

## **APPENDIX D**

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### **RESPONSES TO COMMENTS ON THE DRAFT EA**

May 11, 2005

To: Ms Kathy C. Stevens, c/o CEQA section,  
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SCAQMD  
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From: Leonard Nunney, Secretary, Friends of Riverside's Hills  
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**Re: Proposed changes to Rule 403 – Fugitive Dust.**

Friends of Riverside's Hills is a non-profit public interest group that seeks to preserve environmental quality in and around the City of Riverside. We very much appreciated the changes that were made to Rule 403 last year, but we have some major concerns over the environmental consequences of the new proposal as it affects weed abatement. As we will point out, the analysis in the Draft Environmental Assessment ("DEA") is fatally flawed. It concludes that the proposed project COULD NOT have a significant affect on the environment (DEAp. 2-3). This conclusion is false. Presented below is substantial evidence that the proposed changes concerning disking in the proposed amendments to Rule 403 will have a potentially significant adverse impact on a number of important environmental factors, including air quality, biological resources, and geology and soils. Therefore an EIR is required

I am Professor of Biology, Director of the Evolution and Ecology Graduate Research Umbrella, and Member of the Center for Conservation Biology, all at the University of California Riverside, with particular expertise in conservation biology. The UCR website, <http://www.biology.ucr.edu/people/faculty/Nunney.html> gives further details on my expertise.

### **General Concerns with the Rule Amendment.**

We are concerned specifically with the relaxation of the regulations allowing disking for weed abatement and fire clearance. This practice will create more air pollution and biological damage, and yet it is counterproductive to its stated goal.

Fire departments are rightly concerned that mowing may not be effective in preventing fires and that mowing at inappropriate times of year may spark a fire, but to our knowledge no objective analysis has been carried out. Moreover, the very important long-term benefit of mowing in creating a permanent barrier zone has not been considered. However, the effect of disking on weeds is clear even to its supporters – every year the problem of high fire risk is recreated. Dave Carlson (City of Riverside Fire Department) in a memo to Mayor Loveridge dated Aug 2, 2001 stated that “ the one downside to discing is that the weeds grow better the following year.” This pattern has significant environmental consequences not only because of the increased fire risk but also because of the creation of a breeding site for weeds that invade surrounding areas of natural environment, as discussed below.

The proposed rule amendment will allow disking to be exempt from rule 403 under almost any circumstances. Given that agencies and the weed abatement industry currently favors disking, the

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result will be the almost exclusive use of disking, whereas under the current rule the use of disking is very restricted and hence a shift to mowing is strongly encouraged. Under the current rule, disking is allowed only with watering, with Agency determination of a fire hazard, rocks or other obstructions, and with subsequent surface stabilization. The changes proposed relax the requirements substantially.

First, the requirement for watering is removed. The agency need only provide written documentation (and then only on request, as if the AQMD is going to request such documentation – how is it going to find out about the disking in the first place?) of one of the following reasons: physical obstructions, slope conditions, safety factors, accessibility of water source. There is no requirement that this document must be written and justified in advance of the disking, and no criteria are provided for what constitutes sufficiency in any of these areas. Note that it is generally in the interest of the Agency to claim that one or more of these conditions are satisfied, because disking is the tradition and will be employed whenever possible. It is also favored by many landowners who routinely disc large tracts under the guise of weed abatement because it removes any possibility of a threatened or endangered species occurring on the property.

Second, the requirement for surface stabilization has been reduced to satisfying a “flat vegetative cover test.” This is a scientific technique that will be shown below to be totally impractical for the purposes to which it is put in the proposed amended rule.

### **General effects of the Proposed Project.**

The DEA (p. 1-1) claims that the effect of the rule change is a net reduction in PM10 of 144 lb./day (265 lb. reduction – 121 lb. increase). There are two problems with this claim. First, the net reduction is confounding an increase in fugitive dust from disking with a totally unrelated reduction in that from confined animal facilities – an apples and oranges comparison if there ever was one. There is no reasonable explanation as to why the AQMD should not try to achieve better control of each of these very different pollution sources.

Second, and more serious, the figure of a 121 lb./day for the increase from the rule change on disking is a gross underestimate based in part on a misinterpretation of research in the literature, as we now show, and in part on ignoring post-disking fugitive dust emissions, as we will discuss below.

