

Comments to the 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

These comments, and those filed on our behalf by our attorney William Parkin of Wittwer Parkin LLC, 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 history of the Student Housing West project is instructive about the 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 as early as March 10, 2016 and were conducted frequently thereafter. (4.3-4) 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 university’s thinking until the private developer, just selected in mid-September 2017, suggested moving a small portion of the total project to the East Meadow. The university unwisely accepted that suggestion. The result has been a frantic effort to try to pull together scraps of actual planning and design for the East Meadow portions of this Draft EIR in a mere 6 months. Haste has truly made waste. The East Meadow portions of this Draft EIR are incomplete and half-baked compared to the west side portions of the Draft EIR.

The biological sections of the 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 there was only 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 nest nearby and hunt in the East Meadow, also nest in the East Meadow. (4.3-4) No zoological survey for the East Meadow portion of this project was done, save for the couple of hours looking for Burrowing Owl nesting.

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. (Appendix 4.3)

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

The Committee wishes to clearly state that it supports much of what the university is attempting to do in the overall Student Housing West project. The committee supports the provision of 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 child care facility. The Committee also commends the university for providing alternatives that accomplish all those goals without developing the East Meadow. The Committee notes that the university's given reasons for not adopting any of those alternatives as the preferred project are frail at best and in every case less than the complications, controversies, issues, unknowns, and impacts of the East Meadow site. By all appearances the sole superiority of the East Meadow site is that the private developer suggested it.

The Committee's only point of opposition is to development in the East Meadow. This proposed development in the East Meadow would consume 15 acres to provide 148 beds, while the west side development would consume 13 acres to provide 2,852 beds. The East Meadow portion of this project therefore provides only 5% of the benefits but generates the lion's share of the damages, the controversies, and the risks to the entire project.

The Committee notes that there are many alternative sites that could accommodate the relatively modest course change necessary to provide the needed housing benefits without developing in the East Meadow. Because the task at hand is to comment on the Draft EIR, the Committee will comment here only on the alternatives presented in the EIR, but there are many others that deserve discussion and consideration.

In addition to the Draft EIR's preferred project, it contains 4 alternatives:

Alternative #1 is the no build option required by law to be considered. The Committee does not support this alternative. The present housing situation is intolerable and should not be continued.

Alternative #2 would provide 2100 beds at the Heller site and none at the East Meadow site. While as described in the Draft EIR this alternative falls well short of the desired 3000 beds, it could readily be modified by adding 900 beds at infill sites the administration has previously studied for student housing. The largest of these would be the East Campus Infill site near the Crown-Merrill apartments. This site was extensively studied by the university for 600 beds of student housing in 2009. The other 300 could be provided at a smaller infill site, such as just north of the Crown-Merrill Apartments, between East Road and the Santa Cruz city limit (a site studied for student housing by the university in the 1988 College 9 & 10 Master Plan). Thus modified, this alternative would give students the 3000 beds.

Alternative #3 would put all 3000 beds at the Heller site and none at the East Meadow site.

Alternative #4 would provide 1500 beds at the Heller site, 1500 at a previously studied site near Science Hill on the west side of North Remote Parking and to the north of the trailer park, and none at the East Meadow site.

The following compare four options (the preferred project, alternative #2 as modified above, and alternatives #3 and #4) with regard to various specific issues:

With respect to Family Student Housing and the childcare facility, all options provide 148 beds of Family Student Housing and co-locate that with the new expanded child care facility.

With respect to locating child care near a campus entrance for the convenience of staff dropping off children at the facility, all options would provide drop off at the childcare facility near a campus entrance. In the case of the preferred option that would be near the south entrance, and in the case of the other options that would be near the west entrance.

With respect to the height of the high rise buildings proposed for the Heller site, many are finding the proposed height of these buildings, especially at the unforested Heller site, to be excessively conspicuous and out of character for the campus. The proposed project is the most objectionable in this regard, with buildings up to 10 stories tall. Alternative #3 is close behind at up to 9 stories tall. Alternatives #2 and #4, however, are more moderate: alternative #2 is up to 7 stories, and alternative #4 is up to 6 stories tall.

