September 21, 1999

Dear Thom Lanfear;

It has recently come to my attention that for the applicant to run the Bradford quarry as proposed would be a clear violation of DEQ noise standards. I can see no way that this violation can be avoided. For a public body to knowingly approve an activity that violates state rules would be totally inappropriate. Thus your office must recommend that the Board of County Commissioners deny the application. I elaborate below.

First we need to examine some definitions:

OAR 340-035-0015
Definitions

.

.

(5) "Ambient Noise" means the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far.

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(22) "In-Use Motor Vehicle" means any motor vehicle which is not a new motor vehicle.

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(31) "Motor Vehicle" means any vehicle which is, or is designed to be self-propelled or is designed or used for transporting persons or property. This definition excludes airplanes, but includes water craft.

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(38) "Noise Sensitive Property" means real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner.

.

.

(49) "Public Roads" means any street, alley, road, highway, freeway, thorough fare, or section thereof in this state used by the public or dedicated or appropriated to public use.

.

.

(54) "Road Vehicle" means any motor vehicle registered for use on public roads, including any attached trailing vehicles.

FILE # PA 98-5144
EXHIBIT # 118A

Next we must examine the relevant rules:

340-035-0030
Noise Control Regulations For In-Use Motor Vehicles

(1) Standards and Regulations:

.

.

(d) Ambient Noise Limits:

(A) No person shall cause, allow, permit, or fail to control the operation of motor vehicles, including motorcycles, on property which he owns or controls, nor shall any person operate any such motor vehicle if the operation thereof increases the ambient noise level such that the appropriate noise level specified in Table 5 is exceeded as measured from either of the following points, if located within 1,000 feet (305 meters) of the motor vehicle:

(i) Noise sensitive property; or

(ii) A quiet area.

(B) Exempt from the requirements of this section shall be:

(i) Motor vehicles operating in racing events;

(ii) Motor vehicles initially entering or leaving property which is more than 1,000 feet (305 meters) from the nearest noise sensitive property or quiet area;

(iii) Motor vehicles operating on public roads; and

(iv) Motor vehicles operating *off-road* for non-recreational purposes.

For reference Table 5 is included below:

Table 5
(340-35-030)
Ambient Standards for Vehicles Operated Near Noise Sensitive Property
Allowable Noise Limits

Time	Maximum Noise Level
7 a.m. – 10 p.m.	60
10 p.m. – 7 a.m.	55

Now let us review some facts. The applicant proposes to use Cedarcroft Road as the haul road, which would involve 86 trucks per day, averaging roughly one truck every six minutes. Cedarcroft Road is comprised of two portions: a paved public portion owned by Lane County which is roughly one fifth of a mile in length and a gravel surfaced private portion that extends over a mile from the end of the public portion to the proposed quarry site.

Within 1000 feet of the point at which the public and private portions of Cedarcroft Road join there are at least four residential dwellings. One of these dwellings is approximately 150 feet from that junction, another dwelling is approximately 250 feet from that junction. At least one of the residentially zoned properties actually abuts the junction of the public and private portions of Cedarcroft Road.

Exhibit A (attached) shows that the diesel trucks which will be going through this junction will create an average noise level of 86 dBA at 50 feet and that this sound level will decrease to 68 dBA by 400 feet from the junction. For the several homes within the 400 foot radius, the noise level will significantly exceed that which is allowed in Table 5. In fact, the noise will be roughly 10 times louder than the allowable limit at those homes.

Because the diesel gravel trucks will be operating on a private road less than 1000 feet from noise sensitive property, none of the exemptions listed for OAR 340-35-030 (1)(d)(B) apply.

For the Board of County Commissioners to approve an application which would violate a standing state rule would be a violation of the peoples trust. The Board of County Commissioners has no choice but to deny this application on this basis alone.

Sincerely,

Gerald Fleischli, M.D.
34977 Meadow Lane
Creswell, OR 97426-9469

Exhibit A

Truck Noise Levels: August '99

#1 - For a diesel truck exceeding 10,000 pounds GVWR, what would be the sound level in dB under conditions specified below. Please consider this to apply to the typical average commercial vehicle that we see on the roads in Oregon, such as log trucks, gravel trucks, and tractor-trailers.

What is the sound level in dB?	At 50 feet?	At 100 feet?	At 200 feet?	At 400 feet?	At 800 feet?
A- While idling? estimate	76	70	64	58	52 dBA
B- While accelerating to 25 mph after slowing to 5 mph to make a turn?	86 dBA	80 dBA	74 dBA	68 dBA	62 dBA
C- While riding continuously at 25-35 mph?	same				

#2 - Would any of the typical vehicles exceeding 10,000 GVWR listed in question #1 above be more or less noisy than any others? If yes, which are more or less noisy?
log & gravel trucks likely more noisy than highway tractor trailers

#3 - Does weight make a difference to noise level? If yes, how? Little to none

#4 - Given that the above estimates are for the typical or average vehicle, some will be noisier and some will be quieter. What fraction of in-use road vehicles exceed the estimates above? a guess 10% - the numbers are legal limits.

#5 - What fraction would exceed the above estimates by 6 dB or more?
1%

#6 - Do you have any comments or clarifications regarding the above questions?
no

#7 - What is the basis of above judgements, in brief, including your qualifications?
DEQ Highway Noise Motor Vehicles Standards TABLE 3
ORS (340-35-030), Acoustics since 54 (45 years)

I certify the above are my best professional judgements.

Signature Curt Nixon Date Aug 11 99

FILE # EA 98-5144
EXHIBIT # 119

REGISTERED PROFESSIONAL ENGINEER 11504 OREGON DEC 31 1999 ARTHUR M

truck traffic and not just aggregate trucks where the resource was made available through a PAPA.

Enclosed as Exhibit 2 is the consolidated history of the last phases of evolution of the Goal 5 rule and a copy of the final staff report in this regard. The consolidated history is Appendix H of the Petition for Review in Morse Bros. v. Columbia County, LUBA No. 99-017 (10/25/99). Appendix H is referenced at footnote 17 on page 12 of that opinion. Al Couper's research corroborates this period of evolution of the rule.

Enclosed as Exhibit 3 is Al's memorandum to me pertaining to earlier drafts of the rule. These demonstrate that the word "structural integrity" and "structural cross sections" were promoted as factors and did not make it to the drafts for the rule of May and June set forth in Exhibit 2.

The language that remains in the subsection does not include considerations of road maintenance. Lloyd Holtcamp agreed in our discussions that the factor of "road capacity" contemplates the amount and type of traffic the road can carry safely and does not relate to the effect the traffic has on the wear of the road. Mr. Holtcamp asserts that there is authority for the exaction that he seeks in the term "cross section elements."

Enclosed as Exhibit 4 is a copy of a letter and attached materials from Jim Branch, which addresses the meaning of terms in the context of traffic engineering and the AASHTO standards. First, Mr. Branch agrees with Mr. Holtcamp, that, to a traffic engineer, "road capacity" typically refers to the actual number of vehicles that can physically occupy a roadway. With regard to "cross section elements," as pointed out by Mr. Branch, there is an AASHTO Guide for Design of Pavement Structures that does not discuss cross section elements but this is the section that Mr. Holtcamp wishes to rely upon. More specifically, the AASHTO Policy on Geometric Design of Highways and Streets includes definition for "cross section elements" in Chapter IV. Mr. Branch lists some of the topics covered in that chapter on the second page of his letter. He also attaches Chapter IV of the AASHTO Geometric Design of Highways and Streets document.

My point is simply that the legislative history of the rule demonstrates that maintenance was specifically deleted as an "item" referenced in the rule as a basis for finding potential road conflicts relative to a PAPA

application. Even if road maintenance had not been eliminated as an "item" of potential conflict, the last sentence of the subsection prohibits a special standard or requirement for aggregate trucks operating pursuant to a PAPA.

Please give this information your consideration. I would urge that our position is well taken in this matter and would welcome the opportunity to discuss the issue further with you.

Very truly yours,

James W. Spickerman

jca
Enclosures
cc: BJ Equipment Company (w/enc)
Thom Lanfear (w/enc)

Gleaves
Swearingen
Larsen
Potter
Scott
& Smith LLP

Phone:
(541) 686-8833
Fax:
(541) 345-2034

975 Oak Street
Suite 800
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www.orbuslaw.com

December 17, 1999

BY FACSIMILE 682-3803

Stephen Vorhes
Lane County Counsel
Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: PA 95-5144 -- BJ Equipment PAPA Application

Dear Steve:

Following the Lane County Planning Commission recommendation of approval of the above application, I submitted proposed Findings of Fact and Conclusions of Law and Conditions to the County staff on May 17, 1999. Since that time, I have had discussions with Thom Lanfear and Lloyd Holtcamp with regard to the findings. I have been advised that, for some time, the findings have been with your office awaiting your review. I believe that I have expressed to both you and Thom my willingness to discuss any aspect of the findings at any time.

I believe that you can understand my difficulty in explaining to my clients the time that has passed since Planning Commission approval of their application. I have some grasp of the work and time pressures put upon your office but as, I believe, you can understand, it is necessary that this application move on to the Board of Commissioners.

When I did not receive a call back this week in response to my voicemail to you, I expected that you were about to complete your review of the proposed findings. Please let me know if that is the case. This PAPA application was filed more than a year ago and my clients deserve an opportunity to conclude the matter.

Very truly yours,

James W. Spickerman

jca
cc: BJ Equipment Company
Thom Lanfear

FILE # PA 95-5144
EXHIBIT # 119

Frederick A. Batson
Jon V. Buerstatte
H. Andrew Clark
Joshua A. Clark
Michael E. Farthing
A. J. Giustina
Vernon D. Gleaves
Thomas P. E. Herrmann
Todd R. Johnston
Kristin E. Kernutt
Stephen O. Lane
William H. Martin
Laura T. Z. Montgomery
Chad C. Potter
Standlee G. Potter
Ian T. Richardson
Martha J. Rodman
Douglas R. Schultz
Malcolm H. Scott
James V. Shepherd
Bruce E. Smith
James W. Spickerman
Arlen C. Swearingen
Kurt Wanless

Fax Transmission

B J Equipment COMPANY

P.O. Box 543
Cottage Grove, OR 97424
541-747-6261

Date: 11/17/99

TO:Gleaves, Swearingen, etc.
ATTN: Jim Spickerman
Fax Number: 345-2034

From: **SANDY**

Our Phone: (541) 747-6261
Our Fax: (541) 988-4320

No.of pages including cover page: 2

Message:

Truck Volume Graph:

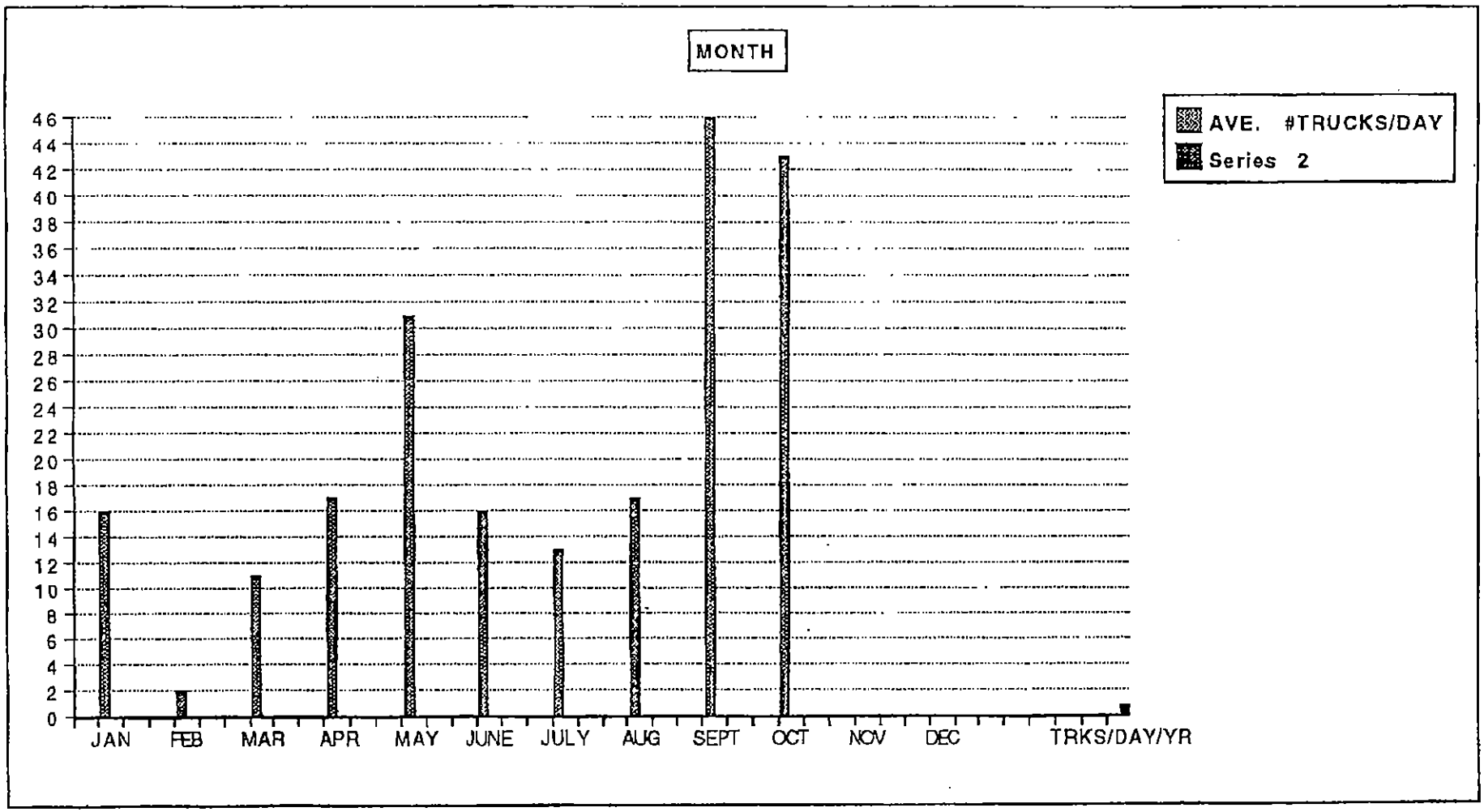
Using Saginaw Quarry info for 1994 as an example.

REVISED GRAPH - 1ST COPY SHOULD HAVE READ AVE. # TRUCKS/DAY

FILE # AP-98-5149
EXHIBIT # 12eA

Please call if you experience any transmission problems.

SAGINAW QUARRY 1994



50,500 CY REMOVED

The volume of truck traffic varies at any quarry just as logging truck volume varies. It is influenced by demand based on area projects, weather, crushing schedules, equipment breakdowns and repair time etc. Therefore, the maximum per day truck volume projected at the Bradford Quarry is not related to road usage but to the maximum per day out load that would be possible in a 10 hr. day. Road usage should not be based on this hypothetical number as no quarry sustains the maximum truck volume possible on a daily basis.

EXHIBIT # FILE # 46-5144 12of8

APPENDIX H

LEGISLATIVE HISTORY OF PAPA (4)(b)(B)
From draft as shown and the Staff Report of DLCD's Bob Rindy, Agenda Item 1.0 at the June 14, 1996 LCDC Meeting

MAY 15, 1996. 4(b)(B) Potential road system impacts within one mile based on clear and objective standards regarding traffic safety, and road maintenance and capacity, and provided truck traffic associated with mining activities is not regulated differently from other truck traffic . . . ."

JUNE 4, 1996. Potential road system conflicts ~~impacts~~ within one mile of the perimeter of the mining site unless a greater distance is necessary in order to include access roads and intersections from the site to the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding sight distances, safety, road maintenance and capacity, provided such standards for trucks associated with the mining operation shall not be more onerous than standards applied to trucks of equivalent size and weight that haul other materials.

JUNE 14, 1996. Potential ~~road system~~ conflicts ~~impacts~~ to local roads used for access and egress to the mining site within one mile of the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined using clear and objective standards regarding site distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with mining operations shall ~~not~~ be equivalent to standards for other trucks of similar size, weight, and capacity that haul other materials.

