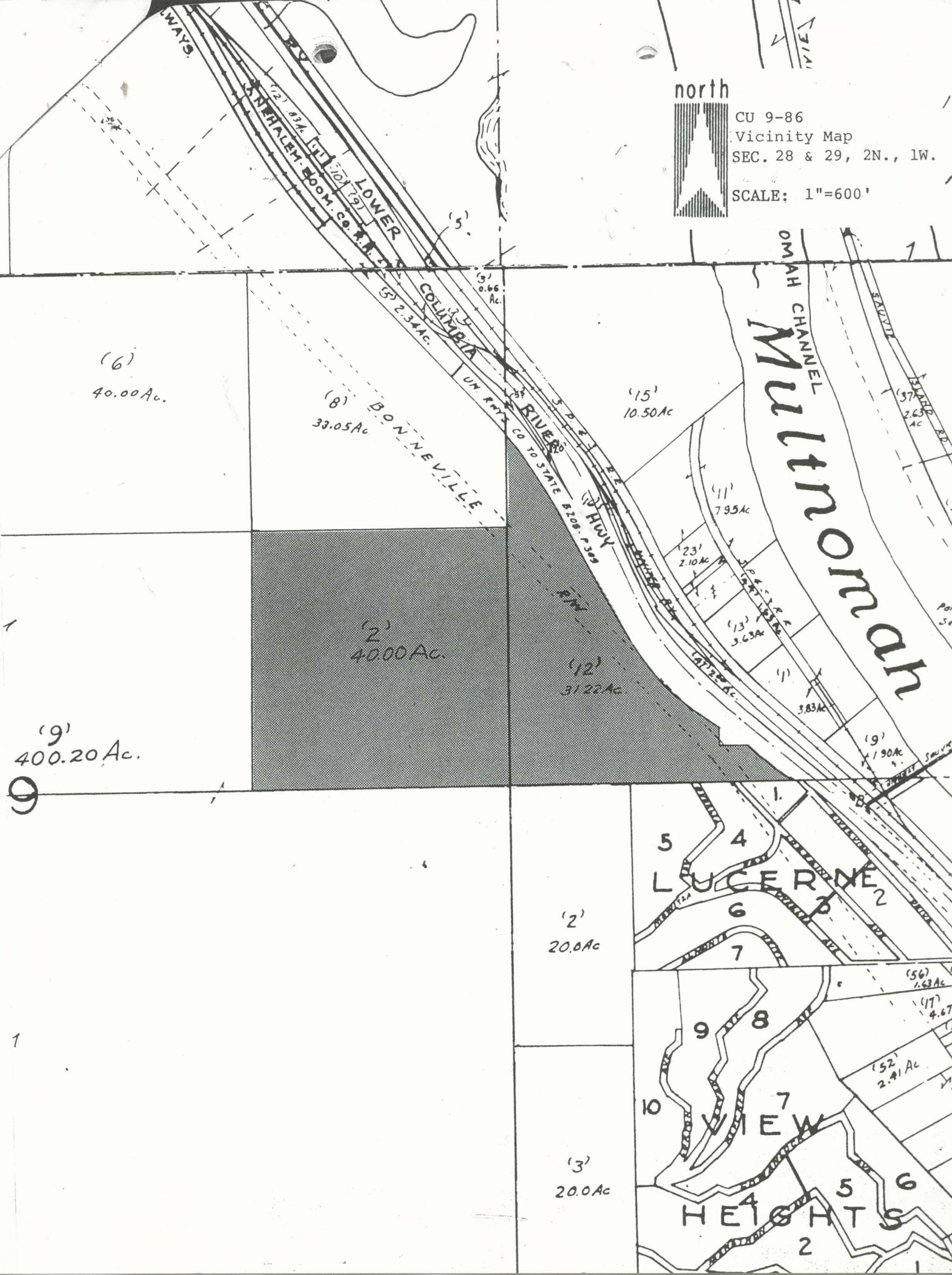
Present Zoning: MUF-20, Multiple Use Forest District
Minimum lot size of 20 acres
MUF-38, Multiple Use Forest District
Minimum ot size of 38 acres

Notices mailed on 5/08/86 by M.B
14 Decision Notices

PLANNING COMMISSION DECISION:

Approve a five-year continuation of existing mining activity on the above described property, as approved by CS 34-80 and CU 34-80a and a modification of Conditon No. 5 of that Decision, to allow piping of a small stream to the southerly property line, based on the following Findings and Conclusions.

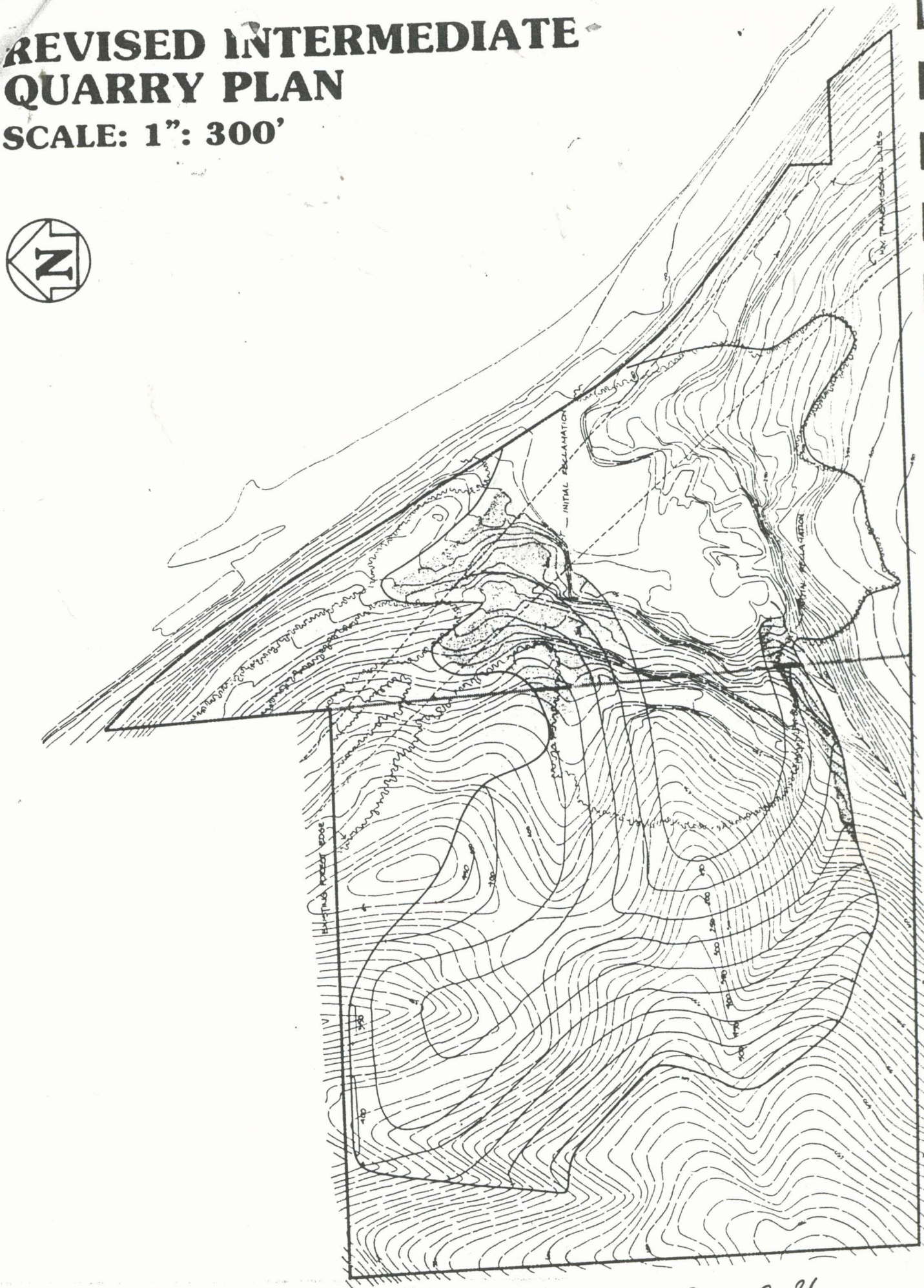

north
CU 9-86
Zoning Map
SEC. 28 & 29, 2N., 1W.
SZM # 64 & 67
SCALE: No Scale
MUF-19 CS
MUF-19 WRG
MUF-38
MUF-19
MUF-19 CS
MUF-38
LOWER COLUMBIA RIVER HIGHWAY
BONNEVILLE POWER R/W
(2) 40.00 Ac.
(2) 31.22 Ac.
(2) 20 Ac.
(11) 7.95 Ac.
(23) 2.10 Ac.
(47) 2.29 Ac.
OVERLAY
MOWITZA
ALMONTE



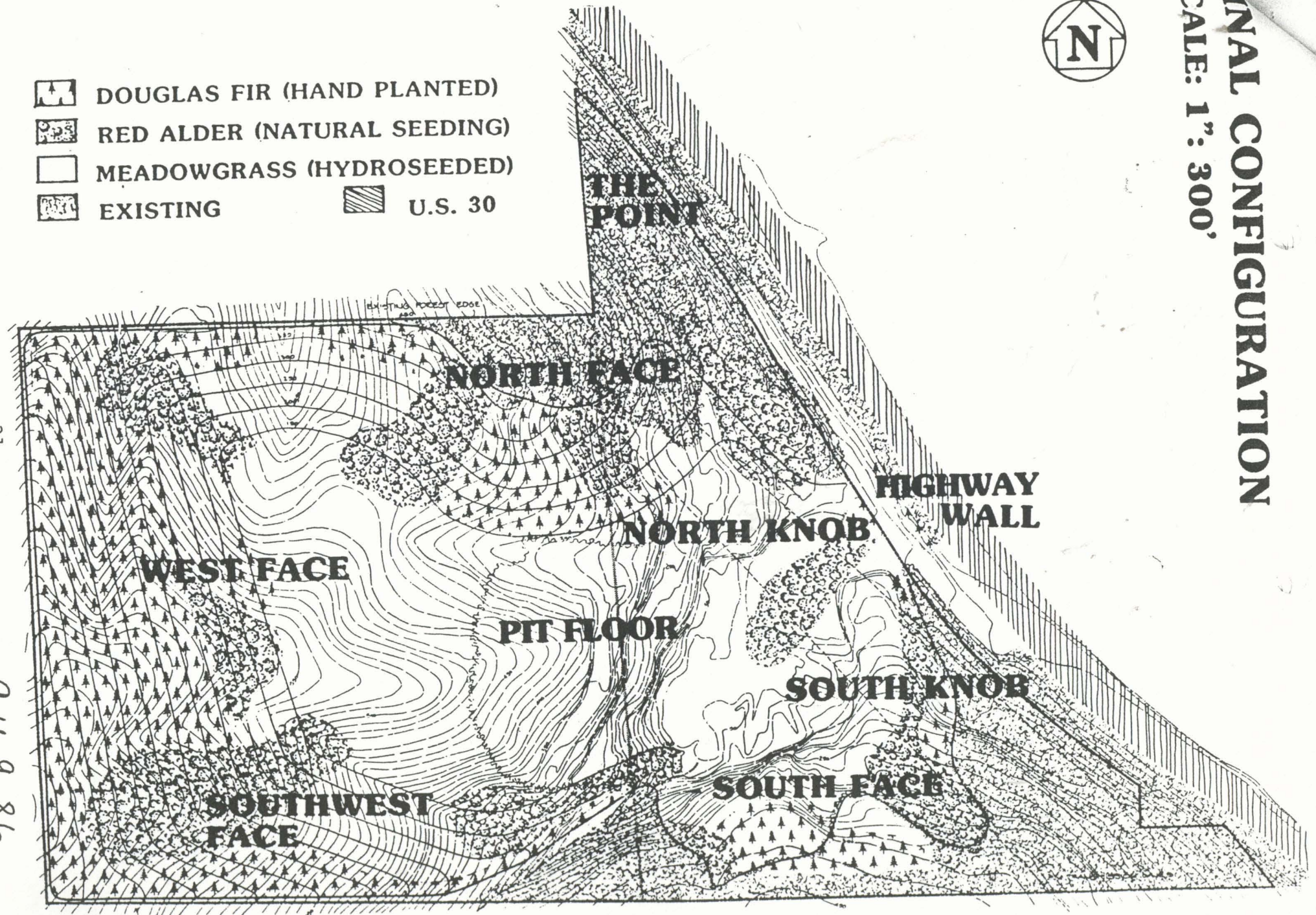
north
CU 9-86
Vicinity Map
SEC. 28 & 29, 2N., 1W.
SCALE: 1"=600'
LOWER
COLUMBIA
RIVER
HWY
BONNEVILLE
NEHALEM BOOM CO.
MULTNOMAH CHANNEL
Multnomah
(6) 40.00 Ac.
(8) 33.05 Ac
(15) 10.50 Ac
(2) 40.00 Ac.
(12) 31.22 Ac.
(9) 400.20 Ac.
(11) 7.95 Ac
(23) 2.10 Ac
(13) 3.63 Ac
3.83 Ac
(9) 1.90 Ac
(2) 20.0 Ac
(3) 20.0 Ac
(56) 1.63 Ac
(52) 2.41 Ac
LUCERNE
VIEW
HEIGHTS

REVISED INTERMEDIATE QUARRY PLAN

SCALE: 1": 300'



CU 9-86



NAL CONFIGURATION
SCALE: 1": 300'

31

Cu 9-86

condition of Approval.

All conditions of CU 34-80, as amended by CU 34-80a, shall remain in full force and effect during the period of this five-year extension.

Findings of Fact.

1. Applicant's Request.

Applicant requests renewal of a conditional use approval granted in 1981 under CU 34-80a for a rock quarry, plus request to modify a condition of that previous approval to allow piping of a small stream across the entirety of the property.

2. Ordinance Considerations.

A Conditional Use permit granted for mineral extraction is valid for a maximum of five years from the date of final approval. The applicant may apply for renewal not less than 90 days prior to the expiration of such permit. The renewal application may be denied, approved subject to previous conditions, or approved subject to new conditions in light of the following factors, among others:

(a). Previous impacts of the use upon surrounding lands and activities;

(b). Changes in surrounding land uses and activities; and

(c). Changes in technology and activities of the operation which will impact the surrounding lands and activities.

3. Existing and Proposed Operation.

The Angell Brothers Rock Quarry is located on the west side of State Highway 30, just north of the Sauvie Island Bridge. The quarry involves mining and processing on two parcels.

The eastern most parcel is 32 aces in size. It is the location of the original mining operation and is the location of the quarry's processing equipment. The western most parcel consists of 40 acres and is the location of the quarry's future aggregate resource.

The quarry operation consists mainly of mining, crushing and selling crushed rock. The rock is mined and crushed on site. The mining operation involves pushing loosened rock to the pit floor where it is then transported to the crushing equipment. The face of the pit is benched as it is worked back into the remaining aggregate resource. Overburden is stockpiled and/or removed as each new top bench is opened and worked. Some overburden is used for reclamation and some is used for fill and top soil material. After crushing and grading, the rock is stockpiled. From the stockpiles, crushed rock is transported from the site via State Highway 30.

The general mining and operations master plan calls for retaining the north and south knob type hills at the entrance to the pit and mining around behind the north knob toward the west. The knobs screen the mining and operations areas from view except for the narrow slot between the knobs. At this time mining is not planned for the area south or east of the south knob.

As indicated, the knob hills that will remain are essential elements of the reclamation plan. The applicant has not disturbed the south knob and area behind it and does not plan to. The area has naturally begun to "reclaim" itself as evidenced by a dense stand of Alder trees over almost all of the area. The north knob has been planted and will be overseeded and additional trees will be planted to reinforce the screening effect of the knob. These vegetated knobs screen most of the mining operation from view, except for a small area on Sauvie Island, from which one can see the quarry face between the knobs.

Once the quarry face has been worked back to the southern property line and to the west, the benches on the north facing slope will be revegetated. Mining will continue westward mostly out of sight behind the northern knob. In general, after mining is completed in sections of the pit, benches and faces will be revegetated. When the quarry is depleted, the pit floor itself will be revegetated.

4. Original Approval.

The mining activity was originally approved in 1981 and was subject to fifteen conditions. The following is a summary of compliance with those conditions.

Condition No. 1, Reclamation Plan:

An additional hearing (CU 34-80a) was held to further clarify the applicant's operations and reclamation plans. Basic conditions were refinded and details were later implemented per Multnomah County staff approval. Throughout the approval process, it was recognized that the plans were guidelines and that modifications would be made through the course of future reviews and approvals for the operation. The operation is again to be reviewed for approval.

Condition No. 2, Perimeter Fencing:

The site has been fenced in accordance with condition requirements. Additional fencing will be provided in conjunction with final reclamation

Conditon No. 3, Semi-Annual Report:

Reports have been prepared and submitted to the County staff in accordance with condition requirements. These reports are part of the County files in conjunction with this application's history.

Condition No. 4, Hours of Operation:

The applicant has continually complied with the 6:00 a.m. to 10:00 p.m. operating limitation.

Condition No. 5, Stream Setback:

The intermittant stream on the site flows during winter months only. Approximately two-thirds of the length of the creek that crosses the site is enclosed in a 30-inch culvert. The creek ravine is steeply cut so that the creek bed is only approximately 20 feet above the pit floor and consequently not visible from outside of the pit area. The stream is not considered a "fishing" creek because it dries up in late summer.

The east side of the creek has remained undisturbed. However, due to unpredictable sloughing of the quarry face, most of the western side of the creek within the site has been covered by slides.

The creek upstream of the site remains undisturbed and the vegetated eastern bank of the creek above the streambed remains undisturbed.

In the interest of protecting water quality of the stream, the applicant proposes to pipe the remainder of the stream on the site. The existing pipe is proposed to be extended to the southern property line to a catch inlet to pick up the water. This will protect the stream in this area from potential contamination. Existing vegetation on the eastern bank will continue to provide a green background on the southern hillside adjacent to the pit.

Condition No. 6, Water Quality:

The drainage basin of the creek is located mostly upstream of the site. Piping the creek through the site will help protect the water quality of the creek as it enters the site. The drainage basin of the site is mostly contained to the edges of the planned extraction area by natural terrain (ridges). Cut-off ditches are used and will be used as appropriate to limit the amount of run-off into the pit.

The quarry operation is dry in that no water is used for washing or crushing to make the rock products. Water that falls on the site, however, is collected and transported off the site. It is collected in a small settlement pond and then piped under State Highway 30 to a large diked settlement pond. The pond does not directly outlet into the Multnomah Channel. Water remains in the pond and eventually percolates into the ground.

The applicant has an agreement with the owner of the property on which the pond is located allowing the described discharge. Additionally, David Evans and Associates, Inc. has been in contact with Richard Wixom of the Department of Environmental Quality, who expressed approval of this discharge system, including piping the creek entirely through the site.

The major DEQ criteria that the applicant must comply with, according to Mr. Wixom, is the requirement to not increase turbidity in Multnomah Channel. The applicant has been and will continue to comply with this criteria.

Condition No. 7, Entrance Road:

The entrance road into the pit has been paved and improved with adequate drainage facilities. A grate was installed to trap dirt and mud from truck tires. However, it rapidly filled with dirt and mud and was replaced with a speed bump type trap that shakes excess mud and dirt from truck tires before trucks enter the highway. This system has been more effective than the grate system.

Condition No. 8, DEQ Approval:

The Angell Brothers Rock Quarry has continually operated with DEQ approval and plans to continue operation meeting all DEQ requirements. Richard Wixom of DEQ periodically visits the site to monitor the opertion.

Condition No. 9, DOGAMI Approval:

The quarry also operates under DOGAMI approval and plans to contiue operations meeting all DOGAMI requirements.

Condition No. 10, Overburden:

Sufficient overburden has been stored and is planned to be stored for planned reclamation. Overburden was sorted and then spread over the north knob before it was seeded. Additional overburden is being stored for use in reclamation of areas where mining will be completed and final reclamation can take place.

Condition No. 11, Cut Slopes:

Except for the north knob where mining is complete and the south knob where natural reclamation has occurred, all other cut slopes are currently "working" slopes. They are temporary slopes. When mining is completed or completed in certian areas, the final cut slopes will be hydroseeded and benches planted.

Condition No. 12, Clearing:

Clearing of natural areas has generlly preceded mining within the same year and is planned not to precede mining of new areas by more than 12 months.

Condition No. 13, Performance Bond:

The Angell Brothers Rock Quarry is sufficiently bonded and has recently provided the County staff with documentation of bonding. A copy of the current bond is on file with Multnomah County.

Condition No. 14, Parking:

Parking has not been and will continue not to be allowed along the shoulders of the access road into the pit. All parking is and will continue to occur within the area of the pit floor.

Condition No. 15, Mining Plan:

Condition No. 15 in CU 34-80 was revised through an additional hearing and subsequent decision by the Hearings Officer. The alternative operation plans described under CU 34-80 were economically unfeasible to implement. The revised Condition No. 15 allows the applicant to work westward through a 600-foot wide opening behind the screening of the north knob. Reclamation will take place on the north facing slope as final mining is completed and final benches and cut slopes can be established. The north facing slope is the slope visible through the gap between the north and south knobs.

5. Reclamation Accomplished.

The quarry has operated for approximately five years under the conditions of CU 34-80 and CU 34-80a. The operation has received periodic inspection by Multnomah County, DEQ and DOGAMI. The operation continues to pass review. Typically, each inspection responds to changing conditions as the quarry is worked. Recommendations received through inspections have been acted upon and reviewed at succeeding inspections. In general, the operation is being conducted according to approved plans and within requirements and regulations.

Reclamation and operational improvements accomplished include the following:

A. A vegetative screen of Douglas Fir trees were planted between Highway 30 and the entrance road. At the time of planting they were approximately six feet in height. They have grown to be approximately 14 feet in height. Two or three of the trees have died. They will be replaced this Spring.

B. Parking no longer occurs on the shoulders of the entrance road.

C. The north knob has been restored to its final configuration. It was hydroseeded with grass and planted with hundreds of tree seedlings.

Probably because of the dry conditions of the knob, the planting was only partially successful. The knob will be reseeded and plantings supplemented this year.

D. The south knob has been naturally revegetated and will remain undisturbed.

E. Perimeter fencing has been provided in accordance with requirements.

F. Overburden stockpiles have been and will be seeded with grass until used for reclamation purposes.

G. The quarry is being worked from the existing pit mostly westward. Some material remains to be mixed between the pit floor and the southern boundary west of the creek. Once this material is mined and the entire active face moves westward, the north facing slope can start to be shaped into its final bench and cut face configuration.

H. A large settlement pond north of State Highway 30 has been secured through contractural agreement. This settlement pond does not allow an increase in turbidity in Multnomah Channel. This system satisfies the water quality standards required by DEQ.

I. Overburden has been stored and used in the reclamation of the north knob and additional overburden is being stored for future reclamation.

J. Clearing of natural areas has been coordinated with opening of new top benches in order that clearing does not precede mining excavation by more than 12 months.

K. Existing vegetation above the north knob in the vicinity of the power lines is being maintained to screen mining and future mining to take place around behind the knob to the west.

L. Both settlement ponds in the pit floor were enlarged in 1985 and are maintained in working order.

M. Where possible, cut-off ditches have been established to minimize run-off into the pit.

6. Reclamation Planned.

As previously described, the operation and reclamation plan is designed to maintain the north and south knobs for aid in screening the mining operation. The south knob and the area south to the southern property line east of the creek will remain vegetated. The north knob will be planted and the trees above the north knob will be retained.

The quarry will be worked from east to west and the excavation will take place behind trees above the north knob. These trees will provide a natural buffer to keep the excavation out of sight as much as posible. As the excavatin is worked westward and final benches and cut bank can be established, the north facing slope of the pit will be planted as it is worked westward. When excavation is completed, all benches and cut banks will be planted and the pit floor will be seeded.

A detailed descriptin of planned reclamation includes the following:

A. The vegetation screen of Douglas Fir trees will be maintained between the entrance road and US Highway 30. Dead trees will be replaced this Spring.

B. The north knob will be reseeded by hydroseeding with a seed mixture approximating the following:

Creeping Red Fescue Festuca rubra	5 lbs/ac.
Birdsfoot trefoil Lotus corniculatus	5 lbs/ac.
Annual fescue Festuca megalura	5 lbs/ac.
Sheep fescue Festuca ovina	5 lbs/ac.
Pubescent wheatgrass Agropyrontrichophorum	5 lbs/ac.
TOTAL	30 lbs/ac.

Additionally, the north knob will be planted with 30 to 40 Douglas Fir trees three to four feet in height. A Summer watering program will be implemented to assist survival of the trees. They will be planted near but not under the power lines. The existing trees near the power lines above the north knob will be retained as additional screening.

C. A perimeter barrier of fencing or vegetation hedge will be established in any danger areas during excavation and around the pit upon final extraction.

D. The south knob and area behind it will remain vegetated.

E. The north facing slope will be planted and seeded upon final configurtion as the extraction moves westward.

F. The east facing slope, south facing slope and pit floor will be planted and seeded after final extraction activity in the quarry.

G. Benching techniques, hydrology and erosion control techniques and vegetation planting techniques are described in the applicant's final Reclamation Plan document submitted for CU 34-80a. In addition, all DOGAMI and DEQ standards will be maintained.

Conclusions.

1. There have been no reported impacts of this use upon surrounding lands and activities that require a modification of the previous conditional approval.

2. There have been no changes in surrounding land uses and activities that are impacted by the continued mining of this property.

3. The applicant requests a slight modification of the operation to allow piping of the small stream to the south property line. Such piping will protect that stream from any potential contamination.

