

Comments to the Revised Draft Environmental Impact Report for the Student Housing West Project (SCH No. 2017092007)

Submitted via Email (eircomment@uscsc.edu) by the East Meadow Action Committee on November 1, 2018

These comments, and those filed on our behalf by our attorney William Parkin of Wittwer Parkin LLP, together constitute the comments of the East Meadow Action Committee (the Committee).

Introduction/Overview

The Committee is an organization of UCSC faculty (active and emeritus), staff, students, alumni, and donors who are opposed to the portion of the Student Housing West project that would be located in the East Meadow. The Committee does not oppose construction of housing on the west side of the campus and encourages consideration of alternatives that provide the needed housing without building in the East Meadow.

The Committee wishes to clearly state that it supports much of what the campus administration is attempting to do in the overall Student Housing West project. The Committee supports the provision of approximately 3000 new beds, the addition of dining hall capacity to serve those additional on-campus students, and the provision of Student Family Housing co-located with a new and larger childcare facility. The Committee also commends the administration for providing alternatives that accomplish all those goals without developing the East Meadow and with far less environmental impact. The Committee notes that the university's stated reasons for not adopting any of those alternatives as the preferred project are quite weak and do not compensate for the complications, controversies, unknowns, and impacts of the East Meadow site. By all appearances the sole superiority of the East Meadow site is that it has morphed from the private developer's suggestion to the administration's adamant choice, which all analysis has been bent to serve.

The Committee's only point of opposition is to development in the East Meadow. This proposed development in the East Meadow would consume 17.3 acres to provide 140 beds, while the west side development would consume 13 acres to provide 2,932 beds. The East Meadow portion of this project therefore provides only 4.5% of the benefits, does so on 57% of the land consumed, and generates the lion's share of the environmental harms, the controversies, and the risks to the entire project. Given the eight possible projects the university has put on the table in this Revised Draft EIR (its preferred project plus 7 alternatives), it has picked as its preferred project the one with the worst environmental impact, the one with the most profligate waste of a scarce public resource (buildable land on campus), and the one with most of the controversy attached to it, controversy which poses a risk

to the entire project – all due to the choice of the only one of those 8 that includes development in the East Meadow.

The history of the Student Housing West project is instructive about the Revised Draft EIR before us. The planning for the west side of this project (“the Heller site”) extends back at least to early 2016, when UCSC first went to work in response to the launch by the Regents of the system-wide Housing Initiative in January 2016. Biological studies of the potential site began March 10, 2016 and were conducted frequently thereafter. (4.3-4 of the original Draft EIR) By March 2017 UCSC issued an RFP for a private developer and by April 2017 it issued its first Notice of Preparation. By mid-September 2017 it had selected its preferred private developer team.

The planning for the east side of this project in the East Meadow (“the Hagar site”) in contrast began late and has been hasty and incomplete. The site did not enter the campus administration’s thinking until the private developer, selected in mid-September 2017, suggested moving a small portion of the total project to the East Meadow. The administration unwisely accepted that suggestion. The result was then a frantic effort to try to pull together scraps of actual planning and design for the East Meadow portions of the original Draft EIR (issued in March 2018) in a mere 6 months. Haste truly made waste. The East Meadow portions of this original Draft EIR were incomplete and half-baked compared to the west side portions of the original Draft EIR.

The biological sections of the original Draft EIR provide an illustration of this larger discrepancy.

For the west side “focused assessments and surveys” were conducted by biological professionals on March 10, 2016, March 16, 2016, March 22, 2016, March 23, 2016, March 31, 2016, April 8, 2016, April 16, 2016, April 24, 2016, April 30, 2016, May 2, 2016, May 6, 2016, May 10, 2016, May 13, 2016, May 20, 2016, June 13, 2016, and June 21, 2016. In contrast, for the East Meadow assessments and surveys were only conducted October 5, 2017 and December 7, 2017. The first of those was only to map plant species, and the second was only a couple of hours walk-thru near dusk to try to observe whether Burrowing Owls, which winter nearby and hunt in the East Meadow, also nest in the East Meadow. (4.3-4 and 18 of the original Draft EIR) No zoological survey for the East Meadow portion of this project was done, save for the couple of hours looking for Burrowing Owl nests.

Another measure of the discrepancy of planning effort that went into the west side in contrast to the East Meadow is the thoroughness of the biological surveys afforded each site. On the west side full protocol-level surveys were done to make determinations regarding 46 different species. On the East Meadow site zero protocol-level surveys were done for this project prior to issuance of the original Draft EIR. (Appendix 4.3 of the original Draft EIR)

This discrepancy in the thoroughness and the transparency of the original Draft EIR with respect to the west side vs. the East Meadow was a recurring theme through most of the original Draft EIR. The result was that the public was afforded far less information on which to assess and comment on the impacts of the East Meadow portion of this overall project.

Given the extraordinary inadequacies of the original Draft EIR, especially regarding the East Meadow portion of the proposed project, the campus administration pulled back and assembled a Revised Draft EIR, replacing the original. (1.0-7) In the 6 months between issuance of the original Draft EIR and issuance of the Revised Draft EIR, it would be reasonable to expect that the inadequacies of the first – particularly the gaping holes in the discussion of the East Meadow portion of the project -- would have been corrected at least to some degree in the second. But particularly with regard to the East Meadow portion of the project, that mostly did not happen.

For example, with regard to biological studies, two protocol-level plant surveys were done in the East Meadow (March 15 and June 13, 2018), the first and only protocol-level surveys done at the East Meadow site for this project. However there was no attempt to deal with other major inadequacies of the original Draft EIR for the Hagar/East Meadow site in that extra 6 months. Two examples:

- The original Draft EIR provided virtually no planning or design information regarding the childcare facility at the Hagar/East Meadow site. It was only described as 13,500 sq ft, for up to 140 children, with a staff of up to 30, and a simple outline on a site plan. That's all. The Revised Draft EIR provides only the same information and a slightly altered simple outline on a site plan. No other planning or design work is provided to the public and by all appearances no other planning and design work has been done, even with the additional 6 months.
- As is discussed further below, the karst geology of these sites, particularly the Hagar/East Meadow site, is a major risk to development. For the original Draft EIR the university did 52 test borings in the East Meadow and then proposed a type of foundation designed to span underground voids of up to 10 ft across. For the Revised Draft EIR it did no additional test borings in the additional 6 months it had (though it did use the time to do additional borings at the Heller/west side site). It describes the Hagar/East Meadow site as 17.3 acres – 52 test borings spread out over that area works out to an average of over 100 ft between borings, nowhere near enough borings to determine absence of voids over 10 ft. Clearly the 6 months could have been put to better use than it was.

Even given the extra 6 months to correct inadequacies in the planning, design, and information provided to the public, the campus administration has once again come up short at the Hagar/East Meadow site. This site has been and remains the insufficiently considered after-thought of the larger Student Housing West project,

with the result that the public is inadequately informed about it in this Revised Draft EIR.

A Blast from the Past

It is not common for an EIR for a proposed development to stir up an argument about a 55-year-old planning document, but since the campus administration raises it, the Committee will respond.

In one particularly odd moment in the Revised Draft EIR, the campus administration notes that the first Long Range Development Plan (LRDP) ever prepared by the university for the UCSC campus contemplated development in the East Meadow. (4.4-7) This may be an attempt to justify the project they now propose for the East Meadow, though it does not. It does, however, open a window onto broader issues that should have been put before the public in the Revised Draft EIR and were not.

The LRDP in question is the 1963 LRDP, and it was revolutionary in two key respects.

Beginning in the late 1950's and into the early 1960's, before the University acquired the Cowell Ranch property, a variety of conceptual plans for UCSC were prepared, either by those urging the University to acquire the property, or by those assessing various sites on behalf of the university. All of those earliest plans put much of the development in the open meadows of the southern portion of the campus.

The most notable of them was the plan by architects Lackey and Wong, retained by local Santa Cruz interests but at the behest of the Regents, who were in the midst of deciding whether to acquire the Cowell Ranch property for a new campus. The Lackey and Wong team produced, in the course of late 1960 and early 1961, a very standard big university plan of the time, with the central development of the campus in the lower third of the campus, which is to say in the meadows. With that plan in their hands and in their heads, the Regents voted in March 1961 to select the Cowell Ranch site for the new campus.

Completing the real estate transaction and other agreements took until late 1961, and the university then turned to creating an architectural team to do the actual master planning for the campus. Particularly prominent on the team were John Carl Warnecke, Theodore Bernardi, and Thomas Church. The team began their work in March 1962, and presented their initial concepts to a committee of Regents in July.

What they presented at that meeting was a major reversal not only of the Lackey and Wong plan, but also of conventional campus planning of the time. They put two radical concepts on the table: (1) that development would be concentrated in the central part of the campus, not in the meadows, leaving the meadows to provide

sweeping vistas, and (2) that the buildings of the campus would be largely organized so as to provide students the benefits of small residential colleges even while they were part of what would become a large university campus. (The latter idea originated with UC President Clark Kerr and the then newly named Chancellor of UCSC, Dean McHenry, and the master planners were considering how to manifest that idea on the campus.) The Regents were completely won over to both these new concepts.

Over the coming months those two fundamentally new ideas were further developed, there were multiple consultations with the Regents, and the plan built around those two principles was ultimately adopted by the Regents in the Fall of 1963 as the first LRDP for the UCSC campus.

The point here is simply that those two central principles – preserve the sweeping vistas of the meadows and center student life around residential colleges – have in fact been the guiding principles of campus development for 55 years. We have abided by them for 55 years. It's the way we have always done things. It is our identity.

The campus administration now proposes, in a single housing project, an assault on both these central principles, by putting a sprawl of prefab buildings across one of the most prominent sites of the East Meadow (and of the campus), and by packing nearly 3000 students into a high-rise ghetto unattached to any college.

Many of the other ideas of early planning have since fallen away: a divided highway along Wilder Creek, buildings all over Marshall Field, the main campus entrance to the east of the present main entrance, a road from the east side of the campus to Highways 9 and 17, buildings to the west of Empire Grade, etc. But these two core principles matter because they are not simply relics of the past – they have guided building and design on campus right down to the present. Tossing them aside should be recognized for what it is: a destructive and radical departure from principles that have been central to the campus for 55 years. This is not simply a debate about the past: this would be a major change of course in the present that would dramatically alter the future.

The campus administration owes the public and the university community an explanation that would make clear why it is making this huge change from its consistent practice for the entire life of the campus, would make clear that it understands the significance of what it is doing and whether it intends this to be a one-off violation of these core principles, or whether it considers both these principles to be dead relics of the past. Is it violating these principles out of what it believes to be momentary necessity however regrettable, or because it is rejecting these principles now and into the future? The assault on these two central and defining principles is the biggest impact of the proposed Student Housing West project, and it is completely unaddressed in the Revised Draft EIR.

As for the narrower question of exactly what the first LRDP intended for the meadows, the actual text of the LRDP is quite powerful:

The orientation of the site... provides spectacular vistas to the south and southeast.

The major decision with respect to siting [is] that the great meadow toward the south of the campus should not be built upon, that the first buildings to be encountered in entering the site would be at the crest of the hill where the trees begin, and that the academic core of the campus should occupy a park-like area in the geographical center of the campus...

...there is the advantage of the great meadow rolling away toward the south of the campus center. If the university maintains this space as an open area, by the year 1990 it may well be one of the most rare, gratifying and valuable assets of the campus.