The increase in PM 10 due to increased disking for weed abatement is based on “a CARB emission factor” of 1.2 lbs/acre (DEA, p. 2-10). This 1.2 lbs/acre figure comes from the January, 2003 version of the Agricultural Land Preparation document, which in turn is based on the 1997 update of the Agricultural Land Preparation document. That 1997 document uses an emission factor of 4.52 lbs/acre for the South Coast area (Sec 7.4 Table 1) and not the 1.2lb/acre used in the present DEA. The 2003 version of the Agricultural Land Preparation document purports to be based on more recent data that derives the value of 1.2 lb/acre. This 1.2 lbs/acre figure is based on data from the San Joaquin Valley that were analyzed by Holmen *et al*, 2001 (see the list of references at the end of this letter). They show a mean PM10 of 152 mg/m<sup>2</sup> i.e. about 1.3 lbs/acre; however, these data are based on 24 estimates of which 18 were taken during the wet

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season (November and December of 1996-1998); these 18 data points are obviously not relevant to disking operations. The remaining 6 estimates were taken in June 1997, a time much more typical of disking operations for weed abatement in southern California. Such operations typically occur in May or June, well after the last significant rain of the season. Using the 6 *relevant* data points, the mean is 499 mg/m<sup>2</sup>, or 4.45 lbs/acre. This value is a 3.7-fold increase over the 1.2 lbs/acre used to estimate impacts. This value is also completely consistent with the estimate of 4.5 lbs that came from the “old” data.

Moreover, the DEA analysis (p. 2-10) assume a 50% control efficiency through watering, and so uses “a PM10 emission factor of 0.6 lbs/acre” for disking as presently practiced. However, the present rule requiring watering with disking is quite new, and there is no evidence that any substantial part of present disking is being accompanied by watering. However, as the present rule (if allowed to continue) takes hold and becomes widely put into practice, the cost and inconvenience of watering will predictably cause a widespread replacement of disking by mowing, with minimal PM 10 emission. Thus it is inappropriate to assume “a 50 % control efficiency” from the present rule. The difference between the present rule (when it becomes widely practiced), which essentially requires mowing instead of disking, and the proposed amended rule, which encourages disking by removing the requirement of watering, is close to a 100% difference in control efficiency. Taking this into account results in a near doubling of the DEA’s calculation of the number of pounds of PM10 per day.

Thus substituting the appropriate research-based approximately 4.5 lbs/acre figure for the inappropriate 1.2 lbs/acre figure, and not using the inappropriate 50% control efficiency reduction, results in a nearly 7.5-fold increase ( $4.5/0.6 = 7.5$ ) over the 0.6 lbs/acre figure used at p. 2-10 of the DEA, or about 900 lbs/day ( $121 \times 7.5 = 907.5$ ). This far exceeds the Air Quality Significance Threshold of 150 lbs/day listed for PM 10 emissions in Table 2-1 of the DEA. The proposed rule does require that “measures, including, not limited to, vehicle speed reduction, disc shrouds, or disc setting adjustments are used to prevent visible dust emissions from exceeding 50 feet from the source in any direction” (staff report, p. PAR 403-11). Aside from the fact that visibility is a rather subjective criterion and that there are already other provisions (staff report, p. PAR 403-7) in Rule 403 which, if enforced, would accomplish much the same prevention of visible dust emissions, there is a lack of evidence that the proposed measures (vehicle speed reduction, etc.) could and would be practiced and enforced, nor as to what extent, if they were practiced, they would reduce PM 10 emissions.

Moreover, there is no consideration given to the engine pollution emissions (and not just of PM 10) from disking versus mowing. Modern mowers are fast and obviously involve much less friction than disking, with concomitant reduction in engine emissions. Also, the proposed amended rule/s suggested use of vehicle speed reduction (and perhaps also disc shrouds) while disking would result in increased engine emissions.

#### **Estimates of PM10 after disking operations.**

The DEA gives little consideration to wind blown dust arising from disked areas. The calculation of PM 10 emissions takes no account of failure to stabilize the surface after disking. It assumes that all disked surfaces are fully stabilized, despite having a criterion of stabilization, the Flat Vegetative Cover Test Method (staff report, Appendix B), that is clearly subjective (in particular

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in its choice of locations to run line transects) and hence subject to abuse. The proposed rule will require that the surface should be stabilized; however, no analysis is provided on the extent of fugitive dust that will result from the increase in partly stabilized disked areas that result from this rule change. In the DEA we could not find information on the link between results of the Flat Vegetation Cover Test Method and subsequent fugitive dust emissions.