4. The applicant has carried the burden necessary for the granting of a five-year extension of the mining activity on this property under the Conditions of Approval of CU 34-80 as amended by CU 34-80a.

Signed April 28, 1986

By Dean Alterman / M.B.
Dean Alterman, Chairman

May 8, 1986
Filed with the Clerk of the Board

Appeal to the Board of County Commissioners.

Any person who appears and testifies at the Planning Commission hearing, or who submits written testimony in accord with the requirements on the prior Notice, and objects to their recommended Decision, may file a Notice of Review with the Planning Director on or before 4:00 p.m. on Monday, May 19, 1986 on the required Notice of Review Form which is available at the Planning and Development Office at 2115 SE Morrison Street.

The Decision in this item will be reported to the Board of County Commissioners for review at 1:30 p.m. on Tuesday, May 20, 1986 in Room 602 of the Multnomah County Courthouse. For further information, call the Multnomah County Division of Planning and Development at 248-5270.

0475P

CU-34-80

Department of Geology and Mineral Industries

VICTOR ATIYEH
GOVERNOR

1129 S.E. SANTIAM ROAD, ALBANY, OREGON 97321 PHONE (503) 967-2039

March 26, 1982

Mr. Ron Kratz, Assistant Planner
Multnomah County Division of Planning
and Development
Land Development Section
2115 SE Morrison
Portland, OR 97214

RE: Angell Bros. Quarry
our I.D. #26-0019

Dear Mr. Kratz:

I have received and reviewed the reclamation plan for Angell Bros. Quarry which you sent to me in November. Angell Bros., Inc. has a valid Surface Mining Permit (#26-0019) which includes a reclamation plan (submitted April 2, 1979) and a bond ($4,000); the operator is in compliance with DOGAMI requirements.

I find the Jones and Jones reclamation plan for this quarry to be complete. For the most part, the plan meets or exceeds the requirements of ORS 517.750 et seq. (Mined Land Reclamation Act) and OAR 632-30-005 to 060 (Administrative Rules and Regulations) and the subsequent beneficial use of forest land is appropriate in this instance. The proposed County reclamation plan is mostly consistent with the DOGAMI reclamation plan on file but I should comment on details of benching.

OAR 632-30-025(g) specifies no reclaimed surface shall be greater than 1½:1. Of course, with a benched face, this means the final overall true slope. Exceptions to this requirement may be allowed if the natural pre-mining slopes exceed 1½:1. In this instance, a 1½:1 overall slope is required. Bench widths should be at least 20' wide, 30' whenever practical; this will not only provide a safer work area but also provide more flat space for reforestation. Bench faces should never be more than 40' high, and I recommend reducing these heights to 30-35' maximum. A ½:1 backslope on the faces would be desirable and would help achieve the overall 1½:1 true slope. All cut slopes in unconsolidated overburden and badly weathered rock should be 2:1 or flatter.

I believe combining the above suggestions can result in a final true slope of 1½:1 without significant difficulties.

Regarding 1-2% backpitch on benches, I find this configuration acceptable as well as the plan to drain water safely to side discharges. We generally do not require this on benched quarries. We aim to see reclaimed quarry sites in a stable nonpolluting condition that will not require any further maintenance, i.e. that are "self-maintaining". Our experience tells us to keep our reclamation objectives as simple as possible when dealing with grading work; the more sophisticated the plan, the greater chance for error that may result ultimately in a more detrimental condition.

Regarding overburden and revegetation, I would question the efficacy of planting fir trees in only 6" of topsoil. Also, the plan suggests the availability of friable soil and fines for use as a post-mining topdressing on disturbed surfaces. Crusher fines have definite utility in revegetation of sites where no overburden is available but they are never better than native topsoil (however poor this "topsoil" may be). Fines lack basic nutrients, particularly nitrogen, as well as organic matter for tilth, wild seed reserves, and microorganisms. Fines should not be used in place of soil when soil is available. Mulching is always strongly recommended.

I hope these comments will provide you with some assistance on this matter. As long as basic DOGAMI requirements are met, we have no objection to other details; in this instance a final true slope of 1½:1 should be provided. Please contact me if you have any further questions on this matter.

Sincerely,

Steven Schuster

Steven J. Schuster
Field Representative
Mined Land Reclamation

SJS/bjd

NEIL GOLDSCHMIDT
GOVERNOR

Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE
910 STATE OFFICE BLDG., 1400 SW 5th AVE., PORTLAND, OR 97201-5528
PHONE (503) 229-5580 FAX (503) 229-5639

April 13, 1990

The Honorable Gladys McCoy, Chairperson
Board of County Commissioners
1021 SW Fourth Avenue
Portland, Oregon 97204

Dear Ms. McCoy:

Recently the Oregon Department of Geology and Mineral Industries has been assisting Multnomah County in understanding the resource aspects of the Angell Brothers' site. Our calculations are general and are intended for general understanding and orientation. We hope this is of some assistance to the county, the company and the public.

Taking a broader look for a moment, we feel that planning issues such as this one can be better addressed in total with a more rigorous Goal 5 effort tied to regional supply and demand data. Traditionally we focus our agency involvements on these kinds of issues on the regional rather than the site specific approach.

After appropriate adjustments for overburden, benches, buffers, and mined areas, it is of interest that both parties are forwarding similar resource numbers and that their numbers are generally accurate.

By using a 1981 topographic map with a scale of 1 inch equals 200 feet, a mining plan with benches 40 feet high and 60 feet, a planimeter (a device to measure area), an estimate of the total yards that can be mined from Angell Brothers' 40 acre site, as of 1981, is shown to be 6.5 million cubic yards.

Of this total, overburden and waste would be 1.0 million cubic yards assuming the overburden would be 20 feet thick. To get the saleable yards, the amount of material mined since 1981 (estimated at 2 million cubic yards) must be subtracted as well as any other areas that cannot be mined. Remaining reserves is, therefore, about 3.5 million cubic yards. This figure may may include unidentified pockets of low quality material.

A copy of the working map with the 40 foot bench is enclosed.

The area measured was that area formed by the contour moving during mining. An average was taken between the top contour and

the bottom contour of a bench. This yields the area. A square inch of map is equal to 40,000 square feet.

This figure is multiplied by the bench height (40 feet) to give cubic feet. This figure is divided by 27 (27 cubic feet equals one cubic yard) to give cubic yards.

The following table gives the bench by bench statistics.

Sincerely,

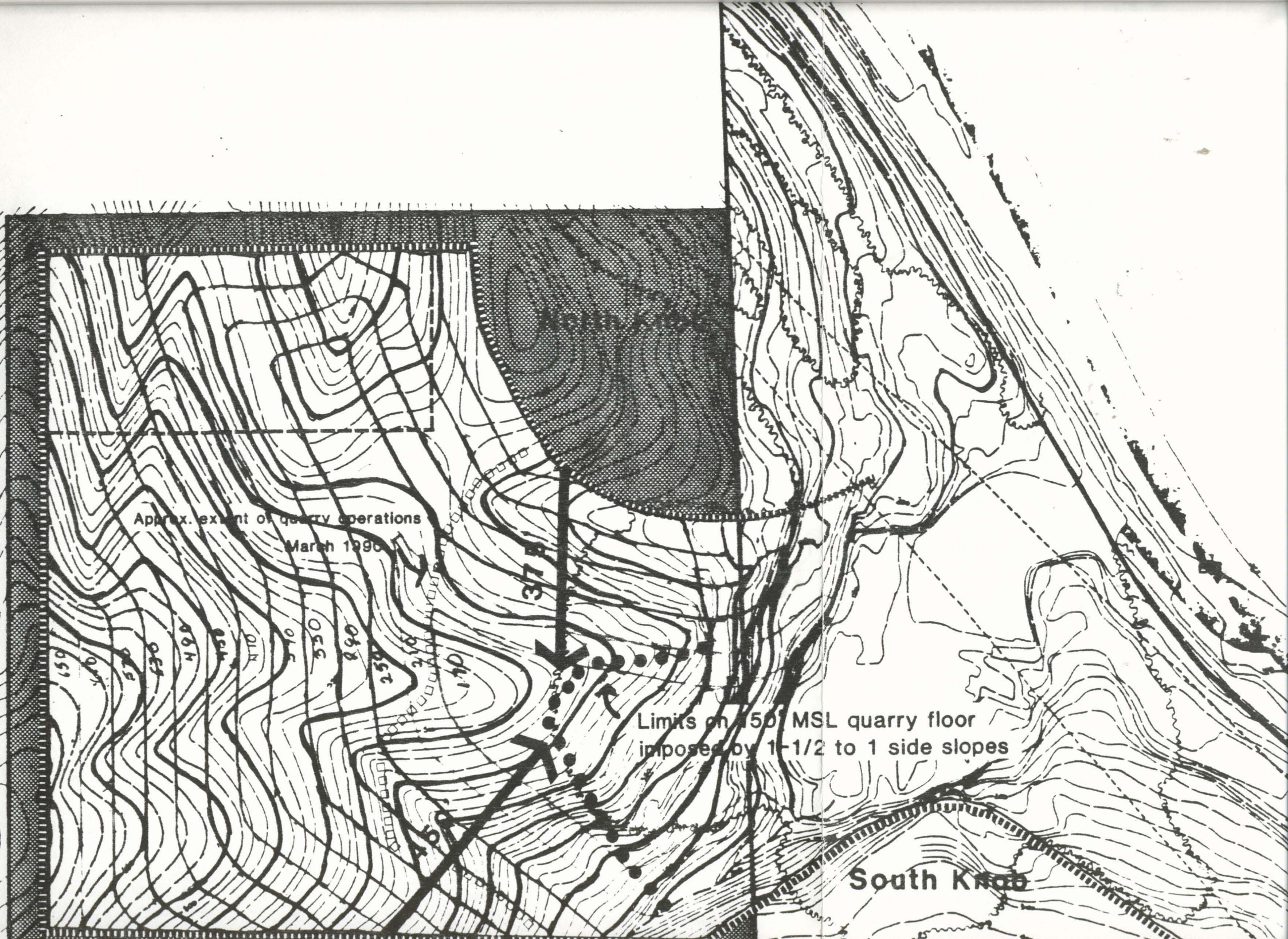
Jerry J Gray

Jerry J. Gray
Economic Geologist

JJG/llg
Enclosures

C:JJGMINE

Bench	Average In^2	ft^2 (in^2 x 40,000 ft^2/in^2)	ft^3 (ft^2 x 40 ft bench height)	yd^3 ft^3 ÷ 27 ft^3/yd^3
650	0.94	37,600	1,504,000	55,704
610	2.34	93,600	3,744,000	138,667
570	3.92	156,800	6,272,000	232,296
530	5.88	235,200	9,408,000	348,444
490	7.98	319,200	12,758,000	472,518
450	10.17	406,800	16,272,000	602,667
410	13.68	547,200	21,888,000	810,667
370	18.24	670,800	26,832,000	993,778
330	15.21	608,400	24,336,000	901,333
290	12.73	509,200	20,368,000	754,370
250	9.67	386,800	15,472,000	573,037
210	6.14	243,200	9,728,000	360,296
170	4.23	169,200	6,768,000	250,667
		TOTAL	175,350,000	6,494,444
Over-burden 20" thick	34.00	1,360,000	27,200,000	1,000,741
		NET		5,493,703


North Knob
Approx. extent of quarry operations
March 1990
Limits on 450' MSL quarry floor
imposed by 1-1/2 to 1 side slopes
South Knob

Reports indicate a Lone Star-Riedel deal is near

By JEFF MANNING

Knowledgable sources say Riedel Resources Inc. and Lone Star Industries Inc. are close to a deal in which Lone Star would buy two Riedel concrete and aggregate subsidiaries.

Though Riedel and Lone Star sources would not comment, others in the industry say Riedel, a Portland-based, diversified marine construction company, is considering selling two companies—Western Pacific Construction Materials Co. of Portland and Seattle-based Pioneer Construction Materials Co.—to Lone Star. Those sources, who requested their names not be used, place the price tag for the two subsidiaries at $54 million.

"It's our impression now that money has gone into escrow," said a cement company official whose company supplies both Western Pacific and Pioneer with the cement needed to make concrete.

Such a transaction would not mark the first time Lone Star and Riedel have had business dealings. Riedel purchased much of what is now Pioneer from Lone Star in 1983, a Lone Star spokesman said. The two companies also operate a large aggregate pit south of Tacoma in a joint venture arrangement.

Publicly held Lone Star recorded $871.8 million in sales in 1985. The privately held Riedel conglomerate posted total revenues of about $258 million in 1985, said company president Art Riedel in an October 1986 interview.

More than one source said the purchase won't become final until Lone Star, a Greenwich, Conn.-based sand, gravel and aggregate company, gets approval from the Federal Trade Commission. A commission spokeswoman would neither confirm nor deny that such a transaction has come before the agency.

Any acquisition or merger worth more than $15 million must be approved by the Trade Commission or the U.S. Justice Department, which study the proposals for possible antitrust violations.

If Lone Star and Riedel agree to a deal,

Through a series of purchases dating back to 1983, Pioneer has become one of the dominant concrete suppliers in the Puget Sound area. Riedel himself, in the 1986 interview, said owning Pioneer "makes us the biggest player in Seattle."

Neither Riedel nor officials from his concrete companies would comment for this story. Lone Star officials also declined comment.

The northward push of Riedel's concrete and aggregate operation began in earnest in 1983 when it bought portions of Lone Star's holdings in the area. It bought Lone Star's huge gravel pit near the town of Steilacoom (south of Tacoma) and Lone Star's ready-mix concrete plant in Seattle. Riedel paid Lone Star in excess of $15 million, said a Lone Star spokesman, who added the deal closed in November of 1983.

Riedel was assisted in the purchase by the Pierce County Economic Development Board. The board issued $9.5 million in revenue bonds, the proceeds of which went toward the purchase, said the board's Bill Anderson.

About two years later, Riedel increased its hold on the Puget Sound concrete market when it bought out Glacier Sand & Gravel Co. Glacier had ready-mix plants in Tacoma and Seattle and a smaller gravel pit, also in the Steilacoom area.

In the 1986 interview, Riedel said his company paid in excess of $10 million for Glacier. The Riedel operations borrowed a total of about $25 million to pull off the purchases of the Lone Star properties and Glacier, he added.

Later in 1985, Lone Star re-entered the picture when it formed a 50-50 joint venture with Pioneer to operate the large Steilacoom pit. Completed in December 1985, the joint venture agreement called for Riedel to contribute two aggregate plants, 600 acres at the pit and other properties in excess of 400 acres, said a Lone Star spokesman. Lone Star was to have contributed cash and other property, the spokesman said. The joint venture was dubbed Northwest Aggregates.

With concrete plants adjacent to downtown Seattle and a large source of high-quality gravel accessible by barge, Pioneer is in a strong position to snare the concrete contracts for the bulk of Seattle and Tacoma, industry sources said.

"They have a virtual monopoly on the work in downtown Seattle," said Steve Nielsen, of Holroyd Co. Inc., a Tacoma-based concrete company. "In Tacoma, they just followed the footsteps of Glacier. And those were high-volume footsteps."

the resulting cash infusion to Riedel could go a long way toward easing its recent financial setbacks, observers said.

A Riedel construction company—Roadway Constructors Corp.—in November requested protection from its creditors under Chapter 11 reorganization proceedings. Documents contained in the bankruptcy court file revealed parent company Riedel Resources and affiliates owed primary lender U.S. National Bank of Oregon more than $74 million.

An Oct. 1, 1986 credit agreement between Roadway and U.S. National Bank stated Roadway and Riedel affiliates had pledged "substantially all of their assets" to repay that debt.

In its Chapter 11 filing, Roadway listed assets of about $10 million and liabilities of approximately $19 million. The operation since has moved out of its southwest Portland office and into the Riedel International Inc. corporate headquarters on Swan Island.

Through its Western Pacific and Pioneer subsidiaries, the Riedel operation has attained positions of power in the Portland and Seattle concrete markets. In Portland, Western Pacific and its chief competitor, Ross Island Sand & Gravel Co., are generally considered the two largest ready-mix concrete operations.

"In the Portland metro area, I'd say they (Western Pacific) are the biggest ready-mix firm," said Ross Island sales manager Denny Tweton. The Riedel subsidiary at times has had as many as 80 to 90 concrete trucks on the road, Tweton said. In comparison, he said, Ross Island generally puts 55 to 60 trucks on the road.

cathy cheney

Ross Island's sand and gravel

By PETER SISTROM

Ross Island is an ellipse of land surrounding a lagoon on the Willamette River between the Ross Island and Sellwood bridges. Thickly wooded and unpopulated, it shelters a rich assortment of mammals and birds and contains a rare blue heron nesting spot.

Ross Island also sits on top of one of Portland's largest gravel beds. Since 1926 the island's owner, the Ross Island Sand & Gravel Co., has been dredging the lagoon for sand and gravel used for making cement. Because of the size and convenient site of the deposits, the company is the area's principal supplier.

Ross Island Sand & Gravel operates under

give the island to the public will not offset the damage it will do to the island in the meantime.

The Oregon Environmental Council and the Audubon Society are joined in this effort by two neighborhood groups, on opposite sides of the river. Members of the groups say the island is an integral part of their neighborhoods, which now are threatened by the gravel company's proposals.

The management plan submitted in February for review will be considered in August by the U.S. Army Corps of Engineers, which also issues permits to the gravel company. The plan is a compromise. It allows the company to remove most of Ross Island's considerable gravel sources, by dredging and enlarging the

Although no final agreements have been reached, Steinwandel adds, the plan also could meet the city's long-held desire to see Ross Island used as a city park. "When we have functionally removed all the gravel—and when that is depends on lots of factors—we're strongly motivated now to turn over the land to The Nature Conservancy."

This is hardly the first time the island's future use had been debated. Six years ago, for instance, the Ross Island Sand & Gravel Co. sought dredging permits that, in effect, would have removed the entire island. Two years later, in 1974, the company tried to win approval of a somewhat less ambitious dredging plan that called for enlarging and deepening the

Engineers, Mayor Neil Goldschmidt wrote:

> Ross Island represents an irreplaceable natural resource which must be preserved in the public interest. Refusing to see the island dredged away in the present is the only way to guarantee its proper disposition in the future. Whether the island can be purchased by the public needs to be explored thoroughly and immediately. I only hope that the Army Engineers will not foreclose these investigations by permitting the dredging away of over 50 per cent of the land area of Ross Island.

Apparently, the mayor's feelings have changed. Dan Churchill, aide to the mayor, says the management plan is the product of a three-member task force set up in 1976 by

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Ross Island Sand & Gravel operates under permits issued by the Division of State Lands and the Army Corps of Engineers which are reviewed each year. Now the company has drawn up a 40-year plan for removing most of the island's marketable gravel, with the promise of restoring it later through filling and replanting, and ultimately turning the property over to the city. The state will consider the plan this month and the deadline for public comment is Friday, Feb. 9.

Given the small size of the island (about 90 acres) and the extensiveness of the proposed dredging (almost one million yards per year), it's not surprising that environmental groups like the Oregon Environmental Council and the Audubon Society are upset by the proposals. The plan, they say, will imperil the island's unique natural habitat. Furthermore, they argue that the company's promise eventually to give the island to the public will not offset the damage it will do to the island in the meantime.

The Oregon Environmental Council and the Audubon Society are joined in this effort by two neighborhood groups, on opposite sides of the river. Members of the groups say the island is an integral part of their neighborhoods, which now are threatened by the gravel company's proposals.

The management plan submitted in February for review will be considered in August by the U.S. Army Corps of Engineers, which also issues permits to the gravel company. The plan is a compromise. It allows the company to remove most of Ross Island's considerable gravel sources, by dredging and enlarging the lagoon, to a depth of 130 feet. According to estimates made by the Corps of Engineers, the potential worth of that gravel is over $50 million. But under terms worked out with the city and several state agencies, the company will have to fill the lagoon and build up the surrounding berm with a mix of material left from the dredging and other fill.

Chuck Steinwandel, a spokesman for the Ross Island Sand & Gravel Co., calls the management plan "the product of seven years of work, with a considerable number of meetings and lots of thoughts and ideas passed back and forth between the Division of State Lands, the Fish and Wildlife people, the City of Portland, Multnomah County, all the federal resource agencies and Ross Island Sand & Gravel. We think the plan addresses in an equitable way all of those groups."

Although no final agreements have been reached, Steinwandel adds, the plan also could meet the city's long-held desire to see Ross Island used as a city park. "When we have functionally removed all the gravel—and when that is depends on lots of factors—we're strongly motivated now to turn over the land to The Nature Conservancy."

This is hardly the first time the island's future use had been debated. Six years ago, for instance, the Ross Island Sand & Gravel Co. sought dredging permits that, in effect, would have removed the entire island. Two years later, in 1974, the company tried to win approval of a somewhat less ambitious dredging plan that called for enlarging and deepening the lagoon and dredging most of the upland parts of Ross Island. The company's proposal was rejected first by the Division of State Lands and again by the Corps of Engineers after considerable study and a detailed environmental impact statement. The 40-year plan now under consideration is the direct result of that struggle.

The Corps of Engineers approved only one of the company's requested three permits; rejected were permits allowing dredging outside the island and closing off the lagoon. The approved permit allowed the company to continue dredging at its present pace and directed it to draw up a future plan that would be agreed to by all the government bodies that had opposed their other requests.

One government body that opposed the company's plans in 1974 was the City of Portland. In a letter submitted to the Corps of Engineers, Mayor Neil Goldschmidt wrote:

> Ross Island represents an irreplaceable natural resource which must be preserved in the public interest. Refusing to see the island dredged away in the present is the only way to guarantee its proper disposition in the future. Whether the island can be purchased by the public needs to be explored thoroughly and immediately. I only hope that the Army Engineers will not foreclose these investigations by permitting the dredging away of over 50 per cent of the land area of Ross Island.

Apparently, the mayor's feelings have changed. Dan Churchill, aide to the mayor, says the management plan is the product of a three-member task force set up in 1976 by then-Gov. Bob Straub, the city, and Ross Island Sand & Gravel. But Goldschmidt's support for the plan doesn't mean the city has forsaken the island's park potential.

"The city still has hopes for the island as a park," says Churchill. "The difference is that today it looks like we have a really good prospect of getting Ross Island into the public domain. And that's new. What happened," he explains, "is that everyone came to the conclusion that outright public purchase would be prohibitive. The current valuation of just the land is $3 million, and the total corporate holdings of the Ross Island Sand & Gravel Co.—and you'd probably have to buy them out to get at the island—is close to $15 million."

Another to oppose the company's plans was the Division of State Lands. Director Bill Cox

Please turn to page 5

from Willamette Week - Feb. 12, 1979

Ross Island

Continued from 1

explains why: "The Division of State Lands has to provide for necessary uses on the land we oversee but we also have to provide for the protection of water resources and wildlife. With the company's previous plan, we were concerned over the lack of a reclamation plan, a set of guidelines for how they would go about removing the gravel. We felt the state needed a plan which would keep as much of the island in place while allowing the removal of the gravel, since no one seemed willing to purchase the land outright."

Now that the company has come up with such a plan, Cox says, things are changed. "The plan reflects input by all the state agencies, the city, the Department of Environmental Quality. Of course, not all of them are in total agreement, but it is an agreed-upon composite. And our attorney advises us that if we deny the management plan but allow them to continue their current operations, we'd probably wander across the line into adverse condemnation. We're allowed to regulate both public and private riverfront lands, but we can't adversely condemn private land."

Cause for alarm

If the city and the state seem to be edging toward support of the gravel company's 40-year management plan, a number of environmental groups that have fought the company's plans in the past aren't so sanguine.

Last week the Oregon Environmental Council (which represents over 85 environmental groups statewide) and the Audubon Society held a public meeting to discuss the plan and prepare strategy. "We've followed the new administration's call for voluntarism," said one council member, John Frewing, "and are asking for the public to get involved in discussing this request by the company."

Opposition to the plan is of two sorts. First, the Oregon Environmental Council objects to the way the management plan is being handled. Though the Division of State Lands is receiving public comment, no public hearing is scheduled, and the council is upset. John Platt, the council's director, says the lack of a hearing restricts public comment. "Sure, they provide for a contested-case hearing *after* they make their decision. But that's an intimidating, judicial process. Most citizens can't afford the time and the money it takes to take part in that kind of hearing."

Susan Hammer, a local lawyer helping the council in the case, adds, "A public hearing and a contested-case hearing serve two different functions, and both are necessary. A public hearing focuses public attention and informal power. A contested-case hearing is a formal process for building a legally useful record."

They also are disturbed at the way negotiations between the gravel company and the city and state governments were conducted. Says Hammer, "One of our concerns is that the plan was constructed behind closed doors. It seems like a lot of agencies took part and had input, but not in any sort of public forum."

But those objections to the process are small compared with criticisms by the council and the Audubon Society of the management plan itself.

Mary Ann Lee, of the council, ticks off some complaints: "This plan doesn't take note of the alternatives suggested in the 1974 Environmental Impact Statement. It doesn't talk about the details of their so-called reclamation—when, how, what sort of vegetation they'll use for replanting. The whole area is interconnected and this plan ignores all the areas outside of Ross Island. There isn't any land survey. This document," she says angrily, "is vague and incomplete. I can't see what sort of purpose it serves at all. I just don't see how the Division of State Lands can accept this plan."