With respect to students having proximity to their classes in general and to the academic core in particular, walkability is worst with the preferred project, with students housed either at the far south of the campus or at the far west. Alternative #3 is nearly as challenging, with students housed only at the far west of the campus. Alternative #2 would offer housing on both the west and east sides of the academic core, and perhaps elsewhere, depending on where the last 300 beds were located. And alternative #4 would offer housing on both the west and the north sides of the academic core, and in particular would offer housing near Science Hill.

With respect to offering students a range of choices as to where their housing might be relative to where their classes or labs might be, the preferred project and alternative #3 are clearly the worst, and alternatives #2 and #4 are clearly the best.

With respect to the need to amend the 2005 LRDP, the preferred project will certainly require an amendment. Alternative #2 might require an amendment, depending on where the last 300 beds were located. Alternatives #3 and #4 would not require an amendment.

With respect to dining facilities, the preferred alternative and alternative #3 would require extensive enlargement of the Rachel Carson College and Porter dining halls. Alternative #2 would require less of that, but presumably would require expansion of one of the dining halls on the east side. Alternative #4 would require far less expansion of Rachel Carson and Porter dining halls, but would require provision of a comparatively smaller dining hall at the northern portion of that project. In general, all options require approximately the same amount of dining hall expansion because all options must provide for the same number of students. What is notable about alternative #4, however, is that for the first time significant portions of Science Hill would be in pleasant walking distance of a dining facility.

With respect to staging, staging is important because of the need to replace the existing Family Student Housing in all of these options. All of the options except alternative #3 can readily be staged, each in a slightly different way. In the preferred project, the new FSH is first constructed in the East Meadow, the families are then moved into it, then the existing FSH is torn down, and construction commences on the remainder of the project. In alternative #2, construction would begin on one or more of the infill sites, FSH housing would be moved into some of that new housing, existing FSH would be torn down, construction would be accomplished on the rest of the project, FSH would be moved into its new permanent quarters. And in alternative #4, construction would begin on the 1500 beds at the north site, FSH would be moved into part of those, existing FSH would be torn down, construction would be accomplished on the rest of the project, and FSH would be moved into its permanent quarters. Alternative #3 could not be staged on campus. Temporary off-campus housing would have to be found for FSH.

With respect to speed of delivering at least some new beds, speed is important because housing is already a crisis, and the sooner we can begin delivering relief to

students the better. The preferred project delivers the first beds quickly, but it is only the 148 FSH beds and they are not new beds at all, just replacement beds for FSH beds that already exist. Under the university's proposed schedule, no new beds are available for at least 4.5 years, and that schedule is optimistic. Alternatives #2 and #4 have some speed advantage because the first phase of construction would produce actual new beds, even with FSH moving into some of the newly created housing. Alternative #3 is uncertain how it would rank for speed – it would probably be built all at once, which would take longer to first new bed.

With respect to the considerable challenges posed by karst topography – structural uncertainties and storm water disposal difficulties – the preferred project is by far the worst, being entirely in High Hazard and Moderate Hazard zones. Alternatives #3 and #4 are the best with no karst hazard mapped for them above Low Hazard (though higher karst hazard just touches the southernmost boundary of Alternatives #2, #3, and #4). In the case of alternative #2 it comes down to the question of where the additional 900 beds are provided. If 600 are placed at the East Campus Infill site, that one location would be on a Moderate Hazard zone. The Heller site portion of this alternative, and the north of East Road if that were included, are all Low Hazard. (see map at figure 4.5-1)

The reasons given in the Draft EIR for rejecting these alternatives add up to very nearly nothing.

Regarding Alternative #2, in most respects this alternative would have less adverse impacts than the proposed project on the Heller site. And on the East Meadow site it would eliminate all impacts. It is rejected in the Draft EIR because it would not meet the objective of 3000 beds. However, if paired with infill housing at sites previously studied for housing elsewhere on campus, most notably the East Campus Infill site, that sole objection would evaporate.