The Flat Vegetation Cover Test Method is, in principle, a reasonable test of vegetation cover *when used by an objective research scientist*. Unfortunately, this kind of transect is extremely vulnerable to a subjective application. I have taught the technique of line transects to undergraduates at the University of California Riverside for many years and the concept of a randomly placed transect is not one that comes naturally. The temptation is to pick a spot consistent with one's pre-conceived ideas. In addition, the precise placing of a dowel from the tape can make an enormous difference if it is not done consistently. This sort of problem can be overcome by training in a scientific context, but here we have the added problem that the operator will, in general, be actively trying to demonstrate that the residual vegetation coverage is adequate. The rule requires that the line transect method be applied an additional two times (after the first time) "on areas that represent a random portion of the overall conditions of the site and average results." This is obviously intended for scientific and technically trained people, and not for disc operators. The method is bound to be abused – such operators will "determine" that their area showed greater than 50% cover even if 100 additional and truly objective transects would fail to come even close!

A second problem is that the test is carried out immediately after disking. It is highly likely that much of the vegetation detected in the test (e.g. clumps of grass) will further dry and potentially blow away during the hot, dry summer months. This would clearly expose the site to high fugitive dust emission.

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If, as predicted, enforcement of the requirement to stabilize disked surfaces fails, then the additional PM10 could be very large. The Las Vegas estimates from the EPA (on the Control of Fugitive Dust, 1988) predicts an additional 25 lbs/acre. Certainly, based on the wind characteristics of our area - and based on the casual observation of disked areas during a Santa Ana wind - this estimate appears reasonable.

If we assume only one-half of the value that was estimated in Las Vegas Valley for partially stabilized sites in our area (note that even if perfectly applied, the Flat Vegetative Cover Test Method is only required to show a 50% vegetative cover (PAR 403-12)), that would be 12.5 lbs/acre here, or about 2.8 times the 4.5 lbs/acre figure. Recalling that 4.5 lbs/acre spread over 90 days corresponded to about 900 lbs/day, we see that if the additional 12.5 lbs/acre is spread over 180 days (that is, twice the 90 days used in the calculation for emissions during disking), then this gives an additional over 1,200 lbs/day ( $900 \times 2.8/2 = 1,260$ ) over and above whatever emissions occur during the disking operations. (If we assume only one-third the Las Vegas Valley value, we still get over 800 lbs/day instead of 1,200 lbs/day.) Clearly there is a potentially significant impact of this rule change.

**Environmental checklist.**

The proposed rule change would have potentially significant effects in a number of categories, including:

**III Air quality.** As noted above the proposed change would increase PM10 in our area considerably, many times what is estimated in the DEA. The potential for generating significant respirable dust is high whenever disking and other types of soil tillage are performed during hot, dry weather (see Clausnitzer and Singer 1996). In addition, it is inevitable that the dust problem will persist until the next rains - which may be five to six months away. It is commonplace to observe dust being blown from disked areas during Santa Ana winds.

**IV. Biological Resources.** Disking provides an excellent environment for plant growth (see Peoples *et al.* 1994). In our area, in the rainy season following disking, it promotes the growth of non-native plants - primarily alien annual grasses (particularly wild oats, *Avena* spp., and bromes, *Bromus* spp.). These grasses are more luxuriant in the disked area than elsewhere and as a result represent an abundance of flash fuels leading to an increased fire risk in the period between seed set and subsequent disking. This period may be several weeks or more. Disked strips are typically close to roads and houses where fires caused by people tend to start.

Disking creates a luxuriant growth of invasive species, particularly alien grasses (and also mustards), and consequently very high seed production, that causes the spread of these alien species into non-disked areas (see Allen *et al.* 2000) and in particular into any adjoining natural habitat, displacing native species and increasing the flammability of the area. In these areas, the alien grasses dry out and persist into the typical fire season. An abundance of alien grasses in coastal sage scrub vegetation increases the flammability of the plant community. In particular, grasses dry out quickly so that the risk of early-season fire increases.

This effect is a particular problem in areas adjoining the Western Riverside County Multi-Species Habitat Conservation plan, a plan that covers more than one hundred rare and endangered species. Disking near to natural areas are those most likely to easily satisfy the new “exceptional” criteria for allowing disking introduced in this rule change. This potentially increases the fire frequency in neighboring wildlands. In addition to the loss of native plant species, other direct effects include the destruction of the underground systems of kangaroo rats and harvester ants. In short, our sensitive coastal sage scrub habitat and nearby disking are completely incompatible. On the other hand, mowing helps to suppress weed growth, especially if done before weed seeds mature (DiTomaso 2000). By maintaining soil compaction, germination rates are much lower. In contrast, disking promotes germination and establishment of weedy annual plants (e.g. Bridges and Walker 1985). And the necessity of weed clearance on mowed sites is reduced due to the effects of compaction and reduced growth of annual plants during each wet season.