Creatures great and small

The council and the Audubon Society also make severe criticisms about the plan's effect on the island's wildlife populations. David Anderson of the Audubon Society has studied the island's wildlife for several years and says it houses eight species of mammals, including beaver, otter and fox, and almost 40 bird species, including hawks, owls and herons. "We're most concerned about the blue heron," he says. "They have a rookery containing over 10 nests on the island, which is clearly threatened by the company's plan."

The sand and gravel company's proposal threatens a blue heron rookery that contains over 10 nests—all inside Portland city limits.

Anderson also claims the management plan ignores the connection between Ross Island and the sprawling wetland area just across the river's narrow channel, Oaks Bottom. "Ross Island and Oaks Bottom are intimately combined," he says. "The island provides excellent areas for nesting because it's so wooded. Oaks Bottom is mostly wetland, floodplain, and is an extremely rich food source. But work together and are a unique ar Portland, possibly the world. I having those kinds of places in middle of a downtown area is sp They're an endangered species."

These complaints are echoed b area's two neighborhood groups, w members see Ross Island as pa their neighborhood boundaries. O river's west bank, the Corbett- williger neighborhood hasn't reac formal position, but Toby Fairbank group's president, says, "My hun that the neighborhood would love t the island left alone and preserved natural state."

Opposite them, on the east side river, is Sellwood, next to the u veloped Oaks Bottom. For years Sellwood-Moreland Improve League has worked to have the are aside as a park.

Steve Engel, a member of the gr says they consider Ross Island and Bottom a connected whole. "W studying the plan," he says, looking especially close at the effe the dredging on Oaks Bottom an community. We think it's prem for the Division of State Lands to the company their dredging pe before other jurisdictions have their final decisions about lands rounding Ross Island that are aff by what goes on there, such Portland's Greenway plan."

Despite opposition to the g company's proposed management it seems likely that Cox and Division of State Lands will appro this month. The Oregon Env mental Council is preparing itself contested-case hearing, though, also for a similar hearing in Au before the Corps of Engineers. Bu close cooperation between the com and the various government age may have outflanked them.

As Fairbank says ruefully, "We hearing all these veiled referenc agencies getting together making All the real horse trading seems to been finished before we even about it."

E OREGONIAN, THURSDAY, FEBRUARY 7, 1980

Commission approves expansion of mining on

By MICHAEL ALESKO
of The Oregonian staff

In a move apparently headed for an appeal, the Portland Planning Commission on Tuesday approved intensive expansion of sand and gravel mining on Ross Island.

"Because of the complexity of issues here, it is almost certain we will end up before the Portland City Council," said John Frewing, a private citizen who opposes parts of the expansion plans for the island by its owners, Ross Island Sand and Gravel Co. The City Council considers appeals of planning commission decisions.

"It is too bad the planning commission didn't tackle the substantive issues. They were plagued by bad staff work on this," Frewing said.

The Tuesday planning commission decision itself was the result of an appeal.

Frewing, the Oregon Environmental Council, the Audubon Society and Ross Island Sand and Gravel Co., all had appealed a decision by the city land use hearings officer to grant the mining expansion permits.

Frewing and the environmentalists challenged the hearings officer's decision as not being tough enough in protection of the island's vegetation, general future and unusual blue heron rookery. The sand and gravel company contended in its appeal that the permit carried too many restrictions.

Neither side emerged from Tuesday's hearing with what it asked for. Most of the hearings officer's conditions challenged by the sand and gravel company remained intact, although the company got its permit. Most of the additional provisions asked by the environmentalists were not added to the permit.

The commission granted the sand and gravel company a conditional use permit good for six years to expand mining on the island. It also approved the company's long-range mining plan for the island, outlining plans there for the next 30 to 40 years.

The panel said the plan should be reviewed in six years, along with the use permit. Finally, the commission said 10 permit conditions laid down by the hearings officer must be met by the company no later than June 1, 1980, and that a public hearing to determine if they have been met must be held by Aug. 1, 1980.

The company plans to remove about 900,000 cubic yards of gravel from the island and its lagoon each year for up to 40 years. Dredging might go to 130 feet in the lagoon.

Most of the long, narrow northerly part of the island that juts to near the Ross Island Bridge would be removed. But a vegetated berm would be left around the island perimeter in that area.

The environmentalists centered their complaints on the fate of the island's heron rookery, which lies near an area to be dredged, and on what they say is the company's bad record in obeying city regulations.

The rookery once contained 100 nests but has dwindled to 10 and its condition under the expanded mining would be "critical," said Stephen Griffith, attorney for the environmentalists. He said the rook-

proves expansion of mining on Ross Island

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The rookery once contained 100 nests but has dwindled to 10 and its condition under the expanded mining would be "critical," said Stephen Griffith, attorney for the environmentalists. He said the rookery is the only one of its kind in the nation, if not the world, inside a large city. The herons would be unlikely to return if disturbed by the expanded mining, he added.

"It is not advisable to give them carte blanche approval, based on their past record," Griffith added. He said the firm has a history of violations of city ordinances. "This is hardly the kind of good performer you would issue a permit to," he said.

Richard A. Cantlin Jr., attorney for the company, objected to the characterization of violations, which were cited from past decades.

"The company was purchased in 1976 by Robert Pamplin and he is an honorable person," Cantlin said.

The firm's manager, Charles Steinwandel, said the company has been mining the island since 1926 and that continued operation is vital because the island is one of the principal sand and gravel operations in the Portland area.

THE OREGONIAN

9/26/80

Ross Island plan allows gravel dredging along with heron sanctuary

By STEVE JENNING
of The Oregonian staff

Great blue herons could nest in a protected buffer zone on Ross Island while controversial dredging continues nearby, a 35-year management plan completed Wednesday for the island proposes.

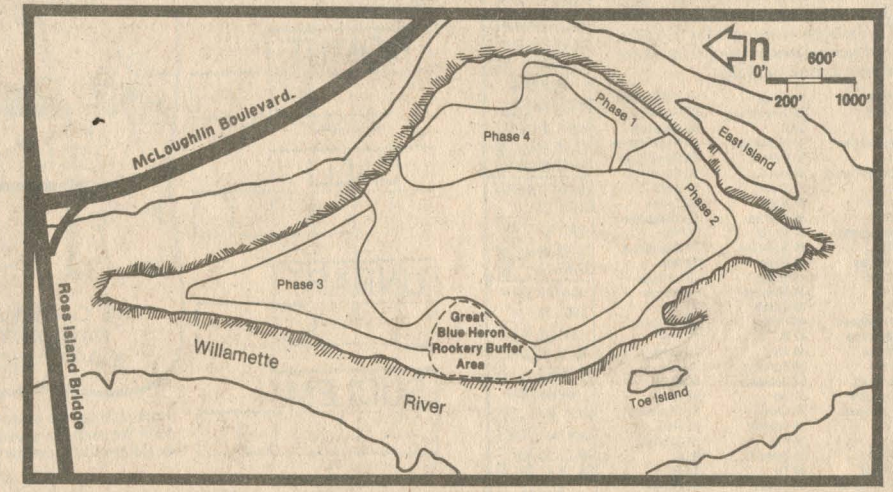
Drafted by consultants for the city of Portland and the Ross Island Sand & Gravel Co., the plan would allow extensive aggregate excavation on the ecologically fragile Willamette River island up to and perhaps through the year 2015.

"(The plan) is a good effort," said Joseph Walsh, a city planner overseeing creation of the management plan. "The island will never be exactly the same as it was, but this will reproduce that as closely as possible."

The plan is scheduled to go before the city hearings officer Oct. 6.

Following a series of City Council hearings during which the Ross Island company's plans for dredging were criticized by environmental groups, the City Council July 9 granted a conditional-use permit for the dredging.

City commissioners said, however, that a specific plant revegetation and heron rookery protection plan had to be drafted and brought before the city hearings officer for approval.



MANAGEMENT PLAN — Map shows location of great blue heron rookery buffer area on Ross Island as proposed in 35-year management plan. Phase 1, 2, 3 and 4 areas designate areas proposed for gravel dredging on the island managed by Ross Island Sand & Gravel Co.

The management plan completed Wednesday would create a roughly oval-shaped great blue heron rookery buffer area on the island's central west edge, more than 1,000 feet long from north to south at its widest point and about 750 feet long from east to west at its widest point, scaling down to about 200 feet.

Representatives of the Oregon Environmental Council and the Audubon Society had asked for a larger buffer zone.

The plan proposes that there be no lagoon dredging within 300 feet of the heron rookery between the months of January and July, the birds' normal nesting season.

The plan also calls for reforestation of filled-in sections of the island with several tree species, including black cottonwoods, red willow, maple and ash.

Dogwood, grasses and berry plants also would be planted.

Also in the plan are the location and timing of phased-in dredging on the island and a schedule of in-fill operations.

Ross Island Sand & Gravel, the pit operator since 1926, would be required to submit to yearly inspections by city officials. Public hearings would be held at six-year intervals to assure that environmental aims are being met.

Complaints have centered on environmental concerns. Dredging opponents have charged that the operators have fouled the air and water for years, gradually forcing a decrease in the number of nesting herons. An Audubon Society representative said the rookery was one of only two urban-area blue heron nesting grounds in the United States.

Robert Pamplin Sr., president of the sand and gravel firm, has argued that dredging operations create about 250 jobs. He said the firm requires a long-range permit — opposed by company opponents — in order to finance capital costs.

(MORE)

3/01

Fate of mining plan hinges on county land-use decision

5018

By KEVIN HARDEN

A Clackamas County land-use hearings officer will decide this month the fate of a controversial Canby rock mining proposal that an asphalt paving company hopes will ease a metropolitan-area shortage of aggregate.

Hearings Officer Richard Crist will decide in the next few weeks whether to grant a conditional use permit and approve development in a 100-year floodplain of an aggregate mining operation proposed last year by Oregon Asphaltic Paving Co. of Portland.

County land-use planners have recommended against the proposal. Many residents in the area also testified at land-use hearings or sent letters to the county opposing the project.

Oregon Asphaltic Paving Co. wants to mine for at least 30 years high-quality river rock from part of a 177-acre farm on Knights Bridge Road in Canby. The dairy farm, owned by George Schmidt, is in a county general agricultural district zone.

Nearly all of the 177 acres are in the floodplain near the Pudding and Molalla rivers, about 15 miles southwest of Oregon City. It is bordered on the north by part of the Molalla River State Park, and on the east and south by residences and farms.

Roger Metcalf of Oregon Asphaltic Paving Co. said his firm hoped to use rock from the mining operation for its Tualatin-area asphalt batch plant. The rock, which Metcalf said was "extremely good quality," could ease supply problems his company and others have faced during the past several years.

"There definitely is a shortage of aggregate in the metro area and around the state," Metcalf said.

Some concrete and asphalt companies have hauled rock from Scappose and other areas outside Portland to fill orders, he said.

"There just aren't many good aggregate supplies left in the metro area," Metcalf said.

Portland-area asphalt and cement suppliers have struggled for about the past decade with a shortage of rock, and that has driven up the cost of aggregate and the price of some road work, said Jerry Gray, an economic geologist with the state Department of Geology and Mineral Industries.

"When you have competitors who are selling a lot to each other, then you know you have a shortage," Gray said.

In the past 10 years, Gray said the price of rock from some metropolitan-area quarries doubled. Very few new quarries or mines have opened in the area in the past nine years, he said.

Growth in Washington, Clackamas and Multnomah counties combined with road construction and repairs has left the region with a short supply of rock, Gray said. State officials predicted the shortage in a 1979 report on rock resources in the tri-county region, he said.

"When you start putting that much more transportation on roads, you run out of aggregate real fast," Gray said.

"When you have competitors who are selling a lot to each other, then you know you have a shortage."

— Jerry Gray
economic geologist with
Department of Geology

Clackamas County officials echoed the warning in a mid-1980s report that called for more aggregate mining sites, but also stressed the need to balance residents' concerns with future projects.

"The county must establish a compromise position between the needs of neighbors who are irritated by the nuisance characteristics of the sand/gravel/rock industry and the needs of the overall community to have a good and cheap supply of aggregate available," according to the report.

Some rock-producing companies disagreed that the proposed mining operation was an answer to the shortage. In a June 20 letter county planners, Robert D. Traverso, president of Canby Sand and Gravel Co. and Parker Paving Northwest, said the county did not need another aggregate mine.

Traverso said there were four sand and gravel operations and four fill sand and top soil companies in the area. He also questioned the wisdom of allowing trucks from the plant to travel on area roads in the face of possible maintenance cost increases.

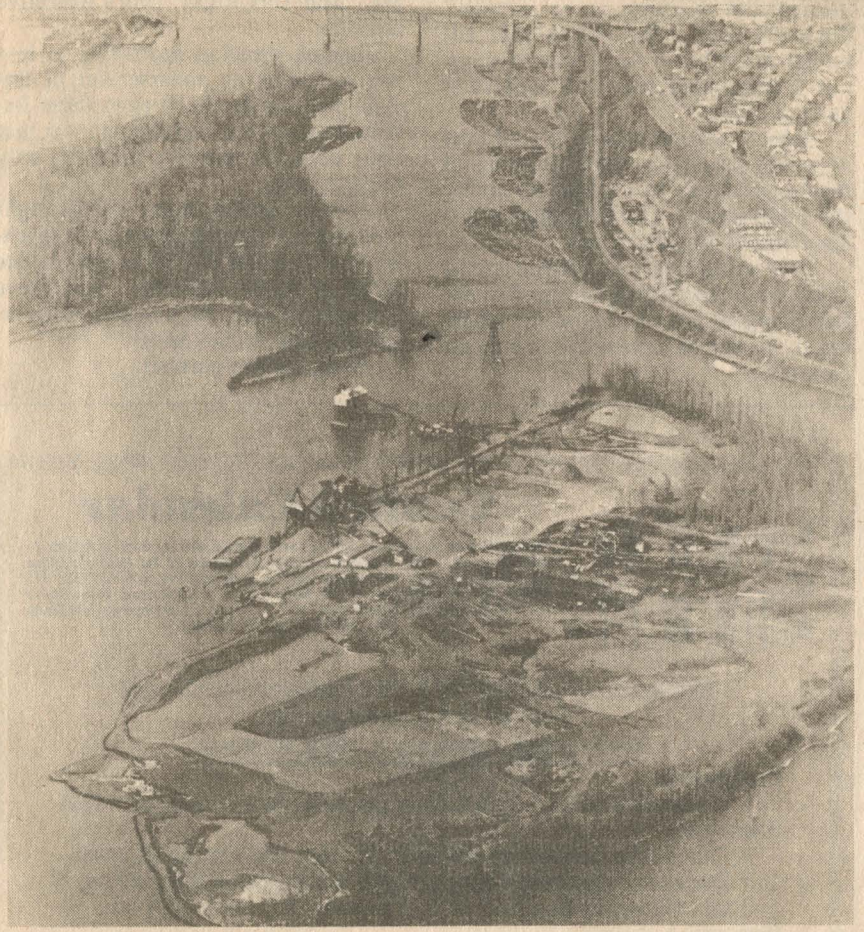
"With today's ever-rising costs, it is not in the best interest of the citizens of Clackamas County that they should carry the burden of costs of road repairs resulting from the additional truck traffic that will be using Clackamas County roads," Traverso wrote.

Hearings on the project were held in mid-August and opponents of the proposal were given until Aug. 24 to raise objections. Proponents of the plan were given until Aug. 31 to submit their opinions on the project.

Under a revised development plan, Oregon Asphaltic Paving Co. plans to immediately reclaim a wetlands area and two ponds where fish could be raised and harvested.

Clackamas County planner Gary Naylor, who recommended against the original proposal, said that if the zone change and other requests were approved, the county should impose nearly two dozen conditions on the plant, including requiring a reclamation plan for the land after the mining operation is closed; that soil used in the reclamation be stored outside the floodplain area; that truck traffic from the plant use Knights Bridge Road west to Arndt Road as a route to Interstate 5; that a pavement study be made of Knights Bridge Road to determine the damage that could be caused by trucks from the plant; that the mine operation between 7 a.m. to 5 p.m. weekdays; and that a reclamation bond or cash be submitted prior to the project's construction.

Island at center of environmental battle



Staff photo by DALE SWANSON

ISLAND DEBATE — Ross Island is center of dispute between owners, who want to expand sand and gravel operations, and environmentalists.

Oregonian 2/4/80

By MICHAEL ALESKO
of The Oregonian staff

The Portland Planning Commission will wrestle with how to balance business interests with the fragile environment of Ross Island when it meets Tuesday to consider further sand and gravel operations on the Willamette River landmark.

City planners call Ross Island "unique" and "one of the outstanding visual aspects of the Willamette in Portland." But the island's owner, Ross Island Sand and Gravel Co., contends the city is trying to overregulate the firm's mining operations on the island.

Environmentalists argue that proposed city permits for continued mining of the island don't go nearly far enough in protecting a dwindling blue heron rookery or in upholding Willamette River Greenway standards for the island.

The planning commission will meet to consider an appeal of a Nov. 21, 1979, decision by the city land-use hearings officer to grant the gravel company a six-year conditional-use permit to continue its operations. Technically, the permit allows mining operations in the Willamette River Greenway, of which the island is part.

The company appealed the permit decision as too restrictive. The Audubon Society, the Oregon Environmental Council and two private citizens also appealed to the commission, contending there weren't enough controls in the hearings officer's conditions.

The planning commission is one of three groups considering use of the island. A plan by the gravel company to carry on operations at the island for the next 40 years is also up for approval by the U.S. Army Corps of Engineers and the Oregon Division of State Lands.

The corps is disposed toward approving continued mining but is awaiting state action. The state granted approval last year, but that approval was appealed by the environmentalists currently challenging the city permit and is in abeyance.

The sand and gravel company is seeking from the city, state and federal governments a permit to remove about 900,000 cubic yards of gravel from the island yearly for the next 40 years, including dredging up to 130 feet in the lagoon that occupies much of the island's interior.

About 500,000 cubic yards of fill material would be placed on the island annually over the 40 years and a 400-foot vegetated buffer would be planted around the lagoon after the dredging.

The city planners spell out special consideration for the island in the way they describe it in their report.

"Ross Island is unique in extent of undisturbed riparian woodlands, which provide habitat for a variety of types of wildlife, including rare or unique species of birds, and most notably a sizable blue heron rookery. Ross Island also represents one of the outstanding visual aspects of the Willamette in Portland," the report says.

Ross Island Plan...

The company plans to remove about 900,000 cubic yards of gravel from the island and its lagoon each year for up to 40 years. Dredging might go as deep as 130 feet in the central lagoon.

Most of the narrow northern neck of the island would be removed. About 500,000 cubic yards of fill material would be deposited annually. At the end of 40 years, the island's dry land mass would increase by 35 acres, according to company spokesmen.

Other elements of the plan are:

— Creation and maintenance of an "undisturbed" 80-foot-wide buffer zone on the island's outside edge.

— Grading to create natural contours on in-filled sections of the island.

— Replanting of zones where revegetation efforts fail.

Although Walsh said the company "basically has agreed to everything in the plan," Richard Cantlin Jr., the firm's attorney, declined to comment Wednesday night pending study of the final plan.

Cantlin said the company seeks assurance that dredging will continue as long as agreement requirements are met.

"The company has been willing to go well beyond ordinary expectations," Cantlin said. "The OEC (environmental council) has prevailed on most of the issues it raised."

Susan Hammer, an attorney representing the environmental council, said: "We haven't seen the specifics. Our main interest is that the revegetation plan works. We're interested in results."

THE OREGONIAN

9/26/80

(END)

English Pit gravel could feed Portland demands.

County a gravel 'gold mine'

By MICHAEL GOWRYLOW
Columbian Staff Writer

Clark County sits on a "gold mine" of sand and gravel that has become increasingly valuable because of its proximity to development in the Portland metropolitan area.

Sand and gravel suitable for concrete and road construction is a resource that is rapidly becoming more scarce locally as environmental pressures and suburban sprawl severely restrict gravel strip mining.

"It's not that the resource is gone. It's unattainable," according to Jerry Gray, geologist for the Oregon Department of Geology and Mineral Industries.

He said homes sit atop rich gravel resources in southeastern Portland and in from Troutdale to Oregon City, making those deposits essentially unavailable.

And river deposits have become increasingly harder to mine because of ecological considerations, he added.

"They've got an animal in there — it's called a fish — and there are more fishermen than sand and gravel operators," Gray said.

Chuck Steinwandel, vice-president of Ross Island Sand and Gravel Co., said environmental pressures are restricting his company's mining of gravel on Ross Island, a chief source for the Portland market.

Steinwandel said the "known, provable aggregate reserves are fastly diminishing" in the Portland area.

He predicted that easily assessible aggregate deposits could last another 10 to 15 years, then gravel either will have to be barged in from along the Eastern Oregon Columbia River Gorge or restrictions in the Portland area will have to be eased.

plier for the Portland market, especially when the Interstate 205 bridge is completed in about five years.

Ron Wamberg, manager of Columbia Rock and Aggregates Inc. in the English Pit area east of Vancouver, said that area is "probably the largest gravel resource in Clark County. I don't think Portland has anything to really compete with it."

The English Pit area, also known as Section 30, is a square-mile section about 10 miles east of downtown Vancouver.

The Clark County commissioners have through recent zone changes committed the area to continued gravel extraction. Three companies operate in the area.

Lee Cassels, manager of Peter Kiewit Sons' Company operations there, said the so-called Mill Plain bench is a substantial gravel deposit running along a gentle ridge about four miles long east to west and two miles wide north to south.

It starts about at Interstate 205 and runs east to less than a mile east of the English Pit.

Cassels said those gravel resources are already covered on the western end by the Evergreen Airport and encroaching subdivision developments, such as Hearthwood.

The gravel operations there, as in Portland, face stiff opposition from neighbors, who complain about noise and roaring gravel and concrete trucks.

Neighbor Frank Dente called the whole operation an "environmental disaster."

Excavator Walt Musa is attempting to spread his operation to the south, and faces vehement opposition from some nearby residents.

Cassels said his company frequently trucks gravel over to Portland for construction jobs, but is operating at a disadvantage because of the distance to the Interstate Bridge.

He said the distance material has to be trucked to a job is critical because the costs of aggregate double each 10 miles trucks have to travel.

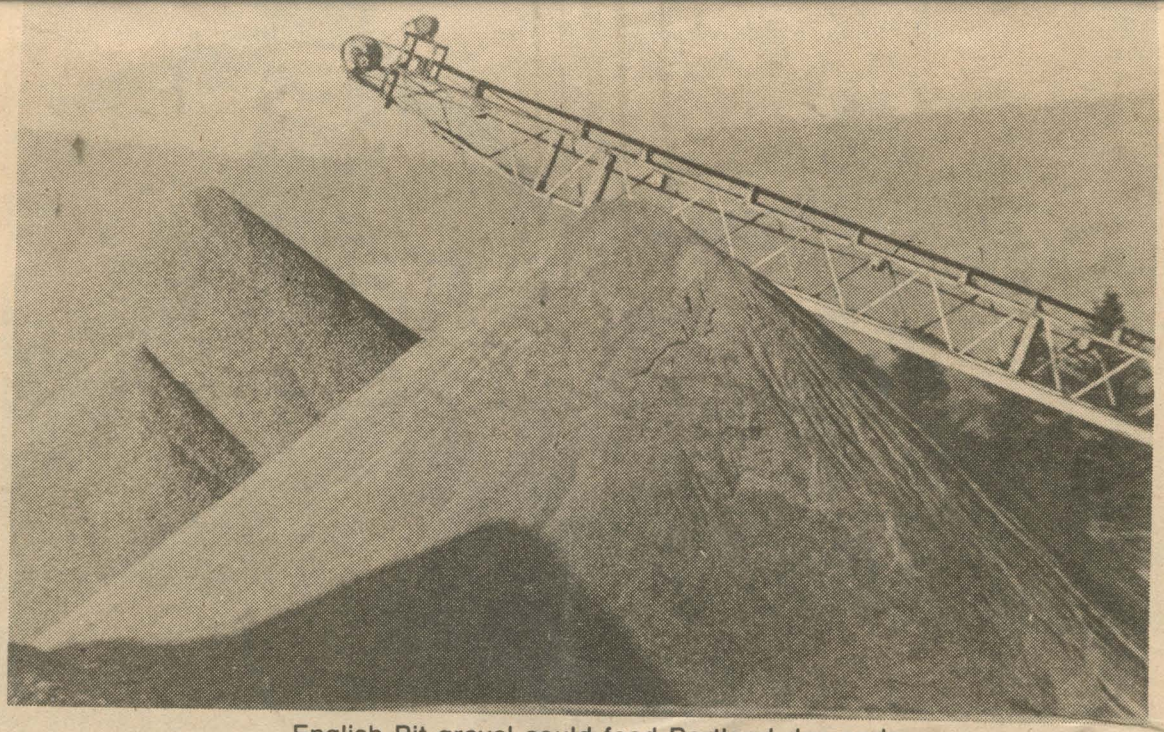
But Cassels said after the new bridge is completed the English Pit operators will be at a "distinct advantage" in reaching the eastern Portland market.

Businesses push for summer jobs

SEATTLE (AP) — A three-pronged drive to supply summer jobs for disadvantaged youth was announced Tuesday by the National Alliance of Businessmen.

This year's effort includes a Summer Youth Employment Program, a Business Management Fellowship Program and a Vocational Exploration Program.

Last year in Seattle, the alliance sought placement of 2,000 youths and actually found jobs for 1,975, said



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He predicted that easily assessible aggregate deposits could last another 10 to 15 years, then gravel either will have to be barged in from along the Eastern Oregon Columbia River Gorge or restrictions in the Portland area will have to be eased.