The Draft EIR also gives specific reasons why the East Campus Infill site was previously rejected and why it is being rejected again. (5.0-11) It “would result in significant and unavoidable visual impacts.” But so would the East Meadow site. Why does that eliminate the East Campus Infill site and not the East Meadow site? It would result in “significant and unavoidable construction noise impacts.” But so would the dining hall projects at Porter and Rachel Carson related to the preferred project. It “was not constructed due to very high per bed cost on a site underlain by karst.” But the East Campus Infill site is underlain by moderate karst hazard and the East Meadow site is underlain by moderate and high karst hazard. (figure 4.5-1) And “locating unaffiliated housing in an area surrounded by housing affiliated with colleges is not desirable.” Then why is the university doing exactly that in its preferred project by putting a much greater concentration of unaffiliated undergraduate high-rises right next to Rachel Carson College and close by Porter and Oakes Colleges?

The truth is that none of the reasons given in the Draft EIR for the university not proceeding with the East Campus Infill housing were in fact the reason for the university not proceeding with that project. The university considered all those issues and decided to proceed with the project and gave it final approval. Only after final approval did the university stop the project for a very different reason. It was 2009, and in the economic climate of that time the university worried that the beds created might never be filled. In retrospect this of course seems embarrassingly short-sighted, and it is quite understandable that the university might prefer not to state its original reasoning in the present climate of a housing crisis. It is noteworthy that the university's Northeast Campus Area Plan in May 2011 found no reason to downgrade this site's future potential for student housing, noting that the site "will be held as a future site for a housing project."

Regarding Alternative #4, it would reduce impacts on the west side and eliminate all impacts on the East Meadow. It would in effect replace the East Meadow site with the North Remote site, though with different uses on the latter than on the former.

Two reasons are given in the Draft EIR for rejecting this alternative. (5.0-41) First, "this alternative would have greater impacts on timberland and biological resources compared to the project, although the impacts would be mitigable to less than significant." How do they know it would have greater biological impacts? They have done thorough biological surveys on neither the North Remote site nor the East Meadow site. And if these impacts are mitigable to less than significant, that is a big improvement over the East Meadow site, which has impacts that cannot be mitigated and remain significant and unavoidable.

Second, "due to the need to obtain approval to remove timberland, the alternative would likely fail to develop housing in a timely manner..." No evidence is offered as to how great the delay would be. The university has obtained a forest harvest permits for much of the construction it has done on campus. Why is it suddenly an insurmountable barrier? In most of that construction the university has shown that it can harvest smaller, less healthy, and less desirable trees and design around the rest, incorporating the trees in the design to great effect. Why not here? No explanation is given.

The Chancellor is also reported to have told others that the real reason he doesn't want to develop the North Remote site is that he wants to save it for a future chancellor to put a college there. If that is the real reason, it should be in the DEIR so the public can comment on it.

None of these reasons for rejecting alternatives hold water. The question remains, why did the university reject these alternatives? The university should reveal whether it has any contractual commitment, formal or informal, with the private corporate developer or any of that developer's team that restricts in any way the university's ability to choose any site or sites other than those in the preferred project.

Common sense would suggest that the university work with either Alternative #2 modified to provide 3000 beds or Alternative #4. Choosing either of these alternatives would eliminate all impacts at the East Meadow and would significantly lower building heights and reduce extreme density at the Heller site. Why the university has not taken either of these paths is the most impactful decision of all in this project and yet is not adequately explained by the Draft EIR, making this central decision hard to understand and hard to comment on.

Aesthetics

The Draft EIR says 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) They may have kept it in mind, but only to violate it. The Design Framework commands “Maintain the continuity and visual ‘sweep’ of the meadow landscape across the lower campus... Preserve the integrity of meadows by maintaining a clear meadow boundary. Site development so as not to encroach on the meadow open space.” (4.1-10) The proposed development in the East Meadow violates every one of those commandments.

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, 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 blocked by a sprawl of approximately 40 prefab structures immediately in front of those entering 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 around a campfire, and the campfire is that dramatic view. Under the proposed development approximately 40 prefab buildings will be sprawled on 15 acres right in the middle of that view.

These two views are iconic images of UCSC. The proposed project, as represented in the Draft EIR, evidences no understanding on the part of the current administration of the value to UCSC of those iconic views. And therefore there is no discussion of that loss of value, no presentation of that issue in the 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, here at the very beginning of the campus, 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 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” (4.1-30), it nevertheless understates how great that impact would be in a number of ways.

