

**SOAH DOCKET NO. 582-08-2178
TCEQ DOCKET NO. 2007-1774-MSW**

IN RE THE APPLICATION OF BFI WASTE	§	BEFORE THE
	§	
SYSTEMS OF NORTH AMERICA, LLC	§	STATE OFFICE OF
	§	
PERMIT NO. MSW-1447A	§	ADMINISTRATIVE HEARINGS

APPLICANT’S REPLY TO CLOSING ARGUMENTS

Applicant BFI WASTE SYSTEMS OF NORTH AMERICA, LLC (BFI) files its reply to the other parties’ closing arguments, respectfully showing:

I. INTRODUCTION

TJFA’s and NNC’s closing arguments, combined, total over 115 pages. They appear to have abandoned several theories they had been pursuing – Pierce Chandler’s criticisms of the soil borings, his 30 ton/year calculation of erosion, and Steve Stecher's 17 complaints about the water quality pond are but three examples – because those theories crumbled at the hearing. But they continue to pursue various other theories that do not pass either legal or evidentiary muster. TJFA’s closing argument discusses a variety of issues – including matters pertaining to groundwater and groundwater monitoring, slope stability, soil balance, drainage, erosion and sedimentation, and land use compatibility. NNC has included sections on drainage, land use compatibility and “nuisance” in its closing argument. (OPIC has joined in the land use compatibility argument.) Each of these issues is discussed below.

II. GENERAL OBSERVATIONS

As a preliminary matter, BFI has six general observations about the protestants' closing arguments. Their arguments – and, indeed, TJFA's very participation in this proceeding – must be considered in the context of these six observations.

1) TJFA = Texas Disposal Systems & Bob Gregory. TJFA's connection to Texas Disposal Systems and Bob Gregory is well documented and will not be belabored here. In evaluating TJFA's arguments, however, it is important to keep in mind just what TJFA is: a sham real estate investment company that is wholly owned and controlled by a direct competitor which voluntarily interjected itself into the permitting fray by buying a property next door to the landfill (that is, by purchasing "affected person" status). TJFA and its funder(s) have already spent several hundreds of thousands of dollars protecting TJFA's supposed "investment" in a \$90,000 property – including, undoubtedly, many thousands of dollars more spent preparing and submitting an 80-page closing argument. Notably, TJFA's three retained technical experts – who have each long been on the TDS/TDSL/Gregory payroll – *didn't even bother to try to determine the effect of the expansion on TJFA's property.* In fact, they weren't quite sure where TJFA's property is located or whether anybody lives there. There is nothing at all rational about TJFA's investment strategy, except when one considers the potential economic benefits to its owner and affiliates if BFI's permit application – which they have fought at TCEQ, at SOAH, at City Hall, in the Travis County Commissioners Court, and in the press – is denied.

2) Side-Stepping the Evidentiary Record. Even though they have jettisoned several criticisms that did not pan out at the hearing, many of the protestants' remaining arguments ignore major portions of the evidentiary record. TJFA's closing argument shows a particular disconnect with the record. Indeed, for many of TJFA's arguments it's as if the evidentiary

record starts and stops with TJFA's pre-filed testimony and exhibits, and no hearing on the merits was held. For example, TJFA reasserts its contention that the dotted-and-dashed lines on the geologic and fill cross-sections in the application are somehow indicative of mounding inside (or beneath¹) the landfill, even though that argument was thoroughly discredited at the hearing. It continues to contend that a factor of safety of 2.0 must be used for slope stability purposes when it is clear that everybody (including Pierce Chandler when he's not criticizing someone else's application) agrees that 1.5 is the long-recognized standard. The list goes on and on. Repetition of discredited assertions does not somehow make them true. Ignoring well-founded and creditable assertions does not make them go away.

3) Made-Up Rules and Standards of Care. Another striking aspect of TJFA's closing argument is its wholesale reliance on made-up rules, novel interpretations of rules, and phantom standards of care. TJFA insists, for example, that the proposed groundwater monitoring system doesn't satisfy the "Kier standard" when, in fact, the evidence clearly shows that proposed system easily surpasses the pre-March 27, 2006 regulatory standards (the ones that govern this application) and, indeed, exceeds the heightened requirements of the current regulations (which are not applicable here). It also argues that Chandler's unique interpretation of the "unstable areas" location restriction rule should apply when everyone else – including, quite clearly, the Executive Director – uses a different interpretation. Through Stecher, TJFA continues to push a 100-year design storm when no such requirement exists. These and other made-up rules, interpretations of rules, and standards of care should be given no weight.

4) Accusations and Insinuations. Both NNC and TJFA make accusations and insinuations about BFI and its consultants in their closing arguments. NNC accuses BFI of

¹ Kier and Chandler had problems agreeing on whether they thought groundwater was mounding inside or outside the landfill. *Compare* TJFA Exh. BK-1 (Kier) at pp. 10-11 to TJFA Exh. PC-1 (Chandler) at pp. 83-84.

“sleight of hand” and “chicanery.” TJFA flat-out accuses one of BFI’s experts of destroying evidence. These accusations and insinuations are factually unfounded, legally and ethically unwarranted, and do absolutely nothing to shed any light on any issue before the ALJ.

5) TJFA’s “What’s Good for the Goose ...” Problem. TJFA’s experts’ opinions are rife with hypocrisy. Their opinions are often diametrically opposed to work they themselves performed on other landfill projects and, indeed, work they performed for Gregory at the TDSL landfill. Chandler’s prior use and embrace of the 1.5 factor of safety standard on other projects he worked on as a project engineer is but one example. His criticisms of “wash borings” and the contents of the boring logs, when compared to the Kier/Chandler boring program for the North Texas/121 site, is another. Kier’s complaints about the proposed 32-well groundwater monitoring system that will monitor the weathered/unweathered interface around the entire Sunset Farms site ring hollow in light of the six-well system he developed for the similarly-sized, almost identically situated TDSL facility. These many-fold “do as I say and not as I do” opinions go straight to the heart of TJFA’s experts’ bias and lack of credibility.