All of which could leave Clark County in a position to be a major supplier for the Portland market, especially when the Interstate 205 bridge is completed in about five years.

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EACH BUSINESS DAY
# of Commerce

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ONDAY, APRIL 11, 1977

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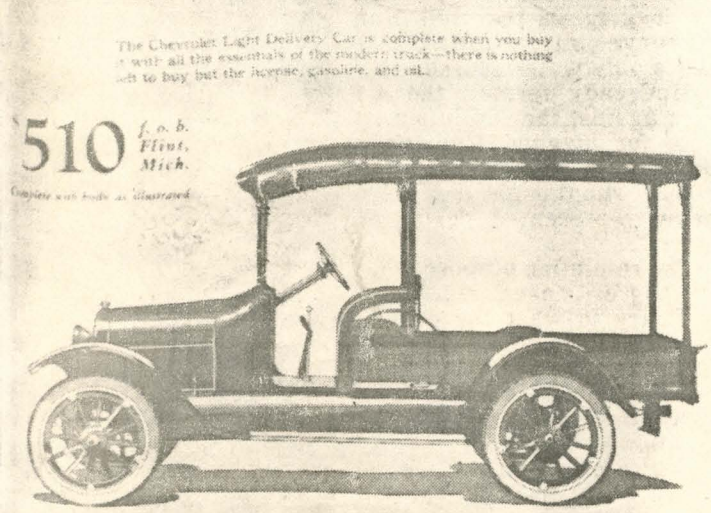

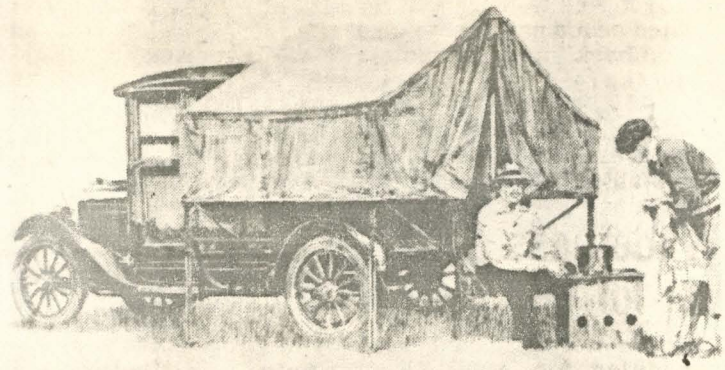

(top right) and a 1923 camper truck. Trucks account for over half of new vehicles sold by Chevrolet dealers in Oregon. The increase is from personal usage market. —*Daily Journal of Commerce*

Sand, gravel reserve dwindling in Portland

By JAMES DRAGO
of The Daily Journal of Commerce staff

Supplies of sand and gravel used in road building are dwindling in Portland and new sources will have to be found to meet future demand, according to Ralph Mason, geologist for the Oregon Department of Geology and Mineral Industries.

"The amount of sand and gravel is being depleted, while urban growth and environmental restrictions are hampering efforts to replenish the supply," explained Mason.

The Department of Geology and Mineral Industries has started a study for the Columbia Region Assn of Governments (CRAG) to examine the sand and gravel situation in Multnomah, Washington and Clackamas counties.

"There is sand and gravel suitable for concrete and road construction in the Portland area but just how much is recoverable is the question," he said.

"For instance, the area at NE 82nd Avenue near Madison High School has proven reserves but it will never be mined because homes and stores sit on top of it," he explained.

Mason said a large portion of the land from Troutdale to Oregon City is rich gravel area but most of those deposits are unavailable because of urban growth.

Flooding of the Columbia and Willamette rivers had replenished supplies of gravel and sand but dams have controlled the flooding and drastically cut the building up of recoverable supplies by this means.

"Most of the mining in Portland is in non stream areas, which means every time a ton is used, it is not replaced," Mason said.

Alternative sources of supply will have to be found, according to Mason and one prime candidate is the English Pit area east of Vancouver in Clark County.

The English Pit area contains more than 400 acres of rich sand and gravel deposits.

Lee Cassels, manager of Peter Kiewit Sons' Co, Van-

(Continued on Page 2, Col. 6)

Property values in Benton County record increase

Property values in Benton County have recorded increases including some as much as 30 per cent.

Assessor Lloyd Anderson reported the increases range from five per cent in the North Albany area to 30 per cent for rural tracts over two acres and farm homesites.

The increases, which will apply to property taxes due in November, do not mean taxes on the property will increase in ratio to the increased value, according to Anderson.

The Gazette-Times reported the taxes are based on districts that are now being determined.

As property value is increased, a lower tax rate will raise the same amount of money as would be raised with higher rates on property whose assessment was not increased.

The values were blanket increases based on the type and location of the property as related to actual property sales in the areas.

The blanket increases were made necessary by a state law that requires all property to be assessed within five per cent of its true cash value.

atistical edge regon leader

Corvallis planners give positive vote to Timberhill units

CORVALLIS — The Timberhill housing development in north Corvallis, which will contain 309 living units, has been approved by the city planning commission.

The subdivision, the Timberhill Southeast second addition, will be built on a 48 acre parcel bounded on the north by the city limits and on the east by the Charlemagne housing development along

Inside today

Dear Jerry,

Thanks for your help. You might notice I completely forgot about the gravel resources survey being undertaken and emphasized the situation as we know it kxmex now. As it x usually goes, I only had a fxw limited amount of space and had to condense, so I had to leave quite a bit of good infox out.

thanks again

Mike Gourylow

ian

Forecast: fair; high, 80; low, 52; report on Page B3

Oregonian 7/6/78

62 PAGES 15 CENTS

Sale of Wacker bonds set back by Ivancie vote

By STEVE JENNING
of The Oregonian staff

Hopes for the proposed $40 million Wacker Siltronic Corp. plant in Northwest Portland suffered a serious setback Wednesday when the City Council failed to pass immediate approval of a long-term-bond measure meant to subsidize construction of the facility.

Council members voted 3-1 to approve the bonds for issuance, but according to the city charter the approval cannot go into effect for 30 days unless it is passed unanimously. Commissioner Francis Ivancie cast the negative vote.

The measure will be reconsidered for the last time at the city council session on Wednesday, July 12.

Without a unanimous affirmative vote, the bonds cannot be sold until mid-August, too late under the terms of Wacker's contract.

"This could end the deal," said Mayor Neil Goldschmidt, visibly shaken by the surprise turn of events.

David Hunt, director of the Portland Development Commission, said advertising for the $14 million bond sale could begin next week — but only if the City Council waives the 30-day wait and authorizes a special "emergency clause" that would release the bond prospectus immediately and allow advertising of the bond sale.

An "emergency" clause can be attached to any ordinance, but it must be unanimously approved by city commissioners present at the council meeting.

Hunt said advertising of bond sales requires three weeks of notice. An early prospectus release could allow bids on the bonds by the earliest possible sale date, sometime in mid-August depending on several unknowns.

Goldschmidt said bond sales generally require two weeks and that early advertising of the issue prospectus "may save us a week or so."

"Wacker has set Aug. 15 as the absolute deadline," said Hunt, whose agency would supervise sale of the bonds. "They want to begin construction before the rains come."

Ivancie, however, said he is "still convinced that the Germans will come to Portland, regardless."

"I think it's an affront to throw this (the bond issue ordinance) on our desks and ask for an immediate decision," Ivancie told Hunt.

In a prepared statement, Ivancie said "flaws" in the structure of an earlier bond issue caused a failure to draw buyers. However, several investment officials have offered varying opinions on the failure of the bonds to sell.

The Development Commission last week offered bonds financed through property tax increases expected in Wacker's development of an 80-acre site along Northwest St. Helens Road. A possible tax limitation measure on the November general election ballot, one that would decrease public revenue from property taxes, discouraged bidding on the Wacker bonds, said offi-

NRC blocks early startup of Trojan

The federal Nuclear Regulatory Commission Wednesday denied a petition by Portland General Electric Co. to restart the Trojan nuclear power plant.

An NRC staff report of May 26 said the Rainier plant would be safe to operate until design flaws in the plant control building are rectified later this year or next year. But the report said an NRC Atomic Safety and Licensing Board should decide whether to hold hearings on the matter before Trojan is allowed to restart.

PGE later petitioned the NRC that Trojan be allowed to resume operation and continue during any hearings which might be held. The petition was turned down Wednesday.

The petition denial could delay the reopening of the nuclear plant for two weeks or longer depending upon the length of time needed to schedule and hold the hearings, a spokesman for the NRC said. PGE spokesmen say it would still take a week to 10 days after they are given the go-ahead before the facility could be brought back to full operation.

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In the meantime, PGE will have to meet power needs by purchasing power from outside producers as far away as Southern California, Utah and British Columbia, PGE spokesman Steve Loy explained. "And there'll be a substantial price penalty," he added.

Loy estimated that purchasing the needed power could exceed the cost of operating the Trojan plant by $3 million in July, $5 million in August and up to $10 million in the following months, depending upon demand.

The plant was shut down in March for maintainance and refueling. While it was shut down, PGE announced that the building was found to fall short of federal earthquake resistance standards for nuclear plants.

The NRC staff and Oregon's Department of Energy have agreed Trojan can be operated safely while the repair work is done.

Loy said he believes hearings on the problem will be held.

ıo change'

cember offers the Palestinians limited self-rule but calls for Israeli military presence in the occupied areas for the indefinite future.

Although Israel rejects withdrawal from East Jerusalem and nearly 100 settlements in occupied territory, sources, who did not want to be identified, said the Egyptian plan "could be put on the table in London." The text of the plan was delivered Wednesday morning to Dayan by U.S. Ambassador Samuel W. Lewis.

The State Department said no specific date has been set for the London meeting between Israeli and Egyptian foreign ministers and Secretary of State Cyrus R. Vance. But they said it would be about July 18.

The conservative Israeli newspaper Maariv called the plan "a non-starter," but said Israel could consider any proposal as long as no preconditions were set.

"It's hard to assume that President Anwar Sadat believes he will find even one person in Israel who can accept the peace plan as it is."

The Gush Emunim organization, which insists on Jewish settlement of the West Bank, was quick to label the plan unacceptable.

"No Israeli government could accept this plan," said spokesman Gershon Shafat. "They can go ahead and meet in London, but this plan is not a basis for any kind of peace."

The Development Commission last week offered bonds financed through property tax increases expected in Wacker's development of an 80-acre site along Northwest St. Helens Road. A possible tax limitation measure on the November general election ballot, one that would decrease public revenue from property taxes, discouraged bidding on the Wacker bonds, said officials.

Ivancie said Wednesday the previous bond package was constructed too quickly and without sufficient guarantees to buyers. He added that the revised bond issue was "another hastily prepared package which does nothing but increase the bill to the taxpayers."

Ivancie voted for the original bond issue, which would have cost the city less than the current proposal because the bonds would have been retired sooner.

The commissioner submitted an alternative bonding proposal, which called on Wacker and other Northwest Portland businesses to buy bonds in the designated urban renewal area.

The issue voted on Wednesday called for bonds totaling $550,000 less than the previous issue. Interest, however, was calculated at 7¾ percent because of "softness" in the bond-buying market. The original issue could have been sold at 6¾ interest, officials said.

"We estimate the total debt service (payment of principal and interest) at $38.4 million to the city," said Dennis Chuoko, an investment broker advising the Development Commission.

To make the bonds "more attractive" to potential buyers, Wacker's "letter of credit" has been increased from $1 million to $5 million to back up its intentions to build in Portland. Also, the city cannot retire principal on the new bonds until 1990, instead of the 1981 date projected under the initial bonding proposal.

In total, the package could mean an additional cost to the city of nearly $10 million in comparison with the original issue.

In addition to public improvements, bond sales would subsidize acquisition of the Wacker plant site within the 300-acre urban renewal zone.

The city also would train Wacker employees through programs funded by the federal Comprehensive Employment and Training Act.

In return, Wacker has agreed to hire only Portland residents for the first eight years of the computer component plant's operation. The company would employ about 600 workers.

Departmental index

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JJC News

Wacker subsidy bonds approved by council

By MARILYN E. FORBES
Daily Journal of Commerce staff

The Portland City Council Wednesday approved the advertising of $14.4 million in tax increment bonds to subsidize land acquisition and municipal improvements for the proposed $40 million Wacker Chemical site.

Commissioner Frank Ivancie cast the one dissenting vote against the ordinance, calling it "erratic, sloppy . . . and without sufficient guarantee."

The ordinance provides for the issuance and sale of Urban Renewal and Redevelopment Bonds which will be advertised immediately and opened Aug. 3.

The city will purchase 84 acres of land on NW St. Helens Road for $6.9 million and sell it to Wacker for $1.2 million under the agreement.

Improvements by the city will include storm sewers, $780,000; gas pipe line relocation, $675,000; and road improvements to St. Helens Road and Front Avenue for $2.7 million.

Amendment added

Commissioner Mildred Schwab asked that an amendment be added to the agreement with Wacker that the German firm's $5 million letter of credit be held until the plant is completed and permanent financing is approved.

"They are so committed to Portland that they will leave the $5 million with us until the work is completed," said David Hunt, director of the Portland Development Commission. "This is an extra guarantee on Wacker's part."

Hunt said that Wacker Chemie Corp., the German parent firm, has shown the PDC evidence of $17.5 million that will be funneled over a two-year period into its two U.S. subsidiaries. The Wacker corporate structure includes Wacker Chemie in Germany, Wacker Chemical in New York, and Wacker Siltronics in Delaware. The parent firm in Germany maintains most of the holdings and is not contractually involved with the Portland plant.

Ivancie grilled Hunt over whether the PDC had sought out the parent firm for the contract rather than their U.S. subsidiary. "I don't know why we are so bashful," said Ivancie. Hunt responded by accusing Ivancie of trying to "turn tax increment bonds into industrial revenue bonds."

Alter tax status

Bud Alkire, project coordinator for PDC said that a guarantee of the type Ivancie proposed would alter the tax exempt status of the bonds.

Hunt, along with a staff of legal advisers, explained that Wacker was only taking reasonable precautions. "They do not want the liability," he said.

Edwin Numrich, a local bond underwriter with Tory &

(Continued on Page 2, Col. 8)

Daily Journal of Commerce
July 13, 1978

Chemical firm gets council ok

(Continued from Page 1)

Co., addressed the council in support of the bond issuance. "I find it incredible after all the work, time and effort expended to induce Wacker, that at this point we see it might be derailed for political reasons."

Commissioners took a vote at the end of the two-hour discussion and each commissioner outlined the reason for their vote. Goldschmidt, Schwab, Connie McCready and Charles Jordan each said they felt secure in the assurances made by the chemical company and voted for the measure.

Work underway

Site compaction is currently underway at the site and a construction schedule has been set.

Ron Schmidt of Pihas, Schmidt and Westerdahl, a public relations firm handling the Wacker account, said, "What we want to do now is confirm costs and go into construction. I anticipate a late August ground breaking."

Local firms involved in preliminary design and preparation of the site include CH2M Hill, Ace Electric Co., and Hoffman Construction. Hoffman representatives will travel to Germany for meetings in mid-August.

Due to a three-day holiday in Germany, Wacker officials were not available for comment.

Mail

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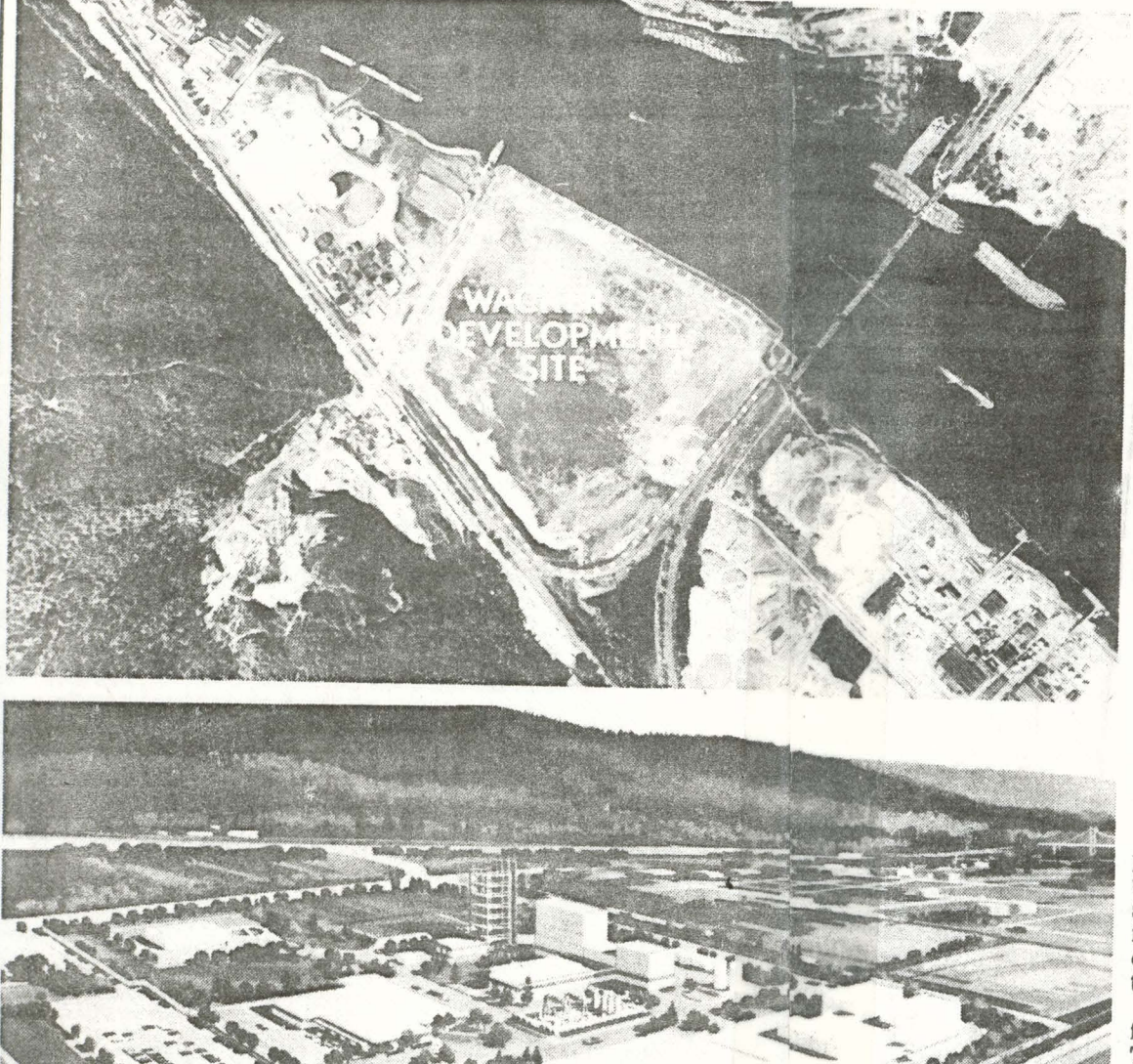
ALL THE BUSINESS NEWS OF EACH BUSINESS DAY

Vol. 141—No. 75 TWO S

PORTLAND, OREGON, 97210, FRIDAY, APRIL 14, 1978

Wacker oks $100 million plant



ST. HELENS Road near St. Johns Bridge will be home for $100 million Wacker-Chemie facility due for a construction start in October. West German manufacturer has selected Portland over Augusta, Ga., for location of its silicon wafer production plant, after more than a year of active negotiation. Completion of plant, on 80-acre site, will result in creation of 600 jobs for area residents. Facility will be part of 360-acre industrial renewal project.

By STANFORD CHEN
Editor, Daily Journal of Commerce

Wacker-Chemie, a West German manufacturer, has selected Portland for a $100 million silicon wafer manufacturing plant. Construction is expected to begin in October.

Portland and Augusta, Ga. were the two finalists for the Wacker location. An agreement was signed last Wednesday between city officials and company representatives.

The project's first phase is construction of a $40 million facility off St. Helens Road, one-half mile south of St. Johns Bridge. A headquarters building, primary manufacturing plant and sub buildings will be constructed on an 80-acre waterfront site.

The plant, which will be built and operated by a U.S. subsidiary, Wacker Siltronic Corp., is expected to be operational in 1980 with about 600 employees initially with an annual payroll of $8.3 million.

Varied uses

The silicon crystals and polished wafers produced are used in manufacture of semiconductor components for computers, television sets, calculators and other electronic equipment.

In a special press conference at the Pittock Mansion Thursday, Ekkehard Maurer, Wacker Chemie managing director, said the chief factors favoring the Rose City were the "high level of cooperation" by public and private officials, the availability of a skilled labor force, ideal property location, and the Oregon lifestyle.

Maurer singled out Gov. Bob Straub, Portland Mayor Neil Goldschmidt, and Don Gunderson, immediate past president of the Portland Chamber of Commerce for their efforts in getting the facility into Portland.

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long-term commitment to Portland and the State of Oregon," the German official said, "because of the region's willingness to make the effort required to attract industry. Oregon's concern for protection of its environment and way of life is very compatible with our philosophy of business."

Gov. Straub said he was pleased with Wacker's decision because it would diversify the state's economic base, which the governor said relies too heavily on forest products.

"Wacker is a strong worldwide firm with an excellent reputation. Their decision may send a message to other electronic firms," said Straub.

Goldschmidt said the immediate impact of the decision is the creation of jobs, and the initial estimate of 600 jobs could be doubled once the plant is completed.

2,400 secondary jobs

The Wacker plant, said the mayor, would generate up to 2,400 secondary jobs with a $37 million payroll. Under a sole source agreement between Wacker and the city, the jobs will be filled primarily by Portland residents.

The plant's second phase is the construction of the facility for production of the polycrystaline silicon. Much of the raw material will be shipped to the site, but Wacker plans to buy chemicals from neighboring Pennwalt Corp.

Maurer declined to say when the second phase will begin. "It is premature to talk about it now. First we complete the first phase and be successful. Then we will talk about it," he said.

Wacker's site is a portion of the city's proposed 360-acre Northwest Front Avenue industrial renewal project. David Hunt, executive director of the city's development commission, said the company will pay about $1.1 million for the land, or roughly $14,000 an acre.

The development commission will purchase the four parcels (the entire 360 acres) and will float a bond for $15 million. The actual price, Hunt said, is about $12 million, the remainder is the interest on the bonds.

Of that $12 million, about half will be for land acquisition, and the remainder for street improvements on Front Avenue, improved access to St. Helens Road, relocation of existing gas mains, and construction of storm sewers in the project area.

The arrangement with Wacker is not formalized, said Hunt. But the city will buy the property at a set price and resell it to Wacker at a reduced amount. The difference will come from the bond money.

Timing tight

Hunt said the timing will be tight. The site will be available for Wacker by July 15, and the project improvements are scheduled for completion by Sept. 1, 1979.

Wacker's timetable calls for site preparation in July and construction to begin in October, with a Dec. 31, 1980 completion date. The plant will initially go into operation in March 1980.

Hunt said the renewal project also calls for acquisition of the rock quarry across St. Helens Road. All quarry activities, including blasting and rock crushing, will be ended.

The move to Portland will be Wacker's second major investment in the United States. The German firm started building a silicon carbide production plant in Hennepin, Ill. earlier this year. The company has been exporting silicon wafers to the American market for several years.

The company will retain CH2M-Hill consultant firm for basic engineering work.

Staff photo by WES GUDERIAN

DEAL SEALED — Ekkehard Maurer (left), senior partner of Wacker Chemie, a German chemical corporation that has agreed to build a plant in Northwest Portland, stands with Mayor Neil Goldschmidt in Pittock Mansion after champagne-accompanied news conference Thursday.

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es German chemical firm

By STEVE JENNING
of The Oregonian staff

Champagne corks flew at Pittock Mansion Thursday as state and city officials announced the marriage between the city of Portland and its newest industrial resident: Wacker Chemie, a German chemical corporation.

Wacker will build a silicon wafer manufacturing plant on Northwest St. Helens Road, creating between 600 and 1,000 jobs.

The company's products are used in the manufacture of electronic instruments, such as computers.

The Portland Development Commission, the city's urban renewal agency, will buy the site through the sale of $15 million in bonds. The bonds will be repaid, according to the memorandum, "from the increased tax revenues from the project area." The commission will resell the property to Wacker for $14,000 per acre. The sale price is at least $10,000 per acre higher than any other site investigated by the firm in the United States, said Mayor Neil Goldschmidt.

Wacker expects to begin construction of the new plant by Oct. 1. Production will begin by March 1, 1980.

The plant site is largely unimproved property. Development commission officials said the 80 acres include two homes, one owned by the city. The owner of the second home is willing to sell, said officials.

Also included is a rock quarry owned by the Rivergate Co. Plans include purchase of the quarry for construction of a park on the southwest side of the plant site.