First, the visual simulation provided at figure 4.1-9 appears to leave out the effects of grading the site prior to construction. We are informed that earlier renderings of the site plans for the East Meadow development showed extensive earthmoving to

level the site, with the north end of the development dug in approximately 15 vertical feet, and the south end (closest to the intersection of Hagar and Coolidge) raised up on approximately 12 feet of fill.

As discussed elsewhere in these comments, the Draft EIR fails to discuss this question of grading, making it impossible to conclude that the view presented in figure 4.1-9 is an accurate visualization. If the earlier information is correct, (and faint but unidentified markings on the site plan at figure 3.0-6a strongly suggests that it is) many of the buildings closest to the intersection would be up on 12 feet of fill, something that is not reflected in this visualization. That would make the buildings shown in the foreground considerably higher than shown. And if the intent is now to build without grading or with less grading (contrary to figure 3.0-6a), the Draft EIR needs to be revised to show what that would look like and how the design would comply with the Americans With Disabilities Act. And the comment period would need to be extended to give the public the opportunity to make informed comment.

Second, the visualization at figure 4.1-9 shows what appear to be mature oak trees obscuring most of the structures and all of the parking lot near the child care facility. There are no such trees at this site, and the UCSC Physical Design Framework (a companion to the 2005 LRDP) specifically says there should be no such trees (“Do not permit new plantings or plant succession to change the overall visual character of the lower campus meadows.” 4.1-10). Furthermore the broad and gentle area the visualization shows in the foreground with mature trees is in fact, as indicated above, a steep embankment due to the cut and fill grading that is not shown here.

Third, the Draft EIR fails to provide information about the physical massing of the child care facility, a building that would be prominent from the intersection of Hagar and Coolidge. This is particularly important because the child care facility would be closest to the intersection of Hagar and Coolidge and would therefore play an outsized role in obstructing the view of the campus. Though it is not discussed and not shown in this visualization at 4.1-9, the child care facility is shown in figure 3.0-6a as sitting perched on 12 vertical feet of fill. No information is given about the height of the structure itself. 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 visualization at 4.1-9. That visualization further compounds the paucity of information by obscuring the childcare facility almost entirely with imaginary trees, many fig leaves trying to cover the lack of relevant information about the impact of the child care facility on the view from Hagar and Coolidge.

And fourth, the project is imagined to be farther away from Coolidge (and therefore the imaginary viewer in figure 4.1-9) than it would be in reality. This makes the buildings appear smaller and shorter than they would actually be. The expansive plain in front of the buildings exists only in the mind of the illustrator. The buildings would obscure more than they are represented as obscuring.

It is understandable that it would be desirable to obscure these buildings with imagined mature trees scattered across an imagined broad foreground, to show them farther away and set lower than they are otherwise planned to be, but the fact is the Draft EIR fails to accurately visualize what these structures would actually look like to those entering the campus at the main entrance. Figure 4.1-9 is either incompetent, deceptive, or both.

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. This would have both allowed the visualization to be accurate and afforded passersby with an accurate preview of the visual impacts. The university was asked to provide story poles and refused to do so.

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

For all these reasons and more, the university's own Design Advisory Board, voted unanimously to oppose this proposed development in the East Meadow.

The Design Advisory Board consists of prominent California architects. They are convened every 1 to 2 months to review, with the relevant university 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. * 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. 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.

The proposed site in the East Meadow 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. Level 3 is moderate karst-related hazard, and level 4 is high karst-related hazard. In contrast, none the alternative sites offered by the Draft EIR have any Level 3 or Level 4 karst-hazard exposure (though the Heller site has some that just touches the south boundary of that site). (figure 4.5-1)

The Draft EIR describes the risk presented by this hazard 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.” (4.5-13)

The solution proposed is uncertain, because the necessary geotechnical investigations have not been completed. In the absence of solid information, the Draft EIR speculates regarding what might be required: “...it is anticipated that the final geotechnical reports... will recommend that the buildings that are located within karst hazard areas be constructed on a concrete mat foundation that is supported by lime-treated compacted fill.” (4.5-13)

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

The Draft EIR does not explain what that would actually entail, but the recently completed Hay Barn project affords an 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 (“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 neither estimated nor even mentioned in the 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 Draft EIR fails to discuss. If one looks closely, however, at the site plan at figure 3.0-6a, one can see, beneath the pleasant coloring, the 1-foot interval contour lines of the cut-and-fill. It would entail digging in at the northeast end of the project approximately 15 vertical feet and building up at the southwest end of the project approximately 12 vertical feet, producing large embankments around both ends of the project.