The University has maintained the meadow as an open area, and it is as a result an extraordinarily valuable asset of the campus. The question now is, will the University continue to do so, and will that open meadow continue to be that extraordinary asset? There is nothing in this Revised Draft EIR that suggests the campus administration understands the value of what it has or what the loss of that asset would mean.

The significance of the year 1990 should not be lost in this discussion. It was not an arbitrary choice in that LRDP text. 1990 was the year the master planners and the Regents had set as the year when the UCSC campus would reach its full size and the development phase of the campus would be complete. So in effect the master planners and the Regents were recommending that the meadow remain open space in perpetuity.

What the Revised Draft EIR refers to at 4.4-7 specifically is that the one drawn campus plan that accompanies the 1963 LRDP shows a few buildings in one part of the East Meadow. The campus administration needs to take a close look at that plan. Yes, it puts a few small buildings elsewhere in the East Meadow, but it puts no buildings where the administration's buildings would be under their proposed project. The area where the administration proposes to put pre-fab buildings is, in the very plan they cite, left as "an open area" for the reasons described in the LRDP text just quoted.

Aesthetics

The Draft EIR said of the proposed development in the East Meadow "The project layout and design has been developed keeping in mind... the UC Santa Cruz Design Framework." (3.0-20 in the original Draft EIR) They may have kept it in mind, but only to violate it.

The Revised Draft EIR deletes that claim, presumably to slightly reduce the embarrassment, but lists the same provisions from the UCSC Design Framework. The Framework commands “Maintain the continuity and visual ‘sweep’ of the meadow landscape across the lower campus.... Do not permit new plantings or plant succession to change the overall visual character of the lower campus meadows.... Preserve the integrity of meadows by maintaining a clear meadow boundary. Site development so as not to encroach on the meadow open space.” (4.1-11) The proposed development in the East Meadow violates every one of those commandments, yet nowhere does the Revised Draft EIR explain to the public why violating those commandments is appropriate or necessary, or why the commandments themselves were wrong-headed and should never have been adopted.

When we speak of view impacts raised by the proposed East Meadow project, it is important for us to be clear about the specific views at issue. There are two.

The first is the view as one enters the campus at the main entrance, passing through the confines of the small historic district, up a small rise, at which point a sweeping view of the campus dramatically opens up, the East Meadow and the Central Meadow, all the way to the tree line at the campus center. That is the introductory view afforded to those entering the campus today as they look generally northward from the area around Hagar and Coolidge. Under the proposed development that view would be mostly blocked by a sprawl of approximately 40 prefab two-story structures immediately in front of those who have just entered the campus.

The second is the view from many places in the campus center, out across the Central Meadow and the East Meadow, to the town below, Monterey Bay beyond, and the mountains of Big Sur and the Monterey Peninsula across the horizon. Campus development to date has in many ways been arranged to take maximum advantage of this view. Existing development forms a long arc from Stevenson College and Cowell College around through the Academic Resources Center, the Music Center, and University House, and then on to Rachel Carson College and Oakes College. This arc faces generally to the southeast, out across the Central and East Meadows, to that grand vista of sweeping meadow, town, bay, and mountains. It is as though all those existing buildings have been positioned like campers gathered part way around a campfire, and the campfire is that dramatic view. Under the proposed development approximately 40 prefab two-story buildings would be sprawled on 17 acres right in the middle of that view.

These two views are iconic images of UCSC. The proposed project, as represented in the Revised Draft EIR, evidences no understanding on the part of the campus administration of the value to the University of those iconic views. And therefore there is no discussion of that loss of value, no presentation of that issue in the Revised Draft EIR for the public to comment on.

These iconic views are not mere amenities of the campus. Professor Emeritus and former Cowell College Provost John Dizikes, who arrived here at the very beginning of the campus, recently put it well:

...it was a bold decision by a group of America's best architects who set the design policy for the campus at the outset. They called for building in the central part of the campus, along the tree line and among the trees, rather than out in these open meadows.

They knew that a great university was more than a collection of classrooms and laboratories – it must also inspire, must motivate, must attract the best and bring out the best in students, faculty, and staff, and must garner the support of alumnae and the larger community. And they knew that at UCSC the campus itself would be a big part of achieving all that.

We have had more than 50 years to learn the value of that vision, to learn the power of that first vista up across those meadows as one enters the campus, to understand the inspiration of that grand view from many places on campus out across those meadows to the town below and the Monterey Bay beyond.

If we were now to hastily put 40 prefab buildings in that meadow (the manufacturer refers to them as “productized housing”)-- creating a horrible new first impression for those entering the campus and dropping clutter in the midst of those heretofore uplifting vistas -- we would be saying that we no longer remember what makes this place special, what we have been and who we are, and who we set out to be. We will have lost our way.

Any understanding of the value of those views to UCSC and the impact of that loss of value is missing in the formulation of this project, missing in this Revised Draft EIR, and missing from what was offered to the public for comment.

Although the Draft EIR accurately describes the aesthetic impact of the proposed East Meadow project as “significant and unavoidable” (4.1-31), it nevertheless understates how great that impact would be in a number of ways.

Earlier renderings of the site plans for the East Meadow development (e.g. the site plan at 3.0-6a of the original Draft EIR) showed extensive earthmoving to level the site, with the northeast end of the development dug in approximately 15 vertical feet, and the southwest end (closest to the intersection of Hagar and Coolidge) raised up on approximately 12 feet of fill. That would put the base of the proposed buildings near the intersection of Hagar and Coolidge 12 ft above current ground level.

In the Revised Draft EIR there are vague references to slight changes in the grading plan “to minimize heights” (4.1-24) and “to lower the elevation of most of the development.” (table 4.0-2) However nowhere does it say lowered by how much, from what level, or to what level. A site plan with contour lines would help the public understand which parts of the development would be raised up on fill and how much. But although the site plans for the Heller site provide contour lines (figures 3.0-5a and 3.0-5c), the site plans for the Hagar site provides no contours at all – they were present in the original Draft EIR, but have disappeared in the Revised Draft EIR. (figure 3.0-6a)

It is not clear to the public whether the proponents of this project do not know how much they would take down the earlier proposed fill, or know and do not want to reveal it. There are limits to how much they can take down the highest areas of fill at the southwest end of the development and still meet their ADA obligations as the site slopes upward to the northeast end. And given the commitment in the Revised Draft EIR that “Cut and fill on the site would be balanced and no import or export of earth materials would be required,” any part of the project that would be lowered would have to be offset by another part that would have to be raised up. (4.15-3)

This absence of basic information is compounded by computerized visualizations that either fail to include built-up fill of 10 ft or 11 ft or whatever it would be, or at least appear to not include that fill. (Figure 4.1-16a) The public is justifiably uncertain as to how much confidence to have in such computer manipulations.

Furthermore, the childcare facility is the building that would be closest to the intersection at Hagar and Coolidge and would be one of those prominently placed on fill. Yet there is no information as to the massing or height of that facility. Our understanding is that, as of the date of release of the Revised Draft EIR, the building had not yet been designed. How can any computerized visualization of a building that has yet to be designed be considered accurate? The public has therefore not been given the information it would need to accurately judge and comment on the extent to which the childcare facility would obscure the view and on the accuracy of the visualizations that purport to show the degree to which the childcare facility would obscure views of and from the campus.

The issue of the computerized visualizations goes to the heart of the confusion created by the aesthetics section of the Revised Draft EIR. On the one hand the Revised Draft EIR acknowledges that the FSH component would have “significant unavoidable impacts... on scenic vistas... and on scenic resources.” (4.1-27 and 29) On the other hand the Revised Draft EIR presents a series of “visual simulations” which attempt to persuade the public of the exact opposite -- that this development will have very little impact on the visual character and assets of the campus.

The Revised Draft EIR does this in some cases by demonstrating that which needs no demonstration, i.e. that persons at locations from which the lower part of the East Meadow is not visible (such as the Cowell courtyard) will still not be able to see

it after the construction. (e.g. figure 4.1-7) In cases of viewpoints from which the project would be highly visible, the Draft makes the computerized simulation as if it were through an extreme wide-angle lens, making a large and obtrusive project appear in the simulation as though it were small and far away. (e.g. figures 4.1-10a and b, 4.1-16a and b, and most egregiously 4.1-18a and b)

This confusing presentation makes it extremely difficult if not impossible for the public to accurately assess and comment on the visual impacts of this proposed project.

It is understandable that it would be desirable to the campus administration to show these buildings farther away and set lower than they would be in reality, but the fact is the Draft EIR fails to accurately visualize what these structures would actually look like and the extent to which they would obstruct..

Many of these issues could have been clarified by the use of story poles to indicate at the site the actual height and massing of the proposed structures – a common practice at many proposed construction sites. There are a number of businesses in the region that specialize in the quick, accurate, and inexpensive erection of story poles. This would have afforded passersby with an accurate preview of the visual impacts and a very direct way to judge for themselves the accuracy of the computerized visualizations.

The university has been asked multiple times to provide such story poles, beginning last March, and has been unwilling every time. Most recently the Chancellor was asked by letter of September 30 from some of the Committee and from others as well, specifically in the hopes that story poles could be erected in time for the public to see them before making comments to the Revised Draft EIR. Again, no story poles have been erected and there has been no response to our letter. We can only conclude that the university does not want the public to have an accurate picture of the visual impacts of this project in the East Meadow. What have they got to hide?

By the lack of relevant discussion and information, and by the misleading nature of the provided visualizations, the public has been deprived of the opportunity to meaningfully comment on the aesthetic impacts of the East Meadow project.

It is also noteworthy that the University's own Design Advisory Board, comprised of highly respected California architects selected by the University, voted unanimously to oppose this proposed development in the East Meadow.

The Design Advisory Board is convened every 1 to 2 months to review, with the relevant campus staff, the planning and design for the university's upcoming projects. On February 26, 2018 (though the year is incorrectly recorded on the minutes) the Design Advisory Board received their first significant briefing on the planning and design of the East Meadow project. The Board raised a number of

concerns. They noted that the construction in the East Meadow would be provided by a company (Katterra) “that efficiently fabricates workforce housing, as the cost-effective solution to design and deliver the FSH units. These will be structural components that are manufactured offsite to expedite construction.” In other words, this would be prefab housing in order to be as fast and as cheap as possible.

The Board expressed concerns about the appearance of the structures, about its negative effect on the main entryway to the university, about the amount of cut-and-fill earthmoving proposed, and about the basic idea of building in the East Meadow.

And then they did something unusual for the Board: they voted unanimously to outright oppose the East Meadow project, and they insisted that the minutes of the meeting reflect that unanimous opposition. Quoting from the minutes:

In conclusion, the Board wanted to be recorded that they are unanimously opposed to the selection of this site for the FSH development. They questioned what alternative sites had been evaluated and expressed concerns that the low-density program, located at such an iconic gateway intersection, undermines the careful approach and purposefulness of campus planning, and were alarmed by the potentially inhospitable interruption to the visual character of the open meadow in that specific location.

Geology

The East Meadow site, and the meadows of the southern portion of the campus generally, are characterized by karst. Karst is a topography, not a specific kind of rock. It is defined as an area in which the surface soils are underlain by water-soluble rock layers, often limestone, but sometimes gypsum, dolomite, or other soluble rock.¹ As water percolates into these water-soluble layers of rock, the rock is dissolved in some places, creating greater and greater passages for water and ultimately sub-surface voids presenting risk of collapse of the surface. A karst-collapsed surface is referred to as a sinkhole, one of which is already present on the East Meadow site.