6) “Throwing Spaghetti at the Wall.” The protestants’ closing arguments reinforce the “spaghetti on the wall” theory BFI noted in its opening statement: absent any evidence or legal arguments that warrant denial of BFI’s application, their strategy is plainly to throw as many things out as possible in the hope that something somehow sticks. Nothing did, and nothing should. The protestants’ strategy is reminiscent of the somewhat-tired-but-true adage:

“If the facts are against you, argue the law. If the law is against you, argue the facts. If the law and the facts are against you, pound the table and yell like hell.”

Carl Sandburg, *The People, Yes* (1936).

III. GROUNDWATER AND GROUNDWATER MONITORING

Allegations of Mounding/Leakage

TJFA is pushing its groundwater mounding argument once again in its closing argument. *See* TJFA Closing Argument at pp. 21-24. That argument is premised on the hard-to-fathom notion that the dotted-and-dashed line shown on various fill and geologic cross-sections reflects mounding of groundwater inside (or, alternatively, under) the landfill. Mounding, the argument goes, indicates that the landfill is leaking.

TJFA's mounding argument was thoroughly discredited at the hearing. Mike Snyder, the lead geologist who prepared and sealed the geologic cross-sections, clearly and consistently explained how the lines are not indicative of mounding and reflect nothing more than an inferred potentiometric surface across the site in 1999 before the north half of the landfill had even been excavated and constructed. On cross-examination by TJFA's counsel, Snyder explained:

- Q. Well, in all due respect, Mr. Snyder, I believe that the dot-dot-dash line in the vicinity of B-9 [on APP000409 of TJFA-8] appears to be at a higher level – or a higher elevation than the actual top of that boring, does it not?
- A. It does. But if you look at the map –
- [BFI's objection to let the witness finish his answer sustained]
- A. If you look at the figure that you've directed my attention to in the bottom left-hand corner, you will see that that boring, B-9, not exactly on that line of section but, in fact, is projected into that line of section. **And so to be precise, the water level was not a water level – not a water level in the landfill, but a water level projected from a potentiometric surface map that was drawn to reflect water levels on that day.** And the boring is not exactly on that line of section.
- Q. How does a geoscientist use groundwater monitoring wells to project or create contours, if you will, of the groundwater levels themselves?

A. Well, because we looked at the water levels, we contoured those. If you look on these cross-sections, cross-sections are generated from a number of sources, a number of different dates. **And so the potentiometric surface map that was constructed from water levels in 1999 were largely in an area on the northern part of the site where there was no waste.**

And so at that point we weren't projecting them into waste or into excavations but into a cross—regardless of what the excavations were, based on our understanding that the groundwater mimics the top of the unweathered, which mimics the topography, this was simply a projection of those water levels based on perimeter water levels. That's the only data that went into that projection.

Tr. 293-95 (emphasis added). On re-direct Snyder testified similarly:

Q. Okay. And then with respect to [sic] Mr. Blackburn's questions on the cross-sections – and I would like to point you to APP000711 and 712 in TJFA-8 – or 711 and 713.

A. Okay.

Q. I just want to make sure that I understand that the record is clear. That dashed and dotted line that has the little black inverted carat, if you will, above it on the left-hand side – do you see what I'm looking at?

A. Yes, sir.

Q. What does that represent?

A. **Outside the landfill, it represents a measured groundwater level. Where it is projected across the landfill, it represents the – our projection of the pressure – the potentiometric surface is in the water that's below the landfill.**

...

Q. **In any event, it's not intended to show that there's any mounding of leachate inside this landfill, is that correct?**

A. **It was definitely not intended to,** because in that part of the landfill, we have leachate collection systems which keep the leachate pumped down. And definitely there's not 30 or 40 feet of leachate in that side of the landfill.

Q. And carving aside what it was intended to show or not, is it indicative in your mind, regardless of whether or not you intended it, of any mounding of leachate inside this landfill?

A. No, sir.

Tr. 448-50 (emphasis added).

When asked about the dotted-and-dashed lines, Arten Avakian of the TCEQ testified that he had no problems understanding that the line did not reflect mounding:

Q. Okay. And then at the bottom of Page 43 [of Avakian's pre-filed testimony], you comment on the opinions that Mr. Chandler and Mr. Kier have expressed regarding the alleged mounding of water or leachate inside the landfill. Correct?

A. Yes.

Q. And you disagree with that opinion, don't you?

A. Yes.

Q. Okay. It's your understanding – you understand that that opinion was based – those opinions were based on some depictions of [sic] field cross sections and geologic cross-sections in BFI's application?

A. Yes.

Q. **And you didn't understand that dotted and dashed line that was pointed to and discussed as a representation of any sort of water level or leachate level inside the landfill. Is that correct?**

A. **That's correct.**

Q. **All right. That wasn't confusing to you when you reviewed the application, was it?**

A. **No, it wasn't.**

Q. You had an opportunity to hear the testimony of both Mr. Chandler and Dr. Kier?

A. Yes I have.

Q. And based on hearing that testimony – did you have the opportunity to hear the testimony of Mr. Snyder?

A. Yes, I did.

Q. Okay. Based on the testimony you've heard from those three gentlemen in this hearing, would your opinion you have expressed in the bottom two-thirds of Page 43 of your pre-filed change?

A. No.

Tr. 2260-61 (emphasis added).

Kier was shown groundwater contours and a geologic cross-section from TDSL's application during his cross-examination. Tr. 1763 *et seq.* Like BFI's application, the contours and cross-section also depicted historic groundwater levels in the middle of the to-be-constructed landfill. *See* BFI-18. In one of the many "what's good for the goose" moments in the hearing, Kier, hypocritically but correctly, would not agree that those depictions reflected actual groundwater levels inside the TDSL landfill or that the TDSL landfill was leaking. Tr. 1764-70. He simply refused to apply the same standard or interpretation to BFI's application that he did to TDSL's.

Liquid in the LFG Extraction Wells

Kier testified that he reached his conclusion that the Sunset Farms landfill is leaking "based solely on the information in the application," *i.e.*, based on his dotted-and-dashed line mounding theory. Tr. 1738. In its closing argument, TJFA has tried to bolster this go-nowhere theory with assertions that leachate in some of the landfill gas (LFG) extraction wells at the site proves mounding. TJFA Closing Argument at pp. 22-23. TJFA's "enhanced" theory of mounding is just as weak as its original theory.