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

In the absence of real knowledge of the karst hazard underlying the East Meadow site, the Draft EIR offers a 10-foot-diameter standard for when even greater measures might be required to prevent subsidence or collapse of the proposed buildings. The “concrete mat foundation” discussed above is to be designed to be capable of supporting a building while spanning a void underneath of up to 10 feet in diameter, a standard which will consume an extraordinary amount of concrete, an amount the Draft EIR does not estimate or assess the impact of. But the geotechnical investigations performed and on which the Draft EIR is based included only “widely spaced borings” (4.5-13 and 14), so the Draft EIR suffers from complete ignorance as to how often voids greater than 10 feet in diameter will be encountered.

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.

The mitigation proposed by the Draft EIR for voids larger than 10 feet is vague, speculative, and unreassuring. In short, the mitigation is itself a large void: “At the time of the building foundation excavation in areas underlain by dolines, the excavation shall be examined by the project geologist and geotechnical engineer, prior to backfilling of the excavation.... 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.” (4.5-14)

In other words, ‘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? There is nothing here but vaporous speculation on a stack of maybes. 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 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 Draft EIR’s discussion of the East Meadow site is unfortunately symptomatic of the inadequacies of the 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 acknowledge 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 whether its proposed engineered fill and reinforced concrete mat would be sufficient to span voids of the size the 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?

Hydrology/Storm water/Groundwater

As discussed in the Geology section of our comments, the entire East Meadow site is in one or the other of the two highest karst hazard zones. The site is underlain by water-soluble rock layers variously termed limestone, limerock, or marble. The slight acidity that rainwater picks up from the atmosphere, vegetation or soils can increase 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 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 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 the third of these consequences pose great difficulty for building in the Great Meadow generally and in the proposed site in the East Meadow in particular, and the 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. The East Meadow portion of the Student Housing West project has, unlike its larger cousin on the west side of campus, only existed as a possibility for a few months, and those proposing it have clearly not yet been able to fully deal with the 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 4.7-21) 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.

Such has been the steep learning curve required of those working on the East Meadow proposal. Two months before the issuance of the 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 Draft EIR was released they had changed that to piping most 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) They have no concept of what happens to it then. Jordan Gulch has no surface flow exit – there is no culvert under Ranch View Road. Jordan Gulch is essentially a linear sinkhole with such good percolation that very little surface water arrives at the dead end where this project now proposes dumping the storm water from over 7 acres of impervious surface created by the East Meadow project (4.7-28)

The DEIR provides 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 does not identify. "Given its location, site storm water runoff that is discharged from the Hagar site via a storm drain and a dissipation structure into Jordan Gulch would have the potential to result in the formation of one or more sinkholes, which could in turn affect nearby utility infrastructure and road. The impact related to potential sinkhole formation from site runoff would be potentially significant." (4.5-13) And at 2.0-22 the infrastructure at risk is identified only as "life/safety infrastructure". What is it? Answer: the main sewer line for the campus. It runs 60 feet away from where the percolation of this storm water would be concentrated, up on a bluff above that point of concentrated percolation. The public is not given notice of what infrastructure it is that is at risk, how great the risk is, nor what the consequences of infrastructure failure at this point would be. There is no meaningful basis for public comment provided on this potentially major issue.

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 (4.7-6) to capture runoff from the East side of Hagar Drive (for about six tenths of a mile) and from a concrete ditch that extends parallel to the west side of Coolidge (for a length of about three tenths of a mile). 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. The university estimates (4.6-7) only about an acre of this entire watershed is 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). Yet it took only 10 years for that detention basin to turn into a sinkhole. (4.6-7) That’s what a fraction of an acre’s worth of runoff can do, and the university now proposes to direct most of 7.1 acres of runoff, from impervious surfaces created by the proposed development in the East Meadow, and dump it in the no-exit depression at the end of Jordan Gulch, beneath the university’s main sewer line.