Karst can present significant problems for construction of buildings, both with respect to stormwater issues and with respect to unhappy discovery of underground voids in the course of constructing foundations or, worse, not discovering voids and subsequently having a building collapse into one. For example, in 2014 a portion of the National Corvette Museum in Bowling Green, Kentucky, was swallowed up when the ceiling of an underground karst void suddenly collapsed.

¹ The terms limestone, limerock, crystalline limestone, and marble are all used at various times and by various persons to describe the same water-soluble rock underlying much of the southern part of the campus.

The proposed Hagar site in the East Meadow has the highest karst hazard risk of any of the sites under consideration – it is entirely Level 3 or Level 4 karst hazard zone, meaning at the two highest levels of risk of subsidence or collapse under any building. (figure 4.5-1) Level 3 is moderate karst-related hazard, and level 4 is high karst-related hazard. In contrast, all of the other sites offered by the Revised Draft EIR have less karst hazard risk than does the Hagar/East Meadow site:

- The Heller site is entirely level two karst hazard (low), though it does have a bit of level 4 immediately to its south.
- The North Remote Parking site is entirely level two.
- The ECI site is evenly divided between level two and level three, though it does have a bit of level four immediately to its northeast.
- The Delaware site has no karst hazard.

The Revised Draft EIR describes the risk presented by this hazard at the Hagar/East Meadow site as follows: “...construction of the proposed housing at the Hagar site... would have the potential to expose the buildings to hazards related to settlement or collapse. The impact would be potentially significant.” (4.5-14)

The solution proposed is uncertain, because the necessary geotechnical investigations have not been completed. As noted in the Introduction, only 52 bore holes were made prior to the issuance of the original Draft EIR, and inexplicably no additional borings were made in the 6 months between the issuance of the original Draft EIR and the issuance of the Revised Draft EIR.

In the absence of solid information, the Revised Draft EIR can only offer speculation regarding what might be required. The plan is to do the more detailed geotechnical surveys at an unspecified later date, and then decide what to do: They say they will undertake “...collection of additional site specific information (as needed) and implementation of a final geotechnical report.” (4.5-14). But without the necessary final information, they speculate what will be required: structures would be “founded upon mat foundation systems designed at constructed to span a 10-foot void appearing anywhere beneath the structure and distributing foundation loads...” (4.5-14)

The Draft EIR does not explain what that would actually entail, but the recently completed Hay Barn project affords a probable example. In that project the entire footprint of the barn was dug out to a depth of approximately 5 feet, then partially refilled with engineered fill (in this case lime-treated compacted fill), and then filled the rest of the way with reinforced concrete. To expand that concept to an area many times as great as the Hay Barn footprint, as would be the case in the East Meadow project, would generate an extraordinary amount of excavation, an amount not estimated or discussed in the Revised Draft EIR.

It is important to note that all this excavation would be in addition to a huge amount of cut-and-fill excavation intended to nearly level the entire site, an aspect of the East Meadow project that the Revised Draft EIR fails to illuminate. As discussed in the Introduction to these comments, the original Draft EIR made clear the extent of cut and fill planned, with an approximately 15 vertical foot dig-in at one end of the project and an approximately 12 vertical foot build-up at the other end. The Revised Draft EIR speaks of slightly moderating those amounts, but never specifies what that would mean in practice.

The Draft EIR fails to discuss or assess the impacts of all this earthmoving, even though the impacts on such issues as geology, storm water, and aesthetics are bound to be significant.

Furthermore, the Revised Draft EIR offers no basis for assuming the 10 foot diameter void is the appropriate standard for this site. It is clear that it is not the result of actual geotechnical surveys and probes of the site. It is an arbitrary number.

And if voids greater than 10 feet in diameter are discovered in the course of belated geotechnical surveys or construction? The Revised Draft EIR acknowledges that there is a “contingency that a void that is larger than the specified design void may exist under the building footprints. If such a void exists, and if soil washes or collapses into it after the building has been constructed, the structure may be damaged, a potentially significant adverse impact. (4.5-15) And if there were a void larger than 10 feet in diameter, and if you found it, what would you do then? “If previously unidentified dolines in excess of the design void span are mapped in the excavation, the project shall be redesigned to span those voids, or further subsurface work shall be performed to adequately characterize the hazard and attendant risks related to karst processes.” (4.5-15 and 16)

Clearly the mitigation proposed by the Revised Draft EIR for voids larger than 10 feet is vague, speculative, and un reassuring. In short, the mitigation is itself a large void. To translate what we have been told here: ‘if after digging a few feet down we can see voids larger than we guessed would be there when we were just standing on the surface and couldn’t see them, then we will think of something to do about them, but we’re not sure what.’ How does that give the public an opportunity to substantively respond to a proposed project? The necessary geotechnical investigation has not been done. There are no facts to comment on.

Furthermore, the “concrete mat” which is proposed as the key remedy for karst hazard remains a mystery. The Revised Draft EIR gives no indication of how thick the concrete mat must be, how extensive the reinforcement of the concrete must be, or how far beyond the footprint of the buildings (as is often the case) the reinforced concrete mat must extend in order to meet the 10 foot void standard.

The geology section of the Revised Draft EIR's discussion of the East Meadow site is unfortunately symptomatic of the inadequacies of the Revised Draft EIR with respect to the East Meadow generally. It does not tell the public the size of the karst voids below the surface, because sufficient geotechnical probes have not been done. It does not even describe or estimate the large amount of cut and fill earthmoving that is contemplated and what effect that would have on the ability to discover all karst void hazards. It gives no idea how the large amount of excavation after the cut and fill would effect the ability to detect underground voids. It gives no basis for its seemingly arbitrary adoption of the 10-foot void standard. It does not discuss any information related to how its proposed engineered fill and reinforced concrete mat would be made sufficient to span voids of the size the Revised Draft EIR imagines might be underground. It does not even speculate as to the likelihood of voids larger than 10 feet being present. It does not hazard a guess as to the odds of its future geotechnical probes failing to discover any relevant hazard. And it says absolutely nothing about what measures it would take if voids greater than the anticipated size were discovered.

How is the public afforded a meaningful opportunity to comment on these matters?

The history of development in karst hazard landscape, both on the UCSC campus and elsewhere, strongly suggests that this is an issue on which ignorance is not bliss. Surprises during construction can greatly increase environmental impacts, costs, and delays. The university need look no farther than its own Baskin Engineering building to recall how painfully embarrassing, delaying, and costly karst surprises can be.

Hydrology/Storm water/Groundwater

As discussed in the Geology section of our comments, the entire East Meadow site consists entirely of the two highest karst hazard zones. The site is underlain by water-soluble rock layers variously termed limestone, limerock, crystalline limestone, or marble. The slight acidity that rainwater picks up from the atmosphere, vegetation or soils increases the rate at which water dissolves this rock.

The natural condition of areas such as this is that these soluble rock layers become laced with water passageways which increase in size over time, increasing the size of hidden voids and the places for water to be stored and the number of passageways through which water can flow.

This has several consequences.

First, karst areas typically have very high rates of percolation into the ground and correspondingly low rates of storm water runoff. This phenomenon stands our normal storm water concern on its head – instead of being concerned primarily with

surface water, where it goes, and what it carries with it, we need to be concerned primarily about a far more mysterious phenomenon: where water that sinks into the ground goes, what it carries with it, and where it reemerges. It takes greater effort to provide basic information about these subsurface flows than it does about the more common surface flows. And that greater effort has not been made for the East Meadow site in the Revised Draft EIR.

Second, karst areas are more likely to dry the surface soils more quickly and more thoroughly than is the case in more common areas where the underlying strata are less permeable, holding water longer near the surface. For this reason karst areas are often (but not always) seasonal grasslands and unable to support the more water-intensive forms of vegetation, such as forest. It is noteworthy that UCSC's Great Meadow (which the university's own publication The Natural History of the UC Santa Cruz Campus describes at page 112 as encompassing the East Meadow, the Central Meadow, and the West Meadow all the way to the edge of the Wilder Creek canyon) is karst topography, and that has no doubt contributed to some degree in making it a meadow. (see figure 4.5-1)

Third, in an open area of a gentle topography like the East Meadow rainfall infiltrates relatively evenly over the entire area, so infiltration is not concentrated anywhere and therefore neither is dissolution of the underlying water-soluble rock. The process of decay of that rock is therefore comparatively slow and gradual. The creation of structures that tend to concentrate larger amounts of percolating waters in smaller areas, however, greatly accelerates the rate of dissolution of the underlying rock at or near that concentrated point and can create sinkholes and outright collapse relatively quickly.

The first and third of these consequences pose great difficulty for building in the meadows generally and on the proposed site in the East Meadow in particular, and the Revised Draft EIR is particularly weak in dealing with these issues with respect to the East Meadow site.

We begin with the consequences of concentrated flows. Put more exactly, the first question before us is the effects of storm water flows when concentrated by a project located on karst.

The East Meadow portion of the Student Housing West project has, unlike its much larger cousin on the west side of campus, only existed as a possibility for a relatively short period of time, and those proposing it have clearly not yet been able to fully deal with the considerable challenges of redirecting and concentrating storm water in a karst environment. Our standard storm water policies often are the opposite of what we should do in a karst situation. For example, the campus's standard hydrology mitigation for storm water calls for maximizing infiltration of runoff and states "Infiltration shall be achieved preferably near the area where new runoff is generated." (HYD-3D at 4.7-27) But of course in a karst situation you do not want

the infiltration occurring near the building or roadway that generated the runoff, because that would likely lead to a collapse near or even under that infrastructure.

It has been a steep learning curve required of those working on the East Meadow proposal and still is. Two months before the issuance of the original Draft EIR they were proposing dumping storm water into an infiltration basin close both to their proposed buildings and to the existing on-site sinkhole. They presumably then figured out that was a dangerous idea, and by the time the original Draft EIR was released they had changed that to piping most (but not all) of the storm water generated by the proposed development roughly 500 feet to the west and dumping it off the edge of the meadow into Jordan Gulch. (figure 3.0-6.b of the original Draft EIR) Jordan Gulch has no surface flow exit – there is no culvert under Ranch View Road. Jordan Gulch is essentially a linear karst sinkhole with such good percolation that very little surface water arrives at the dead end where the proposed project would have been dumping the storm water from roughly 7 acres of impervious surface created by the East Meadow project. (4.7-28 of the original Draft EIR)

The original Draft EIR provided no information as to the consequences of dumping so much storm water on the karst underlying this dead-end of Jordan Gulch, except that this percolation point of so much storm water would be 60 feet from significant infrastructure, which the DEIR did not identify, but was in fact the main sewer line for the campus. In a great bit of understatement, the original Draft EIR simply noted “The impact related to potential sinkhole formation from site runoff would be potentially significant.” (4.5-13 of the original Draft EIR)

Now in the Revised Draft EIR the planners of this project continue to struggle to find a solution to a problem that really has no solution: How to dispose of large amounts of storm water in a severe karst environment without creating and then enlarging a potentially catastrophic sinkhole. The only real solution is to move the development proposed for the Hagar/East Meadow site to another site with less severe karst conditions. And as noted in the Geology section of these comments, every other site utilized by any of the seven alternatives detailed in the Revised Draft EIR has less severe karst than does the Hagar/East Meadow site. But apparently the storm water planners have not been allowed to state the obvious.