In its closing argument, TJFA relies primarily on a discussion of Mike Snyder's testimony that conveniently omits Snyder's primary observation: liquid or condensate levels in individual LFG extraction wells is not indicative of leachate levels within the landfill itself. Specifically, Snyder testified (on cross-examination):

Q. Okay. Mr. Snyder, based on the elevations of groundwater that appear from the exhibit [TJFA-9], would you think that it would be fair to conclude that there are areas within the landfill that are experiencing high water levels?

A. **That's not what I would interpret from this data. What I would interpret from this data is that there is liquid in a leachate extraction well and that they found it at a certain level in that well, and it may or may not be reflective of any level that is anywhere around.**

I might point out that there are multiple wells around those that don't apparently have liquid levels. And so what I would guess and what my experience has been is that you end up – when you drill a hole into waste, there are pockets of moisture of leachate, and when you drill a hole through there, that provides an avenue for all that leachate to escape its normal condition where it's perched on waste levels or soil levels. And this is an accumulation of either leachate or possible gas condensate in a well, and its reflective of a – either vertical or lateral connected level.

Tr. at 309-10 (emphasis added). Later Snyder testified (on re-direct):

Q. With respect to liquid in the [LFG extraction] pipes, in your opinion is liquid inside the pipe reflective of the level of leachate inside the landfill that's above the bottom liner?

A. No. I believe it's reflective of leachate in the pipe that has collected in the pipe.

Tr. at 448; *see also* Tr. 450.

Matt Stutz, BFI's landfill gas expert and the engineer who designed the gas collection system for the facility, clearly and fully explained that water in gas extraction wells is commonplace (indeed, expected) and is not indicative of leachate levels within the landfill:

Q. And it's your understanding that this well was collecting water recently?

A. It's my understanding that there's been water in this well and that they've pumped water out of this well.

Q. Is that common?

A. Oh, yes.

Q. Is it a regular part of the maintenance of gas extraction wells to pump water out of them?

A. Yes. It's done routinely.

Q. To your knowledge, is the location of this well, as you have shown on Exhibit MS-4, in an area of the landfill that is [underlain] by a Subtitle D liner and leachate collection system?

A. Yes. Well 110 is in the Subtitle D lined area.

Q. Is the same true for Wells 101, 100, 78, 75, and 76?

A. Yes. Those are all in Subtitle D areas.

Q. And based on that and your experience, then, does the collection of water in a well have anything to do with whether or not its [in] an area [underlain] by a Subtitle D liner [and] leachate collection system or not?

A. We see water collecting in wells in Subtitle D, pre-Subtitle D regardless of the underlying liner.

Q. **When you find a well that is collecting water, does it tell you anything about what the water level or leachate level might be below the well?**

A. **No.**

Q. **What does it tell you?**

- A. **All it tells us is that in that particular area that liquids have accumulated into that well. It tells us that as water percolates through the waste up above that well, that it has somehow come in contact with the well and that gravel pack has accumulated in that area.**

Tr. 915-17 (emphasis added). Indeed, Stutz testified that he specifically designs gas extraction wells in anticipation of collection of some liquids within the gas piping:

- Q. When you design a schematic like this² to specify how a well can or should be built, do you take into consideration the possibility that there might be water collecting in the wells?
- A. Yes. It's – part of the process is to anticipate that water will be in the wells. And as noted on the detail here, we show a pump to be installed in the extraction wells to remove liquids as needed. So it was certainly something that we contemplated.

Tr. 921. And he testified that liquid in the wells is not suggestive of "mounding" of leachate within in the landfill:

- Q. **To your knowledge, if you discover water collecting in a gas well, does that mean that leachate is mounding up from the bottom of the fill upward – I'm sorry – from the bottom of the landfill upward?**
- A. **No. That's – water in an extraction well does not in any way indicate that there's an amount of water coming from the bottom up. It's more likely that the water in the well is coming from water down, so no.**

...

- Q. Very briefly. Do you have an opinion about whether there is leachate mounding up from the liner through the drainage layer of the leachate collection system and up to the elevations of the production zone of Gas Well 110?

² Figure 14-E2 on APP0001558.

A. My opinion is that it is not. My opinion is that that well is in that area, that there's a leachate collection system in that area, that there's - - the water is not mounding up from the bottom, but simply the water has entered from the top. That's my opinion.

...

Q. And is that your opinion to a reasonable degree of engineering certainty?

A. Yes.

Tr. 922 & 925-26. (emphasis added)

Groundwater Monitoring

Although TDSL's six-well groundwater monitoring system in a similarly-sized site in the same geologic formation appears to be perfectly fine to Kier, TJFA reasserts Kier's contention that BFI's proposed 32-well system is somehow insufficient. TJFA Closing Argument at pp. 54-67. TJFA cites two principal lines of Kier's criticism: (1) the application ignores site-specific conditions which mandate a greater investigation of the site and justifications for the spacing and location of the proposed monitoring wells; and (2) no "upgradient background well(s)" are identified in the application. *Id.* at p. 55. Neither criticism has any merit. Both criticisms should be readily dismissed.

BFI's Proposed System Exceeds Both the Old and New Rules.

As a threshold matter, it's worth noting just how often Kier qualifies and hedges his opinion regarding whether BFI's system (including the GWSAP) actually complies with the applicable groundwater monitoring regulations:

- "... although the groundwater monitoring system and sampling and analysis procedures may meet the technical requirements of the regulations, ... " TJFA Exh. BK-1 at p. 7:

- "... although the monitoring well spacing proposed by the applicant may minimally meet the current regulations found at §330.403(a)(2) ..." *Id.* at p. 20;
- " ... the GWSAP for the BFI landfill should not be allowed to simply meet the minimum requirements of the regulations specified in 30 T.A.C. §330.63(f) and Subchapter J." *Id.*;
- "... although the applicant has proposed to meet the minimum groundwater monitoring and analysis requirements ..." *Id.* at p. 21;
- "In terms of the constituents that they plan to have analyzed for, it probably meets the rules." Tr. 1625; and
- agreeing that his opinion is that "the groundwater monitoring system and the GWSAP, meaning the groundwater sampling and analysis plan, may meet the technical requirements of the rules but perhaps not their intent." Tr. 1720-21.