C:\W\M109\LUBA\appendix.wpd

FILE # PA-98-5144
EXHIBIT # 120C

3

Oregon

DEPARTMENT OF
LAND
CONSERVATION
AND
DEVELOPMENT

June 14, 1996

TO: Land Conservation and Development Commission

FROM: Bob Rindy, DLCD

RE: **Agenda Item 1.0**; June 14, 1996, LCDC Meeting

Consideration and Possible Adoption of Proposed Amendments to Goal 5 and the Goal 5 Administrative Rule

The department's June 6 report to the commission included a revised draft of Goal 5 and the Goal 5 rule (the draft is dated June 4, 1996). The department's recommended changes were primarily in response to written comments. We have continued to work with some of these issues after the report was mailed to the commission, and have a few additional recommended changes, as described below.

In addition, the department's report indicated that legal counsel would be providing additional comments. The department has met with legal counsel, and now proposes several additional changes to the June 4 draft in response.

ADDITIONAL CHANGES TO JUNE 4 DRAFT

Goal 5 Amendments:

(1) Goal Page 1, line 29, add the following: "Local governments and state agencies are encouraged to maintain current inventories of the following . . ."

(2) Goal Page 2, line 1, amend as follows: "Following procedures, ~~and~~ standards and definitions contained in commission rules . . . "

Amendments to Goal 5 rule:

(1) Page 4, Line 24, after the word "proceedings." add the following: "The issue of adequacy may be raised by the department or objectors, but final determination is made by the commission or the Land Use Board of Appeals, as provided by law."

FILE # PA 98-5144
EXHIBIT # 120

John A. Kitzhaber
Governor

1175 Court Street NE
Salem, OR 97310-0590
(503) 373-0050
FAX (503) 362-6705

(2) Page 5, Line 17, after the existing text add: "This determination shall be adequate if based on the criteria in (a) through (c) of this section, unless challenged by the department, objectors or the commission based upon contradictory information. The determination of significance shall be based on: . . . "

(3) Page 10, Line 5, eliminate the word "objective".

(4) Page 12, Line 9, add the following: ". . . identified as a regional resource on a ~~regional resources~~ map adopted by Metro ordinance."

(5) Page 21, Line 15, add ". . . within the interim WSR corridor."

(6) Page 25, Line 6, amend as follows: ". . . ~~provided all or part~~ for the portion of the wellhead protection area that lies within . . .".

(7) Page 13, Line 12, add the following: ". . . utility poles, flagpoles, or irrigation system components . . . "

(8) Page 14, Line 5, change "an application" to "applications"

(9) Page 16, Line 5, add a subsection: (C) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area."

(10) Page 27, Line 10, add: ". . . or would be adversely affected . . . resource site as specified in OAR 660-23-180(5)(A) through (F)."

(11) Page 27, Line 18, change the definition to ". . . a level that is not more than diminimous ~~longer significant~~."

(12) Page 28, Line 8, change the words "a request" to "an application for".

(13) Page 34, Line 27, add: "authorization unless the local plan contains specific criteria regarding the consideration of a PAPA that proposes adding a site to the list of significant aggregate sites, provided:

(a) Such regulations were acknowledged subsequent to 1990; and

(b) Such regulations shall be amended to conform to the requirements of this rule at the next scheduled periodic review, except as provided under OAR 660-23-250(7)."

(14) Page 31, Lines 4 through 10, amend subsection (B) to read as follows:

(B) Potential ~~road system~~ conflicts ~~impacts~~ to local roads used for access and egress to the mining site within one mile of the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined using clear and objective standards regarding sight distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with mining operations shall not be equivalent to standards for other trucks of similar size, weight, and capacity that haul other materials.

(15) Page 31, Lines 19 through 25, and Page 32, Lines 1 through 3: eliminate the language recommended in the June 4 department recommendation. Replace as follows: (E) Other issues necessary to carry out responsibilities under ORS 517.780 only for those jurisdictions with reclamation authority under 517.780(1).

(16) Page 35, line 12, change to ". . . and/~~or~~" authorize the present of future development of . . . "

(17) Page 35, Line 20, eliminate the words "receipt of."

I:\GOAL5\STFRPT61.WPD

February 1, 2000

Dear Commissioner Sorenson:

I am writing to bring your attention to the lead article in the Creswell Chronicle for January 26, 2000, which is enclosed for reference. That article points out the negative effect the proposed Bradford quarry is having on property values in our neighborhood. If this negative impact occurs from just the proposal, imagine how negative the impact will be if the proposal should be approved.

As property values decline, so will county property taxes. Any benefit to the county postulated by the quarry applicants will be more than offset by the loss in revenue from these property taxes. Property values are a reflection of quality of life. With this quarry operating our cherished rural quality of life will be totally destroyed.

The applicants for the Bradford quarry contend that the county is required to approve their application. This is **NOT** true. "***Contrary to petitioner's assertions, the Goal 5 rule does not mandate protection of resource use over conflicting uses. Rather, the Goal 5 rule permits the local government to deny an application to mine a significant aggregate site, which implies that, in some circumstances, conflicting uses may prevail over resource use.***" (Trademark v. Marion County - LUBA No. 97-188)

The statement by Thom Lanfear in the newspaper article that the county can not look at property values is based on an assumption. He assumes the applicant will devise a way to minimize the impact upon the roads. The applicant has not yet done this, as requested by the Lane County Planning Commission and the Planning Department. Neither have they minimized the noise impact of trucks in the neighborhood, which violates both DEQ regulations and noise standards recently adopted by the Board of County Commissioners. When impacts are not minimized, the local government is required to do the ESEE (Economic, Social, Environmental and Energy) analysis. Loss of neighborhood and property values are thus clearly relevant.

The Bear Creek neighbors implore you to disapprove the Bradford quarry application when it comes before the Board of County Commissioners in the next few months.

Thank you for your serious consideration of this request.

Sincerely,

Linda & Jerry Fleischli

Linda and Gerald Fleischli
34977 Meadow Lane
Creswell, OR 97426-9469

98-5144
EXHIBIT # 121A

Airport Update
New Manager..Page 3

The 'Dogs
CHS Sports..Page 11

Calendar
February..Page 12

The Chronicle

VOL. 35, NO. 36 | CRESWELL, OREGON | WEDNESDAY, JANUARY 26, 2000 | 12 PAGES, 75 CENTS

Properties for sale in limbo until quarry decision

By Tim Shinabarger

Some properties for sale on Bradford Road and Meadow Lane near Bear Creek Road aren't selling.

Interested potential buyers are avoiding the properties because they're concerned about the gravel quarry proposed for the area, two real estate agents and two property owners said last week.

"We just took it off the market the first of the year," Dale Burgess, who with his wife, Jan, owns a log house on Meadow Lane, said. "We had it on the market six months. They showed it quite a bit, but, I guess because of the quarry, nobody wanted to buy it."

"I don't know what we're going to do," Burgess said.

"There are other houses for sale and nobody's been able to sell anything since it happened," he said. "This is one of our objections, that our property values will deflate. And it seems to be so."

The Lane County Planning Commission recommended last April the county approve B.J. Equipment Co.'s application to rezone a 40-acre hilltop parcel on Ross Bradford's land above Bear Creek for aggregate mining. That followed a February public hearing at which 19 neighborhood residents voiced concerns about the proposed mine, concerns that included noise, dust, traffic impacts, pollution – and decreased property values.

photo by Tim Shinabarger

Dale and Jan Burgess are one of several Bradford Road-area property owners trying to sell their homes. A proposed gravel quarry nearby has deterred prospective buyers.

Disagreements soon surfaced between county planners and B.J. Equipment Co.'s agent about how the company will maintain county roads that would be affected by mining trucks. Once that issue is settled, the Lane County Board of Commissioners will schedule a public hearing and follow it with a decision on the rezoning application.

Until they decide, some people aren't buying.

"We had one couple who looked at it in August and...they would not buy a home in that area until they knew the status of the gravel pit," said Frank Brodersen, the real estate agent who listed the Burgess property. "If they were going to get a permit to haul gravel out of there every eight minutes, they were absolutely not going to live there."

A second potential buyer

(Cont. on Page 10)

City's sign code, restaurateur's drive-thru signs at odds

By Tim Shinabarger

Creswell's sign code clashed ith Mr. Macho's Pizza Thursy. Apparently, nobody won.

Don and Jo Taylor made eir case at the Creswell Planing Commission meeting hursday for new signs they ant to post at their business at 5 N. Mill St. to direct customs to their new drive-thru enance.

All three signs are bigger an the two square feet Creswell's sign code allows for a drive-thru sign, according to renditions prepared by Creswell planner Tracy Brown.

Mr. Macho's drive-thru entrance is on Oregon Avenue east of the Dairy Queen, its exit is on Mill Street, and he doesn't want to back traffic up on either of them, Don Taylor said.

"The signs are a little bit larger than what your sign code says....but there's a reason for being larger – visibility," Taylor said.

The Taylors proposed three new signs for Mr. Macho's: a 22x51-inch pole-mounted sign facing Mill Street that would read "Drive thru entrance," with "entrance" inside an arrow pointing toward Oregon Avenue; an 11x36-inch pole-mounted "exit" sign; and a 36x96-inch wall-mounted "drive thru pizza" sign facing Mill Street.

The sign code allows a wall-mounted sign and a free-standing sign, neither of which can exceed 100 square feet, Brown said. Directional signs are limited to two square feet, and the Taylors would need a variance to the sign code to use bigger ones or to use three wall-mounted signs, he said.

"We're talking $700-$800 for those three signs," Taylor said. "They aren't cheap."

Brown suggested the Taylors could add the directional sign below an existing pole-mounted 4x7-foot rotisserie sign – except it still might require a variance to mount two signs on the same pole. That would depend on what the definition of "sign" is: whether it's defined by the pole or by how many sign faces are on the pole.

The city hasn't revised its sign code lately and may need to do so soon, Brown said.

"Years ago we were pretty bad with signs in Creswell,"

(Cont. on Page 4)

Bradford Road Area Properties —

(Cont. from Front Page)

"said, 'I won't even look if that's where it is,'" Brodersen said. "And he drove a gravel truck!"

Brodersen showed the house twice to a third prospect, who showed a "significant" level of interest.

"They were ready to make an offer and were financially qualified," Brodersen said. After he "disclosed that gravel trucks would be coming down the road next to it," they did some research and decided not to go forward, he said.

"They would not pursue it because of the gravel," he said. "So I'm off the market until the issue is resolved.

"I think the way it is now (a small quarry operation with intermittent truck traffic), everybody can live with that," Brodersen said. "If they were open 10-12 hours, with eight trucks every hour, it would destroy all the ambience of the neighborhood. And of course you don't know what blasting will do to the flow of water."

A Springfield woman looking for property east of Creswell with her husband recently saw four houses for sale on Bradford Road and started asking questions. After people told her a gravel mine was planned there, she called The Chronicle on Jan. 11. She was the second person interested in buying property in the area to call The Chronicle asking about the proposed quarry. The Chronicle referred both to Lane County associate planner Thom Lanfear.

"I started wondering, why are there four homes within walking distance of each other for sale right now?" Linnea, the Springfield woman, said. "We were thinking of moving down there and buying some property, but we'll have to look somewhere else."

She also spoke with real estate agent Larry Heater about the property, Heater said last Wednesday.

The Bradford Road homeowners each have their own reasons to put their property on the market, Heater said, although none of them have anything to do with the proposed gravel quarry.

"But once they start (mining), who knows?" Heater, who lives in the Bear Creek area, asked. "Because we're all going to be affected by it."

Heater points out that area residents are used to logging trucks on the roads.

The Burgess's "beautiful log house" is on Meadow Lane, and gravel trucks will supposedly use Meadow Lane and Cedar Croft, Heater said.

"He (Burgess) is moving because of that (quarry)," he said. The house is "absolutely gorgeous. And he's paid a fortune for it. Plus, he's retired."

The Burgesses might drop the price in order to sell the house, Dale Burgess said.

"We haven't done that," he said. "It's a beautiful house at the end of the county road in the forest. Big trees all around."

Burgess worked in heavy truck repair in California before retiring. He and Jan Burgess moved to Oregon in 1992. They looked in the Roseburg area before buying their 2 1/2 acres east of Creswell.

"Here we are with a nice piece of property and they're going to let industry in," he said.

"We're not going to put up with this garbage," Jan Burgess said. "We didn't move here to compete with a quarry."

When asked whether Lane County Planning Commissioners considered the potential effect on area property values before they recommended the quarry application be approved, associate planner Thom Lanfear said, "We can't look at that. That's not one of the criteria set up by the state."

The effect on property values is something everybody knows "intuitively," but nothing in the county rules addresses it, he said.

"It doesn't appear that we could deny this mining application based on that," Lanfear said. "The state has set up the rules on what we can look at and what we can't look at. And they're very narrow categories."

When asked if realtors and sellers disclose to potential buyers that the gravel quarry may be approved, Heater said, "We have to disclose that." Sellers have to tell everything they know about the property in a two-page disclosure form, he said.

"When I've had open houses up there, I tell them there is a quarry going to be developed up there but you're four miles away," Heater said. "Whether they'll affect wells that far away, I can't answer that."

The county and the state "don't care about the neighborhood," Burgess said. "The residents don't exist. They're not supposed to be here.

"Businesses and that kind of thing come first is the way we get the picture. Why we're not supposed to be here, we can't understand.

"...It's strange somebody can come along that's been zoned agriculture and forest industry - tree farms, that kind of thing - can apply for a zoning change because they have rock they want to mine and crush, and the closest homes are within 1,500 feet. ...They've got big business behind them. Not that their rock is better than anybody else's rock. We have held them up, it'll be two years in another month or so that they haven't been able to go in and work, and nobody has had to stop building because they didn't have any rock."

A woods containing two orange-bark Ponderosa pines and several big Douglas fir trees shields the south side of the Burgess's property from the road quarry miners will use for a haul road if the rezoning is approved. The road turns sharply, hugs the eastern boundary of their land and joins the asphalt county road, passing about 150 feet from the Burgess's front porch.

"It's dirt, it's gravel and in the summertime when it's dry, it's dusty," Dale Burgess said. When trucks hauled crushed rock from the existing quarry down the road two summers ago, "We couldn't believe the mess."

"Our green roof was white," Jan Burgess said.

"They're talking about 86 trucks a day," Dale Burgess said. "That's one every four or five minutes. The trucks are not quiet. They're not creeping along and they're not wearing house shoes or anything like that."

About 80 families live in the area, he said.

It's not yet clear if the quarry will be approved, he said.

"It'll be April or later before we know whether they're going to rezone it or not," Burgess said.

Meanwhile, he said, "We can't sell a house or anything like that because it's uncertain if anything's going to happen."

RECEIVED BY
LAND MANAGEMENT

FEB 16 2000

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February 15, 2000

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Stephen Vorhes
Lane County Counsel
Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: OAR 660-023-0180(4)(b)(B)
Conflicts to Local Roads Under Goal 5

Dear Steve:

I want to put before you the materials I have assembled that bear upon the requirements for repair of local roads that can be imposed upon a quarry operator through the Post Acknowledgement Plan Amendment (PAPA) process.

As you know, at issue is the following language of the above cited section.

> "Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding site distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and the capacity that haul other materials;"

Enclosed as Exhibit 1 is a copy of my recent letter to Bob Rindy concerning his discussions with Al Couper on the County's authority to require an operator to repave county roads used for hauling aggregate. The letter reflects Al's discussion with Bob Rindy and Rindy's understanding of the evolution of the new Goal 5 rule in this regard. While LCDC understood that the County had a legitimate need to retain control over its local roads, the rule was crafted so that the standards had to be not only clear and objective but applicable to all

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truck traffic and not just aggregate trucks where the resource was made available through a PAPA.

Enclosed as Exhibit 2 is the consolidated history of the last phases of evolution of the Goal 5 rule and a copy of the final staff report in this regard. The consolidated history is Appendix H of the Petition for Review in Morse Bros. v. Columbia County, LUBA No. 99-017 (10/25/99). Appendix H is referenced at footnote 17 on page 12 of that opinion. Al Couper's research corroborates this period of evolution of the rule.

Enclosed as Exhibit 3 is Al's memorandum to me pertaining to earlier drafts of the rule. These demonstrate that the word "structural integrity" and "structural cross sections" were promoted as factors and did not make it to the drafts for the rule of May and June set forth in Exhibit 2.