A demonstration of the hazard of concentrating storm water in a karst environment is readily available right at the East Meadow site, in the form of the sinkhole that exists near Hagar and Coolidge. The university in 1991 created a “detention basin” here (4.7-7) to capture runoff from Hagar Drive (for about five tenths of a mile) and from a concrete ditch that extends parallel to the west side of Coolidge (a length of about three tenths of a mile drains toward the sinkhole). As can be observed near the end of a heavy rainstorm, the resulting amount of runoff concentrated in this “detention basin” is surprisingly small, mostly just the runoff from the Hagar Drive pavement. Very little water gathers in the cement-lined ditch parallel to Coolidge, because most rainfall in the East Meadow percolates in where it lands, and because

runoff from Coolidge Drive itself is kept on Coolidge Drive by an asphalt curb extending farther north than does the portion of the concrete ditch that drains to the sinkhole.²

The university estimates (4.7-11) only 1.73 acres of this entire watershed is presently impervious – basically the pavement of Hagar and Coolidge, and less than that flows into the detention pond (Coolidge pavement drains into storm water pipe rather than into the detention basin/sinkhole, see note 2). That means a little less than an acre of impervious surface was draining into that detention basin. (By direct observation very little runoff arrives in the sinkhole from surrounding Meadow, because that part of the meadow has very little slope and the percolation rate is extremely high.) Yet it took only 10 years for that detention basin to turn into a sinkhole. (4.6-7) That’s what roughly an acre’s worth of runoff can do when concentrated, and the university now proposes to take 6.32 acres of runoff from impervious surfaces created by the proposed development in the East Meadow, plus the runoff from Hagar Drive, and find two concentrated points on karst topography to dump all that storm water.

The campus administration’s latest attempt at a solution is, not surprisingly given the challenge they face at this site, still troubling.

What they now propose is to divide the storm water discharge more exactly between two locations, hoping to halve the damage done to each location as opposed to discharging all or most in one location. How the division is done is well-suited to creating confusion, but we will summarize it here.

The proposed project would create 6.32 acres of impervious surface in the Hagar/East Meadow development. (4.7-34). 4.5 acres of that 6.32 acres of runoff from newly created impervious surface would be conveyed to the detention basin/sinkhole at the corner of Hagar and Coolidge. (table 4.7-7) The other 1.82

² The Revised Draft EIR is in error when it states that the concrete ditch paralleling Coolidge Drive captures the runoff of Coolidge Drive and/or captures significant runoff from up-slope on the East Meadow and conveys it to the sinkhole. Very little water is captured by the concrete ditch, though what little it does capture is conveyed to the sinkhole. The considerable runoff from a half mile of Coolidge is kept on Coolidge by an asphalt curb. That runoff flows into storm drains on Coolidge and is then taken by storm pipe to the edge of the Kalkar quarry and discharged into the Quarry – it does not flow into the concrete ditch nor into the sinkhole. And very little runoff from the East Meadow is gathered in the concrete ditch because of the high degree of percolation in the East Meadow generally and in the portion of the East Meadow nearest the ditch, which is the portion of gentler slope, greater percolation, and designated for the proposed development. The portion of the concrete ditch that drains to the sinkhole (about 3 tenths of a mile) in fact serves little purpose at all, other than to memorialize the poor understanding of karst topography and its consequences for storm water.

acres of runoff from newly created impervious surface would be conveyed to the dead-end of Jordan Gulch, were it would also percolate into karst.

Each of those two discharge points would also receive additional amounts of discharge. In the case of the Hagar/Coolidge discharge basin/sinkhole it would also receive storm water from Hagar Drive and from the 31.5 acres of runoff from upslope of the proposed development, runoff that would be conveyed by the proposed project directly to the detention basin/sinkhole. (4.7-34) In the case of the dead-end of Jordan Gulch, it would also receive a million gallons per year of discharge from the MBR sewage treatment facility which is now part of the proposed Hagar/East Meadow development. (4.7-35)

In both cases, this is a significant increase from the amount of water each of these two depressions now have to absorb.

In the case of the Hagar/Coolidge detention basin/sinkhole, it now has to absorb only the storm water from Hagar Drive and the very minimal runoff from the surrounding meadow.³ (While there may well be some runoff from the slightly greater slopes of the area up-hill from the proposed development site, it appears to now mostly percolate in a highly dispersed way when it reaches the slightly lesser slopes of the proposed development site, so that very little of it reaches the detention basin/sinkhole.) That minimal inflow to the detention basin/sinkhole would under the proposed project be increased by adding all the runoff from the 31.5 acres up-slope from the development site (which the project would directly convey to the detention basin/sinkhole) plus all the runoff from 4.5 acres of newly impervious surface created by the proposed development. That is a major increase over the mere 1 acre of Hagar Drive storm water, which was sufficient to create the sinkhole in only 10 years.

In the case of Jordan Gulch, which could be described as a linear sinkhole, the proposed discharge point is at the dead-end of that linear sinkhole. That dead-end now has to absorb almost no water at all. Inspection of the gulch floor reveals virtually no sign of surface flows coming down the gulch to the dead-end, because virtually all water that now gets into the gulch percolates before it gets to the dead-end.⁴ Under the proposed development into that dead-end sinkhole would now

³ We know this because we have walked the site in the latter part of a rain event in the latter part of the rainy season of 2017-2018. And as noted in note 2, the Revised Draft EIR is also in error with respect to the concrete ditch paralleling Coolidge and with respect to the runoff on Coolidge – they convey almost no water to the detention basin/sinkhole either under current conditions or under post-construction conditions.

⁴ Research geologist Richard G. Stanley confirmed this in a University publication. Contrasting the upper and lower reaches of Jordan Gulch, he writes, “An... impressive disappearing act is performed several times each winter by the creek in Jordan Gulch. This stream flows strongly during each storm, but the water never

pour the surface runoff from 1.82 acres of newly impervious surface created by the proposed development, plus a million gallons per year of discharge from the MBR sewage treatment facility which is now part of the proposed Hagar/East Meadow development. (4.7-35) That is all increase, since virtually nothing flows to the dead-end of Jordan Gulch today.

In both cases the high likelihood is that the formation, enlargement, and ultimate collapse of a sinkhole is just a matter of time, and as we saw in the formation of the existing sinkhole at Hagar and Coolidge from the concentrated discharge of considerably less storm water, this destructive process does not necessarily take decades.

In the case of the Hagar/Coolidge sinkhole, it now reaches to about 50 feet from Coolidge Drive pavement and to about 30 feet from Hagar pavement. The part of the proposed development that is closest to the sinkhole is the children's play area of the childcare facility.

In the case of the Jordan Gulch dead-end, the Revised Draft EIR is a bit more candid than was the original Draft EIR. It notes that a sinkhole here "...could also undermine nearby infrastructure present in Jordan Gulch, which includes a sanitary sewer main and campus roadway. ...should a sinkhole expand beneath critical infrastructure such as Ranch View Road, Coolidge Drive, or utility infrastructure, the impact would be significant in terms of its effect on the infrastructure and for causing erosion and sedimentation in the karst aquifer." (4.7-36) It should also be noted that the sewer main in question carries all the sewage from the entire eastern half of the campus.

The Revised Draft EIR reassures us that the probability of a catastrophic collapse at the dead-end of Jordan Gulch due to discharge of storm water and treated effluent from the proposed East Meadow development "is very low," because "a minimum 60 foot buffer shall be established between infiltration areas in Jordan Gulch and critical infrastructure...", and beside "... in the event a sinkhole is formed or activated in Jordan Gulch by the discharge of storm water and recycled water from the Hagar site, a graded filter or another filtration system will be designed and constructed." (4.7-36 and 42)

But while the low spot in the Jordan Gulch dead-end – where the discharged water would gather and percolate – is just barely over 60 feet from the sewer main, there is no analysis that demonstrates that that is sufficient protection against a disaster. Did they pick that number based on some geologic analysis, or because it was the largest number they could still comply with? From the Revised Draft EIR the public has no way of knowing. Is it significant that the sewer main sits on marble, and is up on an embankment above the percolation point? When we are talking about a very

reaches the lower part of the campus; apparently the water goes underground in the Lower Quarry." The Natural History of the UC Santa Cruz Campus, 1982, p. 84.

large sewer main, what is the reasonable standard for what constitutes acceptable risk to it? And if a sinkhole begins to expand, what about a “graded filter” would solve that problem? A graded filter in the storm water discharge context usually refers to a bed of sand, or a bed of layered sand and gravel, that assists percolation in relatively impervious areas. Here the problem is the opposite – a highly pervious location. Is the term “graded filter” being deployed as magical thinking, or is there some way it could actually solve the problem? On all these matters the Revised Draft EIR offers the public nothing in the way of discussion or analysis on which to base their comments.

The second question before us concerns the consequences of dumping treated sewage, however highly treated, into the karst at the dead-end of Jordan Gulch, from which point it enters the groundwater that emerges at various points in the City of Santa Cruz neighborhoods to the southeast.

Newly proposed in the Revised Draft EIR is that the sewage generated by the Hagar/ East Meadow development would be treated onsite by a small treatment plant of the MBR type. In this type of treatment, screened solids are bagged and removed, and the remaining liquid is treated to the point where it can be used to irrigate and to flush toilets. The Revised Draft EIR uses the term “recycled water” to describe that treated effluent, and it estimates that while some of that treated effluent would in fact be used in that development for toilet flushing and landscape watering, approximately a million gallons per year would be piped to the Jordan Gulch dead-end and dumped there, in addition to the storm water. (4.7-35 and figure 3.0-6b)

This raises a number of issues, some of which the Revised Draft EIR discusses, and some of which it ignores.

First, there is a difference between using this kind of treated effluent to flush toilets or irrigate plants, and dropping it straight into a shallow aquifer that emerges in residential neighborhoods a short distance away, where kids play in it. The Revised Draft EIR has nothing to say about that difference.

Whatever the quality of the treated effluent is supposed to be, there is the question of how consistently it will be treated to that degree, a question the Revised Draft EIR never discusses. No treatment system is 100% consistent and infallible. The system would be provided with a sewer line to the sewer main, for use when the MBR treatment facility fails. (4.7-35 and figure 3.0-6b) But the Revised Draft EIR never discusses how quickly and how reliably this backup would be switched to in the event of a failure, how great the risk is of a failure not being detected at all, or how well detection would work if the MBR facility continued to work but was not treating the effluent to the intended degree. These are all critically relevant questions to water quality in those nearby neighborhoods.

Second, the Revised Draft EIR does speculate on exactly where that water emerges, and in fact offers an excellent map of the springs in nearby neighborhoods. (figure

4.7-1) It shows four springs, Kalkar Quarry Spring, Messiah Lutheran Church Spring, Westlake Spring, and Bay Street Spring, all generally to the southeast of the Jordan Gulch discharge point, all at a lower elevation than that discharge point, all in residential neighborhoods, and all completely accessible to the public. Kalkar is the closest at about two tenths of a mile, and the other three are a little over half a mile, from the proposed discharge point in the dead-end of Jordan Gulch. All drain ultimately to Neary Lagoon.

The Revised Draft EIR references a “dye trace study” that it claims shows “that the karst fracture system in lower Jordan Gulch in the immediate vicinity of the proposed discharge location is directly connected to three off-site springs or spring-fed ponds (i.e. Bay Street spring, West Lake Pond and Messiah Lutheran spring) and is “not directly connected to Kalkar Quarry spring.” (4.7-39) This study may have been one of four dye trace studies minimally described at 4.7-5 and 6, but that is not clear. Even if it is, it is not established how the conclusion is now drawn that no dye emerged at the Kalkar Quarry and that no connectivity between the dead-end of Jordan Gulch and the Kalkar Quarry exists. No basis is provided for the public to judge the study or the conclusions now being drawn from it.