How much of that 7.1 acres worth of runoff would be dumped at the no-exit end of Jordan Gulch? The DEIR never specifies, but it does make clear that all of that runoff would increase the karst hazard. Because whatever small portion of it they would not dump into Jordan Gulch they would dump into the sinkhole right on their building site, the very sinkhole that far less storm water turned into a sinkhole in only 10 years.

The DEIR speaks of taking steps to reduce the ongoing sinkhole hazard at the on-site sinkhole, by installation of a “graded filter” and by reducing the flow of runoff water into the sinkhole (“The volume of runoff flowing to the existing detention basin at Glenn Coolidge Drive and Hagar Drive shall be reduced compared to existing conditions...”) (4.7-26) But two pages later it says that some of the storm water runoff from the 7.1 acres of impervious surfaces added by the proposed development will be dumped into the on-site sinkhole: that storm water runoff “would be discharged to two locations, in order to limit the impact to the existing sinkhole at the intersection of Hagar and Glen Coolidge Drives. Some of the treated and metered runoff may be discharged to this detention basin. The remainder of the runoff would be piped beneath Hagar Drive and the undeveloped meadow area and would be discharged through a dissipation structure to Jordan Gulch.” And the DEIR further explains that the discharge would be “to the existing discharge basin and to Jordan Gulch, which terminates at a sinkhole before leaving the campus.” (4.7-28-29)

So the greatly increased storm water runoff is to be dumped mostly to the sinkhole in Jordan Gulch close to the university’s main sewer line, but partly to the on-site detention-basin-turned-sinkhole. It is hard to see how this results in less water being dumped into the on-site sinkhole as promised, and it is a complete mystery as to what portion of the greatly increased storm water will go to each of these two potential hazards. The public thus is not given the necessary information to form a view on and comment on either hazard.

Turning to the question of where water goes after it percolates into the karst, the DEIR accurately states that the East Meadow site is within the Kalkar Quarry watershed. The old Kalkar Quarry, just across Coolidge Drive from the proposed East Meadow building site and barely outside the university's boundary, was abandoned many decades ago, has revegetated, and is now a small but beautiful park open to the public but privately owned by the Springtree Homeowners' Association. The park features a shallow pond in the center of the former quarry, and that pond is fed year round by seeps and springs along the base of the cliffs that drop down from the East Meadow. It is self-evident that the pond is supplied mainly by the groundwater that has percolated in to the East Meadow. The quarry was originally extracting marble (aka limestone or limerock) from the downhill edge of what is now the campus and the East Meadow, which is to say that it was digging into the water-bearing karst itself.

It is also noteworthy that because of the springs that feed it this shallow pond overflows modestly year round into a small creek that forms a series of attractive water features through neighborhoods all the way to Escalona Drive. Thereafter this water flows on to Neary Lagoon and then into Monterey Bay. The shallow pond in the quarry with all its tules thus would appear to be legally a water of the United States and a protected wetland under Section 404 of the Clean Water Act, though the Draft EIR fails to mention that issue at all with respect to this pond.

The DEIR states that the Kalkar Quarry watershed consists of 60 acres, so the proposed development in the East Meadow would consume one quarter of that watershed, and it is the one-quarter of the watershed that is closest to the Kalkar pond. It would seem obvious that the large diversion of rainwater, in the form of storm water runoff from the proposed development, from the East Meadow to Jordan Gulch, would likely diminish the supply of clean spring water on which the pond and wetland depend. However the DEIR does not address this issue at all, giving the public no useful information on which to comment.

It also should be noted that the university contributes to this pond/wetland not only the clean water that percolates in to the East Meadow, through the karst, and emerges through springs and seeps into the former quarry, but also dirty water that drains off of approximately a half mile of Coolidge Drive pavement, drops through storm drains on Coolidge into storm water pipe, and is dumped by the university over the edge of the quarry. This flow contains after a rain a significant amount of sediment from road cuts and other bare soils along the edge of Coolidge, and these sediment loads are gradually filling in the pond/wetland at the center of the quarry park. The proposed development in the East Meadow would thus not only reduce the total water supply to the Kalkar pond/wetland, but would also adversely alter the ratio of clean water to sediment-loaded water coming into the pond/wetland, potentially increasing the rate at which it is filled in. The DEIR never mentions or acknowledges in any way these impacts caused by its proposed development.