**VII Geology and Soils.** Disking breaks up the surface crust and makes the soil vulnerable to substantial erosion, a problem that is exacerbated by repeated annual disking, which further breaks up the natural aggregation of soil particles. This is particularly the case on steep slopes, areas where the new rule changes will inevitably allow disking. On the other hand, with mowing

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instead of disking, soil compaction and stability are retained (e.g. Foshee *et al.* 1997). As a result, erosion and dust problems are minimized.

**XVIII. Mandatory Findings of Significance.** As noted above, disking close to natural open space areas has the potential to degrade the quality of the habitat by promoting the invasion of non-native annuals. By promoting the luxuriant growth and invasion of these non-natives, paradoxically disking *cumulatively increases* the risk of fire. Disking begets more weed growth which begets more disking and on more land. This is a cumulative impact which is potentially significant.

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In summary, the proposed changes to Rule 403 will decrease Air Quality, and furthermore will have a range of additional negative environmental effects. This change is proposed even though the alternative technique of mowing is available.

### References.

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Respectfully submitted  
Leonard Nunney for Friends of Riverside's Hills.

**RESPONSE TO COMMENT LETTER NO. 1 – FROM LEONARD NUNNEY, FRIENDS OF RIVERSIDE’S HILLS**

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1-1 The comments dated May 11, 2005 from Mr. Leonard Nunney are related to the weed abatement component of PAR 403. This component of PAR 403 has been removed from the proposed amended rule language and will not be in the version of PAR 403 that is scheduled to be considered by the SCAQMD Governing Board on June 3, 2005.

In addition, the Final EA includes a statement that the environmental analysis associated with weed abatement activities (the limited exemption for discing) is no longer applicable and should be disregarded. The conclusion regarding air quality remains the same in the Final EA; however, the removal of the weed abatement analysis increases the net benefit from 144 lbs/day to 265 lbs/day.



May 11, 2005

To: Ms Kathy C. Stevens, c/o CEQA section,  
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Greetings:

This firm represents Friends of Riverside's Hills concerning the proposed rule changes to Rule 403.

The proposed rule changes will result in potentially significant impacts to the environment, particularly to air quality, erosion and biological resources. The cumulative impact of these effects is also troubling. The correspondence from Leonard Nunney (see attached) provides substantial evidence sufficient to make a fair argument that there will be a potentially significant impact to the environment and an EIR must be prepared.

CEQA is designed to protect the environment and the effects of the proposed rule change will be dramatic in the inland empire, particularly in western Riverside County. Perhaps the most critical is the impact that the rule changes can have on the newly adopted MSHCP and biological preservation activities throughout the inland empire. .

In addition, because of the increased urbanization, many new properties are now places in a situation where fire protection is required, not only increasing the amount of fuel modification that is required but also placing many more people at risk from increased exposure to particulate matter. Additionally, because disking actually encourages the growth of invasive weeds, fire hazards can actually be increased.

FRH feels very strongly about the proposed changes and believes that carrying the project forward without preparation of an EIR could not be sustained in a legal challenge. We respectfully ask that the rule changes not be made, certainly not without the preparation of an EIR to fully evaluate the impacts of the project on fire safety, water quality, erosion, biological resources and air quality.

Thank you for your consideration.

Sincerely,

Johnson & Sedlack



By: Raymond W. Johnson, Esq. AICP  
Attorneys for Petitioner

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**RESPONSE TO COMMENT LETTER NO. 2 – FROM RAYMOND W. JOHNSON, ESQ.  
AICP, ATTORNEYS FOR FRIENDS OF RIVERSIDE’S HILLS**

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2-1 The comments dated May 11, 2005 from Mr. Raymond W. Johnson, Esq. AICP, are related to the weed abatement component of PAR 403. This component of PAR 403 has been removed from the proposed amended rule language and will not be in the version of PAR 403 that is scheduled to be considered by the SCAQMD Governing Board on June 3, 2005.

In addition, the Final EA includes a statement that the environmental analysis associated with weed abatement activities (the limited exemption for discing) is no longer applicable and should be disregarded. The conclusion regarding air quality remains the same in the Final EA; however, the removal of the weed abatement analysis increases the net benefit from 144 lbs/day to 265 lbs/day.