The language that remains in the subsection does not include considerations of road maintenance. Lloyd Holtcamp agreed in our discussions that the factor of "road capacity" contemplates the amount and type of traffic the road can carry safely and does not relate to the effect the traffic has on the wear of the road. Mr. Holtcamp asserts that there is authority for the exaction that he seeks in the term "cross section elements."

Enclosed as Exhibit 4 is a copy of a letter and attached materials from Jim Branch, which addresses the meaning of terms in the context of traffic engineering and the AASHTO standards. First, Mr. Branch agrees with Mr. Holtcamp, that, to a traffic engineer, "road capacity" typically refers to the actual number of vehicles that can physically occupy a roadway. With regard to "cross section elements," as pointed out by Mr. Branch, there is an AASHTO Guide for Design of Pavement Structures that does not discuss cross section elements but this is the section that Mr. Holtcamp wishes to rely upon. More specifically, the AASHTO Policy on Geometric Design of Highways and Streets includes definition for "cross section elements" in Chapter IV. Mr. Branch lists some of the topics covered in that chapter on the second page of his letter. He also attaches Chapter IV of the AASHTO Geometric Design of Highways and Streets document.

My point is simply that the legislative history of the rule demonstrates that maintenance was specifically deleted as an "item" referenced in the rule as a basis for finding potential road conflicts relative to a PAPA

application. Even if road maintenance had not been eliminated as an "item" of potential conflict, the last sentence of the subsection prohibits a special standard or requirement for aggregate trucks operating pursuant to a PAPA.

Please give this information your consideration. I would urge that our position is well taken in this matter and would welcome the opportunity to discuss the issue further with you.

Very truly yours,

James W. Spickerman

jca
Enclosures
cc: BJ Equipment Company (w/enc)
Thom Lanfear (w/enc)

Exhibit 1

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February 14, 2000

Bob Rindy, Policy/Legislative Specialist
Oregon State Department of Land
Conservation and Development
635 Capitol Street N.E., Suite 150
Salem, OR 97301

RE: OAR 660-023-0180(4)(b)(B)

Dear Mr. Rindy:

This letter is to document my understanding of conversations between you and Al Couper regarding the intent of the LCDC in adopting the above-cited rule, which reads:

> "Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding site distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and capacity that haul other materials."

We were interested in the extent to which a local government could use the rule as authority for requiring an operator granted a PAPA to improve or repave a county road based upon an alleged impact of the aggregate trucks on pavement structure.

Before you spoke to Mr. Couper, we were able to assemble a chronology of rule language in which it appears clear than the term "road maintenance" was removed as a factor on which clear and objective impact standards could be based. A summary of the evolving drafts of this portion of the rule is attached. We were unable to find any

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rulemaking legislative history in which this issue was specifically discussed by the commission.

Your recollections as the lead staff person were very helpful in explaining what appears clear in the rule itself, i.e., that the rule cannot be used to treat mineral and aggregate haulers differently than other haulers such as farm trucks, logging trucks, and heavy equipment trucks. In other words, LCDC was being careful not to draft a rule that might obstruct local government's authority to enact laws applying to all trucks, while at the same time they were making it clear that mining trucks could not be singled out for different and more onerous treatment than trucks of equal size and weight hauling other materials. We understand the answer to our inquiry to be that a local government could not require a successful applicant for a PAPA to repave local roads based upon the alleged impact of the applicant's aggregate trucks on the pavement structure unless there was an adopted standard for contribution for maintenance applicable to other similar trucks.

I understand that you told Mr. Couper that you would be pleased to repeat this information to any other party who might wish to contact you. Mr. Couper and I greatly appreciate your time and attention concerning this issue.

Very truly yours,

James W. Spickerman

jca
cc: BJ Equipment Company
Thom Lanfear
Steve Vorhes

Exhibit 2

APPENDIX H

LEGISLATIVE HISTORY OF PAPA (4)(b)(B)
From draft as shown and the Staff Report of DLCD's Bob Rindy, Agenda Item 1.0 at the June 14, 1996 LCDC Meeting

MAY 15, 1996. 4(b)(B) Potential road system impacts within one mile based on clear and objective standards regarding traffic safety, and road maintenance and capacity, and provided truck traffic associated with mining activities is not regulated differently from other truck traffic . . . ."

JUNE 4, 1996. Potential road system conflicts ~~impacts~~ within one mile of the perimeter of the mining site unless a greater distance is necessary in order to include access roads and intersections from the site to the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding sight distances, safety, road maintenance and capacity, provided such standards for trucks associated with the mining operation shall not be more onerous than standards applied to trucks of equivalent size and weight that haul other materials.

JUNE 14, 1996. Potential ~~road system~~ conflicts ~~impacts~~ to local roads used for access and egress to the mining site within one mile of the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined using clear and objective standards regarding site distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with mining operations shall ~~not~~ be equivalent to standards for other trucks of similar size, weight, and capacity that haul other materials.

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Exhibit 3

Memorandum

TO: JWS
FROM: SAC
RE: Goal 5 rulemaking
DATE: 1/28/00

I did not do much better yesterday than I did a week ago in finding conclusive evidence regarding the history of OAR 660-023-0180(4)(D)(d). The files are unorganized and did not seem to contain anything that occurred in 1997. Also, Bob Rindy was in front of the Commission all morning and unavailable in the afternoon.

What I did find does, however, reinforce our version of the legislative history, i.e. that the commission rejected the notion of exacting mitigation from the mining operators for wear and tear on public roads. Attached are the following:

1. **April 3, 1996 - Testimony from former Deschutes County Asst. Legal Counsel** - She asked LCDC to *"not prohibit local government from addressing mitigation of every aspect of [aggregate truck traffic]."*

2. **April 12, 1996 - Proposed rule language from the County Planning Directors** - The proposal required consideration of "*safety, capacity and structural integrity" of roadways.* Standards would be based on *"functional classification, structural cross sections, and road profiles."*

3. **April 17, 1996 - DLCD draft rule** - This draft swings in the opposite direction and specifies only *"traffic safety"* as a topic for standards.

Compared with these suggestions we have the other drafts, which included the word "maintenance," and the adopted rule, which dropped any reference to maintenance and also contains the prohibition against treating aggregate truckers different from other truckers.

Lastly, I placed a call to Douglas County Planning Director Keith Cubic, who is active in the County Planning Directors association. I will let you know what he remembers when he returns my call.

As a last effort we could try to call Rindy and ask his help in locating 1997 documents. Or perhaps, get him to write a letter supporting our view.

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Bend 4/3/96

TESTIMONY OF KAREN H. GREEN
LAND CONSERVATION AND DEVELOPMENT COMMISSION
AMENDMENTS TO GOAL 5 AND ADMINISTRATIVE RULES
PUBLIC HEARING, APRIL 3, 1996

I. Summary:

I am a former assistant legal counsel and community development director for Deschutes County and have been involved with the local interpretation and implementation of Goal 5 and its administrative rules as well as its implications for state agency coordination between local governments and DOGAMI for over ten years. During an earlier stage in LCDC's evaluation of Goal 5 and its administrative rules, I presented testimony on behalf of Deschutes County. However, I am presenting this testimony as an individual interested in the outcome of this process. I anticipate that Deschutes County will submit its own testimony.

The Goal 5 evaluation began with the Commission's Goal 5 Subcommittee agreeing to the following guiding principles:

1. Retain the basic Goal 5 framework.

2. Continue or enhance the protection of significant resources.

3. Reduce state and local costs of implementing Goal 5.

4. Simplify and streamline the state and local process.

5. Protect Goal 5 work already completed by local governments.

6. Consider periodic review priorities and limited DLCD and local government resources.

7. Reduce the incentive for litigation about Goal 5 decisions.

Subsequently, DLCD developed a number of draft rule revisions intended to follow those principles, and with the stated intention of creating the following:

* Measures to streamline and reduce local planning requirements

* A revised definition of the resources listed in Goal 5

* Increased reliance on state and federal agencies for resource inventory and management

* Different Goal 5 rules inside and outside UGB's

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6. (4)(a) This section furthers the industry's goal of automatic mining site expansion by measuring the impact area only from the boundaries of the proposed expansion area. This approach could preclude a local government from evaluating the impacts *of that expansion* from changes in the *existing* mining operation that may -- and often do -- occur when the site is expanded. For example, with expansion the *original* mining site may be used for the storage of trucks and heavy equipment with the attendant start-up noise and dust. Or the original area may be used for processing while extraction takes place in the expansion area.

7. (4)(b)(B) This subsection would prohibit local governments from regulating the *frequency* of mining truck traffic in the impact area inasmuch as local governments probably lack the authority to regulate the frequency of other truck traffic in that area. Clearly this was the aggregate industry's intention. However, the Commission should carefully consider whether this rule represents good public policy. "Protecting" aggregate resources involves high-impact activities unlike those involving the protection of any other Goal 5 resource except energy sources. The aggregate rules must reflect that fact and not prohibit a local government from addressing mitigation of *every aspect* of those impacts within the designated impact area. Mining operators in Deschutes County generally have been sensitive to the impacts of truck traffic including frequency, reflected most recently by an agreement between a mining operator and Sisters residents to limit the frequency of mining truck traffic coming through the middle of the city. The rule should not preclude local government regulation providing similar mitigation.

8. (4)(c) The "reasonable and practicable mitigation measures" standard is unworkable and will produce confusion and litigation. In addition, the language stating that state agency standards "*shall* be a sufficient mitigation measure" suggests local mitigation standards are *prohibited*. If that is the case, this also represents bad planning and public policy. It is one thing to provide in the draft rules that local governments *may elect* to rely on state agency standards. It is quite another to tell them that they must rely on state agency standards when there may be unique circumstances justifying local options.

9. (5)(f) The requirement that local governments "coordinate" with DOGAMI presents further opportunities for confusion and litigation. This term should be defined.

10. (7) This section represents another special provision designed to benefit the aggregate industry and ignoring the realities of local government planning. It requires local governments to make PAPA decisions on aggregate sites within 180 days of a complete application. Post-acknowledgment plan amendments and zone changes are expressly not subject to the *120-day* limit in ORS 215.428 because they generally cannot be completed within that time frame. Mineral and aggregate site PAPA's generally are highly controversial and are not likely to be resolved even within the proposed 180 days. Moreover, how would this time frame be enforced?

DRAFT -- April 12, 1996

County Planning Director's Draft Amendments to Goal 5 Administrative Rule draft dated March 1, 1996.

Note: New language underlined, language to be deleted in ~~strikeout~~

PROCEDURES AND REQUIREMENTS FOR COMPLYING WITH GOAL 5

Purpose and Intent

660-23-000 (1) This division provides procedures and criteria for the inventory and evaluation of Goal 5 resources, and for the determination of land use programs to conserve and protect significant Goal 5 resources. This division explains how local governments apply Goal 5 at periodic review and when amending acknowledged comprehensive plans and land use regulations.

Definitions

660-23-010 As used in this division, unless the context requires otherwise:

(1) "Conflicting use": a use or activity that is reasonably and customarily subject to land use regulations and that could adversely affect a significant Goal 5 resource.

(2) "ESEE consequences": the positive and negative economic, social, environmental and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use.

(3) "Inventory": a survey, map, or description of one or more resource sites, prepared by local governments, state or federal agencies, private citizens, or other organizations, and which include information about the resource values and features associated with such sites. As a verb, inventory means to collect, prepare, compile, or refine information about one or more resource sites. (See *resource list.*).

(4) "Impact area": is a geographic area within which conflicting uses could adversely affect a significant Goal 5 resource.

(5) "Mandatory category": a Goal 5 resource category for which the requirements of this division constitute a substantial change in circumstances and therefore must be considered in the establishment of local periodic review work programs under OAR 660-25-070.

(6) "PAPA": a post-acknowledgment amendment to a comprehensive plan or land use regulation, or a new land use regulation, except for a periodic review work program task.

(7) "Program" or "program to achieve the goal": a plan or course of proceedings and action, adopted as policies and land use regulations, intended to protect Goal 5 resources (e.g., zoning standards, easements; cluster developments, preferential assessments; or acquisition of land or development rights).

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this section is not applicable. If conflicts cannot be mitigated, subsection (de) of this section applies.

(d) Determine reasonable and practicable mitigation measure to address impacts from the mining operation on roadways in the area. Safety, capacity and structural integrity of the roadways shall be considered. Local governments shall rely upon clear and objective standards to assess the impacts referenced above. Examples of such standards are: functional classification, structural cross sections, and road profiles.

(de) Identify significant conflicts that cannot be mitigated. Based on these conflicts, local government shall determine the consequences of either allowing or not allowing mining at the site. Local governments shall reach a decision by weighing the consequences of allowing or denying mining at the site, with consideration of the following:

(A) The degree of adverse affect on existing uses;

(B) The importance of the significant Goal 5 mineral or aggregate resource compared to other existing uses that are adversely affected;

(c) Reasonable and practicable measures that could be taken to reduce the identified adverse affects; and,

(D) The probable duration of the mining operation and the end-use of the site determined under subsection (fg) of this section.

(cf) Where mining is allowed, the plan and implementing ordinances shall be amended to provide for the mining. Any required mitigation measures, including special conditions and procedures regulating the mining, must be clear and objective. Additional land use review, if required (e.g., conditional use permits) shall be the minimum necessary to assure compliance with the mitigation requirements, and shall not provide opportunities to deny mining for reasons unrelated to these requirements, or to attach additional approval requirements.

(fg) Where mining is allowed, determine the post-mining use and provide for this use in the comprehensive plan and land use regulations. For significant aggregate sites on farmland, local governments shall adopt plan and land use regulations to limit end-use to those farm uses listed under ORS 215.203. ~~Local governments shall coordinate with t~~The Oregon Department of Geology and Mineral Industries shall coordinate with local governments regarding the regulation and reclamation of mineral and aggregate sites.

~~(5) Local governments shall follow the standard ESEE process in OAR 660-23-040 through OAR 660-023-050 to determine whether to allow, limit, or prevent new conflicting uses within the impact area of a significant mineral and aggregate site. This requirement does not apply if the local government decides that mining will not be authorized at the site, as provided in section (4)(d) of this rule. Farm practices as defined in ORS 215.203 shall not be considered conflicting uses with aggregate sites.~~

(65) Goal 5 does not apply to mineral and aggregate sites that are not significant sites as set forth in section (3) of this rule. With regard to conditional use permits necessary to mine sites on farmland in accordance with ORS 215.298, local governments shall adopt and maintain an "inventory" of all existing and potential aggregate sites

D R A F T April ~~3~~17, 1996

PROCEDURES AND REQUIREMENTS FOR COMPLYING WITH GOAL 5

Purpose and Intent

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Definitions

660-23-010 As used in this division, unless the context requires otherwise:

(1) "Conflicting use": a use ~~or activity that is reasonably and customarily~~, subject to land use regulations ~~and~~, that could adversely affect a significant Goal 5 resource.

(2) "ESEE consequences": the positive and negative economic, social, environmental and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use.

(3) "Inventory": a survey~~, map, or~~ or legal description of one or more ~~resource s~~Resource Sites, prepared by local governments, state or federal agencies, private citizens, or other organizations, and which include information about the resource values and features associated with such sites. As a verb, inventory means to collect, prepare, compile, or refine information about one or more ~~resource s~~Resource Sites. (See *resource list.*).

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(A) Those uses ~~and associated activities~~ that are sensitive to noise or dust, including but not limited to houses and schools.

(B) ~~Potential~~Impacts to the transportation system ~~impacts,~~of the local government, but only ~~if~~to the extent based on clear and objective standards regarding ~~safety, noise, or dust that are adopted as part of the acknowledged transportation plan, and provided truck traffic associated with mining activities is not regulated differently than other truck~~traffic safety, in the local government's acknowledged transportation plan. ~~traffic.~~

(C) Other Goal 5 ~~resource sites that are shown on an acknowledged list of significant resources, and~~Resource Sites that are included in an acknowledged Resource List for which the requirements of Goal 5 have been completed at the time the PAPA is initiated and that included mining as a conflicting use in the ESEE analysis; and,

(D) Farm or forest practices, as set forth in ORS 215.296.