The issues of diminished water supply that apply to the Kalkar pond also apply to the Westlake Park pond, approximately one quarter of a mile south of the Kalkar pond and similarly fed, and a third spring slightly east of Westlake. All three of these springs, and the small creeks they spawn, are amenities for the neighborhoods of which they are a part. But again, there is no mention or acknowledgement of the issue in the DEIR.

The core of this issue is the question: What are the effects of moving a large share of the water that percolates in at the south end of the East Meadow from there to Jordan Gulch? What areas as a result end up with less water and what areas end up with more? Is flow at Kalkar and Westlake diminished? Is flow down Bay Street increased (possibly even enough to sometimes be a flooding problem)? In order for the university to present useful information on these issues it would have to have studied the movement of water through the karst in the south part of the campus, where it comes from and where it goes, and it simply has not. The public therefore is left without any basis for commenting on these very basic issues of the impact of the proposed project.

For example, would the inflows of clean spring water into the Kalkar pond be reduced enough to threaten its viability as a wetland, or would the reduction be insignificant? The public is not given any information on this issue and is thus deprived of any meaningful opportunity to comment.

Also at the core of this subject is a tendency of the university to violate one of the core lessons it teaches in its various environmental programs. When the university attempts to solve its considerable difficulties at the East Meadow site by dumping them over the embankment into the Jordan Gulch sinkhole, 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 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.

It also should be noted that, while development in the meadows that characterize the south part of the campus is often opposed on grounds of the negative impact on the iconic views of the campus, such development is also problematic due to the water impacts and structural hazards caused by the karst that contributed to the formation of these meadows. There is more than one good reason why the university has for so long avoided development in these meadow/karst areas.

Transportation and Traffic

The Draft EIR begins by making a major decision: it will offer no traffic impact analysis on any street off-campus. It offers no data or analysis to support this decision or to offer the public some basis for comment on this decision. It merely states, as an unsupported pronouncement, 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, it might, and it might not.

Even if the “percentage of enrolled students who would live off campus” might be reduced, does not mean that the absolute number of trips on area roadways would be reduced. It is expected, for example, that the total number of students enrolled would increase by over a thousand over the coming year and a half, and thereafter the university intends further growth in enrollment. Under these conditions, 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 is no supporting analysis as to whether other factors might increase trips to and from the campus. 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, let alone discussed or even studied.

Table 4.11-5 purports to corroborate the basic idea that there would be a slight aggregate decrease in trips between the campus and the town, based on a “trip generation estimate.” Trip generation estimate numbers are provided by UCSC staff without discussion, analysis, or independent corroboration provided. It is impossible to determine whether the resulting numbers produced the desired conclusion or the desired conclusion produced the resulting numbers. There clearly was no real traffic study done as to whether traffic to and from the campus would increase or decrease. As the Draft EIR puts it, “...an analysis of the project’s impacts to intersections at the two campus gateways... is not warranted.” 4.11-19 And was never conducted. So we do not know the answer, and the public is given virtually nothing to comment on.

The Draft EIR also attempts to excuse its failure to do any 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. And 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.

And finally, there is the on-campus data presented and what it implies for off-campus traffic impacts. It would seem to contradict the unsupported conclusion that the proposed project would not increase traffic between the campus and the town.

Traffic data is presented for the Hagar-Coolidge intersection, based on a traffic study by Fehr & Peers. (figure 4.11-1) Using that data we can calculate and closely approximate the amount of traffic entering and exiting the campus at its main (south) entrance. With respect to traffic entering the campus in the morning rush, 110 more vehicles are expected to enter the campus in just the peak hour in 2020 with the East Meadow project as compared to present conditions. And 53 more vehicles are expected in just the peak hour in 2020 with the East Meadow project as compared to projected 2020 without the East Meadow project. With respect to traffic departing at the main entrance in the evening, 159 more vehicles are expected to depart the campus in just the peak hour in 2020 with the East Meadow project as compared to present conditions. And 90 more vehicles in just the peak hour in 2020 with the East Meadow project, as compared to projected 2020 without the East Meadow project.