Research Geologist Richard G. Stanley offers an intriguing counter-point in the same University publication cited earlier. Just prior to the beginning of the 20th century, Henry Cowell and the City of Santa Cruz reached an agreement under which a reservoir was constructed in Moore Creek (in what is now the Arboretum) to hold water the City would pipe in from several north coast creeks. The reservoir once built “leaked badly” – a leak estimated at as much as 750,000 gallons per day – not under or through the dam, but straight down into the earth. It was an early example of not understanding the significance of karst topography. The City struggled with it unsuccessfully until 1948, when “the city of Santa Cruz emptied and abandoned the facility. At about the same time, the flow of springs in the Kalkar Quarry, about 0.7 miles to the east, reportedly decreased by a comparable volume.”⁵

It is interesting to note that a straight line from that failed reservoir to Kalkar Quarry would on its way pass right through the dead-end of Jordan Gulch, where the proposed project would discharge storm water and treated effluent. It is hard to imagine that huge volumes of water would travel from the reservoir to the Kalkar Quarry, but the proposed discharge could not travel less than a third of the same route from Jordan Gulch to the Kalkar Quarry.

The reality here is that we do not have certainty about exactly which or all of these four neighboring springs would be the recipients of whatever is discharged in Jordan Gulch. What we can reasonably conclude, however, is that all or most of these four neighboring springs would be the recipients of all or most of that discharge.

⁵ The Natural History of the UC Santa Cruz Campus, 1984, p. 85.

The Revised Draft EIR rightly raises one other issue about what would emerge at all or most of those four neighboring springs. In discussing the question of water quality at the Jordan Gulch discharge point and at the neighboring springs that discharge would feed, the Revised Draft EIR acknowledges an important reality: "...a potential impact to water quality could occur if the discharge of storm water and recycled water resulted in the formation of sinkholes in Jordan Gulch that could then cause the discharge of sediment into the underlying karst and affect water quality in downstream springs." (4.7-36) As we have discussed above, the formation of a sinkhole is not just possible, it is likely, given enough discharge and enough time. Sediment loading at any of these neighboring springs would be a serious problem, but we will discuss below the sediment problems of Kalkar Quarry in particular, which is today being filled in by sediment-loaded storm water discharge into the Quarry by the University.

The third question before us is the storm water and groundwater impacts of the proposed Hagar/East Meadow development on the Kalkar Quarry specifically. The proposed development and the Quarry could not be much closer to each other unless the development were in the Quarry. It is just 60 yards from the edge of the proposed development to the edge of the Quarry. And the development would be upslope from the edge of the Quarry.

The Quarry when it was still operating extracted the same marble/limestone that underlies the East Meadow (and from which spring water now flows), but quarrying operations ceased in 1970.⁶ In the nearly 50 years since then it has grown over and become a lush and beautiful park with a pond and wetland fed by the springs that flow out of that same marble/limestone. The park, though owned and maintained by the Springtree Homeowners Association, is open to the public.

The Revised Draft EIR tries to concede the obvious, but cannot quite get there. It acknowledges that the proposed development would be in the Kalkar Quarry watershed (4.7-11), but then offers the following laughably coy statement, speaking of the sinkhole in the proposed Hagar/East Meadow development: "Due to the proximity of the detention basin/sinkhole to the Kalkar Quarry Pond, it is possible that some of the runoff that discharges into the sinkhole flows into the Kalkar Quarry Pond via the Kalkar Quarry spring, although the existence and degree of such a hydraulic connection has not been established." (4.7-33)

No, it is not merely "possible," it is as certain as anything in the observed universe can be. The rainfall that lands on the East Meadow generally and on the proposed development site in particular, whether it flows into the sinkhole or not, percolates into the marble/limestone karst, which the Quarry has dug into a few yards away and downhill from, and water emerges from that marble/limestone layer that the Quarry has dug into. If the water that emerges from that rock in the Quarry is not

⁶ The Natural History of the UC Santa Cruz Campus, 1984, p.91.

mainly or entirely from the water that percolated into the meadows above, this location is the Eighth Wonder of the World.

When the Revised Draft EIR makes statements like “it is possible”, or “the existence and degree of such a hydraulic connection has not been established”, or “there is no dye trace information directly relating the area within the footprint of the proposed development of the detention basin/sinkhole to Kalkar Quarry Pond,” (4.7-33) it is making statements that may technically and narrowly be true, but it is also putting truth in service to a falsehood, which is that there is any meaningful uncertainty about where the water that emerges from the Kalkar springs comes from.

I can truthfully say that although we can observe results that suggest the existence of something we call gravity, we have never actually seen, touched, or observed in any way gravity itself. Yet it would not be advisable to conclude from that fact that I can jump out of a tall building and not suffer very real consequences.

A little non-coy honesty would serve the public understanding of this issue far better than what has been served up by the Revised Draft EIR.

Let us begin by reviewing the current situation pre-development. Campus land upslope from the Kalkar Quarry has two key impacts on the Kalkar Quarry, one positive (in fact essential), and one negative (in fact existentially threatening).

The positive effect is, as discussed above, the supply of spring water, filtered of sediment as the water percolates into the meadow above, passes through the marble/limestone, and then emerges into the Quarry. This clean water is what sustains the Quarry as a pond, as a wetland, and as a verdant and beautiful park. This water includes the water that falls on the lower East Meadow, the water that runs off Hagar Drive and into the sinkhole, and the water that runs off the upper slopes of the East Meadow and then percolates in at the less sloped lower part of the East Meadow.

The negative effect is that the storm water that runs off about a half mile of Coolidge Drive picks up a heavy load of sediment from steep road cuts and other instances of bare ground and carries that sediment load via storm drain and pipe over the edge of the Kalkar Quarry and down to a discharge point that is off campus (Assessor Parcel Number 001-191-73) and at the western edge of the Kalkar Pond. During and after a rain event this sediment-heavy discharge quickly clouds the entire Pond with sediment, which subsequently settles out, gradually filling in the Pond and the wetland. In addition, some of that sediment load flows out the Pond outflow and eventually down to Neary Lagoon.

Note that the flow down Coolidge does NOT, contrary to representations in the Revised Draft EIR (4.7-33), flow either directly into the detention basin/sinkhole or into the concrete ditch paralleling Coolidge and thence into the detention

basin/sinkhole. This is a matter of simple on-site observation during a rain event; it does not require a dye trace study or a computer modeling exercise.

The proposed development alters the positive effects of this equation by reducing those positives. It takes approximately one third of all the rainfall on the impervious surfaces created by the development and changes it from percolating in immediately above the Quarry at present and pipes it instead over to Jordan Gulch, where as discussed above it is uncertain whether any of it would ultimately emerge back at the Kalkar Quarry. This is an instance where the campus administration should have provided further dye trace studies, in appropriate seasons, to try to clarify where discharges in Jordan Gulch would flow to. They did not.

Furthermore, the proposed development would take all the runoff from the East Meadow upslope from the proposed development, and convey it directly to the sinkhole. At present, most of it percolates into the area that would be developed, and relatively little of it runs into the sinkhole (again, that is a matter of direct on-site observation during a rain event). While under present conditions some of that upslope run-off would percolate in at the sinkhole, under post-construction conditions all of it would be conveyed to the sinkhole. That additional flow to the sinkhole, along with the other two-thirds of the impervious area on the developed site, which would now be delivered entirely to the sinkhole and not percolated in to the rest of the lower East Meadow as at present, would increase the likelihood that the sinkhole would not be able to percolate all that water delivered to it in a relatively short time. That would mean a portion of that water accumulating at the surface of the sinkhole would rise to the relatively shallow depth at which it would flow out the overflow pipe that now exists and would continue to exist. (4.7-33) That pipe connects to the storm water pipe that conveys the Coolidge runoff to the Kalkar Quarry.

Taken altogether, that would mean that a portion of the storm water that now lands on the development site and percolates in essentially where it is, or lands upslope of the development site and percolates in on the development site, would now be transferred instead directly and entirely to the sinkhole without those prior opportunities to percolate, increasing the flow to the sinkhole. That in turn increases the likelihood of water flowing out of the sinkhole via the overflow stormpipe (arriving at the Kalkar Pond but without the filtration provided by the karst), and by increasing the amount of percolation that must be accomplished at the sinkhole increases the speed with which the sinkhole will further collapse, compounding the sediment loading to the Kalkar Quarry, as the Revised Draft EIR acknowledges. (4.7-36)

Not only are the positive effects of the current situation diminished, the negative side of present effects are made worse by the proposed development. The sediment-loaded storm water coursing down Coolidge Drive would still be storm-piped by the University directly into the Quarry (any attempt to divert it into the sinkhole would clog up the sinkhole, reducing its ability to percolate, and would

accelerate its tendency to further collapse). The increased flows into the sinkhole, as discussed above, would shift some water that now travels to the Kalkar Quarry via filtering karst instead to travelling to the Kalkar Quarry without benefit of that filtering. That would increase the sediment problem in the Quarry and downstream.

The Revised Draft EIR either fails to discuss these issues, or hopelessly misstates the facts about them, most notably in tables 4.7-6 and 7, which purport to show that flows into the sinkhole would be essentially unchanged as a result of the proposed development. That mistaken conclusion is arrived at mainly by making erroneous assumptions about how much runoff flows into the sinkhole pre-construction, but other smaller errors are present as well. The Revised Draft EIR repeatedly makes false statements or assumptions about Coolidge Drive storm water flowing into the sinkhole or into the cement ditch and then in to the sinkhole (e.g. 4.7-33), about the cement ditch conveying any significant amount of water into the sinkhole, and about the amount of water that runs off the surrounding meadow into the sinkhole rather than percolating into that surrounding meadow. The Committee strongly urges the campus administration to back away from their computer screens, put on their rain suits and boots, and go out and observe late in a rain event and late in a rain season, as we have done. The facts will be self-evident. The computer models work much better when fed local reality than when fed standardized assumptions that may not reflect local reality. And that is particularly true when operating in a karst-intensive environment. Karst topography is not common in the western US, but it is more than common in the southern part of the campus. That is why Henry Cowell was here.

These effects of the proposed development – to decrease the positive effects of the East Meadow on the Kalkar Quarry and to increase the negative effects – require a consideration of the regulatory status of the Kalkar Quarry, something the Revised Draft EIR fails to do.

The National Wetlands Inventory is maintained by the U.S Fish and Wildlife Service, and federally lists the Kalkar Quarry as a wetland. More specifically it shows that roughly 50% of the Quarry is categorized as “Freshwater Forested/Scrub Wetland”, roughly 30% of it is “Freshwater Emergent Wetland,” and roughly 20% is “Freshwater Pond.” It also lists Neary Lagoon, into which Kalkar Quarry ultimately drains, as a wetland.

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers has an important regulatory jurisdiction over “waters of the U.S.” and wetlands. The Corps informs us that both the Kalkar Quarry and Neary Lagoon are “waters of the U.S.” as defined in statute. Unlike U.S. Fish and Wildlife, the Corps does not attempt to make specific determinations, referred to as delineations, of a wetland until the question of whether or not to issue a permit to impact a wetland arises. The Corps has made a determination and delineation that Neary Lagoon is a wetland, legally referred to as a “jurisdictional wetland” under section 404. The need to make a determination regarding Kalkar Quarry has not yet arisen, and so the Corps has not yet made a

formal decision about the Quarry's regulatory status. However the Corps informs us, after review of the National Wetlands Inventory information and aerial survey information, that it is "very likely" that an on-site delineation would determine that Kalkar Quarry is a jurisdictional wetland for purposes of Section 404.