(c) Determine reasonable and practica~~ble~~l mitigation measures that would ~~eliminate or~~ minimize the conflicts identified under subsection (b) of this section. For conflicts which involve state ~~agency standards or responsibilities, the recommendations or requirements of the state agency~~or Federal agency permits, the permit requirements shall be a sufficient mitigation measure ~~(e.g., recommended noise levels established by DEQ). For~~. For conflicts with farm or forest practices, the requirements of ORS 215.296 shall ~~be followed rather than the requirements of this section. If reasonable and practicable~~constitute the standard for mitigation. If reasonable and practical measures are available to ~~eliminate or~~ mitigate all identified ~~significant~~ conflicts, mining shall be allowed at the site and subsection (d) of this section is not applicable. If conflicts cannot be mitigated, subsection (d) of this section applies.

Exhibit 4

Branch Engineering, Inc.

310 5th Street
Springfield, Oregon 97477
(541) 746-0637
Fax (541) 746-0389

December 20, 1999
Branch Engineering Project No. 98-141

Gleaves Swearingen Larsen Potter Scott & Smith LLP
c/o James W. Spickerman
975 Oak Street, Suite 800
Eugene, Oregon 97401

Re: AASHTO Standards and Definitions
(BJ Equipment Company, LLC Quarry Application)

Dear Jim,

In response to your letter of November 10, 1999, related to "road capacity" or "cross section elements," I have performed some research that may be helpful.

Road Capacity

Road capacity usually relates to one of two conditions. To a civil engineer, road capacity typically refers to the structural strength of the roadway to support a given load or repetitive load conditions (usually determined by the number and weight of truck axles or trucks) during a period of time, typically a 20 year life cycle. Other elements in the design process include climate, drainage, supporting soil strength, quality and size of base rock and type, quality and strength of the surfacing material, usually asphalt concrete (AC) or Portland Cement Concrete (PCC).

To a traffic engineer, road capacity typically refers to the actual number of vehicles that can physically occupy a roadway. For two-lane highways, 'roadway capacity' is the maximum number of vehicles that can pass a given point during a given period of time. There are a number of factors affecting the capacity of a specific highway from a traffic engineering point of view. Some of those factors are speed, lane widths, shoulder widths, passing zones, vehicle classification, directional distribution of traffic, traffic control devices, terrain, horizontal and vertical alignment, location of roadway (urban or rural) and number of accesses.

Cross Section Elements

There are a number of different elements built into a cross section. The Policy on Geometric Design of Highways and Streets, published by AASHTO, includes definitions for cross section elements in Chapter IV. This chapter does not include structural design of pavements. However, this topic is covered in the AASHTO Guide for Design of Pavement Structures. This guide does

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not discuss cross section elements. I have enclosed photo copies of figures from AASHTO's chapter defining cross section elements for your use. Here are some of the topics covered in this chapter:

Pavement surface type	Cross slope and skid resistance
Lane widths	Shoulder width cross sections, stability or turnouts
Walkways	Horizontal clearance to obstructions
Medians	Traffic barriers, median barriers, bridge railings and crash cushions
Frontage roads	Roadside control of driveways and mailboxes
Outer separations	Grade separations for pedestrian crossings
Noise control	Curb-cut ramps for the physically handicapped
Bicycle facilities	Curb types and placement of curbs
Bus turnouts	Park and ride facilities
Tunnels	Drainage channels and side slopes
On-street parking	Median and island openings

If you have any further questions, please do not hesitate to contact me.

Respectfully submitted,

James A. Branch, PE

JAB/DG/tle

naries, and Traffic Signals. Washington, D.C.: AASHTO, 1986, 69 pp.

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2. Mullin, E. F. "The Part Visibility Could Play in Road Design." *Australian Road Research*, Vol. 2, No. 9, September 1966, pp. 15-43.
3. *Standard Specifications for Highway Bridges.* Washington, D.C.: AASHTO, 1983.
4. Weaver, G.D. and Glennon, J.C. "Passing Performance Measurements Related to Sight Distance Design," *Report 134-6.* College Station, Texas: Texas Transportation Institute, Texas A&M University, July 1971.
5. Weaver, G.D. and Woods, D.L. (Texas Transportation Institute). "Passing and No-Passing Signs, Markings, and Warrants." *Report No. FHWA-RD-79-5*, U.S. Department of Transportation, Federal Highway Administration. Washington, D.C.: U.S. Government Printing Office, September 1978, 239 pp.
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7. Folks, N.E. (Ultrasystems, Inc.). "Manual for Safety Rest Area Water Supply Systems." *Report No. FHWA-RD-77-113*, U.S. Department of Transportation, Federal Highway Administration. Washington, D.C.: U.S. Government Printing Office, September 1977, 296 pp.
8. Hughes, G.W., Averett, D.E. and Francingues, N.R., Jr. (Environmental Effects Laboratory). "Wastewater Treatment Systems for Safety Rest Areas." *Report No. FHWA-RD-77-107*, U.S. Department of Transportation. Federal Highway Administration. Washington, D.C.: U.S. Government Printing Office, September 1977, 291 pp.
9. MacAdam, C.C., Fancher, P.S., Segal, L. (University of Michigan Transportation Research Institute) "Side Friction for Superelevation on Horizontal Curves" *Report No. FHWA-RD-86-024.* U.S. Department of Transportation, Federal Highway Administration. Springfield, Va.: National Technical Information Service, August 1985.
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Chapter IV
CROSS SECTION ELEMENTS

PAVEMENT

Surface Type

The selection of pavement type is determined by the volume and composition of traffic, soil characteristics, weather, performance of pavements in the area, availability of materials, energy conservation, the initial cost and the overall annual maintenance and service life cost. The structural design of pavements is not included in this policy, but may be found in the AASHTO *Guide for Design of Pavement Structures* (26).

Pavements may be considered as three general types—high, intermediate, and low. High-volume traffic justifies high-type pavements, which have smooth riding qualities and good skid-resistant properties in all weather. The surface should retain the qualities and cross section and adequately support the expected volume and weights of vehicles without fatigue failure, so that nonroutine maintenance and the resultant annoyance to traffic operations are kept to a minimum. Those pavements classified as intermediate-type surfaces range from surface treatments to pavements built to standards only slightly less strict than those for high-type pavements. Low-type surfaces range from surface-treated earth roads and stabilized materials to loose surfaces such as earth, shell, crushed stone, and bank run gravel.

Important pavement characteristics in relation to geometric design are the ability of a surface to retain its shape and dimensions, the ability to drain, the ability to retain adequate skid resistance and the effect on driver behavior. High-type pavements retain their shape and do not ravel at the edges if placed on a stable subgrade. Their smoothness and proper cross slope design enable drivers to steer easily and keep their vehicles in proper paths.

At the other extreme, low-type surfaces have a tendency toward raveling, which reduces the effective width, and require greater steering effort to maintain a correct path. Loose and other low-type surfaces are used where traffic volume is light.

High-type surfaces provide for higher safe operating speeds than do low-type surfaces. Although the choice of design speed is influenced to a degree by the type of surface, the choice is dependent on other more important factors. In most cases it is also probable that the surface will ultimately be

improved or replaced with a higher type. A surface type should be provided commensurate with the design speed selected for the highway.

Cross Slope

Two-lane and wider undivided pavements on tangents or on flat curves have a crown or high point in the middle and slope downward toward both edges. The downward cross slope may be a plane or curved section or a combination of the two. With plane cross slopes there is a cross slope break at the crown line and a uniform slope on each side. Curved cross sections usually are parabolic, with a slightly rounded surface at the crown line and increasing cross slope toward the pavement edge. Because the rate of crown slope is variable, the parabolic section is described by the crown height, i.e., the vertical drop from the center crown line to the pavement edge. The advantage of the curved section lies in the fact that the cross slope steepens toward the pavement edge, thereby facilitating drainage. The disadvantages are that curved sections are more difficult to construct, the cross slope of the outer lanes may be excessive, and warping of pavement areas at intersections may be awkward or difficult to construct.

On divided highways each one-way pavement may be crowned separately, as on two-lane highways, or it may have a unidirectional slope across the entire width of pavement, which is almost always downward to the outer edge. Where freeze-thaw conditions are a problem, each pavement of a divided highway should be crowned separately.

A cross section with each roadway crowned separately, as shown in Figures IV-1A through IV-1C, has an advantage in rapidly draining the pavement during rainstorms. In addition, the difference between high and low points in the cross section is kept to a minimum. Disadvantages are that more inlets and underground drainage lines are required, and treatment of at-grade intersections is more difficult because of the several high and low points on the cross section. Use of such sections preferably should be limited to regions of high rainfall or where snow and ice are major factors. Sections having no curbs and a wide depressed median are particularly well-suited for these conditions.

Roadways that slope in only one direction, as shown in Figures IV-1D through IV-1G, are more comfortable to drivers because vehicles tend to be pulled in the same direction when changing lanes. Roadways having a unidirectional slope may drain away from or toward the median. Drainage away from the median may effect a savings in drainage structures and simplify treatment of intersecting streets. Drainage toward the median has an advantage over sections sloped to the outer edges in that outer lanes, which are used by most traffic, are freer of surface water and there is economy in the drain-

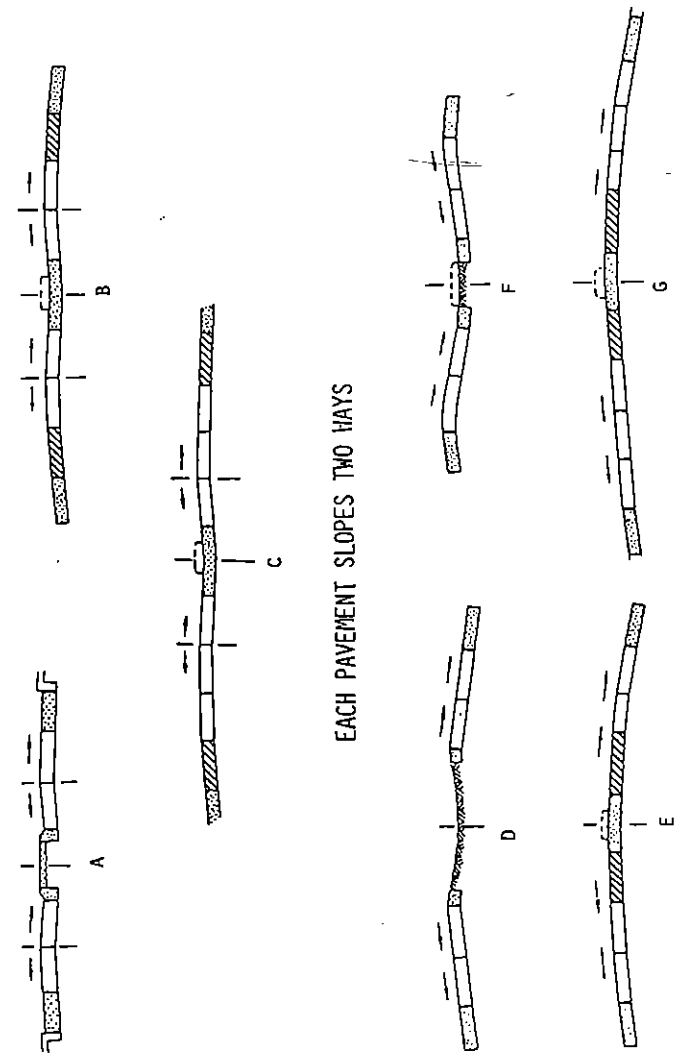

Figure IV-1. Ro ay sections for divided highway (basic s slope arrangements).

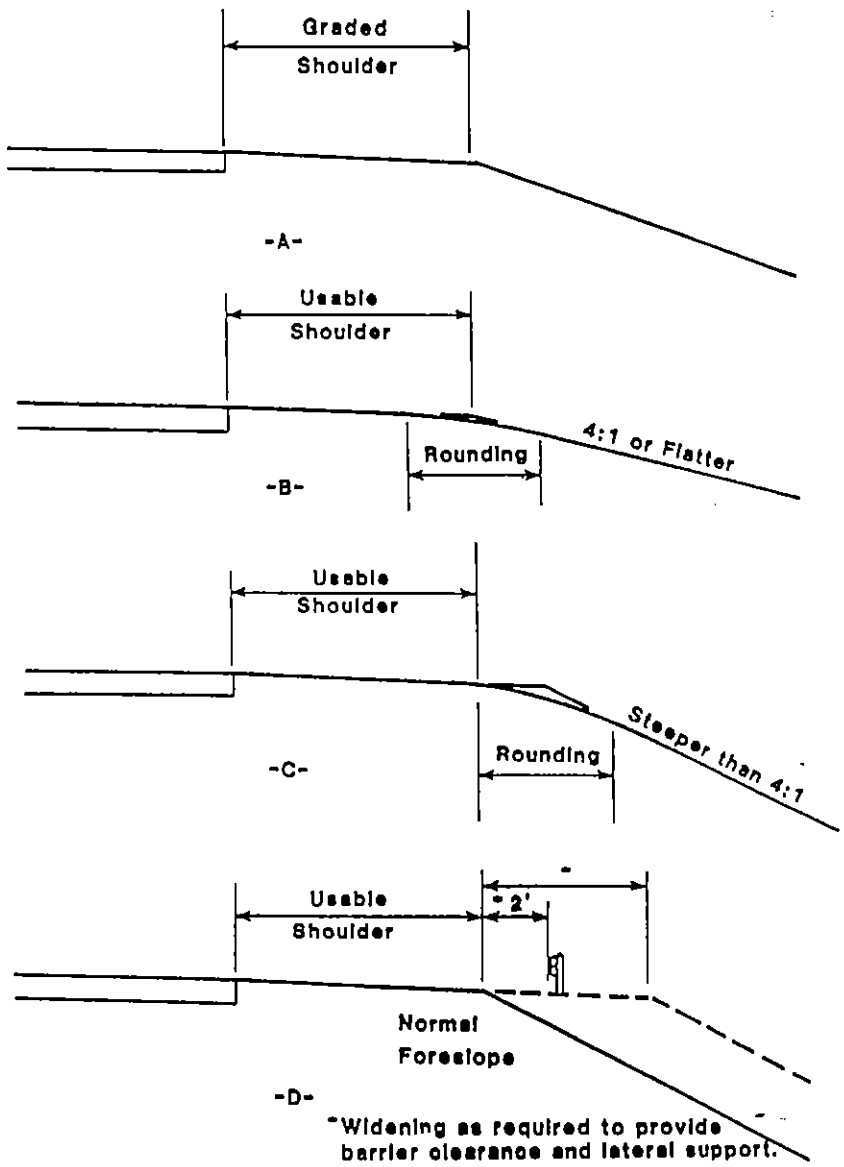

Figure IV-2. Graded and usable shoulders.

Shoulders may be surfaced either full-or partial width to provide a better all-weather load support than that afforded by the native soils. Materials used to surface shoulders include gravel, shell, crushed rock, mineral or chemical additives, bituminous surface treatments and various forms of asphaltic or concrete pavements.

The shoulder on minor rural roads with low traffic volume serves essentially as structural lateral support for the surfacing and as an additional width for the narrow traveled way. It permits drivers meeting or passing other vehicles to drive on the very edge of the roadway without leaving the surfacing, thus making use of the shoulder itself. Such operation is fitting only when meetings and passing occur infrequently. Where there is appreciable traffic volume, roads with narrow surfacing and narrow shoulders give poor service, have a relatively higher accident experience, and require frequent and co. maintenance.

Well-designed and properly maintained shoulders are necessary on rural highways with an appreciable volume of traffic, on freeways, and on some types of urban highways. Their more important advantages are as follows:

1. Space is provided for stopping free of the traffic lane because of mechanical difficulty, a flat tire, or other emergency.
2. Space is provided for the occasional motorist who desires to stop to consult road maps, to rest, or for other reasons.
3. Space is provided to escape potential accidents or reduce their severity.
4. The sense of openness created by shoulders of adequate width contributes much to driving ease and freedom from strain.
5. Sight distance is improved in cut sections, thereby improving safety.
6. Some types of shoulders enhance the esthetics of the highway.
7. Highway capacity is improved; uniform speed is encouraged.
8. Space is provided for maintenance operations such as snow remo and storage.
9. Lateral clearance is provided for signs and guardrails.
10. Storm water can be discharged farther from the pavement, and seepage adjacent to the pavement can be minimized. This may directly reduce pavement breakup.
11. Structural support is given to the pavement.
12. Space is provided for pedestrian and bicycle use.
13. Space is provided for bus stops.
14. Improved lateral placement of vehicles and space for occasional encroachment of vehicles is provided.