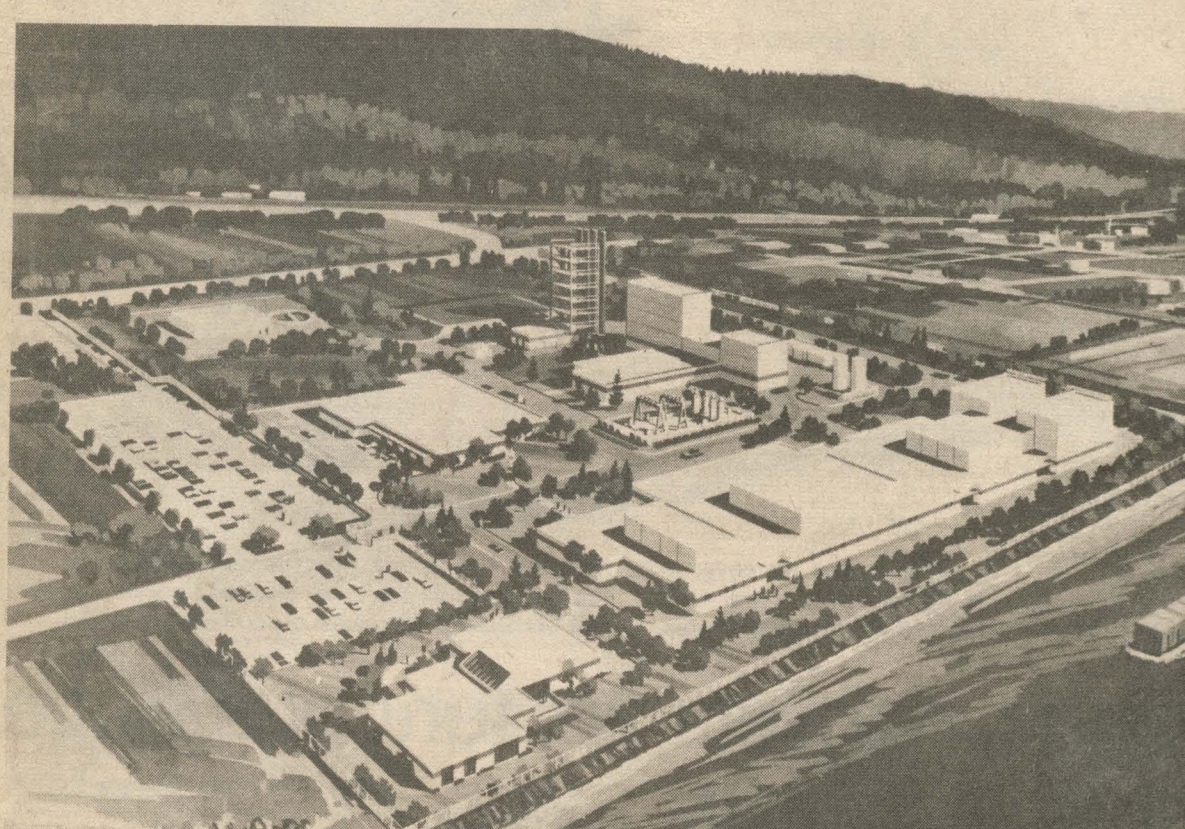
Development commission officials said all property owners in the designated urban renewal area are anxious to sell.

For Goldschmidt and Gov. Bob Straub, the agreement between the city and Wacker reached Wednesday was the culmination of a long, hard lobbying effort.

"It is a day of great significance for the city of Portland," said Goldschmidt at a press conference. The mayor cited the proposed $40 million plant's "immediate positive impact on our city."

Though the city will subsidize land acquisition and improvements to the tune of $15 million, Goldschmidt said the city would reap the shipping fees on $30 million of goods produced by the firm each year.

Another $1 million per year is expected in property taxes along with the plant's generation of 2,400 secondary service and support jobs.



GERMAN PLANT — Artist's drawing of plant to be built by German firm to manufacture silicon wafers shows how it will look on Northwest St. Helens Road the Willamette. It will be called Wacker Siltronic

Straub said the Wacker decision furthers his own efforts to diversify the state's economy and "to overcome Oregon's over-dependence on the forest products industry."

Straub remarked that the computer components manufacturer is a clean, non-polluting industry.

The governor praised the efforts of the city and Port of Portland, as well as state officials and local businessmen. He cited Wacker leaders for their "tireless efforts" on the project.

Ekkehard Maurer, a senior Wacker partner, told reporters that "the high level of cooperation prevalent among (Portland's) public and private officials" during the negotiations had swayed the decision to locate here.

"Wacker plans to . . . draw upon a substantial portion of the Northwest labor pool in constructing the plant," said Maurer. "Portland's ability to supply a stable, skilled labor force is a major factor in the decision to invest here."

The plant will operate under the name Wacker Siltronic Corp., directed by Werner Freiesleben.

"We look forward to becoming an integral part of the community," said Maurer. He added that he believes Wacker's entry in Portland will attract other computer manufacturing related businesses.

He said he hoped that Tektronix in Beaverton and Wilsonville will become a customer for Wacker's product.

In return for its choosing the Portland site, the company expects the city to make major street improvements along Northwest Front Avenue and St. Helens Road.

New storm sewers also will be built throughout the designated urban renewal area, including the plant. The development commission will prepare a 500-foot by 800-foot, $217,500 preloading site near the plant. Wacker will complete the construction and the estimated cost will be taken off the purchase price of the land.

The development commission will build a pipeline for flow of industrial chemicals between the Wacker plant and the Pennwalt Corp., an adjacent chemical manufacturer that p
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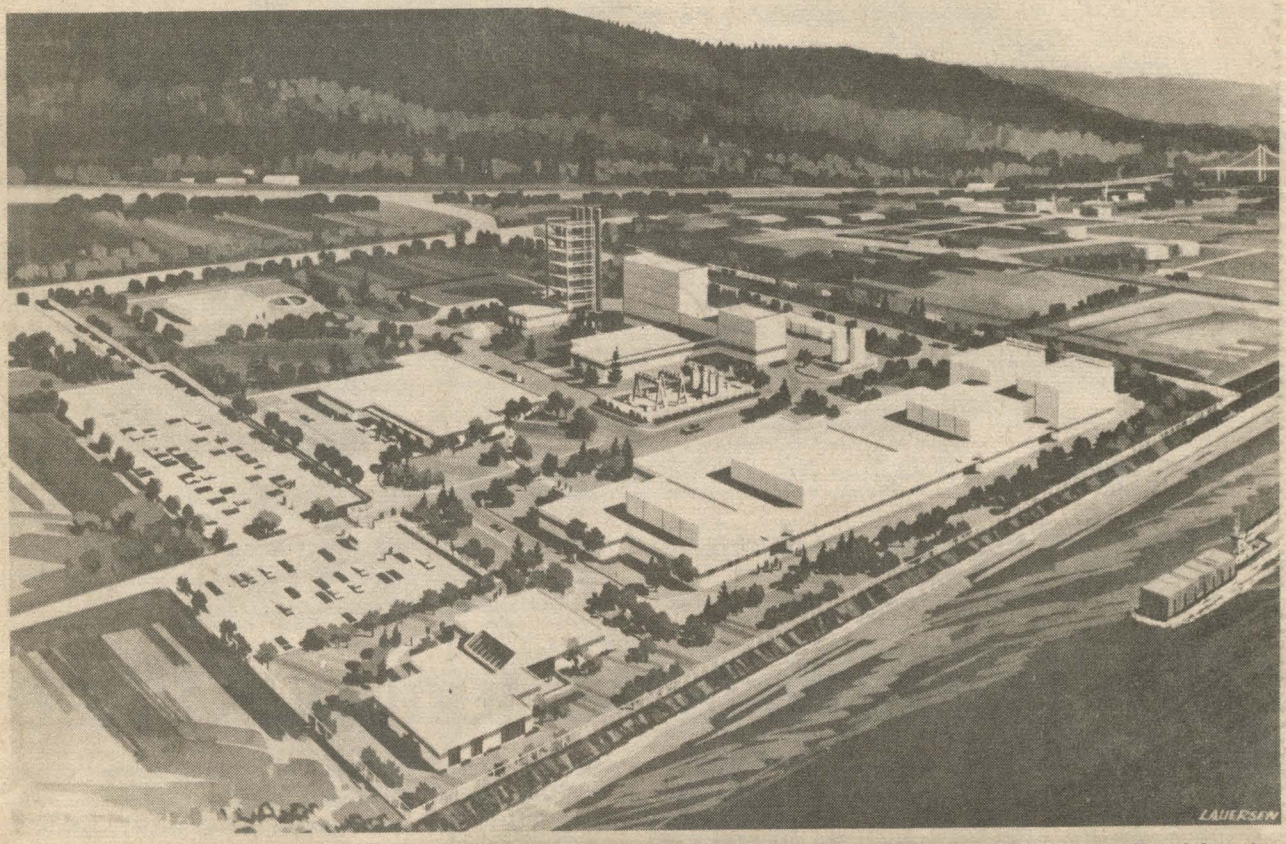

GERMAN PLANT — Artist's drawing of plant to be built by German firm to manufacture silicon wafers shows how it will look on Northwest St. Helens Road fronting the Willamette. It will be called Wacker Siltronic Corp.

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The development commission will build a pipeline for flow of industrial chemicals between the Wacker plant and the Pennwalt Corp., an adjacent chemical manufacturer that produces elements necessary in the production of silicon wafers.

The city's responsibilities in the agreement include training of employees for the plant. The training will be funded through federal Comprehensive Employment and Training Act grants and is expected to cost $1.4 million through 1981.

City officials said between 600 and 800 of the company's projected positions will be trainable through city-sponsored employment programs.

"The training will begin before the plant opens," said Goldschmidt.

Since persons must be Portland residents to qualify for local manpower training programs, Portlanders will be assured first crack at the new jobs, said the mayor.

Both Wacker and the city are operating on "tight time schedules," said David Hunt, development commission executive director who helped forge the deal. The city and the company will enter a formal agreement by May 15.

Additional details on Page E5.

Wacker 'feels comfortable' in Portland

Story on Page One also

By DONALD J. SORENSEN
of The Oregonian staff

One of the decisive factors in Wacker Chemical Co.'s selection of Portland as the site for its new plant was that "we felt good and comfortable here."

This disclosure was made Thursday by Werner Freiesleben, who will be president of the Portland operation.

"You know, there are certain intangibles that go into making a decision like this," he said at a news conference. "The final 'nose' effect was that we like the atmosphere; we just feel good and comfortable here."

This atmosphere was perhaps best illustrated by Ekkehard Maurer, a senior Wacker director, who related an experience he had while shopping for a tie in a downtown store.

The clerk asked Maurer if he was one of the Wacker group. "When I told him I was," Maurer said, "he started to tell me how wonderful this plant would be for the city and everybody was glad to have us here. Here was a tie clerk telling me how glad he was about our decision — and this expressed the attitude of the people."

The final decision, of course, depended on more than such intangibles. Freiesleben listed a number of reasons for picking Portland over Augusta, Ga., which also had been in the running.

"The quality and reliability of the people was important to us," he said. "We had to analyze engineering studies about the costs and the return on investment. Portland is close to a raw material source, is on a river, which is important to our business, and has a good labor supply."

Freiesleben also pointed out that it is much less costly to built the plant here than in the Southern city because of the need there for expensive refrigeration and air conditioning equipment.

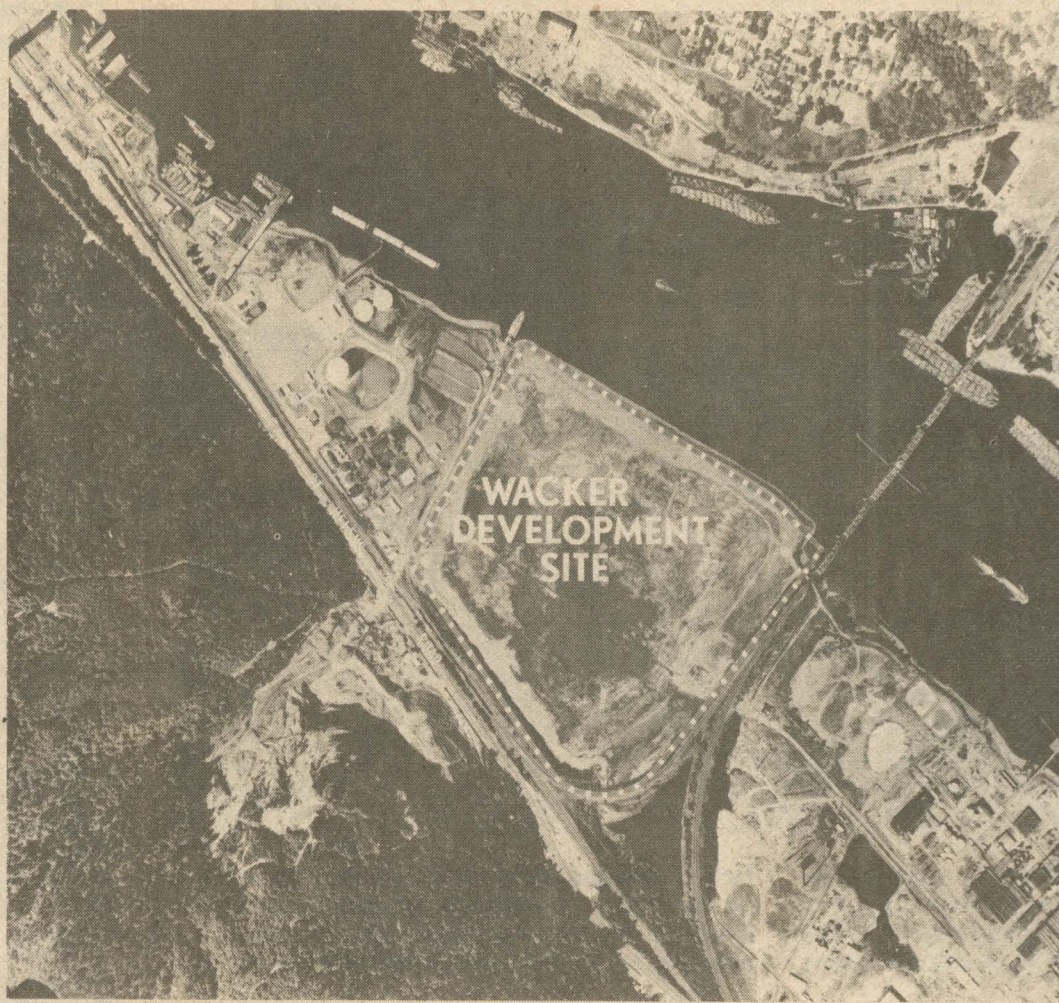
The clean environment also entered into the decision. "In this plant, the atmosphere has to be absolutely pure. No suspicion of dust, no suspicion of dirt," he said.

Freiesleben said the company has a three-pointed business philosophy. "There is the economic picture, the environmental and raw materials part and the social side of it. In all of these areas, Portland met our standards."

The president of Wacker Siltronic, as the Portland operation will be called, also gave assurance that local people will be employed.

He noted that some managerial and technical personnel will be provided from Germany, but "we want to use as many Americans as possible; we want to have it run American. We feel a business is run best if you have people who feel at home and convey confidence."

Freiesleben also had high praise for city and state officials and said "the interest shown by the city, the mayor and the governor" was instrumental in drawing Wacker to Portland. The Wacker executive said Portland put on a more aggressive promotion for the plant than did Augusta.



WACKER PLANT SITE — Construction is due this fall on $40 million first phase of Wacker Siltronic Corp. plant at site on Northwest St. Helens Road. To left is Northwest Natural Gas facility right is Pennwalt Corp. plant which will material for Wacker silicon wafers.

David Hunt, executive director of the Portland Development Commission, who was very active in efforts to bring Wacker here, estimated about $100,000 was spent to bring the German plant here. "That is a pretty good bargain when you bring in an investment that will run to $100 million," he added.

Initially, there will be about 600 employees, growing to about 1,000 when the project is completed. Freiesleben said the Portland facility is the largest plant investment the company has ever made.

The plant will produce silicon wafers, which are used in the semiconductor industry as memory chips in computers. The company has a " substantial share of the silicon market," Freiesleben said, "and we export to the U.S., so we needed a plant in the U.S."

He said most of the plant's production would be for the domestic market with the bulk of it going outside the state of Oregon. This will generate additional millions of dollars through shipping fees. A relatively small part of the production would be for export, he added.

Freiesleben came to Portland earlier in th for the announcement of the decision and ex hope for a "long and cordial relationship" w community. He is 48 years old and has bee Wacker 20 years.

Freiesleben is managing director of Wack mitronic, Burausen, Germany, and in this pos responsible for worldwide silicon operations company.

The Portland complex is the second major ment for the company in the United States. this year, it started construction on a silicon production plant in Hennepin, Ill.

Wacker Siltronic will be a subsidiary of Chemical Corp., New York, a holding compa Wacker's interests in the U.S. These include venture with Stauffer Chemical Co. in Michiga

Wacker Chemie, the parent company in M Germany, was formed just before World War jointly owned, 50 percent by Hoechst AG, one world's largest chemical manufacturers, and cent by the Wacker family.

The parent company is a major producer o ics, solvents, silicon and organic base material a annual sales last year of more than $650 million 8,500 employees in its worldwide operations.

Georgia felt its chances were good

Wacker plans 'to be part' of Portland-area activities

By JOHN DORNBERG
Special writer, The Oregonian

BURGHAUSEN, West Germany — "Ours has always been a highly community-oriented company, and that is what it will also be when it starts operations in Portland."

So says Werner Freiesleben, 48, president of Wacker Chemitronic Co. of Burghausen, which is starting construction of a $40 million branch plant for its U.S.-based Wacker Siltronic Co. this summer.

The plant, along the banks of the Willamette River, will provide more than 600 new skilled and semi-skilled jobs and pump an average of $750,000 a month in salaries into the Portland area.

The first stage of the operation is scheduled to go onstream in 1980. A second phase, providing an additional 400 jobs, is due for completion in 1982.

It will specialize in the production of sophisticated, pure silicone wafers for use as semi-conductors in the electronics industry.

After a tour of the parent company in Burghausen, on the West German-Austrian border 68 miles east of Munich, and interviews with Freiesleben and others, the conclusion is that Wacker intends to keep a low profile in Portland only in terms of energy and water consumption, environmental impact, and in the shape of its plant's buildings.

During the first phase of operations, electricity consumption per employee is projected at less than one-thirtieth of that in aluminum plants and after completion of the second stage it will not rise above one-twenty-sixth, according to Richard S. Reid, project engineer with CH2M Hill Inc., Corvallis.

There will be no smell, no noise, no harmful or poisonous effluents and gases, said Freiesleben, a chemist and physical chemist who was once a Fulbright student at Brooklyn Polytechnical Institute.

"This company is not going to kill the salmon," he said.

Nor will the plant disrupt the esthetics of the Willamette riverbank, according to Richard Spies of Broome, Oringdulph, O'Toole, Rudolf and Associates, a Portland architectural and planning firm. Spies is currently in Burghausen along with 19 other Portland architects and engineers, working out the construction plans. "The buildings will all be low, very pleasant to look at, and will incorporate the latest advancements in environmentally conscious industrial architecture," Spies said.

But otherwise Wacker will be quite noticeable.

Not unlike in Burghausen, of course, a quaint, medieval town of 18,000 where by sheer payroll size — more than 6,000 workers — Wacker Chemical, Siltronic's parent company, is the principal employer.

There it is not only the chief source of income, but one of the main providers of community culture and service. It maintains nursery schools and day-care centers, athletic facilities, a library, helps sponsor Burghausen's biennial International Jazz Festival, and supports a professional string quartet.

The company also provided the materials and its chemical expertise for a recent renovation and restoration of the buildings around Burghausen's 16th-century market square, one of the most picturesque in Germany.

"But," says Friesleben, "we shopped around for quite some time before selecting Portland. Our investment is a massive and permanent one. We are committed and have a deep sense of responsibility. We do not intend to be an outsider, or a foreigner, but a part of Portland."

The first stage of the plant will incorporate only the three final phases of silicone wafer production: growing the crystals, slicing them and polishing them. These operations are all carried out by highly sophisticated machines, designed and built by Wacker, which will be involved in the Portland facility. For the time being, the raw materials — polycrystalline silicon — will be air-shipped to Portland from Burghausen.

The second stage of the plant will produce this silicon raw material in Portland.

Production of hyperpure silicone is a very labor-intensive process. It is one of the purest, cleanest and most sensitive chemical materials known to mankind. Its production — vital not only to the entire modern electronics industry but also to generating solar energy — requires highly trained and meticulous workers.

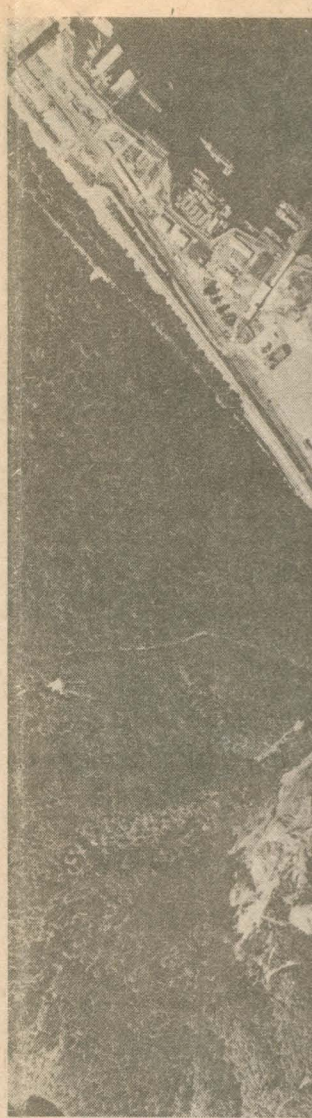
"We are not looking for cheap, but good labor," says Freiesleben. "We need people with high personal standards of honesty and reliability. Preferably they should have some precision skills or have worked in trades and crafts. We want them to really have an interest in working with us and to have an attitude of staying with us. We are going to be loyal to them, so we expect them to be loyal to the company."

Freiesleben is aware of the volatility of the U.S. electronics industry, but does not expect downturns to seriously affect employment.

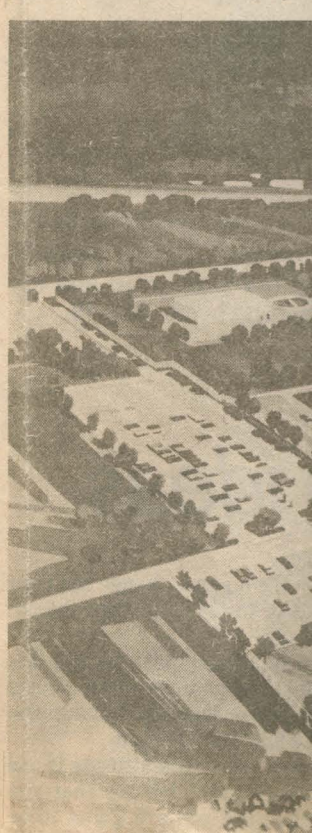
"We do not treat employees as raw materials," he says. "We invest in people — in brains, training and loyalty — and we do not take risks with our investment. The labor force is the last place where we would tighten up. We have a tradition of keeping people on in bad times because we want them with us when times get better. Moreover, thanks to our worldwide markets, we can be fairly flexible."

Wacker Chemitronic and its Portland Siltronic branch — Freiesleben is president of both — are two of more than a dozen wholly owned subsidiaries of Wacker Chemical Co. which has its corporate headquarters in Munich and many of its production facilities in Burghausen.

The parent company, which makes a full range of industrial chemical products ranging from synthetics and polyesters to pesticides, is one of the old-



PLANT PLANS — Aerial
Wacker Siltronic Corp. pla



workers

City offered much to lure company

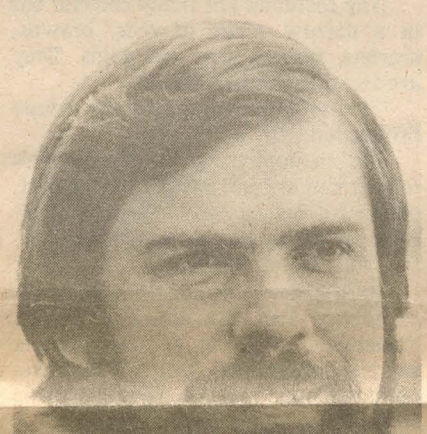
By STEVE JENNING
of The Oregonian staff

In its agreement to subsidize construction of Wacker Siltronic Corp.'s new Portland plant, the city of Portland is breaking new and somewhat dangerous ground.

At least one city official said there is a "substantial element of risk" involved with granting the millions of dollars in concessions the firm will receive.

The payoff — hundreds of new jobs — could be worth the gamble.

"The question is, could the company have been attracted to Portland without taking that risk?" said Chris Thomas, the city attorney who helped draft some



— could be worth the gamble.

"The question is, could the company have been attracted to Portland without taking that risk?" said Chris Thomas, the city attorney who helped draft some of Portland's agreements with the German computer components firm.

"A large part of this agreement is based on good faith," said Thomas. "There simply was no way to avoid that."

Wacker plans construction of a $40 million facility to make silicon "chips" for semi-conductors in a newly designated urban renewal zone along Northwest St. Helens Road.

Wacker will pay $14,000 per acre for its 80-acre plant site, land which will cost the city $45,000 per acre.

The city will build new streets and sewers in the redevelopment zone.

Funds will come from sale of $14.5 million in municipal bonds, paid off through enhanced property taxes from the renewal zone.

In conjunction with Portland Community College, the city will train two-thirds of Wacker's estimated 600-person work force. In return, Wacker Siltronic has signed a sole-source hiring agreement, giving first preference to workers on the city's unemployment rolls.

Although Wacker represents non-polluting industry — an important consideration in the environmentally conscious Pacific Northwest — Wacker's key attraction was its promise of new jobs, said city officials.

With the contractual details yet undefined, however, two potentially troublesome issues are unresolved.

Can the city provide workers suitable for Wacker's requirements? Can Wacker be held to its bargain?

City Commissioner Francis Ivancie has questioned the city's liability if federal Comprehensive Employment and Training Act funds — financial backing for the expensive Wacker jobs training program — are withdrawn.

Still undecided are the hiring criteria for various skill and job levels at the plant.

"The worst thing that could happen would be that Wacker would pull out of Portland," said Thomas. "I only see that happening if we, for some reason, don't provide them with an effective labor force.