This raises specific questions about the regulatory situation of any project that adversely affects the Kalkar Quarry wetland, as the proposed project would do and as the University is now doing. The fact of federal jurisdiction over the Kalkar Quarry wetland, and whatever regulatory issues may arise from that fact, should have been discussed in the Revised Draft EIR and were not.

Furthermore, there are storm water discharge impacts to the Kalkar Quarry, both in the proposed project and in the present. Storm water discharge is, pursuant to the Clean Water Act, under the jurisdiction of the U.S. Environmental Protection Agency, though the EPA has authority to delegate that role to the state, which it has done with respect to California. California administers its storm water permit program through its Regional Water Quality Control Boards. The relevant RWQCB issues a municipal permit to the University for its storm water management program governing on-campus discharges (4.7-14), and the Board also issues a municipal storm water program permit to the City of Santa Cruz with respect to discharges within the City but not on-campus.

In the case of the Kalkar Quarry, the University is discharging off-campus but within the City, and is certainly discharging to the detriment of a wetland and pond outside the campus but within the City. This raises regulatory issues that would be further complicated by the proposed project and certainly should have been illuminated in the Revised Draft EIR. Instead these issues with respect to the Kalkar wetland and pond went completely unaddressed, depriving the public of information that would have been useful in formulating comments.

Furthermore, in discussing the campus storm water management program, the Revised Draft EIR states: "...there does not appear to be any significant identifiable water quality impacts from campus activities." (4.7-10) Given the ongoing discharge of sediment-loaded storm water into the Kalkar Quarry, through storm water pipes installed by the campus, that statement is clearly false.

There is one more unaddressed regulatory question hanging specifically over the Kalkar Quarry. The California Red Legged Frog (CRLF) "is a Federally Threatened and California Species of Special Concern." (4.3-16) Of the Kalkar Quarry and two smaller downstream ponds close by Kalkar Pond the Revised Draft EIR states that these ponds "may provide suitable habitat for CRLF" (4.3-43) and further states "...due to the presence of potential suitable breeding or non-breeding aquatic habitat, CRLF could occur in these ponds." (4.3-18)

And if there were CRLF in these ponds, that would have regulatory significance for the proposed Hagar/East Meadow development in two ways. First, as discussed

above, the campus now has adverse impacts on the Kalkar Quarry and its outflows due to sediment-laden storm water discharges, and the proposed project may adversely affect clean water supply and sediment-loaded discharge to the Quarry. And second, the proposed project itself may occupy upland habitat for CRLF given their occupation of this nearby aquatic habitat. If there is CRLF in the Kalkar Quarry or its nearby outflow, CRLF would “have the potential to disperse through the Hagar site...” (4.3-43) And “...should CRLF disperse through the site during construction, CRLF could be adversely affected. This impact would be potentially significant.” (4.3-43)

These are exactly the issues that preoccupied the planning for the Heller portion of this project for many months, with considerable amounts of work done by biological consultants to discover the exact extent of CRLF activity on the west side of campus. It also involved serious discussions with US Fish and Wildlife, and ultimately reduced the foot print of and massively reshaped the west side development, so the significance of the CRLF issue was very well known to all involved. And yet no one thought to even make the relatively simple threshold determination of whether there were CRLF in Kalkar Quarry, even after acknowledging that it “may provide suitable habitat”? That seems inconceivable. This is either a case of stunning incompetence or a willful preference for not knowing. It certainly has the appearance of “don’t ask, don’t tell.” In any event, the campus administration had an obligation to better inform the public about this issue and did not fulfill that obligation.

There is also a common element between the campus administration dumping part of their problem over the edge into Jordan Gulch and another part of their problem over the edge into Kalkar Quarry. There is a disturbing tendency for the campus administration to violate one of the core lessons it teaches in its various environmental studies classes. When the university attempts to solve its considerable difficulties at the East Meadow site by dumping them over the embankment into a Jordan Gulch sinkhole or into the Kalkar Quarry wetland, it is engaging in flat-earth thinking. That term applies to the notion that if I can just dump my refuse off the edge I am free and clear of it. But what we know and what the University teaches in its environmental studies classes is that just dumping it off the edge does not relieve us from its consequences. The university needs to sit in on some of its own environmental classes. It needs to know and be transparent about the consequences of what it dumps over the edge, so that we can all make better decisions to minimize the adverse impacts of our choices and our actions. That’s what CEQA is all about.

Transportation and Traffic

The Revised Draft EIR begins by making a major decision: it will offer no traffic impact analysis on any street or intersection off-campus, nor will it offer any traffic analysis of the two intersections at the entrances to the campus or of the entrance to

the Heller/west side development. It merely states, as though it were a self-evident proposition, that “The proposed project would add housing to the campus and thereby reduce the percentage of enrolled students who would live off campus... Therefore, the proposed project would reduce and not add new daily and peak hour trips to the area roadways.” 4.11-2

Well, yes, but no. The “therefore” is all wrong. Once again we have a truth in service of a falsehood. Yes, under those conditions, the percentage of students living off campus would go down. But the implication that traffic between campus and town would “therefore” go down is false, because that depends on many other variables: how much does total enrollment go up, how much do staff and faculty numbers go up? And so on. Even if the percentage of enrolled students who would live off campus might be reduced, that does not necessarily mean that the absolute number of trips on area roadways would be reduced. If student and faculty/staff numbers increased, it is quite possible, even likely, that total trips on area roads would go up while the percentage of students living off campus went down.

Furthermore, there are many other variables that would influence whether trips to and from the campus might increase. For example, the new expanded childcare facility is billed as providing childcare not only to residents of Family Student Housing, but also to staff and faculty. To what extent will that result in non-staff spouses of university staff (or non-faculty spouses of faculty) dropping off a child and then driving on to a non-university job elsewhere? To what extent will university employees working off the main campus (for example at the Marine Sciences campus, or at 2300 Delaware Avenue) now choose to drop a child off at the new on-campus child care center and then drive to their job off campus? None of these possibilities are acknowledged or considered.

The entire transportation analysis of the Revised Draft EIR does exactly one site-specific traffic study, at the corner of Hagar and Coolidge. Any reasonable traffic analysis of this proposed project would have at minimum also included site-specific traffic analyses of Heller and Oakes (the entrance to the Heller site of the proposed development), Heller and Empire Grade (the west entrance to the campus), High Street and Bay (the main entrance to the campus), and the key intersections of Bay Street, High Street, Storey Street, and King Street. None are included. All are dismissed under the rubric of *we already know that projects that add housing on campus don't increase traffic, so why bother to actually study the question?*

In response to that question, it is hard not to ask another: *What are they afraid they would find?*

The Revised Draft EIR also attempts to excuse its failure to do any site-specific off-campus or campus entrance traffic studies by claiming that, under the flag of a “tiered” EIR, it will rely for such studies on those done for the 2005 LRDP EIR. (4.11-1) Those earlier studies were done at least 13 years ago, and the Draft EIR presents no evidence or argument that they are an accurate substitute for traffic

studies built on present conditions and less stale data. The fact is they are not an accurate substitute; even the most casual observer knows that traffic between the university and the town is much worse today than it was 13 years ago. Use of the word “tiered” does not alter that fact in the slightest.

Much of the discussion in the transportation section is about how future traffic might compare to that forecast in the 2005 LRDP, or in the 2008 Comprehensive Settlement Agreement, or how certain traffic indicators have varied over the years 2005 to 2017. All that may be of mild historical interest, but none of it speaks to the core tasks of an EIR, which is to compare (1) present conditions, (2) forecast of post-project conditions, and (3) forecast of no-project conditions as of when the project would have been completed.

As a substitute for providing reasonably current site-specific traffic data and forecasts, the Revised Draft EIR attempts to project aggregate estimates of campus-generated traffic generally, an exercise it calls “Campus Vehicle Trip Generation Estimates.” (Table 4.11-9)

But before doing the projection, they adjust the inputs to come as close as possible to the desired result, which is confirmation of their *a priori* conclusion that there will be no traffic growth. And that adjusting of inputs is what is shown in Table 4.11-8, which estimates future numbers of students and faculty/staff. With respect to students, it shows the student population growing from 17,870 in 2017 to 19,500 in 2020, consistent with the strong growth trend of recent years. But then magically the student numbers are frozen thereafter - no additional students at all through 2023! How likely is that? The fact is the campus administration does not have ultimate say about number of students admitted, and those numbers have risen every recent year and will continue to rise every year. Freezing the estimate of student admissions is the easiest way to make the traffic estimate lower than it will really be. As for faculty/staff, those numbers are 3,996 in 2017 and 3,994 in 2023.

So before running the traffic projection they set a student increase of 1,630 by 2020 and a freeze thereafter, and a faculty/staff freeze beginning now and running at least through 2023. The student freeze will definitely not happen, and the students better hope the faculty/staff freeze does not happen – class size would further increase, the difficulty of getting desired classes would get even worse, and student services of all sorts would deteriorate. But whether these numbers turn out to be real or not, they will in the meantime produce a lower traffic estimate.

Table 4.11-9 shows the resulting traffic projections. Setting aside the attempts to distract us with comparisons to 13-year old projections from the 2005 LRDP, what we see even with manipulation of inputs to artificially reduce traffic projections is significant traffic increase. Between the base year of 2017 and the project completion year of 2023, total daily traffic increases by 9.4%, peak AM rush hour inbound traffic increases by 8.9%, and peak PM rush hour outbound traffic

increases by 8.7%. Particularly with a more realistic estimate of a couple of thousand more students by 2023, those traffic increase numbers would be even higher.

Because there remains one site-specific traffic study in the Revised Draft EIR (at Coolidge and Hagar), and because that location is reasonably close to the main entrance to the University, we can computationally estimate what the traffic growth would be at the main entrance. The traffic data for Hagar and Coolidge are presented at Figure 4.11-1. Computing from this data the traffic this intersection receives from the main entrance at the peak AM rush hour, we get a traffic increase of 15.6% from the base year of 2017 to 2020 (the year the Hagar portion of the proposed project is assumed to be completed and occupied). And computing the traffic this intersection would send to the main entrance in the peak PM rush hour, we get a traffic increase of 18.8%.

In short, whatever evidence we can squeeze out of the Revised Draft DEIR section on transportation belies the notion that there will be no traffic increase, and that therefore the campus administration can justify doing no off-campus site-specific traffic studies to determine and illuminate the consequences of what will be very real traffic increase.

We know what rush hour traffic conditions are like today at Bay and High, High and Storey, Storey and King, King and Mission, Bay and King, and Bay and Mission – they are horrific. If we now add a significant amount of traffic, a really bad situation is going to get even worse. The public has a right to know how much worse, and that means a real traffic study of at least the intersections just named. Without such a study, the public is denied the basis for substantive comment on traffic impacts of the project beyond the boundaries of the campus.

In addition to the traffic impacts between the campus and the town, there is also the issue of on-campus traffic impacts in the immediate vicinity of the proposed development at Hagar and Coolidge.

The Family Student Housing project proposed for the Hagar-East Meadow site would be an auto-intensive, suburban-sprawl-type development of 140 units, with a like amount of parking spaces for the residents. Also proposed for this site would be the new larger childcare facility, with its own drop-off curb and parking lot. The childcare facility is proposed to be available both to FSH residents and to the staff and faculty of the university. Driveway access to the site is needed both for residents coming and going and for parents dropping off and picking up their children.