In reality, any analysis of BFI's proposed groundwater system can and should stop with these concessions as Kier plainly agrees – whether explicitly or tacitly – with Snyder, Carel and Avakian that BFI's system meets the applicable rules.³ *See* Tr. 359; BFI Exh. JS-1 at pp. 44, 47 & 52-54; BFI Exh. KC-1 at pp. 22-24; ED Exh. ED-AA-1 at pp. 13-14.

In fact, there is more than ample evidence in the record that demonstrates that BFI's proposed groundwater monitoring system not only meets the applicable rules – *i.e.*, the pre-March 27, 2006 rules that govern this application – but also meets or exceeds the current rules. For example, the applicable rules do not have a maximum spacing requirement between wells. Tr. 357; *see* 30 TAC §330.231 (2006). The current rules have a 600-foot maximum spacing requirement. Tr. 358 & 760; *see* 30 TAC §330.402(a)(2) (2008). As configured, the maximum spacing between any two wells in BFI's proposed 32-well system does not exceed 600 feet, and the average spacing between wells is less than 500 feet. Tr. 359-62 & 760-61; *see* APP000874.

³ Snyder's work was also reviewed by two professional geoscientist peer reviewers, Phil Bullock and Dr. H.C. Clark, prior to submission to the agency. *See* BFI Exh. JS-1 at p. 12.

Several of the wells on the southern border of the landfill are even closer. Tr. 361-62; *see* APP000874. And, BFI has proposed – with the Executive Director's approval – to designate the entire perimeter of the landfill as the point of compliance for groundwater monitoring purposes. BFI Exh. JS-1 at p. 42; *see* APP000874. Such a designation is both a more "aggressive" (in terms of the scope of monitoring and reporting and, if necessary, initiation of assessment monitoring and corrective actions⁴) and a more "conservative" (in terms of groundwater protection) way to monitor groundwater at the site. Tr. 762, 777 & 788.

Site-Specific Considerations.

Kier's first groundwater monitoring criticism regarding the lack of site-specific considerations is, to put it bluntly, bogus. Attachments 4 (the geology report) and 5 (the groundwater characterization report) and their appendixes are replete with site-specific information – including information regarding regional and site stratigraphy and lithology (including the thickness of the various strata), geologic cross-sections, site physiology and topography, soil borings, lab reports, site soil conditions and properties (including hydraulic characteristics of the soil layers), regional and site hydrogeology, the regulatory uppermost aquifer, the lower confining unit, preferential pathways, historical and seasonal groundwater levels at the site, groundwater contouring at the site, groundwater flow directions and velocities at the site, the effect (or lack of effect) of the vertical expansion on the existing 17-well groundwater monitoring system, historical groundwater quality at the site, and on and on. APP000422-920. The application also details the site boundary, on-site structures, the landfill's footprint, excavations, fill cross-sections, fill sequencing, the landfill's liner, its leachate collection, gas collection and dewatering systems, drainage, proximity to other properties, area water wells, etc. *E.g.*, APP000032-418 & APP001157-1816. Applying his substantial

⁴ *See generally* 30 TAC §§330.235-238.

experience to all of this site-specific information, Snyder, a licensed professional geoscientist, designed an enhanced groundwater monitoring system of 32 wells spaced (on average) less than 500 feet apart that are designed to screen shallow groundwater at and above the weathered/unweathered interface. BFI Exh. JS-1 at pp. 40-44; Tr. 359-62 & 760-61; *see* APP000874. The entire perimeter of the landfill will serve as the regulatory point of compliance BFI Exh. JS-1 at p. 42. The southern border of the facility will effectively be monitored by a "double" monitoring system, since ACL is required to monitor groundwater at its northern border under its own permit. BFI Exh. JS-1 at pp. 42-43. Under the GWSAP, BFI will routinely sample and test the monitoring wells for Appendix I constituents, and then report the test results to the agency. BFI Exh. KC-1 at pp. 8-16; BFI Exh. JS-1 at pp. 48-49; *see* APP001340-1401.

Snyder repeatedly testified that he used site-specific considerations to design the groundwater monitoring system – both in his pre-filed testimony and in his testimony at the hearing on the merits. His pre-filed testimony contains over 35 pages of site-specific information he reviewed, considered and/or prepared, *see* BFI Exh. JS-1 at pp. 11 & 15-50, and on eight different occasions in his pre-filed testimony Snyder specifically mentions "site-specific" considerations he made or relied on in his development of the groundwater monitoring system. *See id.* at pp. 13, 15, 26, 31, 37, 43, 51 & 54. During the hearing he also testified that his work was based on site-specific considerations. Tr.357.

Upgradient Background Wells.

TJFA also points to the absence of any "upgradient background wells" as a reason to deny BFI's application. This criticism falls squarely within the "made up interpretation of the rules" category of BFI's six general observations because TJFA's is conflating its own term of art "upgradient background wells" with the broader term "background wells" that is actually used in the regulations.

The rules relevant to this issue include subsections 330.231(a)(1) and 330.233(c) of the MSW regulations. Subsection 330.231(a)(1) states in full:

Background wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. **A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area if hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient or if sampling at other wells will provide a better indication of background groundwater quality than is possible from upgradient wells.**

30 TAC §330.231(a)(1) (emphasis added). Subsection 330.233(c) states in relevant part:

The owner or operator shall establish background groundwater **quality in hydraulically upgradient wells or in background wells** for each of the monitoring parameters or constituents required in the groundwater monitoring program for [an MSW landfill unit] Downgradient groundwater data shall not be adjusted by subtracting background groundwater data.