Shoulder slopes that drain away from the paved surface on the outside of well-superelevated sections should be designed to avoid too great a cross slope break. For example, use of a 4 percent shoulder cross slope in a section with a pavement superelevation of 8 percent results in a 12-percent algebraic difference in the pavement and shoulder grades at the high edge of pavement. Grade breaks of this order are not desirable and should not be permitted (Figure IV-3A). For desirable operation, all or part of the shoulder should be

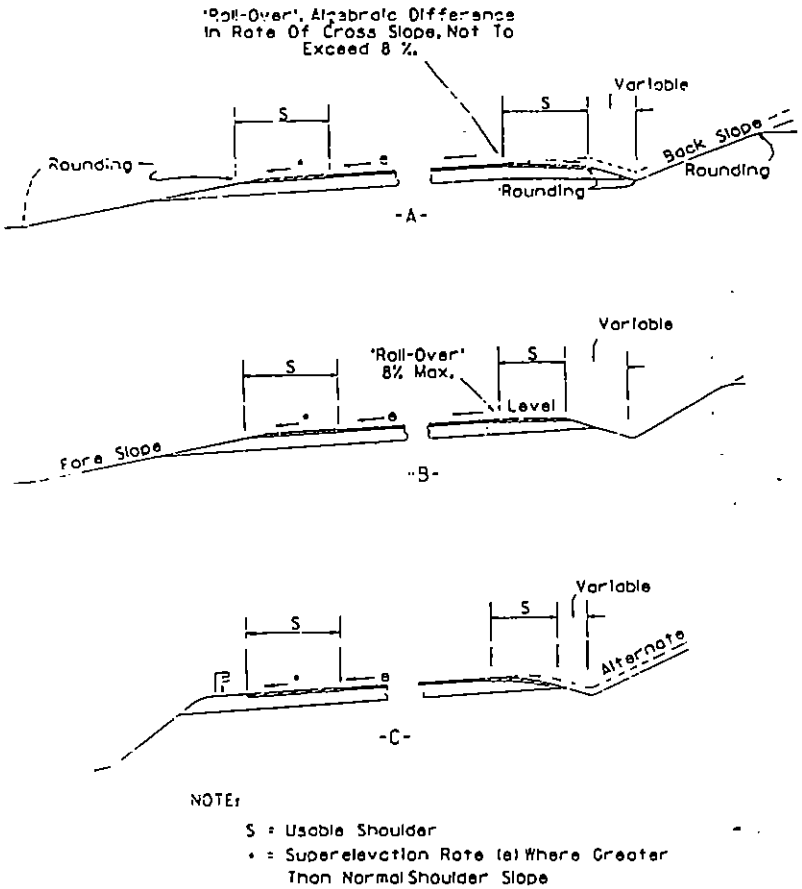

Figure IV-3. Typical cross section, superelevated.

sloped upward at about the same rate or at a lesser rate than the superelevated pavement (Figure IV-3A-Alternate). Where this is not desirable because of storm water and melting snow or ice draining over the paved surface, a compromise might be used in which the grade break at the edge of the paved surface is limited to approximately 8 percent by flattening the shoulder on the outside of the curve (Figure IV-3B). One means of avoiding too severe a grade break is the use of a continuously rounded shoulder cross section on the outside of superelevated pavement (Figure IV-3C). The shoulder in this case is a convex section continuing from the superelevation slope instead of a sharp grade break at the intersection of shoulder and pavement slope. In this method some surface water will drain upon the paved surface, but this disadvantage is balanced by the benefits to the vehicles that may accidentally or purposely be driven upon the shoulder. It should also be noted that convex shoulders presen more construction difficulty than do planar sections. An alternate method to the convex shoulder consists of a planar shoulder section having multiple breaks in the cross slope. On the high side of a superelevated section, shoulder cross slopes substantially less than those previously given generally are not detrimental to shoulder stability; there is no discharge of storm water from the pavement to the shoulder and, therefore, little likelihood of shoulder erosion damage.

In some areas shoulders are designed with a curb or gutter at the outer edge to confine runoff to the surfaced shoulder area. Drainage for the entire roadway is handled by these curbs, with the runoff directed to selected outlets. The shoulder necessarily is surfaced, the outer portion serving as the longitudinal gutter. Cross slopes are as previously indicated, except that the slope may be increased somewhat on the outer portion. This type of shoulder is advantageous in that the curb on the outside of the shoulder does not deter motorists from driving off the traffic lanes, and the shoulder serves as a gutter in keeping the storm water off the traveled lanes. In fact, unless carefully engineered for color and texture, in contrast to the pavement proper, it ma appear inviting as a through-traffic lane.

Shoulder Stability

If shoulders are to function effectively, they must be sufficiently stable to support occasional vehicle loads in all kinds of weather without rutting. Evidence of rutting, skidding, or vehicles mired down, even for a brief seasonal period only, is sufficient to discourage and to prevent the shoulder from being used as intended.

All types of shoulders should be constructed and maintained flush with the paved surface if they are to fulfill their intended function. Unstabilized shoul-

islands in intersection areas or sometimes at the outer edge of the shoulder. Curbs should not be placed adjacent to high-speed lanes unless they serve a definite purpose. Any of the mountable sections in Figure IV-4 might be used for a median curb. Where drainage curbs are used in conjunction with metal median barriers, they should be installed directly under or behind the barrier. Drainage curbs should not be used with concrete median barriers. Improperly placed curbs may cause errant vehicles to vault a barrier or to strike it so that the vehicle overturns.

Shoulder curbs are mountable curbs placed at the outer edge of the shoulder to control drainage, improve delineation, and reduce erosion. They may be part of the longitudinal drainage system being combined with a gutter section. All of the mountable sections are applicable for this use. If the surfaced shoulders are not wide enough for a vehicle to park, the shoulder curb must appear to be easily mountable to encourage motorists to park clear of the traveled way.

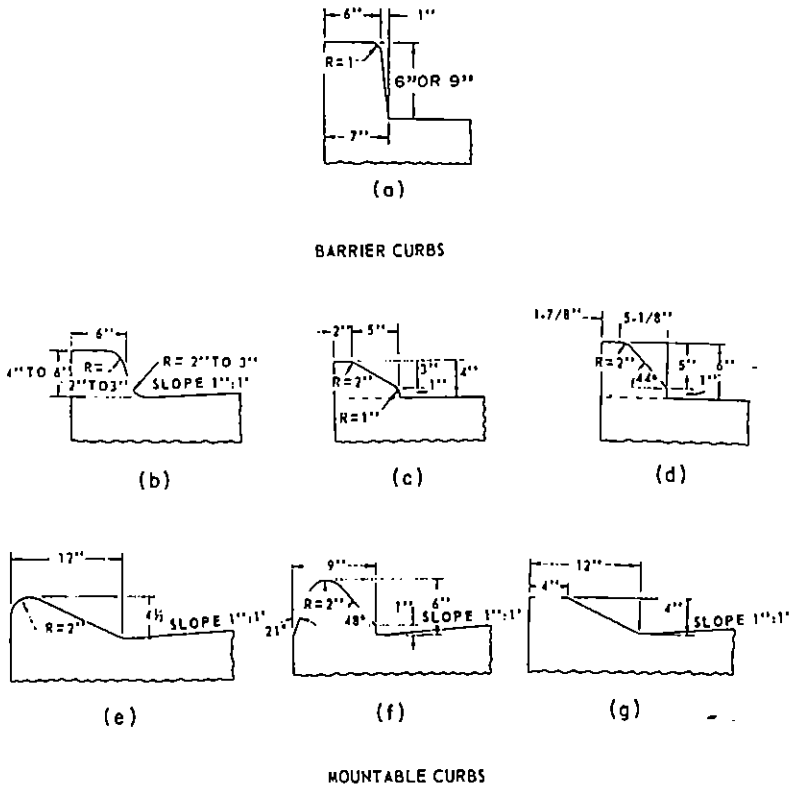

Figure IV-4. Typical highway curbs.

Gutter sections may be provided on the traveled-way side of a barrier or mountable curb to form the principal drainage system for the roadway. Inlets are provided in the gutter or the curb, or both. Gutters are generally 1 to 6 ft in width, with a cross slope of 5 to 8 percent to increase the hydraulic capacity of the gutter section. In general, the 5- to 8-percent slope should be confined to the 2 or 3 ft adjacent to the curb. Shallow dished gutters without a curb have small flow capacity and have limited value for drainage. Generally, it is not practical to design gutter sections to contain all of the runoff even from frequent rains, and some overflow onto the traveled surface can be expected. The spread of water on the traveled way is kept within tolerable limits by the proper size and spacing of inlets. Grate inlets and depressions for curb-opening inlets should not be placed in the traveled lane because of their adverse effect on drivers who veer away from them. Warping of the gutter for curb-opening inlets should be limited to the portion within 2 to 3 ft of the curb to minimize adverse driving effects.

The width of barrier and mountable curbs are considered as cross section elements entirely outside the traffic lane width. When a gutter has the same surface color and texture as the traffic lane, and it is not much steeper in cross slope than the adjoining pavement, it might be considered part of the traffic lane. This arrangement is used frequently in urban areas where undesirable right-of-way width would result from consideration of gutters as elements outside the traffic lane width. However, with any form of curb there is some lateral shying distance by drivers, particularly on their right, which reduces effective through-lane width. A gutter with an evident longitudinal joint and somewhat steeper cross slope than the adjacent lane is a greater deterrent to driving near the gutter than the situation in which the traffic lane and gutter are integral. A gutter of contrasting color and texture should never be considered part of the traffic lane width.

High-visibility curbs are advantageous at night, particularly in areas subject to fog or extended rains. Conventional concrete or bituminous curbs offer little contrast in visibility to normal pavements, particularly at night and when wet. Channelizing island curbs or continuous curbs along through-lane edges may be constructed with reflective surfaces. Curbs of special design with depressions and ribs to reflect headlight beams are visible during heavy rains when delineation is needed most and when plain curbs may be barely noticeable.

The higher installation cost and maintenance cleaning problems result in only limited use of such curbs.

the channel. In areas where grass will grow, it is usually the most economical channel lining except on steep slopes where the velocity of flow exceeds the permissible velocities for grass protection. Various materials including concrete, asphalt, stone, and nylon are used for linings where grass will not provide adequate protection. Smooth linings generate higher velocities than rough linings such as stone and grass. Provision must often be made to dissipate the energy of the high-velocity flow before it is released to avoid scour at the outlet and damage to the channel lining. If erosive velocities are developed because of smooth linings or steep grades, a special channel design or energy dissipater may be required.

Reference should be made to AASHTO's *Highway Drainage Guidelines* (5), drainage design manuals, handbooks and publications of the Soil Conservation Service, Corps of Engineers, and Bureau of Reclamation for details as to design and protective treatments, including filter requirements. In addition, the publications made available to highway agencies from the FHWA, such as *Design of Stable Channels With Flexible Linings* (17), provide excellent references. (See Chapter III.)

Sideslopes

Sideslopes should be designed to insure the stability of the roadway and to provide a reasonable opportunity for recovery for an out-of-control vehicle.

Three regions of the roadside are important when evaluating the safety aspects: the top of the slope (hinge point), the foreslope, and the toe of the slope (intersection of the foreslope with level ground or with a backslope, forming a ditch). Figure IV-5 illustrates these three regions.

The hinge point contributes to loss of steering control because the vehicle tends to become airborne in crossing this point. The foreslope region is important in the design of high slopes where a driver could attempt a recovery maneuver or reduce speed before impacting the ditch area. In many situations the toe of the slope is within the clear zone and the probability of reaching the ditch is high, in which case safe transition between fore- and backslopes should be provided.

Research (6) in these three regions of the roadside has found that rounding at the hinge point, though not necessary from a vehicle rollover standpoint, can significantly reduce its hazard potential. Rounded slopes reduce the chances of an errant vehicle becoming airborne, thereby reducing the hazard of encroachment and affording the driver more control over the vehicle. Foreslopes steeper than 4:1 are not desirable because their use severely limits the choice of backslopes. Slopes 3:1 or steeper are recommended only where site conditions do not permit use of flatter slopes. When slopes steeper than

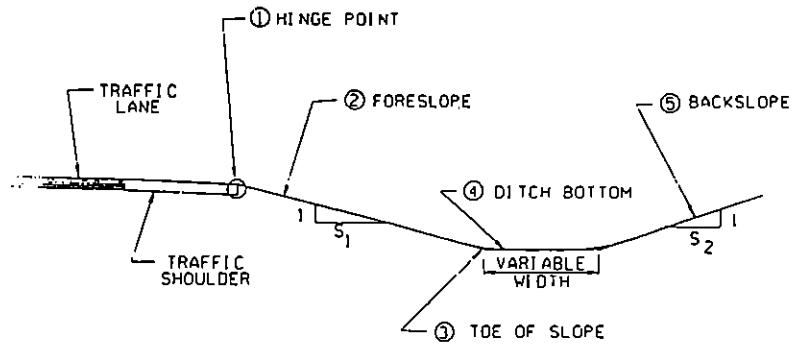

Figure IV-5. Designation of roadside regions.

3:1 must be used, consideration should be given to the use of a roadside barrier.

Another safety factor of significance for intersecting roadways is the angle of break between a sideslope and a transverse slope. Field observations indicate that more consideration should be given in roadway design to carrying the desirable flat sideslopes through intersections, driveway approaches, median crossovers, and cut sections. Providing a flatter slope between the shoulder edge and the ditch bottom, locating the ditch a little farther from the roadway, or even enclosing short sections of drainage facilities will enhance the safety of the roadside, often at a small increase in cost.

Earth cut and fill slopes should be flattened and liberally rounded as fitting with the topography and consistent with the overall type of highway. Effective erosion control, low-cost maintenance, and adequate drainage of the subgrade largely are dependent upon proper shaping of the sideslopes. Slope and soil data are used in combination to approximate the stability of the slopes and the erosion hazard potential. Overall economy depends not only on the element of first cost but also on the cost of maintenance, of which slope stability is a factor. In addition to these reasons for flat and rounded slopes on any highway, the proximity of any urban highway to the developments and people of the community call for additional attention to naturalized slopes and overall appearance factors.

Normally, backslopes should be 3:1 or flatter, to make it easier for motorized equipment to be used in maintenance. In developed areas, sufficient space may not be available to permit the use of desirable slopes. Backslopes steeper than 3:1 should be evaluated with regard to soil stability and traffic safety. Retaining walls of partial height should be considered where space

In some cases an irregular slope stake line results from the strict adherence to specified cut or fill slopes. It may be more esthetically pleasing to vary the slope to yield a neat stake line.

Design slopes for rock vary widely, depending upon the materials. A commonly used standard slope for rock cuts is one-half to one. With modern construction methods such as presplitting, slopes ranging as steep as one-sixth to one to vertical may be used in good-quality rock. Deep cuts in rock often require the construction of benches in the slopes.

Slope stability as well as appearance may be enhanced in poor-quality rock by the establishment of vegetative cover. In some parts of the country, serrated cut slopes aid in the establishment of vegetative cover on decomposed rock or shale slopes. Serration (7) may be constructed in any material that can be ripped or that will hold a vertical face long enough to establish vegetation.

Desirably, the toe of the rock-cut slope should be located beyond the minimum lateral distance from the edge of the traveled way needed by the driver of an errant vehicle to either regain control and begin a return to the roadway or to slow the vehicle to a safe speed. Wide shelves at the bottom of rock cuts have advantages in that a safe landing area is provided for falling boulders and space is available for snow storage in colder climates. This width can also be shaped to provide a clear roadside recovery area.

Rock outcroppings have sometimes been left in place during construction of new highways for reasons of economy or esthetics. These are potentially hazardous if struck by an automobile and should be eliminated within the clear roadside recovery area where removal is feasible. If they cannot be removed, they should be shielded by the installation of a roadside barrier of appropriate design.