In the original Draft EIR all those requirements were met with one driveway accessing Hagar, and the results were severe congestion on Hagar and on that driveway. In the Revised Draft EIR the access system has been changed: one driveway one-way in on Hagar, plus one driveway one-way out on Coolidge, with

both being used by residents and by childcare traffic. In addition, both driveways would be right-in, right-out, i.e. no left turns either in or out would be allowed. (4.11-33)

This change to a two-driveway plan, one-way in and one-way out, has substantially reduced the congestion problems that plagued the earlier design. However, the concern remains about the exit onto Coolidge, given typical speeds going downhill on Coolidge. The speed limit here is 40 mph, but the actual 85th percentile speed is about 50 mph. In the engineering study conducted on this issue, it was estimated that the required stopping distance for a vehicle travelling downhill on Coolidge approaching the exit from FSH would be about 516 feet, only slightly less than the estimated sighting distance of 540 feet. (4.11-44) Given the variability of vehicle braking performance, the variability of driver attentiveness, and the fact that 15% of Coolidge drivers would be going faster than the speed used in these calculations, it seems reasonable that something like one in ten vehicles coming down Coolidge would have difficulty stopping if a vehicle pulled out of FSH at an inopportune time. And considering that many of those vehicles pulling out onto Coolidge would have small children aboard, the conclusion that there is no hazard here and that no mitigation is required seems hasty.

There is another issue associated with this exit onto Coolidge, one that the Revised Draft EIR fails to address at all. In what may strike some as an anomaly from the distant past, Santa Cruz County owns, maintains, and controls Coolidge Drive, even though it is on campus. No change to Coolidge, including a new access onto Coolidge, can be implemented without the prior approval of the County. At this point the County has not granted that approval.

Therefore the entire plan for transportation at the Hagar/East Meadow site is contingent on that approval from the County, a contingency that the Revised Draft EIR should have disclosed to the public. If for any reason the County were to withhold that approval, either the design would have to revert to the earlier one-access-on-Hagar plan, or the Hagar/East Meadow site would have to be abandoned in favor of any of the other alternatives.

And part of what should have been disclosed is how bad a traffic situation would be created by reverting to one-access-on-Hagar. Here's what that one-access-on-Hagar would look like, taken from our analysis of that design in the original Draft EIR:

The core problem at this intersection of Hagar and the project driveway is that in each rush hour it suffers a triple convergence of (1) campus rush-hour traffic on Hagar, (2) the newly generated rush hour of parents dropping off or picking up their child, and (3) residents of FSH exiting or entering their place of residence. All this on a driveway with only a stop sign and no stop sign on Hagar.

Taking the evening rush as an example and using the traffic data provided in figure 4.11-1, 560 vehicles are attempting to go south on Hagar in just the peak hour. The

traffic light at Hagar and Coolidge regularly stacks them up on Hagar to the point where they would block the southbound lane of Hagar at or near the driveway. At the same time there are 90 vehicles in the peak hour, having picked up their child, trying to turn left from the driveway onto the stacked up southbound lane of Hagar, and there are 96 vehicles in just the peak hour coming south on Hagar and trying to turn left into the driveway, crossing the path of the 90 vehicles trying to exit the driveway turning left onto Hagar, to either pick up their child or return to their residence.

It will be a mess. The Draft EIR charitably rates it as an LOS F, well below the LOS D minimum standard for the south campus. They acknowledge that it is a significant impact. "The side-street stop controlled Project driveway on Hagar Drive is projected to operate unacceptably (LOS F) in the evening peak hour, with vehicles exiting the driveway unable to exit onto Hagar Drive without substantial delay due to the traffic on Hagar Drive. This represents a significant impact." (4.11-23)

This one-driveway plan would also generate traffic congestion and delay on Hagar sufficient to trigger carbon monoxide standards (4.2-14) adjacent to the childcare facility and its associated play yard. Any traffic congestion next to those facilities should be considered incompatible with the childcare facility, but congestion at this level should certainly be considered an unacceptable hazard.

Alternatives

The Revised Draft EIR presents and analyzes 7 alternatives to its proposed alternatives. The first alternative is the No Build alternative required by state law to be considered. However no one supports it because we all recognize the need for additional on-campus student housing. Therefore, for purposes of this discussion, we will limit ourselves to the other 6 alternatives.

First, some general observations of the remaining 6 alternatives:

- All 6 alternatives would provide more than enough additional on-campus student housing to comply with the CSA and to unpack the present overcrowding on-campus, the same as the proposed project.
- 5 of the 6 alternatives would provide 3,072 beds of new student housing, the same as the proposed project.
- All 6 alternatives would provide 140 beds of Family Student Housing and a childcare facility sized to serve 140 children, the same as the proposed project.
- All 6 alternatives would locate the childcare facility conveniently close to the west entrance to the campus.
- All 6 alternatives would provide separate structures for graduate housing, family student housing, and undergraduate housing, the same as the proposed project.

- All 6 alternatives would provide at least a majority of their housing at the Heller site, the same as the proposed project.
- All 6 alternatives would be built to LEED Silver standards for sustainability and would include MBR treatment technology, the same as the proposed project.
- All 6 alternatives would be accompanied by additional dining facilities to meet student needs, the same as the proposed project.
- All 6 alternatives would include the same amenities (exercise facilities, social space, bike parking, laundry facilities, etc) as the proposed project.
- All 6 alternatives AVOID the environmental issues and the controversy of building in the East Meadow, UNLIKE the proposed project.

In short, 5 of the alternatives provide all the housing and all the benefits of the proposed project, AND the extra bonus of avoiding the East Meadow controversy and the risks to the project that controversy creates. Yet the campus administration has picked as its proposed project the one option that has environmental impacts worse than any of the 7 alternatives, AND the only one that has all the controversies of the East Meadow.

Out of all the options, they managed to pick the environmentally worst one, even though the alternatives provide many different ways to achieve the same benefits with less environmental impact. For a campus that prides itself on its environmental programs and values, that is disturbing and ultimately self-damaging. It also violates one of the core objectives for the project, which is to “minimize environmental impact.” (5.0-4) The option they’ve chosen in fact provides the maximum environmental impact.

Let’s examine more closely that point about picking the environmentally worst option. The Revised Draft EIR summarizes all the environmental impacts of all the alternatives and of the proposed project, both before and after their proposed mitigation. (Table 5.0-1) We will tote up all the worst impacts (i.e. “substantial and unavoidable”) after mitigation, and in doing so we will accept for the sake of argument the Revised Draft EIR’s characterization of the effectiveness of the mitigation and of the remaining impact (even though in some instances this characterization is incorrect).

The result is: the proposed project has 5 of those worst impacts, three of the alternatives have 4 each, and three of the alternatives have 3 each. So the proposed project has the worst environmental impact of all.

But 3 of all those worst impacts are temporary – only during the period of actual construction – while all the others are permanent. It doesn’t seem right to count a temporary impact as much as a permanent. So let’s count each of those temporary impacts only half as much as we count all the permanent impacts. The result is: the

proposed project still has 5 of those worst impacts, three of the alternatives have 3.5 each, and three of the alternatives have 3 each.

Either counting method gives the same result: the environmentally worst option is the proposed project. Why?

The reasons given in the Revised Draft EIR run the gamut from frail to clearly false. Those reasons for rejecting each of the alternatives can be found at the end of the discussion of each alternative, under the heading "Conclusion and Relationship to Project Objectives." (5.0-19 through 83)

We will review the reasons given in the Revised Draft EIR for rejecting each of the 6 alternatives (again, we exclude the no-build alternative from consideration). Those 6 alternatives are:

- #2, Reduced Project
- #3, Heller Only
- #4, Heller Plus North Remote Parking
- #5, Heller Plus East Campus Infill (ECI)
- #6, Heller Plus ECI Plus Delaware Ave
- #7, Heller Plus ECI Plus North Remote Parking

The reasons against alternatives will be discussed in the following order: first, reasons against all the alternatives, then reasons against some alternatives, and finally reasons against only one alternative.

The reason most often given in the Revised Draft EIR for rejecting alternative after alternative (in fact given as a reason for rejecting all 6 alternatives) has to do with the phasing of the project. In the proposed project and in all 6 alternatives most of the new housing would be built on the present Heller site of Family Student Housing, so FSH must first be demolished. Ultimately those units will be replaced by 140 units of new FSH under the proposed project and under all 6 alternatives, but how to supply immediate replacements for what is to be demolished so the Heller construction can commence?

In the proposed project, the replacement FSH would be provided fast and cheap with prefab housing in the East Meadow. The campus administration's main argument against all 6 alternatives is that there would be no on-campus way to provide interim housing for FSH until the new FSH (on the Heller site under all 6 alternatives) could be built. The campus administration therefore has previously claimed an extraordinarily high cost of housing those students off-campus on an interim basis until their new accommodations are built on-campus under each of the 6 alternatives. Those cost estimates do not withstand scrutiny and have not been included in the Revised Draft EIR, but vague and unsubstantiated claims of high costs have been included. They constitute the bulk of the arguments in the Draft EIR for rejecting all alternatives on grounds of cost, disruption, delay, and

impact on the community. Therefore the cost assumptions behind these arguments should have been disclosed in the Revised Draft EIR so the public would have a basis for judging their believability.

Several months ago we discussed with the campus administration a quite workable solution to the phasing problem, which they neglect to discuss in the Revised Draft EIR. We described it most specifically with regard to ECI (alternatives 5, 6, and 7), but the concept can be applied to alternative 4 as well.

The original design for ECI back in 2008 arranged the interior space in units of 6 beds: two doubles, two singles, plus common space (kitchen, bath, meeting). Our suggestion was to modify some of the floors to split each of those units in half, creating 2 units in place of each one, each with two doubles and common space. Initially these units would serve as interim FSH until the new FSH building was completed on the Heller site, at which point these interim rooms would become standard undergraduate housing. In addition to solving the phasing problem without the expense and disruption of interim off-campus housing, this approach offered other permanent advantages. For students with families it offered housing in the academic center of the campus, rather than off at its southern periphery. And for the undergraduates who would subsequently occupy those spaces, it would offer a higher proportion of doubles to singles in the overall project (as students have asked for), more housing provided in a given building, more revenue in a given building, and lower average rental costs to students.

The impact of our suggestion with respect to delay would be negligible. The Revised Draft EIR focuses on the notion that it would delay completion of the project somewhat, but fails to acknowledge that it would accelerate the time to the first net new beds. The proposed project makes the first phase of the overall project construction of a new FSH in the East Meadow, which produces no net new beds at all, and in fact produces a small loss of net beds (about 57). Only after completion of the new FSH can there be demolition of the old FSH as a second phase. And only after demolition of the old FSH can construction begin on the first net new beds. Under the approach we suggested, the first two of those phases are eliminated, and the construction of the first net new beds can begin immediately.

As for impact on the community, no additional off-campus housing need be found. All interim housing would be created on campus. There would be no large and ultimately wasted cost of providing off-campus interim housing.

Our suggestion would have made a majority of the alternatives far more attractive, and at the very least was something the public needed to be informed of. Instead it was kept from the public and out of the Revised Draft EIR, biasing the analysis against the alternatives.

The Revised Draft EIR claims all the alternatives would fail to provide timely compliance with the Comprehensive Settlement Agreement. That is false. First,

only 726 beds are required to fulfill the CSA obligation. (3.0-7) All 6 alternatives would provide much more than that. And as for timeliness, with the use of our suggestion above, most alternatives would provide significant net new beds earlier than the proposed project would.