30 TAC §330.233(c) (emphasis added).

Note that neither subsection uses TJFA's phrase "upgradient background well." Indeed, the phrase isn't used in the MSW rules at all. Instead, the rules speak more generally of "background wells" because background wells can be either upgradient or downgradient. (The purpose of background monitoring, and thus background wells, is to establish background groundwater quality, *i.e.*, a baseline, upon which future sampling data can be compared for statistically significant changes of constituent levels. Here, BFI has background groundwater quality data from many years of monitoring its 17 existing wells and will also establish background data during the first two years that each of the 17 new wells are in operation.⁵) In

⁵ See 30 TAC §330.233(g)(2) (discussing use of "individual well (or sampling point)" – *i.e.*, intra-well – statistical comparisons). Carel testified that the 17 new wells will undergo background monitoring on a

other words, background groundwater quality data may be established from a downgradient well to be used for future comparison purposes. Nothing in the MSW rules mandates or even suggests that at least one "upgradient background well" must be included in a facility's groundwater monitoring system. Nothing in the rules precludes the use of downgradient wells as background wells for future comparison purposes. And nothing in the rules precludes an owner or operator from designating its entire system as downgradient or as its regulatory point of compliance.⁶

Here, BFI's proposed enhanced groundwater monitoring system is eminently reasonable, well within both the letter and spirit of the rules pertaining to background monitoring, and has been approved by the Executive Director. The site sits on a topographic high, and groundwater in the regulatory aquifer flows in all directions from the site. BFI Exh. JS-1 at pp. 33-34 & 42. BFI has proposed an "aggressive" monitoring system that defines the "entire perimeter" of the landfill site as its regulatory point of compliance. BFI Exh. JS-1 at p. 42; Tr. 777. BFI (and the agency) has a substantial amount of background groundwater quality data from its 17 existing wells. *See, e.g.*, APP000877-920. It will develop background data for each of the 17 new wells it is planning to install. BFI Exh. KC-1 at p. 12. BFI will use intra-well comparisons and other statistical methods allowed by TCEQ to ensure that any potential releases from the landfill are detected. *Id.* at pp. 13-15; *see* APP001341-1401.

quarterly basis for the first two years, and then semi-annual detection monitoring will commence. BFI Exh. KC-1 at p. 12.

⁶ TJFA's novel interpretation of the rules would constitute a *per se* prohibition of siting MSW facilities on groundwater or topographic highs. There is no such prohibition in the rules. The rules specifically contemplate otherwise. *See* 30 TAC §330.231(a)(1).

ACL, Applied Materials, PBS&J and Other Matters.

TJFA has thrown in a few additional kitchen sink arguments in its groundwater monitoring argument – primarily involving insinuations regarding the ACL facility that have nothing to do with Sunset Farms. Among other things, TJFA cites extensively from Kier's investigation of the ACL facility in the late 1990s and his review of the PBS&J sampling event at Applied Materials in July 2002. TJFA Closing Argument at pp. 56-64. The clear intent of TJFA's effort is to try to tar and feather BFI with innuendo about an unrelated facility. The plain result of TJFA's effort is that it's just more spaghetti thrown on the wall that doesn't stick.

First, even Kier repeatedly admits that he has no evidence that BFI has anything to do with anything at the ACL and Applied Materials sites. His 1998 reports to Gregory specifically stated that "no evidence has been found that the BFI Sunset Farms Landfill has contributed in any detectable way to the contamination of ground water in the weathered Taylor clays." TJFA Exh. BK-8 (August 10, 1998 memo to Bob Gregory at p. 9). With respect to the TICs (tentatively identified compounds) noted in the (partial) PBS&J report, he testified at the hearing that "I'm not saying it came from BFI." Tr. 1591. And TJFA admitted the same in its closing argument ("While Dr. Kier does not suggest that BFI is the source of the groundwater contamination present at either ACL or Applied Materials ..."). TJFA Closing Argument at p. 59.

Second, Kier's analysis of the PBS&J report is flawed for any number of reasons:

- No "8260" or "8270" constituents (*i.e.*, Appendix I or II constituents) were found in any of the eight Applied Materials wells. Tr. 785 & 1747-51; TJFA Exh. BK-7 at pp. 5-6. These lists were specifically developed to identify leaks at MSW facilities.

- Even Kier agreed that three of the four wells in which TICs were identified at Applied Materials are not downgradient from Sunset Farms. Tr. 1751-53. One of these three wells is immediately downdip from an old gas station, another immediately downdip from a closed auto body shop. *Id.*
- The fourth well, MW-2, is located in the center of the Applied Materials site (an industrial facility) at least 1,350 feet from Giles Lane and further away from the Sunset Farms landfill. It would take over 130 years for groundwater to flow in a straight line from Giles Lane to MW-2, and even longer from the landfill. Tr. 1753-55.
- The TIC in question, caprolactan, is associated with nylon ropes. Tr. 321. PBS&J used nylon ropes in its sampling regimen. *Id.* The TIC was thus the likely result of a flawed sampling protocol. *Id.* (PBS&J identified this very problem in its own report when it observed that the TIC might be a relic of lab cross-contamination during sampling and may have been introduced during field collection. *See* TJFA Exh. BK-7 at APP019766.)
- There are no confirmed detections of any constituents in the Sunset Farms groundwater monitoring wells that are located between Sunset Farms and Applied Materials.

In short, Kier's Applied Materials analysis was junk science and should be afforded the weight of junk science: nothing.

Finally, TJFA points to assessment monitoring in MW-30 at Sunset Farms in support of its groundwater monitoring argument. TJFA Closing Argument at pp. 60-61. Notably, the only party that raised or discussed MW-30 in its pre-filed testimony was BFI. Both Snyder and Carel openly discussed MW-30 in their testimony; both reasonably opined that the detections of low levels of volatile organic carbons (VOCs) were the result of landfill gas migrating through the unsaturated portion of the monitor well screen. BFI Exh. JS-1 at pp. 45-46; Exh. KC-1 at pp. 17-22; Tr. 767-68. Even though BFI filed its pre-filed testimony a month before Kier's was filed (and despite the fact that BFI has filed multiple public reports regarding MW-30 and every other well at the site), Kier never even mentioned MW-30 in his pre-filed testimony. He was

apparently a Johnny-come-lately in reaching his opinion that MW-30 somehow evidences a leachate leak or an inadequate groundwater monitoring system.