For additional guidance on sideslopes, refer to the AASHTO *Roadside Design Guide* (12).

ILLUSTRATIVE OUTER CROSS SECTIONS

Figures IV-3 and IV-6 illustrate typical combinations of the marginal highway elements—shoulders, side-drainage channels, sidewalks, curbs, and sideslopes—for superelevated pavement sections and normal crowned pavement sections, respectively. Only a few of the desirable arrangements are illustrated, but other practical arrangements are discussed.

Normal Crown Sections

Figure IV-6A shows the most widely used cross section in modern highway practice. The combination of elements is simple and forms a streamlined

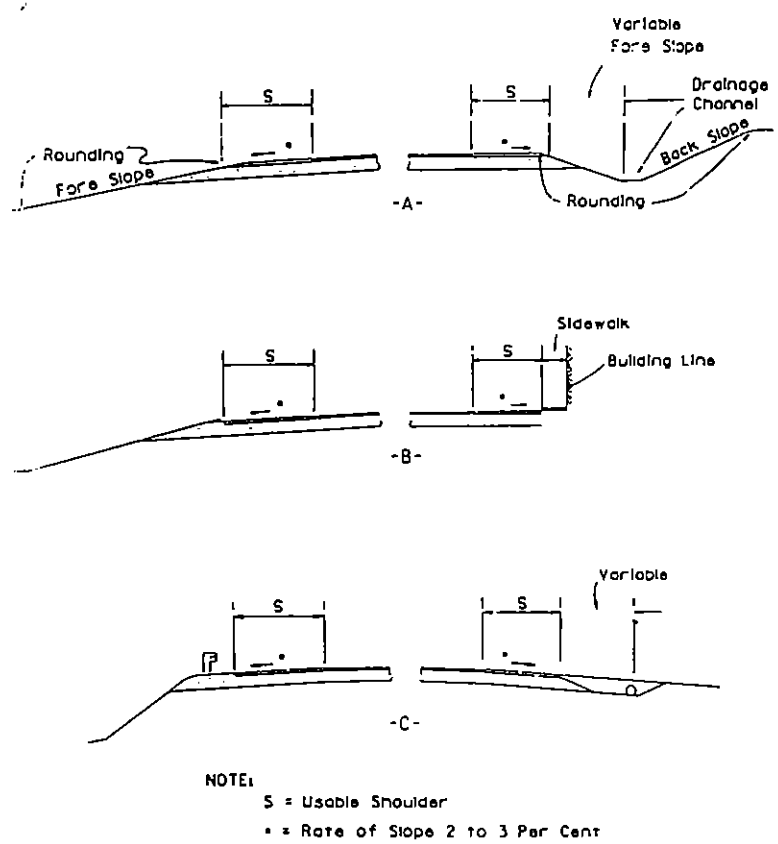

Figure IV-6. Typical cross section, normal crown.

cross section. Usable shoulder widths are included on both the fill and cut sections. The controlling shoulder slopes as previously discussed range from 2 percent for a paved or impervious surface to 8 percent as the maximum applicable to a turf surface.

The drainage channel at the right in Figure IV-6A is formed by the foreslope on the roadway side and the cut slope or backslope on the outer side. The foreslope and backslope combination should be selected to produce a cross section that can be safely traversed by an errant vehicle. The bottom width of the channel should be sufficient for the required drainage capacity

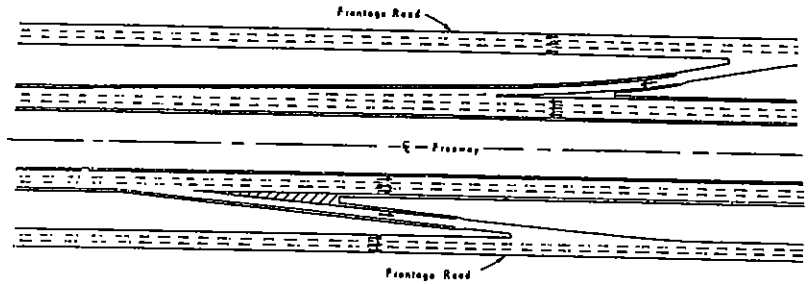

Figure IV-9. One-way frontage roads, entrance and exit ramps.

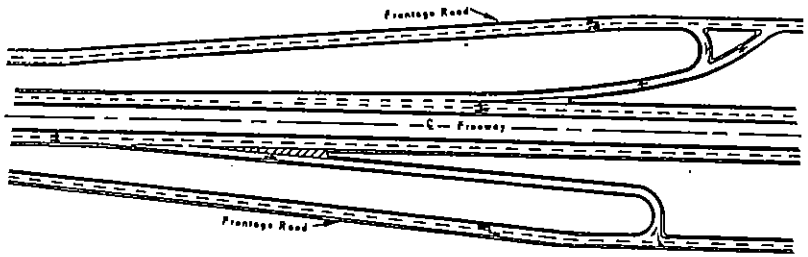

Figure IV-10. Two-way frontage roads, entrance and exit ramps.

buildings, or serve only scattered development, traffic will be light and operation will be local in character. For widths of one- or two-way, two-lane frontage roads for rural and urban collectors, see Chapter VI.

OUTER SEPARATIONS

The area between the traveled way of a roadway for through traffic and a frontage road or street is the outer separation. Such separations function as buffers between the through traffic on the arterial and the local traffic on the frontage road and provide space for a shoulder for the through pavement and ramp connections to or from the through facility.

The wider the outer separation, the less influence local traffic will have on through traffic. Wide separations lend themselves to landscape treatment and enhance the appearance of both the highway and the adjoining property. A substantial width of outer separation is particularly advantageous at intersections with cross streets. This outer separation minimizes vehicle and pedestrian conflicts.

Where ramp connections are provided between the through roadway and the frontage road, the outer separation must be substantially wider than normal. The required width will depend mostly upon design requirements at the ramp termini.

Where two-way frontage roads are provided, a driver on the through facility must contend with approaching traffic on the right (opposing frontage road traffic) as well as opposing arterial traffic on the left. Desirably, the outer separation should be sufficiently wide to minimize the effects of approaching traffic, particularly the confusing and distracting nuisance headlight glare at night. With one-way frontage roads the outer separation need not be as wide as with two-way frontage roads.

Figure IV-11 illustrates a one-lane, one-way frontage road with parking serving businesses along a major undivided arterial street in a densely devel-

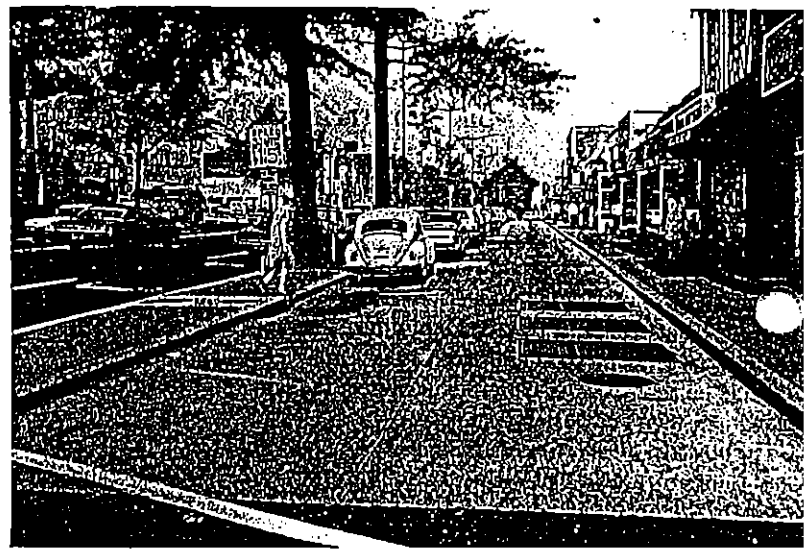

Figure IV-11. Frontage road in business area with narrow outer separation.

oped area of a large city. The raised and curbed outer separation separates through traffic from local traffic and provides a refuge for pedestrians.

The cross section and treatment of an outer separation depends largely upon its width, the type of arterial, and the type of frontage road. Preferably, the strip should drain away from the through pavement either to a curb and gutter at the frontage road or to a swale within the strip. Typical cross section of outer separations for various types of arterials are illustrated in Figure IV-12.

The design in Figure IV-12A would be applicable to low-speed arterial streets in densely developed areas.

Figure IV-12B shows a minimal outer separation that may be applicable to ground-level freeways and high-speed arterial streets. This outer separation consists simply of the shoulders of the through roadway and the frontage road and a physical barrier.

Figure IV-12C shows a depressed arterial with a cantilevered frontage road. In this example, the inside edge of the frontage road is directly over he outside edge of the through roadway.

Figure IV-12D illustrates a common type of outer separation along a section of depressed freeway.

Figure IV-12E shows a walled section at a depressed arterial with a ramp, and Figure IV-12F shows a typical freeway outer separation with a ramp.

NOISE CONTROL

General Considerations

Noise may be defined as unwanted sound. Motor vehicles generate traffic noise from the motor, aerodynamics, exhaust, and interaction of tires with the roadway. Efforts should be made to minimize the radiation of noise into noise sensitive areas along the highway. It is necessary that the designer evaluate probable noise levels and the effectiveness of reducing highway traffic noise through location and design features.

The physical measurement of human reaction to sound is difficult because there is no instrument that will measure this directly. A close correlation can be obtained by using the A-scale on a standard sound level meter. The meter yields a direct reading in effective decibels (dBA).

A few general relationships may be helpful in understanding some of the principles of sound generation and transmission. Because noise is measured on a logarithmic scale, a decrease of 10 dBA will appear to an observer to be halving of the noise. For example, a noise of 70 dBA sounds only one-half a

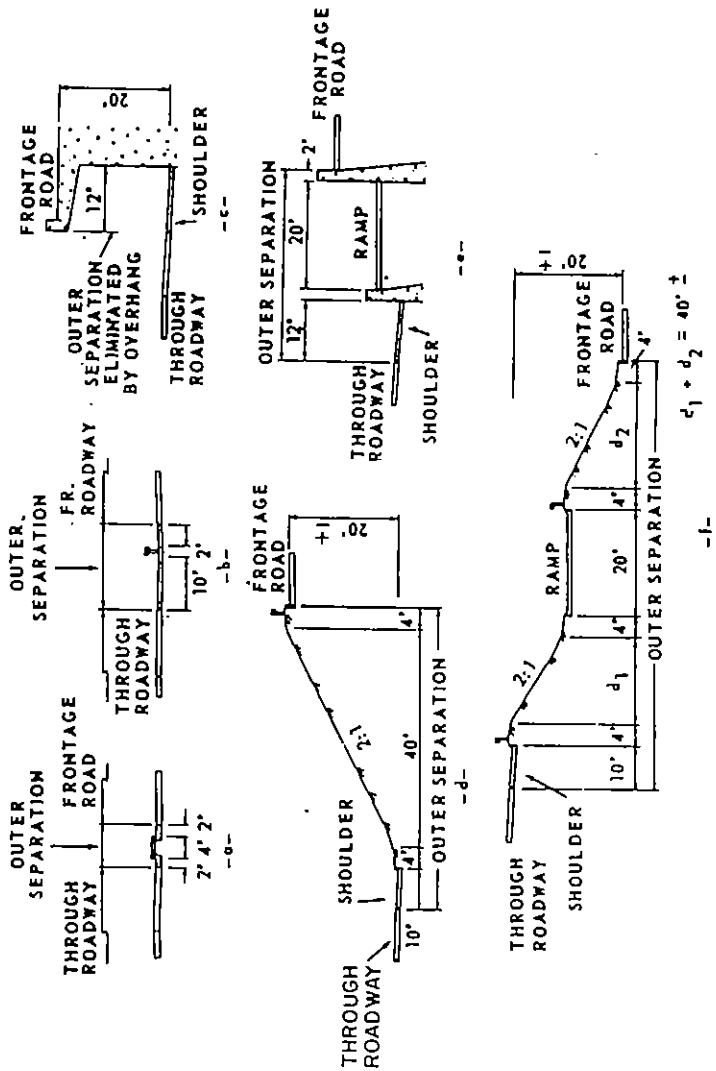

Figure IV-12. Typical outer separations.

Noise Reduction Designs

An effective method of reducing traffic noise from adjacent areas is to design the highway so that some form of solid material blocks the line of sight between the noise source and the receptors. Advantage should be taken of the terrain in forming a natural barrier so that the appearance remains esthetically pleasing. Early determination of potential noise problems should be attempted. Line, grade, earthwork balance, and right-of-way should all be worked out with noise in mind. Attenuation may be inexpensive and feasible if "built-in." Adding it after the design is tied down is expensive.

In terms of noise considerations, a depressed highway section is the most desirable. Depressing the roadway below ground level has the same general effect as erecting barriers, i.e., a shadow zone is created on the receiver plane wherein noise levels are reduced. (See Figure IV-13.)

Where a highway is constructed on an embankment in a noise sensitive area, additional width or the embankment beyond the shoulders will sometimes block the line of sight to receptors near the highway, thus reducing the noise problem. (See Figure IV-14.)

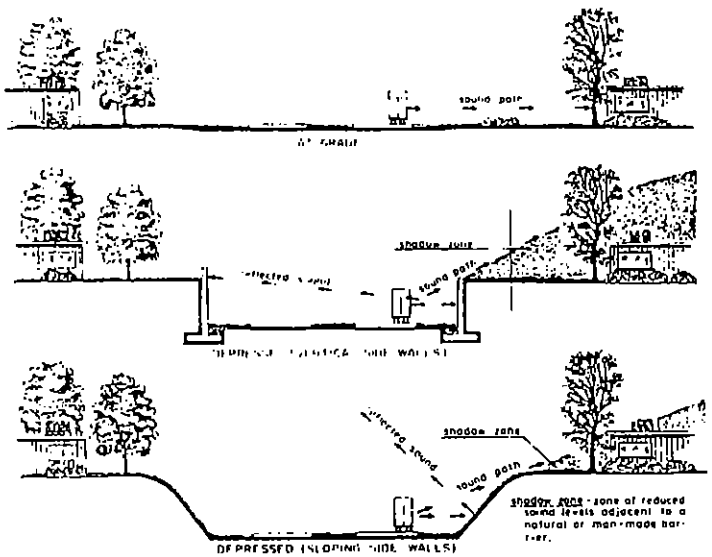

Figure IV-13. Effects of depressing the highway.

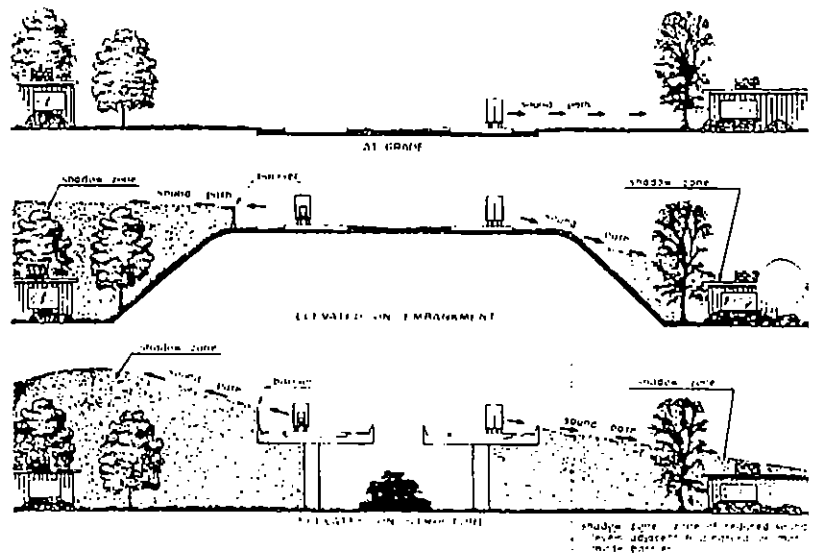

Figure IV-14. Effects of elevating the highway.

Special sound barriers may be justified at certain locations, particularly along ground level or elevated highways through noise-sensitive areas. Concrete, wood, metal, or masonry walls are very effective. One of the more esthetically pleasing barriers is the earth berm that has been graded to achieve a natural form blending with the surrounding topography. The feasibility of berm construction should be considered as part of the overall grading plan for the highway. There will be instances where an effective earth berm can be constructed within normal right-of-way or with a minimal additional right-of-way purchase. If right-of-way is insufficient to accommodate a full-height earth berm, a lower earth berm can be constructed in combination with a wall or screen to achieve the desired height.