"I don't see much chance of that happening," he added.

Wacker officials said Portland's well-regarded labor force was a factor in their decision to locate here rather than in one of a score of other U.S. cities competing for the plant.

With company officials, city leaders will establish qualifications for plant jobs this summer. Thomas said the criteria will be "specific" and will amount to a "binding contract."

"We're not sure what the minimum requirements will be, but it appears that many jobs at the plant will not require a high school diploma," said Thomas.

The city estimates an average employee training expenditure of $2,912, about $500 below the CETA-investment average for individual training. "If you're going to train through CETA, it makes sense to train for specific functions for specific employers," said Thomas.

CHRIS THOMAS

SAUL KELLY

Although CETA programs recently have come under criticism and scrutiny, both locally and nationally, most city officials are confident CETA funding — at least for projects like Wacker — will continue.

Saul Kelly, the city's jobs training and development officer, will coordinate the Wacker recruitment and instruction program.

"The training will start in June 1979," said Kelly. "We expect to start recruiting 30 or 60 days prior to the beginning of the training program."

Wacker will provide plant machinery for worker training. Kelly said classroom sites, however, have not been selected.

"Although we've done job training like this on a smaller scale, the classroom portion of the Wacker project will be unique — totally customized," said Kelly.

If Wacker leaves, bond-holders — not the city — will suffer the direct loss. The city's AAA bond rating, however, probably would be devastated. The risk is sufficient to ensure city vigilance.

"We've got a responsibility to see this through," said Mayor Neil Goldschmidt after the City Council authorized sale of the bonds.

The parent company, which makes a full range of industrial chemical products ranging from synthetics and polyesters to pesticides, is one of the oldest in its field.

It was launched in 1914 by Dr. Alexander Wacker, a pioneer in electrochemistry. The company has been credited with a number of firsts in the chemical industry, but it is not one of the giants in the field in West Germany. It ranks 12th in sales.

But it is big. Global sales in 1977 were more than 1.3 billion marks (about $650 million), almost 10 percent of which were accounted for by Chemitronic. It has a total worldwide payroll of nearly 9,000 people, and wholly or partly-owned production facilities in several other German cities, in Austria, Italy, the Netherlands, Brazil, Mexico and the United States.

Its other American branch facilities are located in Los Angeles, Adrian, Mich., and Hennepin, Ill.

Established in 1968, Chemitronic already has a major chunk of the American market including such customers as RCA, Intel, General Electric, National Semi-conductors and American microdevices. Its only serious competitor on a worldwide scale is Monsanto Chemical Co.

Up to now Chemitronic has been shipping most of its silicone discs and wafers to U.S. customers from Burghausen.

Locating in Portland will give Chemitronic close proximity to its American market and presumably an even larger share of it.

Wacker's move is part of a larger trend of German investment and transfer of production facilities to the United States.

Thanks to the strong value of the German mark and devaluation of the dollar in recent years, goods made in Germany have become very expensive.

Like the American multinationals did in the 1950s and '60s, West Germany's industrial giants are now starting to move many manufacturing operations abroad to save money, especially to escape high labor costs at home.

Given the exchange rate, West German wages are almost equal these days to those paid in the United States. But employers' actual costs are higher because of mandatory contributions to social security, national health and unemployment funds.

"In Germany," says Freiesleben, "you can figure that for every dollar paid in wages you must pay another 70 cents in the form of required contributions and various fringe benefits. In the U.S. it's only around 30 cents."

Further, as pointed out in Wacker's 1977 business report, semi-conductor calculations worldwide are in U.S. dollars. The devaluation of the dollar will give a U.S.-based operation, dealing in dollars only, a hedge against further decline of America's currency against the German mark, Japanese yen and Swiss franc.

Workers

By JOHN DORNBERG
Special writer, The Oregonian

BURGHAUSEN, West Ge
When Wacker Siltronic Corp.
ing workers for its soon-to
computer components plant in
they should make about t
money that their counterparts
parent company's home base
Germany.

But the American worke
match the Germans in fringe
amenities, participation in ma
and other advantages, some
are fixed in German law.

In Burghausen, workers e
ing salaries of around 1,80
marks a month (around $900,
standard payroll deductions),
a number of years on the job
2,300 marks (about $1,150).

Among benefits for Wack
man workers are a minimu
weeks' vacation, 13 legal h
year, 60 days' paid sick leave,
owned vacation homes, 75 pe
upon retirement, three-course
lunches for 85¢, and at least s
notice before the end of a
quarter in case of dismissal.

"Obviously we are going
make compromises between
and American customs so as
set U.S. practices," says Wern
leben, president of Wacker Ch
Co., Silitronic's parent comp
we will try to maintain our ov
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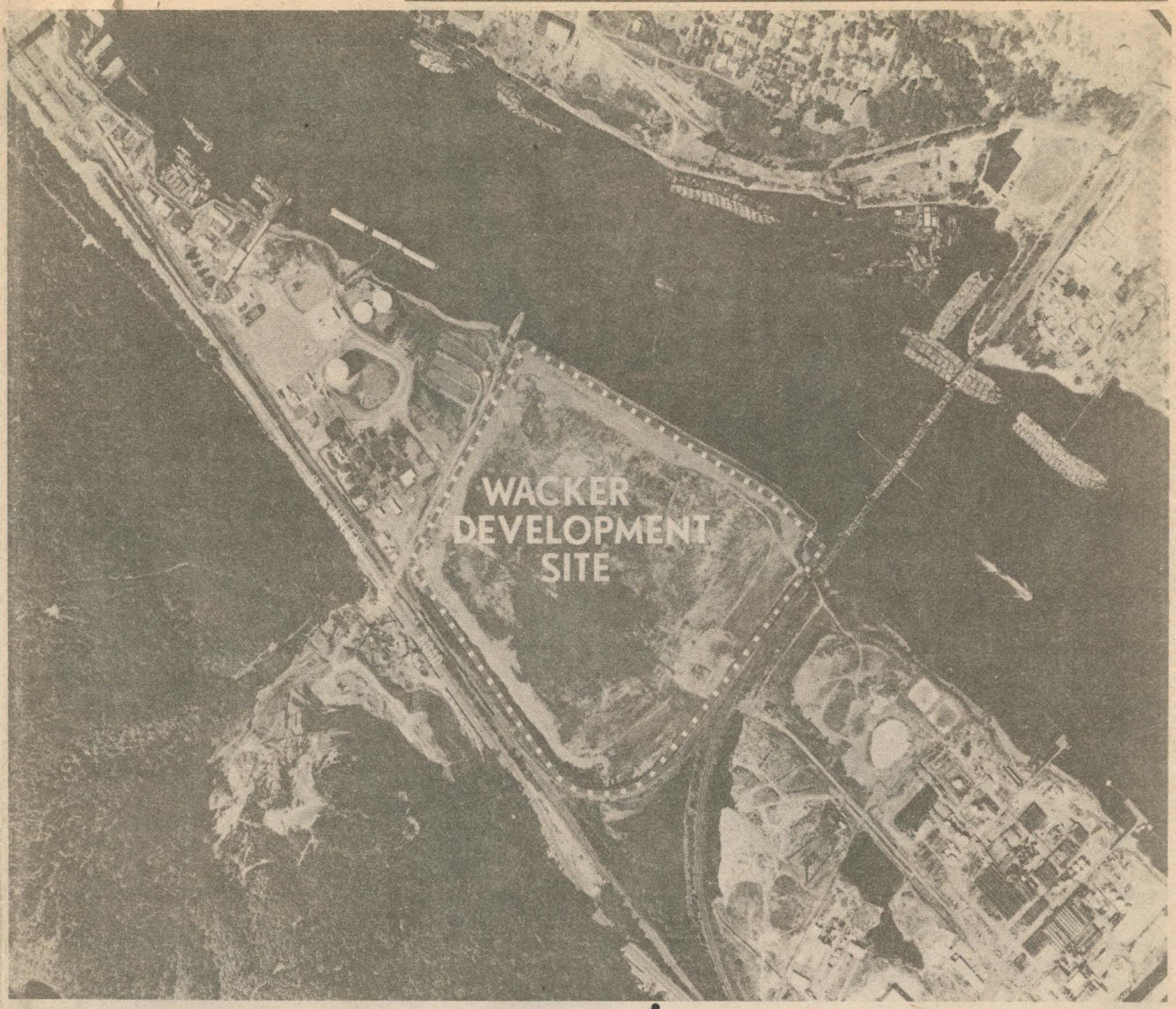
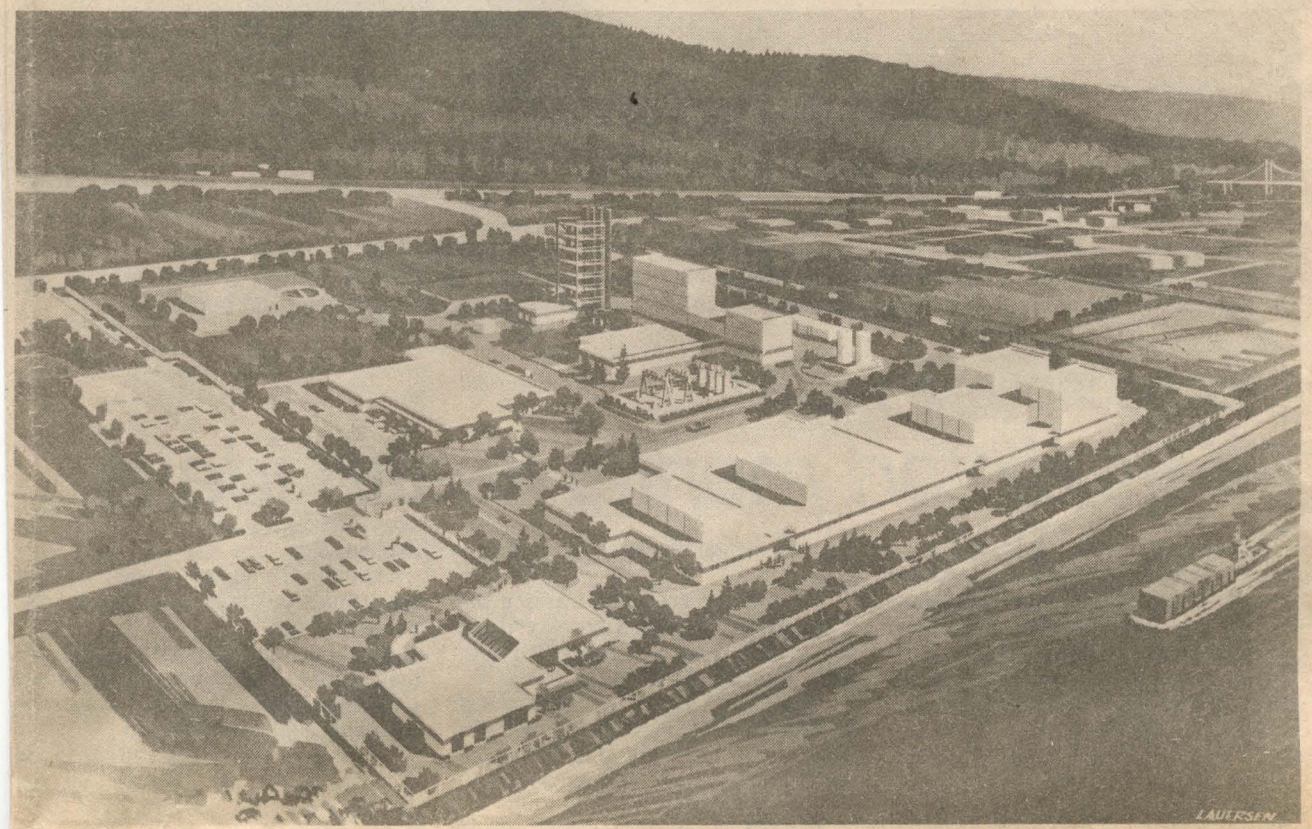
Freiesleben said there w
American-style "hire and fi
and no firing without cause.

BUS STOPPED — A Tri-M
run Saturday morning af
Southeast 12th Avenue an



PLANT PLANS — Aerial view, above, shows site of Wacker Siltronic Corp. plant on Northwest St. Helens Road. To left is Northwest Natural Gas facility. Plant design, below, is to be "low profile," officials say.



Workers feel company 'big family'

By JOHN DORNBERG
Special writer, The Oregonian

BURGHAUSEN, West Germany — When Wacker Siltronic Corp. starts hiring workers for its soon-to-be-built computer components plant in Portland, they should make about the same money that their counterparts do in the parent company's home base of West Germany.

But the American workers won't match the Germans in fringe benefits, amenities, participation in management and other advantages, some of which are fixed in German law.

In Burghausen, workers earn starting salaries of around 1,800 German marks a month (around $900, before the standard payroll deductions), and after a number of years on the job, go up to 2,300 marks (about $1,150).

Among benefits for Wacker's German workers are a minimum of four weeks' vacation, 13 legal holidays a year, 60 days' paid sick leave, company-owned vacation homes, 75 percent pay upon retirement, three-course cafeteria lunches for 85¢, and at least six weeks' notice before the end of a calendar quarter in case of dismissal.

"Obviously we are going to have to make compromises between German and American customs so as not to upset U.S. practices," says Werner Freiesleben, president of Wacker Chemitronic Co., Silitronic's parent company. "But we will try to maintain our own philosophy."

Freiesleben said there will be no American-style "hire and fire" policy and no firing without cause. Although minimum vacation times will not be as long as those required by German law, there will be vacations and, as Freiesleben says adamantly: "We expect people to take them and we can assure them that their jobs will still be there when they come back."

Wacker employees interviewed in Burghausen expressed strong company loyalty — and farsightedness about the fact that some new company jobs will be filled by Americans.

"Of course there was some employee criticism of the Portland project when we first heard about it," said Reiner Bradler, 40, a silicone crystal grower.

"But it soon became clear to all of us here that a Portland branch would not jeopardize our jobs. On the contrary, it was evident that if the company didn't invest in that market and start a production facility, it would lose its share of the market. And that would really hurt all of us and endanger our jobs here."

Bradler, a burly, outspoken man, is one of 15 employee-elected members of the company's works council and is typical of Wacker Chemitronic's 1,300 employees in Burghausen.

A baker by training, he has been with Wacker Chemical Co. for 15 years and with its Chemitronic division since its inception in 1968.

"Most of us have been with the company for 15 or more years," he says, "and consider ourselves part of a big family. It is a company with an excellent personnel policy that goes far beyond what is required by law. We trust the management and they trust us.

"Working here has always been more than just a job thing."

Bradler's job is to operate one of the huge, Wacker-designed and patented, high-temperature crystal-growing machines.

The operation is, at first sight, far removed from baking bread and rolls, but Bradler says there is a relationship.

"I apprenticed and became a journeyman in it," he maintains, "and that's what we need here and will need in Portland — craftsmanship. Though the company will provide both theoretical and practical training in Oregon, the people it will be looking for ought to have learned a craft or trade."

Anton Kustermann, 42, one of the foremen at Burghausen, agrees. Like Bradler, he has been with Wacker Chemical 15 years and once was a baker.

"Background in a trade or craft," he says, "teaches you the right attitude to work. It gives you the feeling for the whole product, no matter which part of it you may be involved in. It also gives you a feeling for cleanliness and precision, both of which are absolutely essential in producing hyperpure silicone and slicing and polishing the wafers. It takes about six months to train a crystal grower, but two to three years to make him a really competent one."

When employees devote that kind of time to learning their job, and a company to training and cultivating them, no wonder they all feel part of a team.

UNION PACIFIC RAILROAD COMPANY

LAW DEPARTMENT

RANDALL B. KESTER
GENERAL SOLICITOR
L. JAMES BERGMANN
ASSISTANT GENERAL SOLICITOR
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September 3, 1976

370 - 1 - 22

Mr. Jerry Gray
c/o Oregon State Department of
Geology & Mineral Rights
P. O. Box 1028
Albany, Oregon 97321

Dear Mr. Gray:

This refers to your telephone conversation of September 2nd with Mr. Weisser of this office.

As requested, I am attaching a copy of our comments relating to Section 11 - Sand and Gravel - the Corps Draft Economic Appendix in support of the enlargement of the lock at the Bonneville Dam.

Based on the time available to us and the nature of the subject, we were not able to develop any definite numbers on the amount of gravel available from various sources. This is why we called your office asking for information as to any inventory of aggregate and/or rock sources which may eventually be called upon to fill the needs of the greater Portland market area.

You indicated that such an inventory was in the works and would be available some time in the future. I would certainly appreciate it if you would forward to this office a copy of the investory when it is completed.

Very truly yours,

RANDALL B. KESTER

By John F. Weisser Jr.
John F. Weisser

JFW:e
enc.

Section 11 - SAND AND GRAVEL

The Corps' Draft Appendix, Section 11, on sand and gravel calls for a number of specific comments:

(1) The Corps Improperly Fails to Consider the Alternative of Recycling to Obtain Aggregate and the Leveling of Concrete Production.

On page 8 of their Sand and Gravel Appendix, the Corps states several questionable assumptions:

First, that "there would be no substitute for concrete aggregate", and, second, that there would be no new process for making concrete.

With reference to the foregoing, it seems highly unlikely that present-day procedures and technology will remain constant through the study period, i.e., the year 2040. One would only have to look back upon the last 65 years to see that when changes are needed in industry, they usually occur whether through a change in technology or procedure,or both. Our own investigation leads to the conclusion that concrete structures in many forms and asphaltic pavement will be recycled in the near future and that the need for new aggregate will stabilize. Right now, plants in and around Portland are experimenting with reconstituting this material for use as base courses,and the future looks bright. The disposal of concrete waste materials

itself is becoming a costly problem and an environmental headache, encouraging recycling research. In addition, many projects drawing heavily on sand and gravel, such as the interstate highway system with its viaducts and bridges, are now in the final stages of completion, and no consideration has been given in the sand and gravel appendix to this factor.

We also question the Corps' assumption, page 8, that quarry rock will not be extensively used. It is used in many other parts of the country and when demand warrants, we see a strong probability that quarry rock will be a source of sand and gravel.

(2) Insufficient Consideration is Given to Other Characteristics of Sand and Gravel.

The Corps' Report and Appendix substantiate the fact that there is an abundance of sand and gravel much closer to the population centers of Washington and Oregon than the deposits above the Bonneville and The Dalles Dams. In fact, this one class of potential traffic has the unique distinction of being controlled by ecological and political considerations rather than by the consideration that it must be manufactured or produced in one particular place and transported to another for consumption.

With more and more emphasis being put on environmental considerations, such as the opposition to dredging on the lower rivers, there is ample reason to believe that the same opposition

will develop above the Bonneville Dam in the area where the Corps reports the large percentage of Portland's future aggregate supply will originate. We feel that mining gravel from banks or quarries along the Columbia Gorge or dredging in the river itself will meet with the same opposition, particularly if such actions result in the defacing of the scenic area or the pollution of the air and water. How land use policy and environmental questions will be resolved when the trade-offs must be made in the future is, in our view, impossible to predict. We therefore submit that the Corps' heavy reliance on sand and gravel deposits on the Upper Columbia is greatly misplaced and should be discounted in determining whether the project can be supported as beneficial to the public.

(3) The Failure to Properly Analyze the Potential of Unit Sand and Gravel Trains Makes this Prediction Unreliable.

Our respective Traffic Departments are aware that future sand and gravel demands may dictate the need for a new gravel product distribution center in the Metropolitan Portland-Vancouver area. There is no reason to believe that rail and truck operators would not make an in-depth study to determine how they could serve such a need and respond as they have in the past by establishing favorable rates and services. Such action has already led to unit train movements of sand and gravel on the Lower Columbia to Longview.

While it is true there are presently no unit train rates available for aggregate into the Portland area, this is because of a lack of volume movements which support a need for such trains at this time. It has been proven time and again that high volume, low cost unit trains are well capable of supplying high tonnage transportation, and this concept can be extended should aggregate supply close to Portland diminish and sources further distances away become a reality. As an example of this, there are immense reserves of sand and gravel found in the Olympia and Tacoma, Washington areas. These deposits have already lent themselves to unit train movements based upon highly competitive rail rates to Longview, Washington, a distance of around 100 miles one way. Similar movements could be extended to Portland or be developed from virtually any source to Lower Columbia Ports. This has resulted in the movement of a large volume of sand and gravel traffic via rail which demonstrates the fallacy of assuming without question that extensive barge transportation of this material will take place.

(4) The Arbitrary Establishment of an Estimated Unit Train Rate in Assessing Benefits is Unsupported.

The Corps' arbitrary use of one-half of a single-car rate in establishing unit train rates has no support and is obviously purely guesswork. We submit that if such an attempt

is made to determine costs of moving unit trains that a proper analysis be made.

On Page 26 of the Sand and Gravel Appendix dealing with the analysis of the Avery Plant, they have projected a production of 1.4 million tons yearly over a 50-year period. On Page 27 they have used this same figure to determine a requirement of 77 fifty-ton rail cars per day to move this tonnage. Their assumption of using fifty-ton rail cars is erroneous as these shipments would now be made in one hundred-ton cars. This will necessitate complete recomputation of the comparison of rail versus barge costs in Table 11.09 and subsequent transportation savings shown in Table 11.14.

The Corps also erroneously contends that its rail costs are understated because spur lines would have to be built for processing plants. Costs attributable to construction of spur lines are borne by the private industry using them in the same way that barge slip costs are assumed by the industry that chose to use barge service.

In summary, while there may be little question that the Upper Columbia River could be a future source of sand and gravel for the Portland-Vancouver metropolitan area, such use is still subject to the same environmental and land use considerations as exist in stopping development of the sources the Upper Columbia would replace. It is still an open question of whether unit trains or barge shipments might be called upon to move the traffic, and it is also an open question of the

amount of aggregate needed in light of the recycling which is now commencing. Based on the foregoing, we feel it is extremely speculative -- to a point of failing to show positive benefits from the lock enlargement -- to rely upon sand and gravel movements at the traffic levels projected. These tonnages should be severely discounted as well as the cost benefits attributable to the tonnages involved based on a reliable and thorough study which could develop in detail the points made above.

Ms. Gladys McCoy, Chairperson
Ms. Pauline Anderson
Mr. Rick Bauman
Ms. Gretchen Kafoury
Ms. Sharron Kelley

March 1, 1990

Dear Commissioners:

Enclosed please find appropriate information regarding the **Angell Brothers aggregate site** on NW St. Helens Road. This information on quantity of material and the required surface area necessary to extract or mine that material over the five years to 1994 will allow you to make a positive decision on the appropriate 3C designation as part of the County's ongoing Periodic Review program.

This information, which is far beyond that required of most aggregate producers in the periodic review process, was generated through an engineering study and associated computer program. Over 5,000 points and entries were digitized and plotted to create the ultimate outcome. The demonstrated need for acres which will permit Angel Brothers to have enough area for future operations over the next five (5) years is a minimum area, and is far less than most operators possess for expansion. Over this five year period Angell Brothers will work with the County to determine the existence of any wildlife corridor, the extent of any corridor and the impact of wildlife on the existing and identified aggregate resource.

For your use and information, we are also enclosing a copy of the publication "*Future Aggregate Resource and Land Use Planning in Oregon.*" This brochure was prepared for the Oregon Concrete and Aggregate Producers Association (OCAPA) and Asphalt Pavement Association of Oregon (APAO) by David Evans and Associates, Inc. (DEA). This is a valuable tool and is very informative.

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If you or your staff have any questions, please do not hesitate to contact us. We look forward to working with the County in resolving this matter.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Robert W. Price
Associate

BWP:kpn

Enc.

c: Skip Anderson, Angell Brothers
Andrew Jordan, Bolliger, Hampton & Tarlow
Lorna Stickel, Multnomah County
Jim Sitzman, DLCD

INTRODUCTION

The aggregate industry is one of a very few important industries which operate solely upon non-renewable resources. Of the twelve resources contained in Goal 5 of the Oregon Statewide Planning Goals, only some portions of "Energy Resources" are non-renewable while **all** "Mineral and Aggregate Resources" are basically non-renewable. As such, mineral and aggregate resources must be extracted where they are found, with no exceptions.

Because aggregate materials are high volume, low value products, it is necessary to process the raw materials on site. This processing generally consists of crushing, (primary and secondary), screening to size the material, then stockpiling. The material is usually moved throughout a site by conveyors. Mechanization is important to the industry because multiple handling only slows the process and increases costs. To the greatest possible extent, efficiency is the goal of an industrial operation, especially the aggregate industry.

This high volume, low value product must support a variety elements within any operation. The following is a partial list of factors which must be accounted for by a rock operation:

- Equipment purchase (both processing and vehicular)
- Maintenance
- Utilities
- Land preparation prior to mining
- Reclamation
- Land taxes
- Employee payroll and benefits
- Profits

Some of these factors can be very costly. For example, most processing equipment is electrically powered, resulting in significant monthly costs for energy. In the case of Angell Brothers, the monthly electrical bill is over $8,000.