The Revised Draft EIR notes that while the Heller development in the proposed project and in all 6 alternatives has a significant visual impact, it is somewhat worse in alternative #3 and somewhat better in all the other alternatives. That is a valid observation.

The Revised Draft EIR argues that there would be significant extra costs for alternatives 4 and 7, due to lengthy utility lines and trenches and roadways that would be required to connect the North Remote Parking site to existing infrastructure. (5.0-49) It never indicates how far those new lines would have to be. But given where relatively nearby major buildings are -- Engineering 2 is about 800 feet away -- that would be less than the utility trenching that would no longer need to be done outside the Hagar site. (Under the proposed project the Hagar site would require about 500 feet of storm water pipe trenching, and in a separate trench about 700 feet to connect to the sewer main. (figure 3.0-6b) And both those trenching projects pale in comparison to what is required to reach the Heller site -- a third of a mile across CRLF habitat, requiring the trench to be covered over every night during construction. (figure 3.0-5c) Even that much trenching did not rule out the Heller site. Why would a mere 800 feet rule out the North Remote Parking site?

As for needing a roadway to be constructed, that is false. This site already has a very nice paved roadway to it and a very nice paved parking lot.

Another cost argument in the Revised Draft EIR is that additional support, dining, and amenity spaces would add extra cost to alternatives 4, 5, 6, and 7. Again, no supporting evidence, estimates, or calculations are provided. This argument is generally false. In all these alternatives, as in the proposed project, support, dining, and amenity space must be provided for the same number of students: 3,072. Whether we are talking about two smaller laundry rooms or one larger laundry room, the total cost will not change much.

In the case of dining facilities, however, there is an accounting trick that needs to be kept in mind. When a significant number of students are housed not at Heller but at one of the alternative sites, the portion of the added dining facilities needed to support those students would be built at the alternative site, rather than at Carson or Porter Colleges, as planned for the Heller development. The campus administration counts the cost of the dining facilities that are provided at ECI or North Remote Parking as part of the housing project. But it counts the portion of dining facilities that are added to Carson and Porter, even though necessitated by the Heller housing project, "off the books" of the housing project. So the true cost of dining facilities will not vary significantly from proposed project to alternatives, but

what is shown on the books of the housing project does. This is an artificial and misleading accounting of the true costs of each option.

The Revised Draft EIR argues that alternatives 4, 5, 6, and 7 would each require timber permitting and that would cause delays. However the proposed project (4.15-3) and all alternatives involve timber permitting, and in all cases the impact on forest lands is rated by the Revised Draft EIR as “Less Than Significant.” (table 5.0-1) Furthermore, in any well-managed project most or all of the timber permitting process would occur concurrently with other planning and design activities, and so would not add to the overall time to complete. Most of the campus construction over the years has involved some degree of tree removal, so it is reasonable to expect that the campus would be expert in how best to manage this process. And regarding the ECI site in particular (alternatives 5, 6, and 7), it should be noted that much of the site is now occupied by three underutilized parking lots. The amount of tree removal should be modest.

The Revised Draft EIR argues against alternatives 5, 6, and 7 on grounds of “the unique topography and geology of the ECI site.” That’s dog whistle for karst. The irony here is obvious. Their proposed project would put housing and childcare on the worst of all these sites for karst, but they then reject an alternative site with less karst hazard because of karst. Let’s review. The Hagar site on which they would put housing and childcare is entirely level 3 or 4 karst hazard. The ECI site is Level 2 and level 3 karst hazard, with a spot of level 4 just outside the construction area to the northeast. The Heller site is all Level 2, with a spot of level 4 just outside the construction area to the south. The North Remote Parking site is all level 2 karst hazard. (figure 4.5-1) And the Delaware Avenue site has no karst at all. The Hagar site clearly has the worst karst hazard.

Furthermore, the ECI project, in 2008 and 2009, was fully planned, engineered, and designed, went through all reviews and was approved by the Regents, and the initial round of bids came in an average of 19% below budget. Then the campus administration pulled the plug on it due to fears about future enrollment declines (fears which turned out to be unfounded). But clearly there was determined to be nothing about the “unique topography and geology” of the site that would stand in the way of this project. Then as now there was no construction planned for near the off-site level 4 karst area.

The Revised Draft EIR argues against alternatives 5, 6, and 7 on grounds of construction noise. This is greatly overstated. First of all, this is a temporary impact, lasting only as long as construction, while all other impacts discussed in the Revised Draft EIR are permanent. Second, all sites would produce the same amount of construction noise – what varies is the distance to those who would hear the noise. But when we look closely at that question, all sites have about the same distance to those who would hear. In the case of the ECI alternatives, it is the Crown-Merrill Apartments and Crown College. In the case of the Hagar site it is the Faculty Housing. In the case of the North Remote Parking site, it is the Camper Park.

And in the case of the Heller site, it is the dining facilities construction at Porter and Carson Colleges, construction that is necessitated by the Heller site, but the impacts of which are counted “off-books”, because the dining hall expansions are called a separate project. But counted correctly, all sites, and therefore all alternatives and the proposed project, have a construction noise impact.

The Revised Draft EIR argues that alternatives 4 and 7 have greater biological resource impacts than the proposed project. That is a leap into the unknown. First, all the alternatives and the proposed project have biological impacts rated “Less Than Significant”, so whatever differences we are talking about are relatively small. (Table 5.0-1) And second, alternatives 4 and 7 may have slightly greater biological impacts than alternatives 5 and 6, but the notion that they have greater biological impacts than the proposed project is unsupported. Like all options, the proposed project’s biggest biological impact is at its Heller site, with its third of a mile of utility trenching through CRLF habitat. But in addition the proposed site uniquely has the biological impacts of the Hagar site, which include native grassland impacts and a heretofore unexamined CRLF impact. Until we know for certain that there are no CRLF in Kalkar Quarry or its outflow, there is no basis for drawing the conclusion that alternatives 4 and 7 have greater biological impact than the proposed project.

The Revised Draft EIR argues against alternatives 5, 6, and 7 on grounds that there would be higher costs “associated with constructing a parking deck for both the Heller and ECI sites.” (5.0-61) This is nonsensical.

First, the Heller site in its proposed project has more students, fewer parking spaces, and surface parking only, yet suddenly the same Heller site in these alternatives has fewer students, but more parking, and needs decked parking. The numbers are: the Heller site in the proposed project houses 2,932 students and has between 209 and 219 parking spaces, all surface, while the same Heller site in alternatives 5, 6, and 7, even though it houses only 2,420 students, suddenly needs 382 parking spaces and therefore a decked parking structure. The anomaly is never explained or justified. This only serves to artificially inflate the costs of the ECI alternatives by artificially inflating the Heller portion of each of those alternatives.

And second, there is no need for a decked parking structure at the ECI site. The same ECI project as described in alternatives 5, 6, and 7 was proposed, studied, and approved in 2008 with no parking structure, by simply retaining the two larger surface parking lots that preexisted the project. Those two lots had 90 parking spaces, and that was deemed adequate for the ECI project. The Revised Draft EIR, however, believes that 100 parking spaces are needed, and over that small difference would build an entire decked parking structure on the footprint of the two existing surface lots. The rationale? “The number of parking spaces necessary is based on planned ratios for the new undergraduate buildings combined with replacement of parking spaces impacted by the siting of new buildings.” (5.0-50) There is no requirement to replace existing parking spaces – especially when there are so few and you would end up building an entire parking structure to get only 10

more spaces. This is simply a way to artificially inflate the costs of the ECI alternatives.

The Revised Draft EIR points out the obvious, that alternative 2 provides fewer beds than the proposed project. That is true, but only for alternative 2. All the other alternatives provide the same number of beds as the proposed project.

The Revised Draft EIR argues that Alternative 2 would fail to relieve the current and very real problem of overcrowding. That is false. The approximate number of overcrowded students on campus is 900. (1.0-5) This alternative would provide 2,110 new beds. (And each of the other alternatives would provide 3,072 beds.)

The Revised Draft EIR argues against putting graduate housing at the Delaware Avenue site owned by the University (as proposed in alternative 6) on grounds that it would involve presumably lengthy “jurisdictional approvals.” By that they mean the University “would have to obtain a Coastal Development Permit from the Coastal Commission for development of housing at the Delaware site.” (5.0-70) This is an overly fearful representation of reality.

First of all, the University does not have to get the approval of the City, as anyone else would. Because the University is a state entity, and because the property in question is within the Coastal Zone, it is as if the University gets the approval of the Coastal Commission in place of normal City approvals. And normally it would not even need to get a permit from the Coastal Commission for the project, because the University would already have obtained Commission approval for a Coastal Long Range Development Plan (CLRDP). Under those circumstances, for any development that was consistent with that CLRDP, the University would merely need to give notice to the Commission, it would not need to obtain Commission approval of a permit. And the University has obtained Commission approval for a CLRDP. However, the University did not include in that CLRDP the property at Delaware Avenue, only its nearby Marine Campus property. Only because of that omission would the University need to get a permit from the Commission for any project at its Delaware Avenue property.

So how great a burden and delay would that be? It is certainly true that in highly controversial cases, Commission approval can be slow. But in most cases it is not, and the typical routine case is mostly handled at the staff-to-staff level. That is what would reasonably be expected here. The Delaware property is already developed and was built as and has served as an industrial facility. The Commission would look to its present use and the uses of the neighborhood of which it is a part. The City of Santa Cruz zones the Delaware site and its neighborhood as IG/PER2, which stands for General Industrial District with a Performance Overlay Zone.⁷ That zoning allows a wide range of light industrial, office, retail, and other uses. The

⁷ The “2” in the zoning code simply indicates that this is the version of IG/PERS specific to the Westside neighborhood that includes the Delaware site.

purposes of this zoning, as stated the City's zoning code, include "to provide a density of development which allows mixed use development" and "to promote affordable housing development." Specifically permitted in IG/PER2 are "multiple dwellings or condominiums." The development of graduate student housing at this location would be consistent with existing City zoning of the neighborhood and would be non-controversial. There is no reason to believe that Commission approval would be burdensome and time-consuming, and the Revised Draft EIR does not attempt to present any such evidence.

The Revised Draft EIR argues against Alternative 3 on cost grounds, specifically that it involves "more expensive construction methodologies." This is a valid observation. Though any description of exactly what higher costs are intended here is never provided, the fact is that the greater height of this alternative would necessitate higher costs for foundations and for fire protection measures.

Having reviewed all the arguments the Revised Draft EIR makes against all the alternatives, what do we have? The main argument against all the alternatives – that it would be necessary to move FSH students off campus on an interim basis – has been disproven with respect to alternatives 4, 5, 6, and 7. Only three of the lesser arguments have been upheld – one against alternative 2 (that it would provide fewer beds), and two against alternative 3 (that it would have greater visual impacts, and that it would have higher construction costs due to its greater height). None of the arguments against alternatives 4, 5, 6, and 7 are credible.

While all 6 alternatives are environmentally superior to the proposed project, there were no valid reasons for rejecting 4 of those alternatives, specifically alternatives 4, 5, 6, and 7.

So after 1,696 pages of Revised Draft EIR, we still don't know the answer to the most basic question: why did they reject all the environmentally preferable options in favor of the worst environmental option?

For the foregoing reasons among others, the University must adopt one of the alternatives or the Revised Draft EIR must be substantially revised and recirculated for public review and comment. The Revised Draft EIR is inadequate with respect to the proposed project, and the changes necessary to make it adequate are substantial.

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