Shrubs, trees, or ground covers are not very efficient in shielding sound because of their permeability to the flow of air. However, almost all buffer plantings offer some noise reduction, and exceptionally wide and dense plantings may result in substantial reductions in noise levels. Even where the noise reduction is not considered significant, the esthetic effects of the plantings will produce a positive influence.

from the tunnel portal to permit necessary guide signs between the tunnel and the point of exit. This distance should be a minimum of 1,000 ft. It is also highly undesirable that traffic be required to merge, diverge, or weave within a tunnel, as might be the case if the tunnel is located between two closely spaced interchanges. Forks and exit or entrance ramps should be avoided within tunnels.

Tunnel Sections

From the standpoint of service to traffic, tunnels should not differ materially from grade separation structures. The same standards for alinement and profile and for vertical and horizontal clearances apply generally except that minimum values generally are used because of high cost and restricted right-of-way.

Full left- and right-shoulder widths of the approach freeway desirably should be carried through the tunnel. Actually, the need for added lateral space is greater in tunnels than under separation structures because of the greater likelihood of vehicles becoming disabled in the longer lengths. If shoulders are not provided, intolerable delays may result when vehicles become disabled during periods of heavy traffic. However, the cost of providing shoulders in tunnels may be prohibitive, particularly on long tunnels that are constructed by the boring or shield-drive methods. Thus, the determination of the width of shoulders to be provided in a tunnel should be based on an in-depth analysis of all factors involved. Where it is not feasible to provide shoulders in a tunnel, arrangements should be made for around-the-clock emergency service vehicles that can promptly remove any stalled vehicles.

Figure IV-15 illustrates the minimum and desirable sections for two-lane tunnels. The minimum roadway width, between curbs, as shown in Figure IV-15A, should be at least 2 ft greater than the approach traveled way, but not less than 24 ft. The curb or sidewalk on either side should be a minimum of 1.5 ft. The total clearance between walls of a two-lane tunnel should be a minimum of 30 ft. The total width and curb or sidewalk width can be varied as needed or desired within the 30-ft minimum wall clearance; however, the widths should not be less than the minimum values stated above. The minimum vertical clearance is 16.5 ft for freeways and 14.5 ft for other highways.

However, the minimum clear height should not be less than the maximum height of load that is legal in a particular State, and it is desirable to provide an allowance for future repaving of the roadways.

Figure IV-15B illustrates the desirable section, a 44 ft-wide section with two 12 ft lanes, a 10-ft right shoulder, a 5-ft left shoulder, and a 2.5 ft curb or sidewalk on each side. The roadway width may be distributed to either side in a different manner if needed to better fit the dimensions of the tunnel

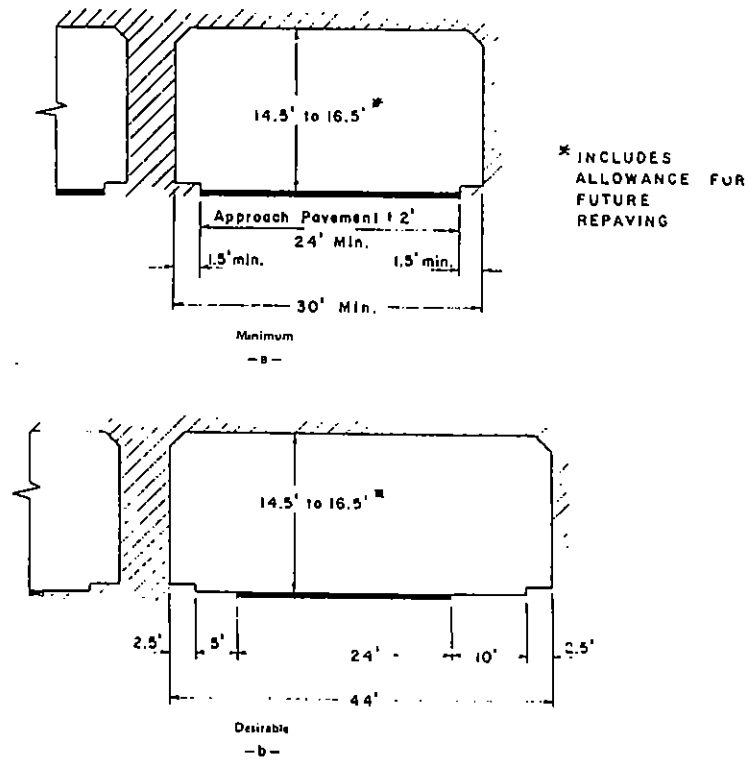

Figure IV-15. Typical two-lane tunnel sections.

approaches. The vertical clearance for the desirable section is 16.5 ft for freeways and 14.5 ft for other highways.

Normally, pedestrians are not permitted in freeway tunnels; however, space should be provided for emergency walking and for access by maintenance personnel. Raised sidewalks, 2.5 ft wide, are desirable beyond the shoulder areas to serve the dual purpose of a safety walk and an obstacle to prevent the overhang of the vehicles from damaging the wall finish or the tunnel lighting fixtures.

Figure IV-16 shows several diagrammatic tunnel sections and partially covered highways. Directional traffic should be separated for safety reasons and to relieve the dizzying effect of two-way traffic in the confined space. This separation can be achieved by providing a twin opening as shown in Figure IV-16A, by multilevel sections as shown in Figure IV- and IV-16C, or

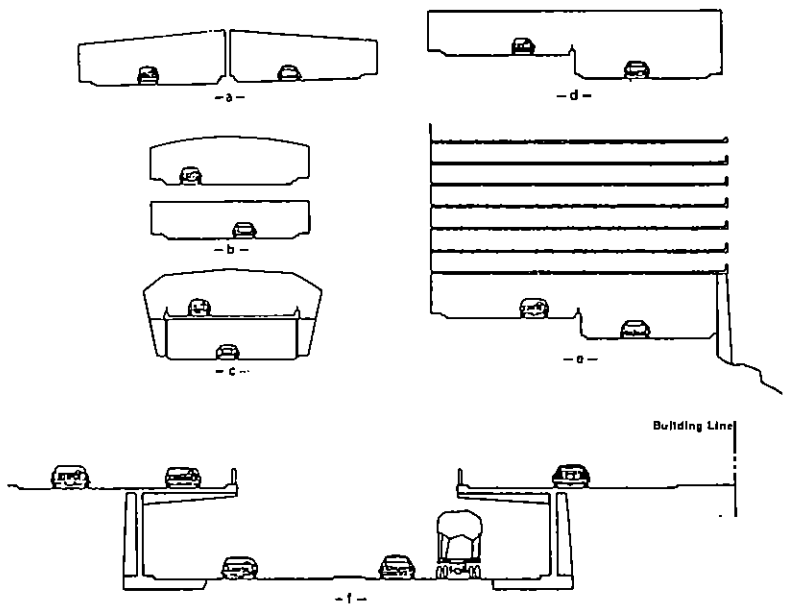

Figure IV-16. Diagrammatic tunnel sections.

by terraced structures as shown in Figure IV-16D. Figure IV-16E illustrates roadways that are tunneled under hillside buildings to mutual advantage. The terraced roadways are open on the outside for light, view, and ventilation. A partially covered section, as shown in Figure IV-16F, provides light and ventilation to the vehicle user while minimizing freeway intrusion on the community traversed. This type of cross section is covered in the section "Depressed Freeways" in Chapter VIII.

Examples of Tunnels

Figure IV-17 shows a freeway tunneling through a hillside. The portals are staggered and attractively designed. The interchange is located a sufficient distance from the tunnel to allow space for effective signing and the necessary traffic maneuvers.

Figure IV-18 shows the interior of a three-lane directional tunnel. Note the two rows of lighting fixtures on each wall in the foreground. The upper row

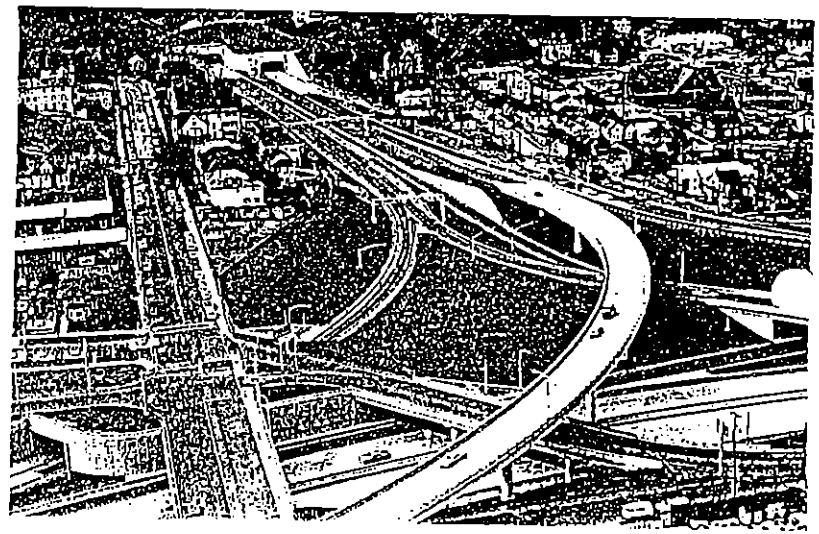

Figure IV-17. Entrance to freeway tunnel.

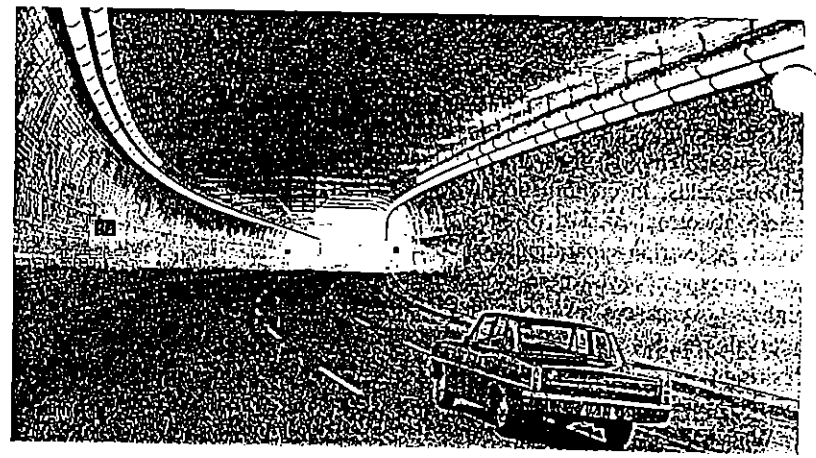

Figure IV-18. Interior of a 3-lane one-way tunnel.

rial streets to permit turnouts in the border area, but advantage should be taken of every opportunity to do so.

To be fully effective, bus turnouts should incorporate (1) a deceleration lane or taper to permit easy entrance to the loading area, (2) a standing space sufficiently long to accommodate the maximum number of vehicles expected

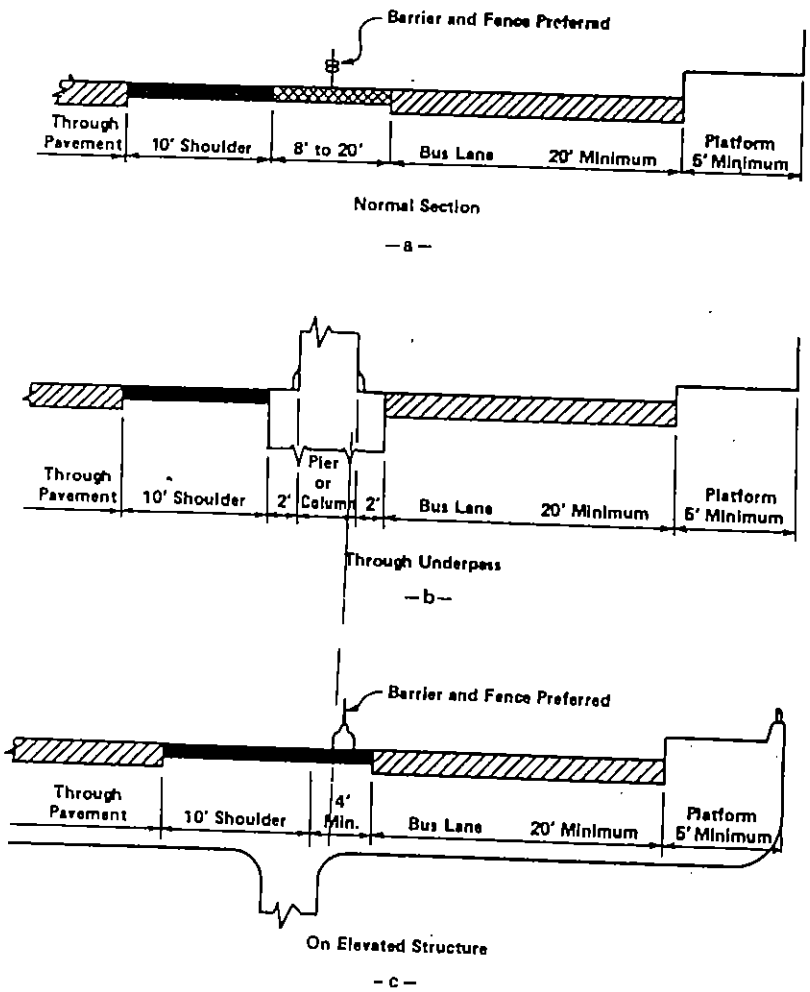

Figure IV-27. Bus turnouts.

to occupy the space at one time, and (3) a merging lane to enable easy reentry into the through-traffic lanes.

The deceleration lane should be tapered at an angle flat enough to encourage the bus operator to pull completely clear of the through lane. Usually it is not feasible to provide a length sufficient to permit deceleration from highway speeds clear of the traveled way. A taper of about 5:1, longitudinal to transverse, is a desirable minimum. When the bus stop is on the far side of an intersection, the intersection area may be used as the entry area to the stop.

The loading area should provide about 50 ft of length for each bus. The width should be at least 10 ft and preferably 12 ft.

The merging or reentry taper may be somewhat more abrupt than the deceleration taper but, preferably, should not be sharper than 3:1. Where the turnout is on the near side of an intersection, the width of cross street is usually great enough to provide the necessary merging space.

The total length of turnout for a two-bus loading area of minimum design should be about 180 ft for a midblock location, 150 ft for a near-side location, and 130 ft for a far-side location. These dimensions are based on a loading area width of 10 ft. They should be increased by 10 to 15 ft for a width of 12 ft. Greater lengths of bus turnouts expedite bus maneuvers, encourage full compliance on the part of bus drivers, and lessen interference with through traffic.

Figure IV-28 shows a bus turnout at a midblock location. The width of the turnout is 10 ft. Length of turnout, including tapers, is 210 ft. The deceleration and acceleration tapers are 4:1.

For more information on bus turnouts see the AASHTO *Guide for Design of High Occupancy Vehicle and Public Transfer Facilities* (14).

Park-and-Ride Facilities

Location

Park-and-ride facilities should be located adjacent to the street or highway and be visible to the commuters whom they are intended to attract. Preferably, the parking areas should be located at points that precede the bottlenecks or points where there is significant traffic congestion; they should be located as close to the residential areas as possible in order to minimize travel by vehicles with only one occupant, and they should be located far enough out that land costs are not prohibitive.

Other considerations that affect parking lot location in addition to optimum distance are impacts on surrounding land uses, available capacity of the highway systems between the roadway and proposed [illegible] terrain, and the

LANFEAR Thom

From: HOLTCAMP Lloyd G
Sent: Thursday, March 02, 2000 10:30 AM
To: LANFEAR Thom; VORHES Stephen L
Subject: Cedarcroft Rd., PA 98-5144, BJ Equipment Plan Amendment/Zone Change to QM zone

Two issues brought up at previous hearings regarding the proposed quarry were:

Lack of Stop Sign at Intersection of Cedarcroft Road at Bear Creek Road
County staff have now placed a stop sign on Cedarcroft Rd. at the approach to Bear Creek Road in response to this concern.

Bradford Road approach to Bear Creek Road
Testimony was received at public hearing that there was insufficient site distance for traffic entering Bear Creek Road at this location.