Notably, no other constituents have been detected in MW-30 that one would expect to see if a release of leachate actually occurred. BFI Exh. KC-1 at p. 22. Neither VOC detected in MW-30 was detected at statistical levels over their respective groundwater protection levels. BFI Exh. JS-1 at p. 46; BFI Exh. KC-1 at p. 21. Carel testified that concentrations of DCA are small have been decreasing over time, and that PCE hasn't been detected at all in recent sampling events. Tr. 781 & 790. And, perhaps most importantly, the detections in MW-30 demonstrate that BFI's existing groundwater monitoring system works according to plan: when listed constituents were detected in a point of compliance well at the facility, the well was placed in assessment monitoring for an expanded suite of 213 Appendix II constituents. BFI Exh. KC-1 at pp. 16-17. The proposed system, with almost twice as many wells, will provide enhanced environmental protections.

IV. SLOPE STABILITY

All six of BFI's general observations are implicated by TJFA's slope stability arguments. Chandler's bias is clear, and his credibility is poor. He offers or relies on standards, such as a factor of safety of 2.0 and hyper-conservative generic shear strength parameters, that he alone advocates. TJFA and Chandler ignore the much steeper (1H:1V) excavation slopes, higher (170 foot) waste column, and identical side slopes (4H:1V) at the TDSL facility (which has similar geology and soils) and much the higher waste columns at other 4H:1V-sloped facilities Chandler worked on when they contend that the slope stability at Sunset Farms is somehow problematical. *See* Tr. 1458-59, 1487-90, 1508 & 1514-17. TJFA mischaracterizes and sidesteps the evidentiary record, including its Gregg Adams' detailed testimony about what he considered and

what he did to analyze slope stability at Sunset Farms. And TJFA continues to toss out kitchen sink arguments based on matters such as inapplicable technical literature, pictures of slope failures that bear no relationship to Sunset Farms, and scurrilous allegations that Adams threw stuff away.

The Absence of Any Specific Rules Regarding Slope Stability

Unlike the other issues that were referred, there are no rules in Chapter 330 that specifically address slope stability, and the agency has not published any technical guidance manuals regarding slope stability. BFI Exh. GA-1 at p. 27; Tr. 597, 658-59 & 1492. There is no regulatory "laundry list" of information that an applicant must include regarding slope stability or performance standards that an applicant must meet, although like the solid waste engineering community the agency has a *de facto* practice of using a long-term factor of safety of 1.5 as the engineering measuring stick by which slope stability should be analyzed. BFI Exh. GA-1 at p. 31; Tr. 659, 675-76, 1492 & 1777.

What Adams Did (and What Chandler Didn't Do)

The record is clear that Gregg Adams' slope stability analysis met the professional standard of care, satisfied the Executive Director, and, ultimately, ensures that the landfill will be stable and the facility will be protective of the environment and the public. He confirmed that there are no "unstable areas" such as Karst terrains and areas susceptible to mass movement at and around the site. BFI Exh. GA-1 at pp. 22-23. His slope stability examination included analyses of each type of slope at a landfill: excavation slopes, interim slopes and final waste slopes. Tr. 660-61. For these slopes, he considered potential rotational (a/k/a circular or global), block (a/k/a translational or wedge) and infinite (a/k/a veneer) types of failures. Tr. 662-66. He looked at both intermediate and final conditions. *Id.* He considered total (short-term) and

effective (long-term) stresses. Tr. 684. He considered both peak and residual material strengths.⁷ Tr. 685. He investigated differential settlement. BFI Exh. GA-1 at pp. 20-21; *see* APP000825-53. He used an industry-recognized computer program, PCSTABL6, to analyze potential rotational and block failures, and a spreadsheet algorithm to analyze potential infinite slope failures. Tr. 666-69 & 671. He looked for and identified critical case scenarios in the proposed design. Tr. 671-73. He ran many hundreds of iterations of calculations using conservative inputs based on site-specific information and his substantial professional experience actually working in and with the Taylor clays. Tr. 670. Using his computer, he "forced" slope failures to convince himself that the proposed design does and will provide acceptable factors of safety greater than 1.5. Tr. 671-72 & 674-77. He included detailed information regarding the critical case scenarios in the application, including computer inputs and outputs, and described his work in detail in his pre-filed testimony and at the hearing on the merits. *See* APP000449-55, APP000512-624 & APP000725-853.

Compare this with Chandler's criticisms. Although he billed TJFA tens of thousands of dollars for his work and admitted that he had access to a slope stability computer program, Chandler never ran any such models or analyses of his own to credibly demonstrate that Adams had identified the wrong worst-case scenarios, used incorrect inputs, or made incorrect calculations. Tr. 1500-02. The absence of any such analyses is telling. Chandler devoted a fair amount of his testimony discussing slope failures at other facilities, but, as discussed below, he never explained how those failures actually (or even theoretically) would apply here (because they don't). *E.g.*, TJFA Exh. PC-1 at pp. 62-64 & 70-72. He advocated use of a factor of safety of 2.0 that nobody else in the profession uses – even though he himself uses 1.5 on other projects. *E.g., id.* at pp. 61-69; Tr. 1505-07. And though he admitted that site-specific data is the

⁷ The court reporter erroneously transcribed the word "peak" as "Peach."

"Cadillac" for performing slope stability analyses, Chandler proceeded to ignore the Cadillac data in favor of generic – and inapplicable – "lowest published values" that were transparently selected to yield an unrealistically low calculated factor of safety. *See* Tr. 1497; BFI-6. In so doing, he "proved" that every lined landfill in Texas with slopes greater than 11:43H:1V will fail – that is, that every modern landfill in the state will fail. In reality, all he proved is that any slope will fail on paper if hyper-conservative assumptions are employed.

The Executive Director's Review and Approval

The Executive Director reviewed and approved BFI's slope stability submissions. ED Exh. ED-MU-1 at pp. 17-21. Matthew Udenenwu specifically testified that Chandler's interpretation of the §330.305 "Unstable Areas" regulation is not consistent with the agency's interpretation of the rule. *Id.* at pp. 41-42.