Another major consideration is the transport of the material from the source to the project site. Although Angell Brothers owns no trucks of its own, the daily shipment of materials from the site provides full time employment for an average of nine (9) drivers per working day. Angell Brothers must pay truck rental to the vehicle owners for the use of the equipment in shipping rock material. Fortunately, the Angell Brothers site is located directly on a major transportation route. St. Helens Road provides a direct, uninterrupted access route into the main industrial areas of Portland, plus connections to freeways and bridges which allow the material from the Angell

Brothers site to be readily available to a local market as far east as (generally) the west Gresham area and south to Lake Oswego, Tigard and Tualatin.
Approximately 70% of Angell Brothers product goes to public sector projects, although utilities, residential developers and others are major customers. The 70% figure is significant because public sector projects such as streets and roads require such large amounts of aggregate material. As pointed out in the accompanying brochure, one mile of two lane road requires approximately 16,000 tons of aggregate materials, or over 12,000 cubic yards. This may require between 667 and 1,000 truck trips to transport this material to the site. Public need and, in fact, demand for new infrastructure results in a major impact on the aggregate industry. A review of the OCAPA/APAO brochure entitled "Future Aggregate Resources and Land Use Planning in Oregon" will provide valuable information on the industry and the needs of the public.

PROJECTED SUPPLY OF / DEMAND FOR QUARRY MATERIAL
AT
ANGELL BROTHERS, INC., ROCK QUARRY
MULTNOMAH COUNTY, OREGON

Background

Multnomah County is currently involved in the review and revision of its land use ordinances to conform with the "periodic review" requirements of Oregon land use law. An important element of the periodic review process is to update the inventory of "Goal 5" resources in Multnomah County. This inventory is intended to identify, evaluate, and, where appropriate, protect those natural resources in Multnomah County which are included under Oregon land use Goal #5. This includes Multnomah County's mineral and aggregate resource sites.

Evaluation of these sites requires identifying "conflicting uses" associated with the sites and, based on an economic, social, environmental and energy ("ESEE") analysis of available information, assigning to each site a "3A", "3B" or "3C" designation. ("3A" fully protects the resource site, "3B" allows for the conflicting uses, and "3C" protects the resource to some extent by placing specific limitations upon conflicting uses.)

Angell Brothers, Inc. has been operating the rock quarry located just west of Highway 30 (St. Helens Highway) since 1976. Angell Brothers received the last renewed Conditional Use Approval from Multnomah County in 1986 to continue its quarrying operations, with limitations, within a 71-acre area under its ownership. This area will be designated a "3C" resource area by Multnomah County. The County's inventory of aggregate sites, dated 01/09/90, recognizes that the approved 71-acre operation should continue to be designated "3C" (that is, that it "be partially protected by conditions which minimize the impact of conflicting uses").

Angell Brothers, Inc. also seeks to establish a "3C" designation for all or part of the 325.37 acres of aggregate resource area immediately adjacent (west, north and south) to the 71-acre parcel. The County's position has been that no ESEE designation should be assigned to this area "until more information is available from ongoing studies of potential conflicting uses." This includes studies underway on a possible "wildlife corridor" in the area of potential future aggregate mining. According to the County (01/09/90), the Goal 5 ESEE process for this area is "expected to be completed" by early 1991, however the County has acknowledged that two or three

years of additional study may be required before a final designation can be assigned to this total 325.37 acre area.

Angell Brothers, Inc. is concerned that the remaining aggregate resources available within the 71-acre area are not adequate to ensure the economic operation of this site beyond early-1991. In addition, Angell Brothers is concerned that planning, financing and implementing future quarry operations will be made difficult or impossible if the uncertainty of how much additional land will be available to Angell Brothers over at least the next five years remains unresolved.

The purpose of this report is to present factual information on projected rates of production of aggregate resources at the Angell Brothers Quarry, on estimated quantities of quarry material available on the available quarry acreage, and estimated additional available acreage needed to meet anticipated demand over the next five years.

Projected Quarry Production

In 1989, Angell Brothers, Inc. produced approximately 552,000 tons (approximately 442,000 cubic yards) of aggregate material from their site near Highway 30. This is a 166% increase over the production at this site in 1984, which was 207,355 tons (approximately 166,000 cubic yards), The average increase in quarry production over the last five years has been about 28% a year (compounded).

If it is assumed that the level of production at the Angell Brothers' quarry continues to increase at a 28% annual rate (a reasonable assumption, as further discussed below), the following projections result:

Year	Projected Production (tons)	Cumulative Production (tons)
1990	706,560	706,560
1991	904,397	1,610,957
1992	1,157,628	2,768,585
1993	1,539,645	4,308,230
1994	2,047,728	6,355,958

Production for the first two months of 1990 support the Projected Production in the table above. A projected increase in production at Angell Brothers of 28% per year is reasonable in light of the following facts:

- Multnomah County and the Portland metropolitan area continue to grow steadily, while available sources of aggregate material in or near Multnomah County are disappearing. These are documented and well-known facts. The Metropolitan Service District (Metro) estimates the 1990 population of Multnomah County at

581,000. Metro projects a population of 590,669 by the year 1995. Meanwhile, one major source of aggregate material in Multnomah County (Pacific Rock Products, 80th and Killingsworth) was closed permanently in 1989, and other sources are expected to close by 1995 (including Morse Bros., Inc.'s Progress Quarry in Washington County, one of the largest upland sources in the region).

- The costs of transporting aggregate material are high, and continue to rise. The increasing cost of fuel, plus labor and insurance costs, contribute to trucking rates which have risen nearly as fast as material costs. As the availability of gravel within the county further decreases, the overall cost of supplying this material to Multnomah County will become significantly higher, and the economic advantage of acquiring this material from local sources such as Angell Brothers will become greater. Currently, the cost of transporting a ton of aggregate material in Oregon is about 22 cents per mile, according to the Oregon Department of Transportation. Operators and sources in the trucking industry indicate that a rate of 25 cents per ton per mile is more accurate. At the current estimated consumption rate in Multnomah County of about 7.8 million tons of aggregate per year, this amounts to about $1,716,000 per mile in transportation costs alone. In other words, every additional mile that aggregate needs to be transported to service Multnomah County users will represent an additional $1,716,000 in annual costs to residents of the County. The proximity of Angell Brothers quarry to the urban market area is of considerable economic value to Multnomah County, requiring transport through industrial areas and over high-volume routes than from Washington County sources, or from more distant sources such as Columbia County. For example, the extra 13 mile one-way haul from the Scappoose area (where the largest regional supply of aggregate material exists) results in an **extra cost** of approximately $66.00 for a 23 ton load carried by a dump truck and trailer.

Projected Available Quarry Material on Existing 71-acre Site

According to an aerial photo of the currently permitted 40-acre area taken in June, 1989, the removal of overburden and the excavation of rock material has already occurred on approximately six of the forty acres of the remaining property currently under the existing Conditional Use Permit. An additional sixteen acres (approximately) are considered "off-limits" or undesirable to mining because (1) they form part of the required setbacks from the boundaries of the approved 71-acre area and, (2) a ridge area exists within the 71-acre area which would adversely impact the visual impacts if removed, thus exposing more of the existing and future expansion areas to view from the north and east. This leaves approximately 18 acres of the 40-acre parcel as land which is available for surface mining.

The amount of rock material which can be recovered from this remaining acreage is not a simple volume-per-acre calculation. Site topography, depth to usable quarry material, equipment access to new areas opened for mining, and the 1-1/2 to 1 average

slopes now required for the final, benched quarry faces all effect the amount of quarry material which can be recovered. They also effect the cost to the quarry operator of recovering the material, and thereby influence whether or not the proposed excavation will be economical.

Method of Calculating Aggregate Volumes

A computer program which simulates site conditions and calculates approximate cut and fill volumes by layer was used to estimate the volume of quarry material in the available in the remaining acreage at Angell Brothers quarry. The results of applying this model to the situation at Angell Brothers quarry should be considered approximate due to the complexity of the terrain, the variability in overburden depth, and the general nature of the available data. Nevertheless, the model provides a good approximation of available material remaining at the quarry using available information.

The site elevations used in the model were taken from the U.S. Geological Survey's 7-1/2 minute Sauvie Island quadrangle map. This map delineates elevation contours on the site at 10-foot intervals. The scale of the original map is 1 inch to 2000 feet; this map was enlarged to 1 inch to 200 feet for data input into the model. Given the rough nature of the desired estimates and the lack of more accurate topographic data on the site, this data was considered adequate.

Assumptions Used in Volume Calculations

The assumptions made in calculating the amount of available quarry material remaining within the 40-acre parcel at Angell Brothers quarry include the following:

(1) Approximately 18 of the total 40 site acres remain available for aggregate extraction after buffer areas, setbacks and physically unavailable areas are subtracted from the total;

(2) Under new Mining Safety and Health Administration (MSHA) site operation requirements, benched slopes along the quarry faces can be no steeper than 60 feet wide by 40 feet high, for an average 1-1/2 to 1 slope;

(3) The first twenty feet (on the average) of material removed from the surface is soil and weathered rock which cannot be used as aggregate material for road and construction purposes;

(4) To operate efficiently and safely, Angell Brothers will need to establish a new quarry floor at an elevation of approximately 450 feet Mean Sea Level (M.S.L.). This is approximately 300 feet above the existing quarry floor to account for the slope of the hillside and increasing operational elevations;

(5) Given the above conditions, an additional 5-6 acres of the remaining 18 acres cannot be mined economically, because the cost of removing vegetation and overburden material would be prohibitively expensive in light of the depth to which quarry material could be extracted, all within the approved extraction area.

Results of Volume Calculations

Utilizing the assumptions stated above and applying standard engineering practices, it has been calculated that the existing site under the current Conditional Use Permit will yield approximately 875,000 tons of material. This equates to approximately 700,000 cubic yards of material based on a standard equation of 1.25 cubic yards equals 1 ton of material as mined on the site.

The projected 875,000 tons of available material will supply Angell Brothers projected need for all of 1990 plus the first two (2) months of 1991 (see chart). This will not be sufficient to provide enough material for Angell Brothers to continue operating, even for the stated duration of the existing Conditional Use Permit through April, 1991.

In 1990, Angell Brothers must adjust its operations to meet new requirements, necessitating a reconfiguration of the pit itself in terms of operating benches, finished slopes and the raising of the pit floor above the existing pit floor elevation. Due to topography and the general slope of the hillside, yet another increase in the pit floor elevation will be necessary if additional expansion area is provided.

Projected Available Quarry Material on Additional Site Acreage

Once the pit configuration is established within the remaining 40 acre parcel and the estimated 700,000 tons is mined, additional adjustments must be made before any expansion area can be mined. First, the upward slope will necessitate another increase in the pit floor, to approximately 650 MSL to allow continuing operations in conformance with MSHA standards. Second, two stream corridors begin to converge upslope, and they must be protected and buffered. Third, additional area on each side of the pit must be provided for access to the upper slopes. The result is that, in order to provide the necessary 5 million cubic yards (or 6.3 million tons at the 1.25 factor) over the next five years (not including the 700,000 tons remaining on the existing 40 acre parcel), it will be necessary to identify approximately 48.6 acres for expansion. This expansion area is to the south of the existing operation.

Ideally, more acreage, perhaps up to 25% more or a total of 61.25 acres, should be planned for this short term five year expansion. Such factors as additional overburden, variable rock quality and unmineable area due to slope and general topography may impact the actual minable land. Experience has shown that on slopes such as those at the subject site, the operations must be adjusted occasionally while on flatter more level sites

the impact of slope causes significantly fewer problems and obstacles to economical operations.

The process of mining new areas up the slope will result in the necessity to purchase more expensive equipment. The main crushing and screening equipment will remain located on the existing pit floor (at 150 MSL) near the stockpile area. As each operational level is increased, first to 450 MSL, then to 650 MSL, additional conveyor equipment must be obtained which will transport the material downslope. However, before any material can be moved by conveyor, primary crushing must occur to size the material in order that it be suitably sized for conveyor transport.

The following calculation summaries are provided in lieu of providing the entire computer digitizing and program print-out. These summaries represent over 14 hours of computer time and more than 28 hours of engineer and computer operator time.

VOLUME OF ROCK BETWEEN
650' AND 820' CONTOUR

Contour Interval	Area (sq.ft.)	Depth of Cut (ft.)	Volume (cy)
650-700	447,706	50	829,086
700-750	358,165		1001,326,537
750-800	257,247		1501,429,154
700-toe	110,092	200	815,494
Slope (top to toe)	122,202	150	678,899
Total Area of Excavation	= 1,295,412 sq. ft.		5,079,171 cy

Minus Stripping

$$\frac{1{,}295{,}412 \text{ sq. ft.} \times 10 \text{ ft.}}{27 \text{ cubic feet}} = -479{,}782 \text{ cy}$$

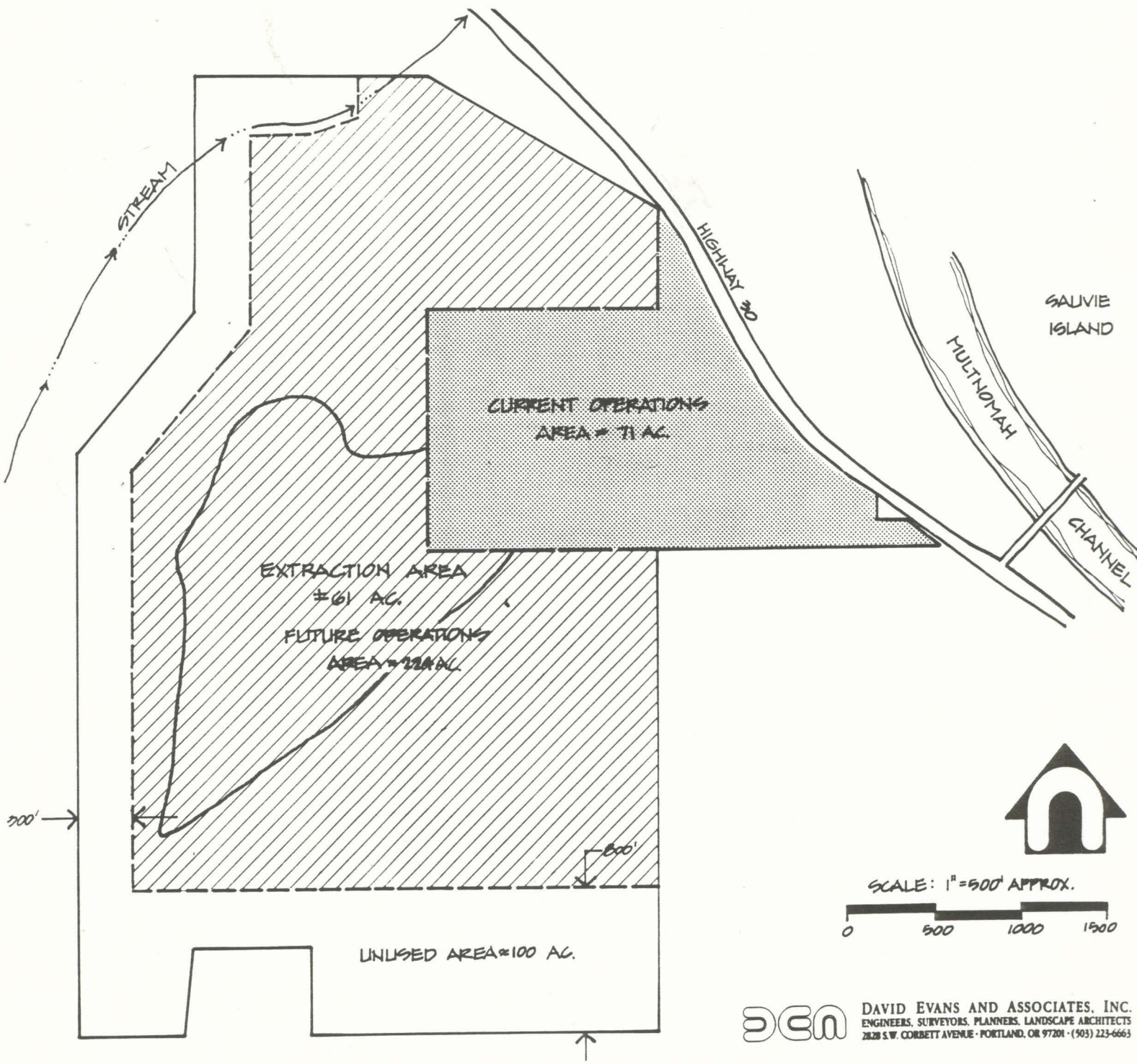
4,599,389 cy

4,500,000 cy - 700,000 cy (volume from original area) = 3,800,000 cy

This 3,800,000 cubic yards of processed material will be mined from 36.8 acres. In order to be able to extract 5 million cubic yards of processed material, the area must increase from 36.8 to 48.6 acres or 32% greater area.

VOLUME OF ROCK IN ORIGINAL SITE
Bench el = 450'

Volume of Cut		1,010,269 cy
Minus Striping		
9.854 Ac (43560 feet)(20 feet) 27 cubic feet	=	317,955 cy
		692,313 cy
		700,000 cy



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OREGON CONCRETE & AGGREGATE PRODUCERS ASSOCIATION, INC.

1500 Liberty Street SE, #130
Salem, Oregon 97301
(503) 588-2430

January 23, 1990

Mr. Don Anderson
David Evans & Associates
2828 SW Corbett Ave.
Portland OR 97201-4830

Dear Don:

As you are reviewing the Multnomah County Comprehensive Plan, it is important to keep in mind that Multnomah County is a significant net importer of aggregate resources. Because of the nature of the industry, nobody knows the exact requirements of Multnomah/the Tri County area, but it probably exceeds 20 million tons per year. Of this amount, Multnomah County probably produces less than a third of its needed aggregate.

On an every increasing basis, more aggregate is being brought from Columbia, Marion and Clackamas Counties. The amount of this imported material will increase significantly over the next ten years as the remaining aggregate resources in Multnomah County are depleted. It is also important to note that Clark County, Washington is shipping more and more aggregate for Multnomah County.

In discussing the cost of importing aggregate with various operators, I would estimate that the transportation cost into the county probably averages $1.75 to $2.00 per ton. This is based on weighting actual cost estimates of the major importers. They all acknowledge that they are making very little profit on imported gravel. Their profit comes from the sale of asphalt or ready mix. Competition from the other county operators is holding imported gravel to a very small profit level. As the availability of gravel within the county further decreases, the cost to Multnomah County will become significantly higher.The total cost to the county of imported aggregates could be estimated simply by multiplying $2.00 per ton times 14 million tons for an estimated cost to the county of $20-30 million annually.

It is important that the county do as much as possible to protect its few remaining aggregate sites. The benefits from having their own aggregate production results in significant savings to the county because it is a

lower cost material. In addition to having cheaper aggregates available local aggregate resources also hold down the competitive costs of imported aggregates. If Multnomah County were to not protect known significant aggregate sites, the county would become totally dependent on outside sources for all of its aggregate resources. Ultimately the cost to the county would be staggering. Its impacts on home construction, building construction and highway construction would result in a real deterrent to new construction as well as less road maintenance.

We will be happy to work with you and representatives of Multnomah County to provide information and support for protecting significant aggregate resource sites. One last point I would like to make is that other county officials are becoming more concerned about having to protect aggregate resources for Multnomah County. Land use only requires that a county provide for its own resources and does not mandate protection of aggregate resources for other counties.

Sincerely,

Dick

Richard L. Angstrom
Managing Director

U.S. BANK

PENINSULA BRANCH
7340 N. PHILADELPHIA AVENUE
P.O. BOX 03069
PORTLAND, OREGON 97203

February 13, 1990

Dear Multnomah County Commissioners:

This letter is written in response to a request by Mr. Frank (Skip) Anderson President of Angell Brothers, Inc. of Portland. Specifically, Mr. Anderson wanted to know the Bank's position on potential loan requests made by Angell Brothers, Inc. and how such loan requests would be evaluated.

The bank recognizes that nature of Angell Brothers, Inc. and that the firm is involved in an industry producing a high volume, low-value product, requiring the use of costly equipment. This equipment requires relatively frequent repairs and replacement due to the "wear and tear" factor associated with this type of business. We also recognize that Angell Brothers, Inc. has grown considerable over the past ten years. As their business volume has increased, operating capital requirements have also increased in proportion to their growth. This in turn has also required greater capital investments.

Mr. Anderson has scheduled his operations and replacement costs such that Angell Brothers, Inc. obtain loans from the bank nearly every year. When loans are made, the bank reviews the use of the equipment, the operations of the business, the profit level and the trends and patterns of the company and industry as a whole.

Due to the possible size and nature of potential loan requests, the normal cash outlay required to purchase equipment or to complete any capital expenditures, the bank would normally amortize such loans over a five year period. If commercial buildings or property were involved in the transaction, the amortization period could be over ten to fifteen years.

If a loan were to be entertained from Angell Brothers, Inc. where the term or amortization period of the loan were to be longer than the available aggregate resources, signed leases for land, operating and land use permits, liens and other factors, it could cause the bank to reevaluate its position relative to that request or any future request. For the bank realizes that these factors have tremendous impact on the debt servicing ability of the company.

In conclusion, Angell Brothers, Inc. has been a valued customer of our bank for many years. However, as previously stated, due to the nature of their business and their industry as a whole, anything which would shorten their operating cycle could have a potential negative impact on the firm and effect its ability to borrow funds and to be competitive in the industry.

Sincerely,

David Broda
Commercial Loan Officer

cc: Angell Brothers, Inc.
Frank (Skip) Anderson

NAPA
NATIONAL ASPHALT PAVEMENT ASSOCIATION

BABLER BROS., INC.

HIGHWAY CONTRACTORS

Since 1929

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755 N.E. COLUMBIA BOULEVARD
PORTLAND, OREGON 97211-0269
(503) 285-7133
FAX (503) 286-0603

AGC
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

February 14, 1990

Board of County Commissioners
Room 605, County Courthouse
1021 SW Fourth Avenue
Portland, OR 97204

Attention: The Honorable Gladys McCoy, Chair

Ref: Angell Bros., Inc. Rock Quarry, Multnomah County Periodic Review, Goal 5 Resources.

Dear Commissioners:

Angell Bros., Inc., has recently supplied railroad ballast, base rock and asphalt concrete pavement aggregate for two Port of Portland projects that we completed in 1989.

The Hyundai Automotive processing Yard project required approximately 85,000 Tons of aggregate.

We are presently working on a City of Portland and Oregon State Highway project on N. Columbia Blvd. which will require about 13,000 Tons of aggregate.

The total aggregate used in these three project is approximately 223,000 Tons.

Because of the close proximity of the Angell Bros., rock quarry to these three projects, the cost of transportation of the aggregate was reduced. We believe we were able to reduce our bid price by an average of $1.45 per ton. This results in a net saving to the public of approximately $323,350.00.

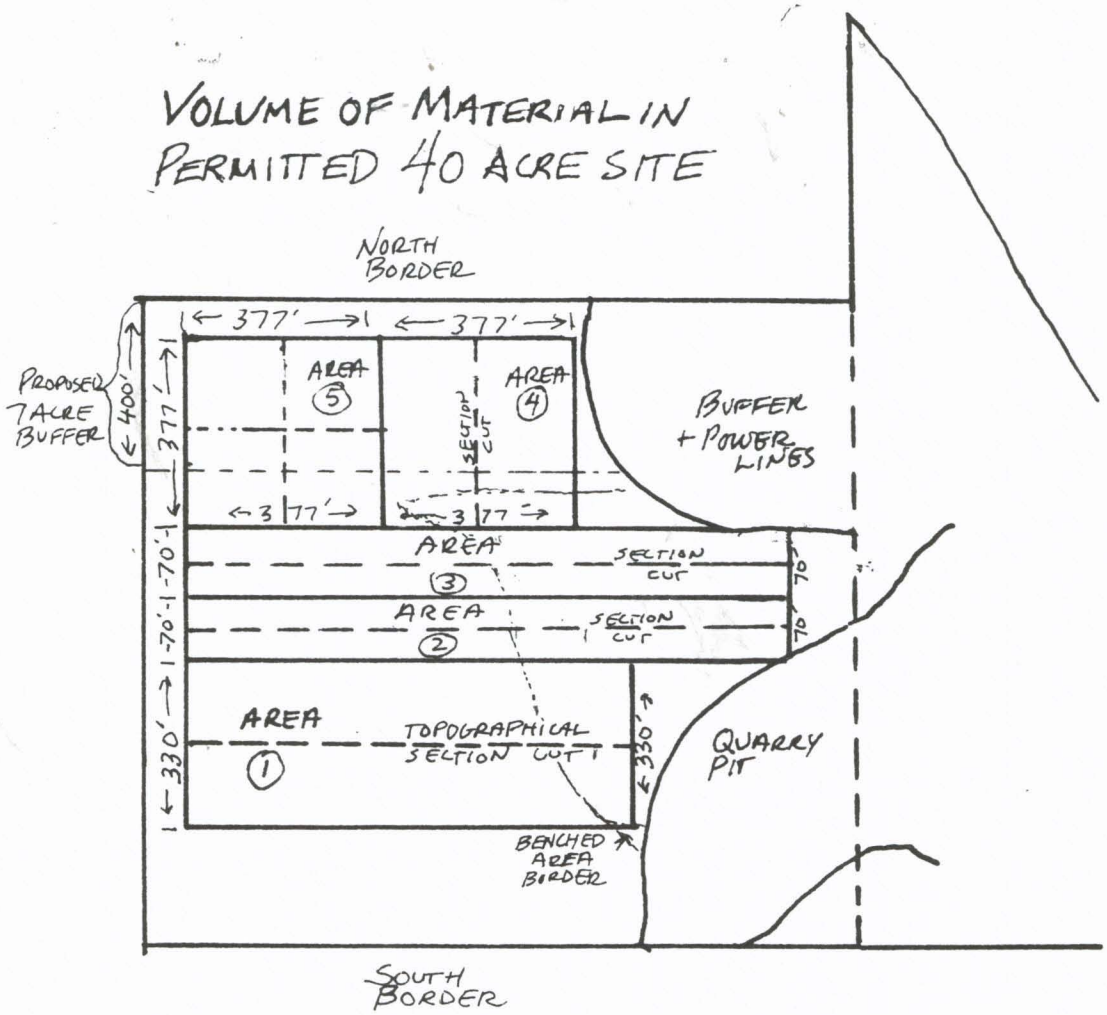
The availability of the aggregate on a timely basis was another important consideration in our decision to use Angell Bros. as our aggregate supplier on the above projects.