County crews removed vegetation in the right-of-way. Measurements recorded after this indicate sight distance available from Bradford Road east along Bear Creek Road was 370'.

Bear Creek road falls under the "basic rule" statutes, ie, no posted speed limit. The maximum speed on Bear Creek Rd. under basic rule is 55mph by statute (ORS 811.105(g). The safe stopping sight distance for 55mph is 550'.

Trucks leaving the quarry use Cedarcroft Road to access Bear Creek Road, not Bradford Road. The Bradford Road intersection with Bear Creek Road is along the route quarry related traffic use to reach Cloverdale Road, a State Highway.

If the Board of County Commissioners interpret the Goal 12 Oregon Admininstrative Rule to mean the sight distance at the Bradford Road/Bear Creek Road intersection needs to be mitagated, the Board can consider the following options:

1. Direct the applicant to obtain a sight line easement outside the road right-of-way on private property to maintain adequate sight distance.

2. Direct Lane County Public Works to obtain such an easement. Costs of obtaining and maintaining such an easement to be borne by the public.

3. Direct Lane County Public Works to obtain such an easement. Costs of obtaining and maintaining such an easement could be billed to the quarry land owner

4. Combination or portion of options 1,2,3.

Without condemnation powers option #1 may not be feasible.

98-5144
EXHIBIT # 123

Lane County

March 23, 2000

James W. Spickerman
Gleaves Swearingen Larsen Potter
Scott & Smith LLP
975 Oak Street, Suite 800
Eugene, Or 97401-3156

Re: Conflicts to Roads Under Goal 5

Dear Jim:

Thank you for the letter with your thoughts on the authority of local governments to address mineral and aggregate operation impacts to roads under the Statewide Goal 5 administrative rule. If I understand the arguments accurately, they seem to conclude that Lane County cannot request road improvements to address the impacts of increased mining truck traffic regardless of the level or intensity of that traffic. Reading through all your materials, including your characterization of conversations between Al Couper and Bob Rindy did not necessarily convince me. Interestingly enough, some of the information from Branch Engineering, Inc. seems to provide some weight to the idea that road improvements that will enable the entire facility to withstand the traffic are appropriate. If you are correct, however, it may push the Board in the direction of limiting the weight of all trucks using those roadways until improvements can be made to sustain the impacts. I look forward to talking with you soon about your analysis and supporting authority.

Please let me know if you have questions. Thank you for your consideration.

Sincerely,

LANE COUNTY OFFICE OF LEGAL COUNSEL

By Stephen L. Vorhes
Assistant County Counsel

cc. Thom Lanfear
Lloyd Holtcamp
Bob Rindy

PA 98-5144
EXHIBIT # 124

RECEIVED BY
LAND MANAGEMENT

OCT 2 4 2000

AM 7,8,9,10,11,12,1,2,3,4,5,6 PM

October 23, 2000

Thom Lanfear
Lane County
Land Management Division
Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: Proposed Findings Bradford Quarry (PA 98-5144)

Dear Thom:

Enclosed please find a draft of proposed findings in accord with your and Steve Vorhes' direction. As you know, these findings do not reflect our position on particular aspects of review of a PAPA application pursuant to the 1996 Goal 5 rule. I would like to reiterate just a couple of points at this juncture and will more thoroughly brief the issues for the Board of Commissioners.

As you know, we have had considerable discussions concerning Mr. Holtcamp's insistence that contribution must be made to repaving the county roads based upon OAR 660-023-0180(4)(b)(B). For convenience, the language of that section is set out:

> "Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding site distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and the capacity that haul other materials;"

As reflected in the minutes of the Planning Commission meeting of April 6, 1999, Mr. Holtcamp has insisted that the County finds authority for the paving requirement in the reference in the above

PA 98-5144
#125

Gleaves Swearingen Larsen Potter Scott & Smith LLP

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Kristin E. Kernutt
Stephen O. Lane
William H. Martin
Laura T. Z. Montgomery
Chad G. Potter
Standlee G. Potter
Ian T. Richardson
Martha J. Rodman
Douglas R. Schultz
Malcolm H. Scott
James V. Shepherd
Bruce E. Smith
James W. Spickerman
Arlen C. Swearingen
Kurt Wankess

quoted administrative rule to conflicts pertaining to "cross section elements." He consistently agreed that the term "road capacity" in the rule refers to the actual number of vehicles that can physically occupy a road. This position was reiterated each time we met through meetings early this year. I then provided you with a letter from Jim Branch of December 20, 1999, which included the section entitled Cross Section Elements found in the AASHTO Guide for Design of Pavement Structures. As was apparent, "cross section elements" did not relate to the makeup or wear of pavement surfaces. At that discussion, Mr. Holtcamp then attempted to say that he was relying upon the reference in the administrative rule to "road capacity." I submit that this is totally inconsistent with his previous position.

Since I wish to make my case to the Commissioners, it would be helpful to know what the staff's position is on this point and will be through the course of the Commissioners' hearings. I am hopeful, as I know you are, that we get some direction from DLCD in the meantime but if I am left with arguing the meaning of these terms to the Commissioners, I need a clear statement of the County's position.

Although I will reiterate it in my later written argument to the Commissioners, I would note that the proposed findings with the conditions pertaining to the repaving obligations for public roads is specifically done without a waiver of the right to challenge those conditions of approval, as we will do pursuant to ORS 197.796, and included in that challenge our claim for reasonable attorneys fees.

The other point that I would make concerning the proposed findings is that, while I have addressed the County zone change criteria and Lane County Rural Comprehensive Plan Policies, I do not believe that that is necessary under the present Goal 5 rule. I believe that pursuant to OAR 660-023-0180(7), those local government regulations are pre-empted by the Goal 5 rule until local regulations are adopted. While none of the five LUBA cases subsequent to adoption of the 1996 Goal 5 rule specifically decide if the local regulations are pre-empted, the language of the rule would indicate so and in both Stockwell v. Benton County, LUBA No. 2033 (9/7/00) and Morse Bros. v. Columbia County, LUBA No. 99-017 (10/25/99) the local jurisdictions took the position that local regulations were pre-empted. While LUBA was not directly presented with the issue, there is nothing in those opinions that would suggest that LUBA disagreed with that position.

I appreciate your efforts in moving this application along to public hearing before the Commissioners. Please advise me as soon as possible concerning your or Steve's comments on the proposed findings.

Very truly yours,

James W. Spickerman

jca
Enclosure
cc: BJ Equipment Company
Stephen Vorhes (w/enc)

DRAFT September 27, 2000

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF LANE COUNTY, OREGON

IN THE MATTER OF THE POST ACKNOWLEDGMENT PLAN AMENDMENT (PAPA) TO REDESIGNATE LAND FROM F-1, NON-IMPACTED FOREST LAND TO QM-RCP, QUARRY AND MINE OPERATION ZONE (PA 98-5144; ROSS BRADFORD)

RECEIVED BY
LAND MANAGEMENT

OCT 2 4 2000

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FINDINGS OF FACT AND CONCLUSIONS OF LAW AND CONDITIONS IN THE MATTER OF PA 98-5144

A. The Application.

The applicant and property owner, Ross Bradford, by and through his agent, BJ Equipment Company, LLC, has submitted an original Application and Amended Application seeking approval of the following:

1. Pursuant to OAR 660-023-0180, amendment to Lane County's acknowledged inventory of mineral and aggregate resources to include the parcel designated in the application by means of a Post Acknowledgment Plan Amendment (PAPA);

2. Amendment to the Rural Comprehensive Plan Diagram to designate the subject parcel Natural Resources: Mineral; and

3. Rezoning of the subject parcel from F-1 (Non-Impacted Forest Land) to Q-M (Quarry and Mine Operations zone).

B. Lane County Planning Commission action.

On March 2, 1999 and March 16, 1999, the Lane County Planning Commission held public hearings and the record remained open for written material until March 30, 1999. The Lane County Planning Commission toured the site of the request. On April 6, 1999, the Lane County Planning Commission deliberated in public meeting and recommended by a vote of 5-2 to approve the PAPA and rezoning and adopt certain conditions.

C. Legal criteria applicable to the decision.

The substantive criteria for approval of a PAPA are set forth below in the text of the findings.

The procedural rules applicable to the Board's decision are as follows:

- Lane Code 14.200, 14.300 – General Hearing Rules, De Novo Hearing Procedure.
- Lane Code 16.252 – Procedures for Zoning, Rezoning and Amendments to Requirements.
- Lane Manual 3.915 – Procedural Rules for Conduct of Hearings.

D. Findings of fact and conclusions of law: PAPA review pursuant to OAR 660-023-0180, the Goal 5 analysis.

Statewide Planning Goal 5 was amended June 14, 1996 and the amendment became effective September 1, 1996. Oregon Administrative Rules, Chapter 660, Division 23 was amended and became effective the same day. The Board makes the following findings required by the Administrative Rule.

Step 1. Adequacy of the PAPA information.

The Board finds that the information contained in the original Application, the Amended Application submitted February 17, 1999 and subsequent written submittals by the applicant provided the information required by OAR 660-023-0180(6). The following is a brief discussion of the information provided and its adequacy.

1. Minimum information. OAR 660-023-0180(6).

a. Details about the quantity, quality and location that are sufficient to determine whether the standards and conditions of section (3) of the Administrative Rule are satisfied.

This requirement is met if samples of the aggregate material on the site meet Oregon Department of Transportation (ODOT) specifications for base rock or air degradation, abrasion, and sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley. Attached as Exhibit A is the September 10, 1998 and the March 2, 1999 reports of Century West Engineering Corporation establishing that standards and conditions of Section (3) of the Administrative Rule are satisfied.

b. A conceptual site reclamation plan.

The Application contained a conceptual site reclamation plan and that plan is attached as Exhibit B to these findings.

c. A traffic assessment within one mile of the entrance to the mining area pursuant to OAR 660-023-0180(4)(b)(B).

Attached as Exhibit C is the Traffic Impact Analysis for the proposed Bradford Pit Quarry prepared by Branch Engineering on June 1998, and the October 15, 1998 addendum to that report, followed by supplemental reports from Mr. Branch.

d. Proposals to minimize any conflicts with existing uses preliminarily identified by applicant within a 1500 foot impact area.

The mining site is located in the southwest quadrant of a 40-acre F-1 zoned parcel and is approximately 2300 feet from the nearest residence which is on the opposite side of a hill and is well over one-half mile from the nearest residence to the north. There are only forestry uses within the 1500-foot radius of the site. The impact area and potential impacts are discussed further below.

e. A site plan indicating the location, hours of operation and other pertinent information for all proposed mining and associated uses.

The Bradford Pit site plan is included in Exhibit B.

Step 2. Determination whether the resource site is significant. OAR 660-023-0180(2)(b) and (3).

OAR 660-023-0180(3):

"An aggregate resource site shall be considered significant if adequate information regarding the quantity, quality, and location of the resource demonstrates that the site meets any one of the criteria in subsections (a) through (c) of this section, except as provided in subsection (d) of this section:

(a) A representative set of samples of aggregate material in the deposit on the site meets Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or 100,000 tons outside the Willamette Valley;"

The reports of Century West Engineering Corporation, attached as Exhibit A, establish the requisite quality and quantity of the rock at the site to satisfy the Administrative Rule.

> **"(b) The material meets local government standards establishing a lower threshold for significance than subsection (a) of this section; or"**

The Board finds that Lane County has not established a lower threshold for significance than subsection (a) above.

> **"(d) Notwithstanding subsections (a) through (c) of this section, except for an expansion area of an existing site if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either paragraphs (A) or (B) of this subsection apply:**
>
> > **(A) More than 35 percent of the proposed mining area consists of soil classified as Class I on Natural Resource and Conservation Service (NRCS) maps on the date of this rule; or**
> >
> > **(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or of a combination of Class II and Class I or Unique soil on NRCS maps available on the date of this rule, unless the average width of the aggregate layer within the mining area exceeds:**
> >
> > > **(i) 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;"**

The information submitted including Exhibit I, a soils map produced by Lane Council of Governments from the NCRS map, establishes that the only high value soils on this parcel are located at the northeast corner of the parcel. This area is far removed from the location of the pit itself, as shown on the site plan, and the geotechnical investigation by Century West establishes that the area where the mining will occur contains virtually no soils. The Board finds that this site qualifies as a significant site in that far less than 35 percent of the proposed area consists of Class I, Class II or Unique soils.

The Board concludes that the resource site is "significant."

Step 3. Determine if conflicts from mining can be minimized.

The impact area. OAR 660-023-0180(4)(a).

"The local government shall determine an impact area for the purpose of identifying conflicts with proposed mining and processing activities. The impact area shall be large enough to include uses listed in subsection (b) of this section and shall be limited to 1500 feet from the boundaries of the mining area, except where factual information indicates significant potential conflicts beyond this distance."

The Board notes that the term "**mining area**" as used above is defined at OAR 660-023-0180(1)(g) as:

". . . the area of a site within which mining is permitted or proposed, excluding undisturbed buffer areas or areas on a parcel where mining is not authorized."

The rule defines "**mining**" as:

". . . the extraction and processing of mineral or aggregate resources, in the manner provided under ORS 215.298(3)." [OAR 660-023-0180(1)(e).]

The rule defines "**processing**" as:

". . . the activities described in ORS 517.750(11)" to include refinement of the mineral in some manner such as crushing, washing, milling and screening. [OAR 660-023-0180(1)(h).]

The Board finds that this portion of the rule, which addresses conflicts with mining and processing activities, clearly limits consideration of conflicts to those uses that conflict with the extraction of the rock from the ground and its processing. The Board finds that transport of the product is not a mining or processing activity as defined in OAR 660-023-0180, therefore, is not relevant to the establishment of an impact area. (Impact to roads, pursuant to subsection (4)(b)(B), is addressed separately under the Goal 5 rule.)

The Board finds that the definition of "mining area" restricts the review of impacts to 1500 feet from the area where the mining and processing occurs unless factual information indicates significant potential conflicts with mining and processing beyond this distance. The Noise Impact Study prepared by Art Noxon, attached as Exhibit D, establishes that noise from mining and processing activities comes into conformity with Department of Environmental Quality (DEQ) daytime standards for exposure to residences at a distance of 2100 feet from the mining area. The Board finds that this 2100-foot perimeter from the proposed quarry site is the impact area. No impacts, in addition to that of noise, have been identified or established by the evidence beyond the minimum 1500 foot impact area.

Attached as Exhibit F is a zoning map of the general area and attached as Exhibit G is a map showing existing residences and the subject site. Exhibit H is a topography map. There are a total of 9 properties that are, at the least, in part within the 2100-foot area:

1. Map 19-02-00 Taxlot 3501; owned by Sears Ranch LLC
2. Map 19-02-00 Taxlot 3600; owned by Bettie Troxclair
3. Map 19-02-00 Taxlot 3602; owned by Burnell and Helen Falk
4. Map 19-02-00 Taxlot 3400; owned by Columbia Pacific Inc.
5. Map 19-02-19 Taxlot 600; owned by Sears Ranch LLC
6. Map 19-02-19 Taxlot 700; owned by Ross Bradford
7. Map 19-02-19 Taxlot 800; owned by Ross Bradford
8. Map 19-03-24 Taxlot 3201; owned by Sears Ranch LLC
9. Map 19-02-25 Taxlot 100; owned by US Government

Within the potential impact area, only forest uses exist. The quarry site is approximately 2300 feet from the nearest residence, which is on the opposite side of the hill from the quarry and is approximately 3300 feet from the nearest residence on the north side of the hill.

OAR 660-023-0180(4)(b):

"(b) The local government shall determine existing or approved land uses within the impact area that will be adversely affected by proposed mining operations and shall specify the predicted conflicts. For purposes of this section, "approved land uses" are dwellings allowed by a residential zone on existing platted lots and other uses for which conditional or final approvals have been granted by the local government."

There are no residential zoned properties located within the impact area. The closest residence is 2300 feet from the mining activity on the opposite side of a hill. No other conditional or final approvals have been granted by Lane County within the impact area.

For determination of conflicts from proposed mining of a significant aggregate site, the local government shall limit its consideration to the following:

"(A) Conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e.g., houses and schools) that are sensitive to such discharges;"