TJFA's Closing Argument Criticisms

TJFA offered a variety of slope stability criticisms in its closing argument, all of which were based on Chandler's opinions.

Technical Literature.

In its closing argument, TJFA quoted selectively from the Qian and Koerner exhibits that Chandler sponsored. TJFA Closing Argument at pp. 33-38. Neither excerpt is on point, because both address design scenarios in which a separatory overliner is to be placed over existing waste.⁸ The differential settlement issues pertaining to a separatory overliner and a leachate collection system over such a liner that were discussed by Qian and Koerner will not exist at Sunset Farms

⁸ *See, e.g.*, Figure 14.2 on page 545 of TJFA Exh. PC-4 (showing separatory overliner) and accompanying text; *see also* Koerner, TJFA Exh. PC-8, at p. 558 (citing Qian).

because there is no such overliner (none is required⁹). Citing technical literature for the sake of citing technical literature doesn't legitimize an opinion or the holder of that opinion.

Skyline, Irving and Other Unrelated Slope Failures at Other Sites.

TJFA also discusses instances of prior slope failures at the Skyline and City of Irving landfills in its closing argument, as well as investigations of failures at the Kettleman Hills landfill in California and the Rumpke landfill in Ohio. TJFA Closing Argument at pp. 43-44. Although each of these instances provided the opportunity for interesting academic exercises in geotechnical forensics, what's plainly missing in TJFA's closing argument (and in Chandler's testimony) is any discussion of how or why any of those cases have anything at all to do with the issues presented by the Sunset Farms application. Indeed, TJFA and Chandler have utterly failed to connect the dots between the Skyline/Irving/etc. failures and what is proposed at Sunset Farms. They didn't even try.

Chandler sponsored plenty of pictures of the Skyline and Irving slope failures, but did not link those slope failures to Sunset Farms in any meaningful way. Skyline and Irving both involved failures of excavation slopes. *See* TJFA Exh. PC-1 at p. 62. The excavation slopes at Sunset Farms have all already been constructed and lined, and waste placement has occurred in the last cell – with no failures. BFI Exh. GA-1 at p. 28; Tr. 597-98 & 1486. No further excavations will occur. *Id.* By definition, Skyline- and Irving-type excavation failures cannot occur at Sunset Farms.

Chandler also failed to explain how a slope failure at a landfill situated in a completely different geologic setting in the Midwest (Rumpke) implicates Sunset Farms, much less how the footprint, waste column, mass, side slopes, excavation slopes and depths, material properties, weather conditions, prior development or proposed vertical expansion of Sunset Farms compares

⁹ Tr. 561 & 1547.

in any form or fashion to Rumpke. Nor did he bother to explain how a three-sided ("bowl"-shaped) landfill constructed against a hillside in a California canyon (Kettleman Hills) has any similarity at all to Sunset Farms. *See generally* TJFA Exh. PC-12 at p. 647. Like his literature references, Chandler's examples of slope failures do nothing more than demonstrate examples of slope failures. With respect to this application, they're nothing more than a transparent scare tactic.

Factor of Safety of 2.0.

Perhaps no issue highlights Chandler's lack of credibility than his insistence that a factor of safety of 2.0 should be used here. As BFI explained in its closing argument, nobody agrees with Chandler on this issue (even Chandler on landfills such as North Texas/121 where he served as the geotechnical engineer). Tr. 1507. Chandler's compatriot, Kier, testified that 1.5 is the industry norm. Tr. 1777. Even the literature (*e.g.*, Qian) Chandler sponsored for other reasons states that 1.5 is the regulatory standard. TJFA Exh. PC-4 at p. 572.

Chandler's interpretation/application of Table 2-4 of the EPA guidance document strains credulity past the breaking point. That chart suggests that a factor of safety of 2.0 should only be used when the "uncertainty of strength measurements" is large. *See* TJFA Exh. PC-5 at p. 55. "The uncertainty of the strength measurements is smallest," the manual states, "when the soil conditions are uniform and high quality strength test data provide a consistent, complete and logical picture of the strength characteristics." *Id.* at footnote 1.

Adams, who has substantial experience working with and in the Taylor clays, testified that he had more than enough soil samples (314 from the weathered Taylor and 115 from the unweathered) and soil strength characteristics from those samples for geotechnical purposes. BFI Exh. GA-1 at pp. 17-18; Tr. 616-18, 620, 695 & 700; *see, e.g.*, APP000727. He described the soils at Sunset Farms as "uniform and homogeneous," and testified that the soils are not

complex and that there is a "consistent, complete and logical picture of the [soil] strength characteristics at this site." Tr. 678-79 & 695. Snyder testified that the geology at the Sunset Farms is "fairly simple," "straightforward," "uncomplicated" and "relatively uniform." Tr. 416; BFI Exh. JS-1 at pp. 26 & 32. In a permit application Kier prepared for the TDSL landfill, which is located a few miles south of Sunset Farms and is situated in virtually identical geology, he described the soils at that site as "remarkably uniform, homogeneous and isotropic." Tr. 784-85 & BFI-19 at p. 68; *see generally* Tr. 416, 711, 1458-59 & 1508 (geology and soils are very similar at the two sites). Chandler himself never challenged the accuracy of any of the soil sample test results for the site, whether individually or collectively, or offered any evidence to suggest that the properties of any soils at the site actually differ from those properties contained and discussed in the application.

Abramson's "Lowest Published Strength" Values.

TJFA and Chandler claim that Abramson's "lowest published strength values" should have been used in lieu of values based on site-specific data. TJFA Closing Argument at pp.45-46. In other words, they argue that BFI and Adams should have ignored the "Cadillac" site-specific data and Adams' substantial hands-on experience with on-site soils and geosynthetics in favor of Chandler's generic, one-size-fits-all published inputs. *See* Tr. 1497. And, of course, Chandler selected the absolutely lowest published shear strength data he could find in Abramson (generic interfaces with no cohesion whatsoever and a low-ball friction angle) to "prove" that the slopes at Sunset Farms will fail. *See* TJFA Exh. PC-1 at 75-76; Tr. 687-90; BFI-6. All he actually proved, however, was that any lined slope steeper than 11:43H:1V – that is, every lined slope at every landfill in Texas – will fail on paper if low-ball, unrealistic inputs are used. *See* BFI-6; Tr. 687-92. In so doing, he became the flag-bearer for the "garbage in, garbage out" maxim.