We believe that because of the scarcity of aggregate in Multnomah County, it is imperative that we protect the few remaining aggregate resources that we have. If these resources are not protected, we believe that competition in the aggregate industry will be greatly curtailed and that there will be increased costs in aggregate.

Yours very truly,

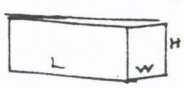
Drew Whittle

VOLUME OF MATERIAL IN PERMITTED 40 ACRE SITE

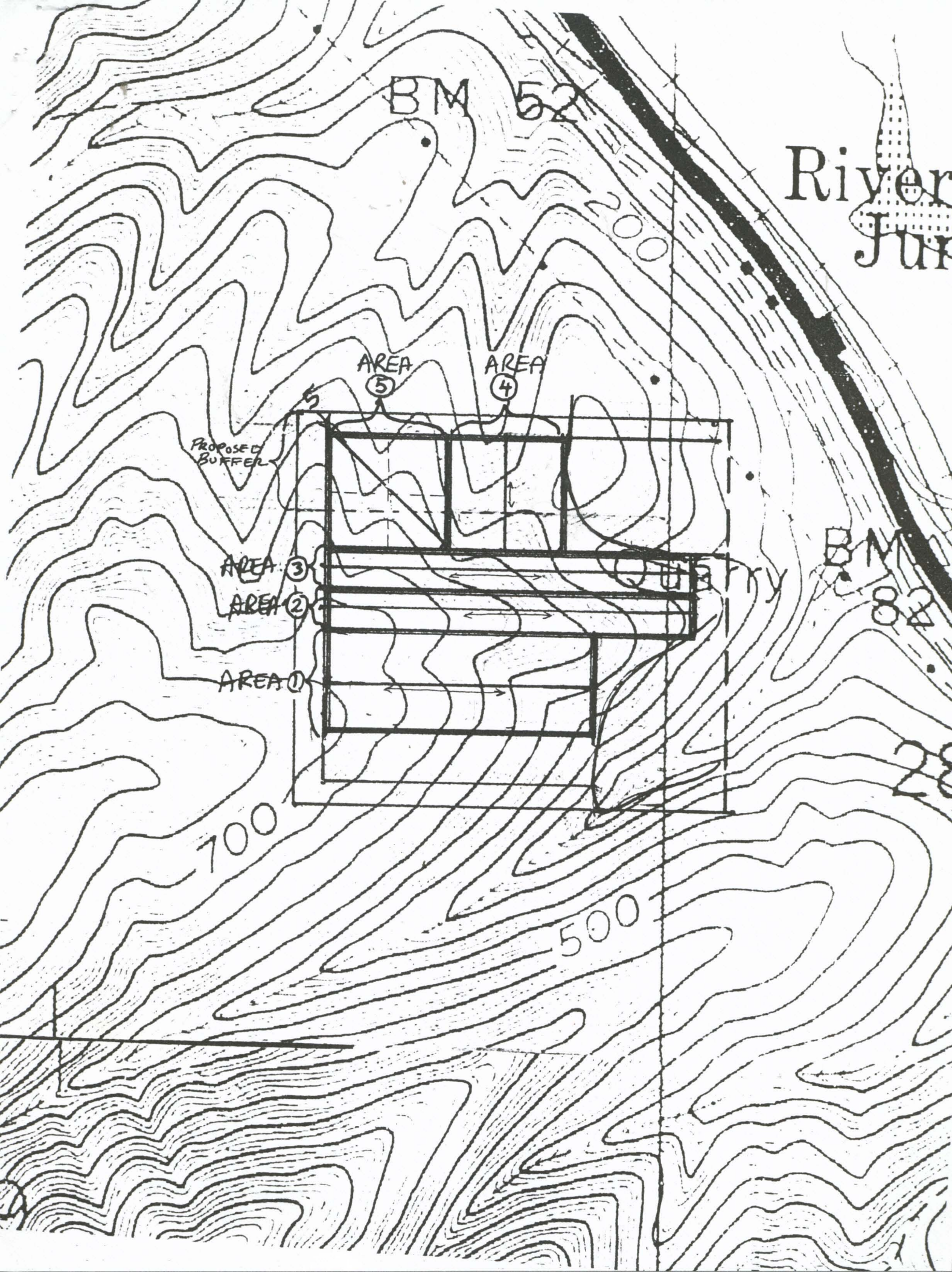


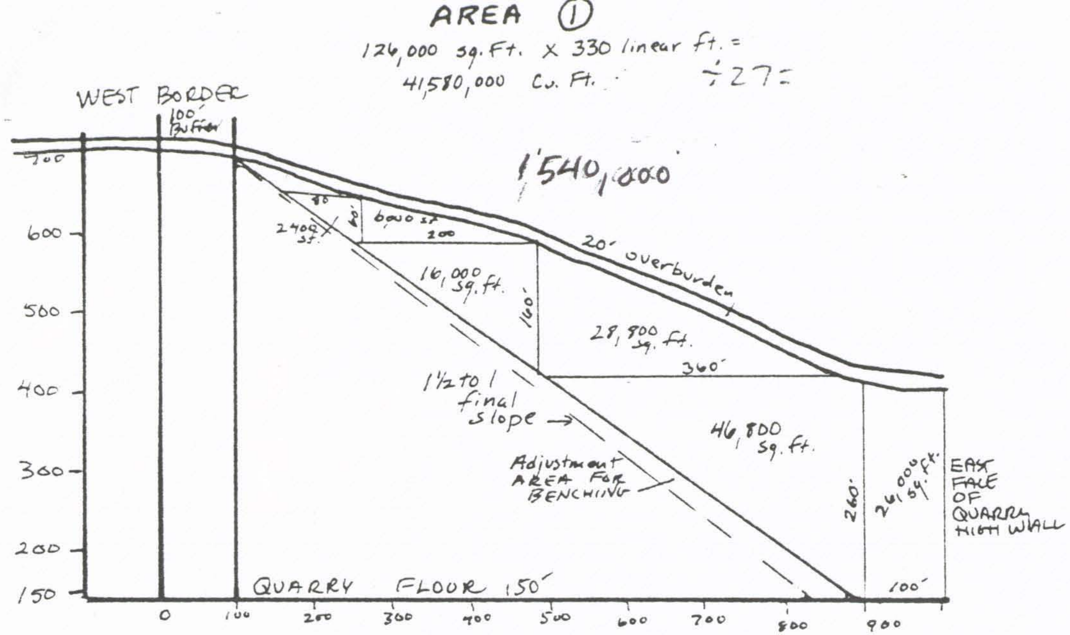
METHODOLOGY + EXPLANATION

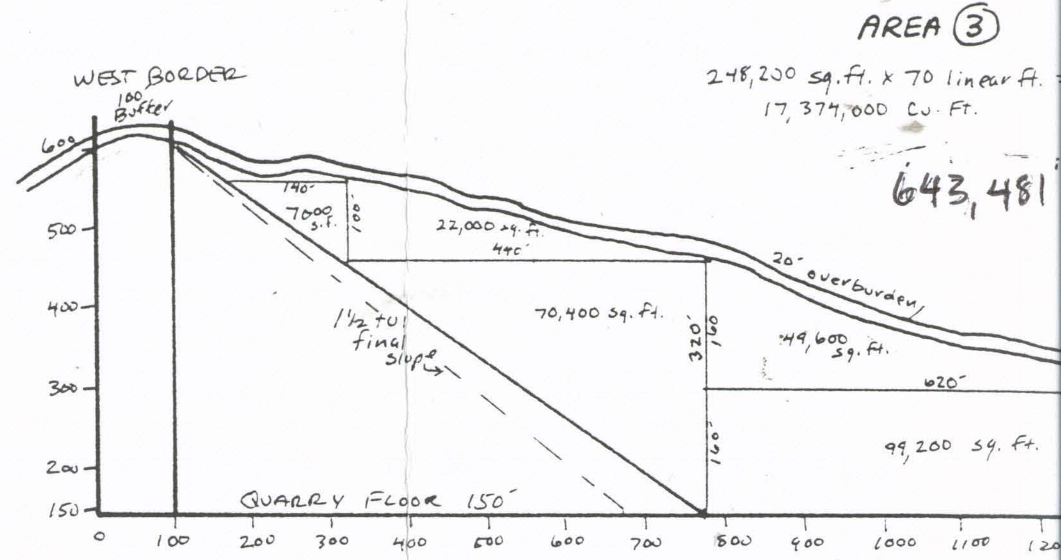
* AREAS WERE CHOSEN FOR REGULARITY OF TOPOGRAPHY
* SECTION CUTS CHOSEN TO ALIGN WITH FINAL BENCHING
* PROPERTY BOUNDARY MOST ACCURATE ACCORDING TO AERIAL PHOTOS + 1976 + 1988 SURVEYS
* AREA SOUTH OF AREA (1) OMITTED TO COMPENSATE FOR FINAL BENCHING
* AREA (1) WOULD PROVIDE SAME AMOUNT OF MATERIAL IF THE PROPOSED 7 ACRE BUFFER WERE RETAINED -
* AREAS (2) + (3) WOULD BE AFFECTED BY ADDITIONAL BENCHING BUT WOULD PROVIDE MATERIAL
* AREA (5) HAS BENCHES THAT MEET IN THE CORNER SO MATERIAL VOLUME IS HALVED FOR COMPENSATION.
* CALCULATIONS BASED ON MAINTAINING 150' QUARRY FLOOR
* CALCULATIONS OF VOLUME:

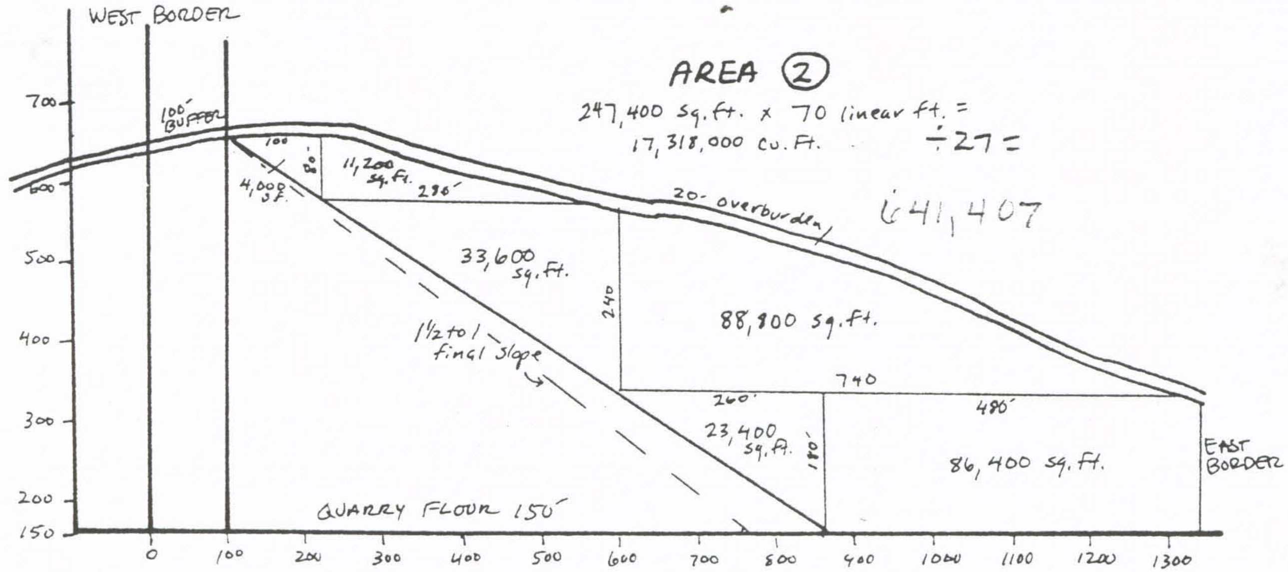


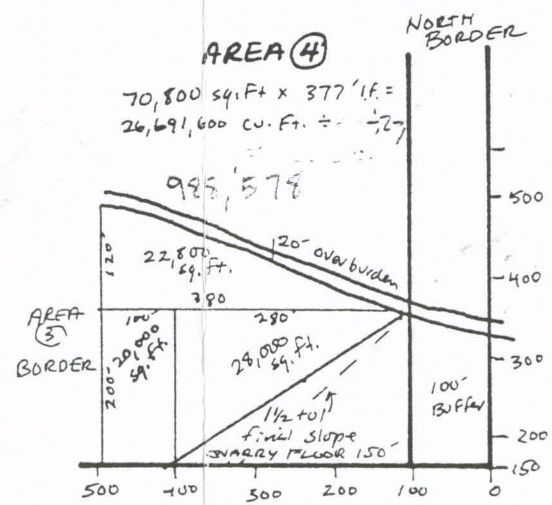
Height x LENGTH x WIDTH

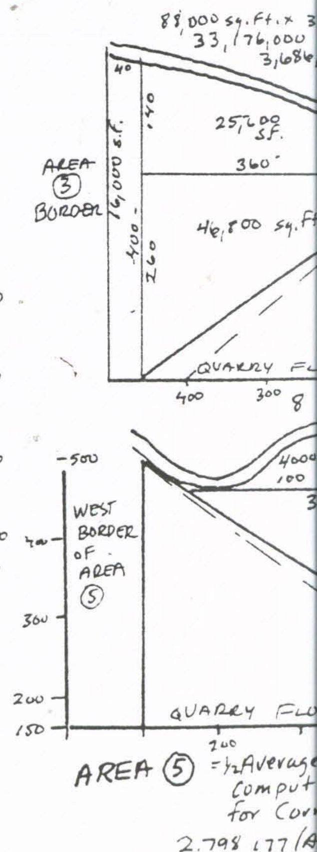

BM 52
River
Jun
200
AREA ⑤
AREA ④
PROPOSED BUFFER
AREA ③
AREA ②
AREA ①
BM
82
700
500



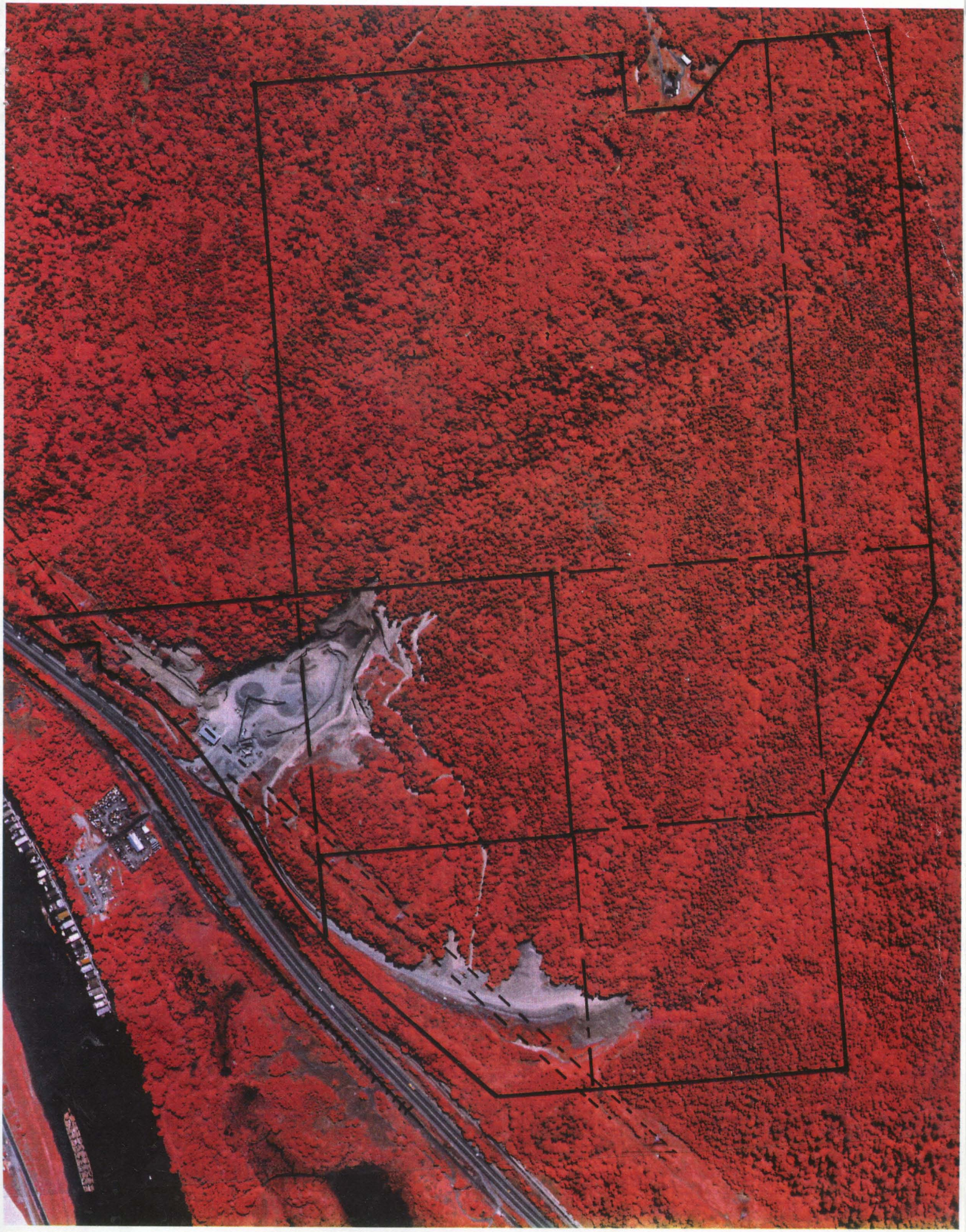








Approximate cubic yards in 40 ACRE SITE ACCORDING TO THE 1986 CONDITIONAL USE PERMIT SPECIFICATIONS IS : 4,279,828



March 6, 1990

Ms. Gladys McCoy, Chairperson
Ms. Pauline Anderson
Mr. Rick Bauman
Ms. Gretchen Kafoury
Ms. Sharron Kelley

Dear Commissioners:

Enclosed please find an addendum which is intended to correct and to clarify selected information on the **Angell Brothers aggregate site** which was submitted in a report to the Multnomah County Commissioners on 3/1/90.

Our apologies for these errors and omissions. If you or your staff have any additional questions, please do not hesitate to contact us.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Don Anderson
Planner

DMA:aep

c: Skip Anderson, Angell Brothers
Andrew Jordan, Bollinger, Hampton & Tarlow
Lorna Stickel, Multnomah County
Jim Sitzman, DLCD

DAVID EVANS AND ASSOCIATES, INC.
ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS, SCIENTISTS
OFFICES IN OREGON, WASHINGTON AND CALIFORNIA
2828 S.W. CORBETT AVENUE
PORTLAND, OREGON 97201-4830
(503) 223-6663 FAX (503) 223-2701

Correction: Projected Quarry Production

The information submitted to the Board of Commissioners on March 1, 1990 included some incorrect figures for projected aggregate production at Angell Brothers Quarry. Though it is impossible to know how much aggregate will be produced at the quarry in coming years, we chose to use the rate of increase in production at the quarry over the last five years as a guide. The average **compounded** increase in quarry production between the years 1984 and 1989 was approximately **21.6%** per year, **not** 28% as stated in the report.

The corrected figures, based on a 21.6% per year projected increase, are presented in the table below. This table replaces the table on page 6 of the original report. Using these revised figures, the cumulative projected production of quarry material at the Angell Brothers site during the years 1990 through 1994 is about **5,154,475 tons**, not 6,355,958 tons -- a difference of about 19%. We regret the error.

Year	Projected Production (tons)	Cumulative Production (tons)
1990	671,232	671,232
1991	816,218	1,487,450
1992	992,521	2,479,971
1993	1,206,906	3,686,877
1994	1,467,598	5,154,475

Clarification: 71-Acre Versus 40-Acre Existing Quarry

The 3/1/90 report presented to the Board of Commissioners identifies both a 71-acre area for the existing Angell Brothers Quarry and a 40-acre area upon which calculations of remaining quarry material are based. This may have created confusion. The distinction between the 71-acre area versus the 40-acre area is discussed below.

The Angell Brothers Quarry is currently operating on a site consisting of two tax lots which together total approximately 71 acres. Tax Lot 12, the easternmost lot immediately adjacent to the St. Helens Highway, is a roughly triangular in shape and approximately 31 acres in size. Tax Lot 2 is immediately adjacent to Lot 12 on the west, and is a square parcel approximately 40 acres in size.

Angell Brothers continues to stockpile, crush and load aggregate material at Lot 12. However, aggregate material available for mining on this 31-acre lot has effectively been exhausted, and no more quarrying will occur within this 31-acre area. Although additional minable material can be found within the 31-acre lot, Angell Brothers has agreed not to extract this material in order to retain the important visual screening of

the site provided by the north and south knobs located on either side of the quarry entrance. Extraction of aggregate material from the 31-acre lot is therefore complete to the level of the quarry floor (approximately 150 feet above mean sea level).

For this reason, all calculations of available aggregate material at the Angell Brothers Quarry site have been made for an area lying entirely within the "remaining" 40-acre lot (Tax Lot 2).

Location of the Proposed 61-Acre Extraction Area

The 3/1/90 report presented to the Board of Commissioners identified a 61-acre extraction area which is considered necessary and appropriate for five years of continued quarry operation. In light of the revised (lower) future site production projections, it may be appropriate to reduce this area to about 50 acres. The proposed location of this extraction area, as it is illustrated in the report, is based on two considerations:

(1) an effort was made to identify an area which would buffer and protect seasonal stream corridors lying on both sides of the proposed expansion area; the area outlined provides for a minimum of 100 feet of undisturbed forest buffer between the operations and each of these streams, and

(2) an effort was made to incorporate the ridge immediately west of the existing quarry into the proposed quarry expansion. By doing so, the amount of surface acreage which must be disturbed to extract the necessary volume of aggregate is kept to a minimum.

Angell Brothers is willing to consider other configurations for a proposed extraction area, provided that adequate amounts of aggregate material can be recovered from these areas. For example, the County may wish to consider an area which would be more tightly configured around the existing 40-acre site and which would not extend as far to the south and to the west. Currently, the lower portion of the creek passing through the existing quarry is piped, to protect water quality. If necessary to accommodate an alternative quarry configuration which does not include stream buffers, this piping could be extended to provide additional upstream protection. However, it must be emphasized that the amount of available quarry material within any given area (for example, within 50 surface acres) will vary with the topography of that area. A recalculation of the volume of aggregate material which will actually be available within any alternative proposed extraction area is recommended.

VICTOR ATIYEH
GOVERNOR

Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE
1005 STATE OFFICE BLDG., PORTLAND, OREGON 97201 PHONE (503) 229-5580

April 22, 1986

S.J. McLaughlin
Assistant Vice President-
Engineering
Union Pacific Railroad Company
1416 Dodge Street, Room 1000
Omaha, Nebraska 68179

Dear Mr. McLaughlin:

In answer to your questions about Oregon's rock resources, all of the Department's published materials on the subject are enclosed.

If you have further questions, please advise.

Sincerely,

Jerry J. Gray
Economic Geologist

JJG:ab

Enclosures

UNION PACIFIC RAILROAD COMPANY
ENGINEERING DEPARTMENT

S. J. McLAUGHLIN
ASSISTANT VICE PRESIDENT-
ENGINEERING
C. G. YUND
CHIEF ENGINEER-PLANNING
J. W. HEAVIN
GENERAL PRODUCTION ENGINEER
M. M. CONNOLLY
GENERAL PLANNING ENGINEER
C. R. TERRY
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C. L. JENSEN
GENERAL TRACK ENGINEER
P. M. ABARAY
GENERAL SIGNAL ENGINEER
G. W. McDONALD
GENERAL CONSTRUCTION ENGINEER
J. R. BERAN
GENERAL STRUCTURES ENGINEER

April 8, 1986

Material and Supplies - General - Ballast

Mr. Donald A. Hull - State Geologist
Geology & Minerals Industries Department
1400 SW Fifth Avenue
Portland, Oregon 97201

Dear Mr. Hull:

This letter is requesting your assistance in locating stone resources suitable for the production of high-quality railroad ballast.

Union Pacific Railroad operates significant trackage in Oregon and is constantly in need of quality ballast sources. This material is essential to the track structure and is used in quantity for maintenance and construction of track roadbed. If the resources of Oregon are of significant potential, Union Pacific may be in a favorable position to assist Oregon to develop this market for large-scale economic development.

Attached is a copy of Union Pacific's ballast specifications and a report generated by the Missouri Department of Natural Resources. The report is intended as a preliminary evaluation of selected stone resources to determine Missouri's potential as a producer of railroad ballast. I would appreciate receiving a copy of any similar information from the corresponding Oregon Natural Resources Department covering types, locations and quality of rock which can be crushed to make ballast. I will pay for nominal report reproduction costs or book purchases if necessary. Also, if I have addressed this inquiry to the wrong department, please so advise or redirect to the appropriate source.

Enclosed you will find a preaddressed stamped envelope for use in returning information to me. Any questions can be directed to Mr. L. S. Belfiore or Mr. W. L. Spencer at (402) 271-4563.

I thank you in advance for your time and assistance.

Yours truly,

S. J. McLAUGHLIN

S. J. McLaughlin