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 110 vehicles in just the peak hour of the morning rush, and 159 more vehicles in just the peak hour of the evening rush, 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.

And that does not include impacts of the rest of the Student Housing West project flowing in and out of the campus’s west entrance, nearly all of which would impact the same in-town intersections. Can we calculate them using Heller-Koshland data the same way we used Coolidge-Hagar data to calculate main entrance traffic? No, we cannot, because the Draft EIR refuses to provide Heller-Koshland traffic data. Why? “An analysis of the intersection of Koshland Way with Heller Drive near the Heller site was not conducted because the project [at the Heller site] would add a residential population of about 2,852 students, it would not produce substantial commute traffic. Furthermore the developer would be required to make all necessary improvements to ensure that it operates acceptably.” 4.11-19

Translation: ‘We’re adding 2,852 beds near the west entrance, but we just know it won’t add traffic, so we are not going to study whether it would or not. And if it does the private developer will do something about it, but we’re not sure what.’ That is not an adequate basis for the public to make informed comments.

Finally, there is the on-campus issue of traffic at the point where the driveway to the East Meadow project enters Hagar Drive.

The Family Student Housing project proposed for the East Meadow would be a suburban-sprawl-type development of 148 units, with a like amount of parking spaces for the residents. Also proposed for this site and using the same driveway to access Hagar Drive 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. In the morning rush faculty and staff will be using the driveway to drop off and then to exit, while the residents are using the same driveway to exit. And in the evening that process reverses.

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)

They claim to mitigate that impact in one of three ways (SHW Mitigation TRA-2):

- 1) Provide a separate driveway onto Coolidge Drive. However this can be accomplished only with permission from Santa Cruz County, since Coolidge is a County road. There is no indication that the County has or will agree to

this, and they may well be concerned about the safety of such an intersection on Coolidge, due to its higher average speeds compared to Hagar. In any event the notion of the County granting such permission is highly speculative at best, and cannot be relied upon. Furthermore, the idea of a second driveway is that it would primarily serve the residents of FSH, while the driveway onto Hagar would primarily serve the child care traffic. But from the traffic data presented in figure 4.11-1 we can deduce that in the evening peak hour 90 vehicles would be childcare pickup and only 6 would be FSH residents, so the traffic problems at the intersection of the driveway and Hagar would scarcely be remedied. The claim in the Draft EIR that the two driveway mitigation would improve the driveway-Hagar intersection from LOS F to LOS B is completely implausible and no data or analysis is presented to demonstrate otherwise.

- 2) Construct two driveways onto Hagar Drive. The driveway in the proposed project is approximately 500 feet from the intersection of Hagar and Coolidge, and it is as far as it can be from Coolidge and still be within the Campus Resource Land designation of the 2005 LRDP. The second driveway would presumably be halfway between the first and Coolidge. And in our evening rush example, it would still be vehicles attempting to turn left from the driveway onto Hagar Drive, only they would be even more likely to find the southbound lane of Hagar full of stacked up vehicles waiting because they would be 250 feet closer to the Hagar-Coolidge intersection. As with the second driveway on Coolidge, the claim in the Draft EIR that the two-driveway mitigation would improve the driveway-Hagar intersection from LOS F to LOS B is completely implausible and no data or analysis is presented to demonstrate otherwise.
- 3) Construct a left turn lane southbound on Hagar for the project driveway. Even the Draft EIR acknowledges that this option “would result in only slight improvement in the driveway operations,” leaving the driveway still substandard at LOS E.

So of the three proposed mitigation options, the first is highly speculative as to whether it could even be done, for the first two it is highly implausible that they would materially improve the situation, and the third the Draft EIR acknowledges it would not solve the problem. Therefore in reality none of the three options can be considered mitigations, and the proper classification for this impact is significant and unavoidable. To conclude otherwise is to solicit public comment based on misleading information.

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

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