Ultimately, Chandler's selection of hyper-conservative shear strength parameters from Abramson highlights the important distinction Adams pointed out in the hearing between what is "conservative" and what is "reasonable" from an engineering standpoint. *See* Tr. 608 & 617. The two terms are important engineering concepts, but they are not synonymous. A good engineer like Adams uses inputs that are both conservative (*i.e.*, the engineer uses engineering judgment to select input parameters are not aggressive and have a factor of conservatism built in) and reasonable (*i.e.*, the selected input values are reasonably reflective of what is actually observed on-the-ground) to ensure that the proposed design has an acceptable measure of safety built in. *See* Tr. 679-84 & 686. At some point, however, an engineer can use such overly conservative parameters that his calculations bear no resemblance to the materials that are going to be used and what's actually going to be constructed – leading to absurdities such as 11:43H:1V maximum design slopes. *See* Tr. 686-92.

Other Criticisms.

TJFA and Chandler throw out several other slope stability arguments that are equally meritless.

Among other things, they criticize Adams's analysis of the stability of excavation slopes because he used lower shear strength numbers for effective (long-term) stress than for total (short-term) stress. (These are the slopes that have never failed at the site and, as discussed above, will never fail because no further excavations will occur.) In essence, Chandler is criticizing Adams because Adams used more conservative (lower) inputs in his calculations. Adams explained that he picked conservative values for the total stress parameters he used and then, based on his experience with working with the Taylor marls, reduced the cohesion value (*i.e.*, used a more conservative input) for the effective stress parameters. BFI Exh. GA-1 at pp. 35-36.

- They also falsely claim that Adams failed to analyze translational failures. Adams testified – both in his pre-filed testimony and in his testimony at the hearing on the merits – that he did analyze the potential for translational (block) failures. BFI Exh. GA-1 at pp. 29-30 & 32; Tr. 643 & 661-63. Adams testified that he did not include the results from his analyses of translational failures because they did not turn out to be critical case scenarios. BFI Exh. GA-1 at p. 32; Tr. 643. Nothing in the MSW rules requires Adams or any other geotechnical engineer to include information in the application regarding each and every analysis they performed.

- TJFA and Chandler also assert that Adams failed to consider geosynthetic strengths in certain analyses. Again, Adams clearly testified that he *did* analyze geosynthetic strengths any number of times and ways. *E.g.*, Tr. 609, 627-28 & 673. He testified that he did not include geosynthetic strengths in the global (rotational) analysis that was included in the application because the strength of a 60-millimeter thick geosynthetic liner is completely immaterial to a rotational failure analysis that predicts (above the appropriate factor of safety) a circular failure through the waste mass, liner and underlying soils. Tr. 636 & 649-50.

- Towards the end of its slope stability argument, TJFA mischaracterizes both the content and context of a series of e-mail exchanges between GeoSyntec, ACE and Adams (Exhibit PC-15). In those e-mails, GeoSyntec, which was doing liner quality testing (and not peer-reviewing the application, as TJFA wrongly asserts¹⁰), commented that:

[P]otential slip surfaces through the liner system during waste placement (an interim condition) and with the landfill at final grades were not conducted by Emcon. In GeoSyntec's experience, these cases may be [not "are" as TJFA wrongly characterizes the e-mail] the most critical for slope stability. It may be that these analyses have already been conducted by Biggs & Mathews

¹⁰ Geosyntec's original e-mail specifically states that: "The interface strength parameters required for the proposed expansion were not checked [by GeoSyntec]. In addition, the slope stability analyses in the current permit were not reviewed for correctness, etc." Exh. PC-15 (first paragraph).

Exh. PC-15 (first page). ACE forwarded GeoSyntec's e-mail to Adams, who responded:

Adam, the reported values are consistent with the assumptions in our slope stability analyses (we assumed lower friction angles with some minimal cohesion). **We did evaluate the potential slip surface through the liner system for the final waste weights and found that it was not the critical surface so we did not include it in the permit.**

Id. (second page) (emphasis added). Adams said the same thing at the hearing on the merits:

Q. Okay. And if I understand your statement [in the e-mail], Mr. Adams, you indicated that a slope stability analysis was run for the potential slip surface through the liner system, but found that it was just not a critical surface, right?

A. Yes, sir.

Q. And that's why it was not included in the application, correct? Right?

A. Yes, sir.

Tr. 643.

Not liking Adams' proper explanation and lacking any meaningful criticism of his work, TJFA ultimately reduces itself to making the preposterous allegation that Adams "destroyed" his computer runs (simulations that were neither printed off nor saved). TJFA Closing Argument at p. 50 & n. 12. That allegation is unbecoming of any litigant, even TJFA. In any event, it falls squarely within the "If the law and the facts are against you, pound the table and yell like hell" adage.

V. SOIL BALANCE

TJFA's closing argument includes a short section on soil balance. *See* TJFA's Closing Argument at pp. 67-68. Soil balance was not referred as an issue. Nor is there any rule in Chapter 330 that requires an MSW applicant or permittee to show that soil "will balance." *See*

Tr. 1357; *see generally* 30 TAC §§330.1 *et seq.* TJFA has not cited any such rule or relevant provision in any rule in its closing argument. The rule pertaining to cover that TJFA has cited does not address soil balance, *see* 30 TAC §330.133, nor do the rules pertaining to closure, post-closure and cost estimates for closure and post-closure. *See* 30 TAC §§330.250-256 & 280-284.

Regulatory requirements aside (or, more accurately, putting aside the absence of any rule that has provides any support whatsoever for TJFA's argument), there is absolutely no evidence in the evidentiary record that supports any conclusion other than that BFI has adequate soil and/or access to soil for both its current and future needs. Among other things, Brad Dugas testified about the contract BFI has with Waste Management for 1.5 million cubic yards of soil at \$1.50 per yard. BFI Exh. BD-1 at pp. 45-46; BFI Exh. BD-5. He also testified that soil is periodically brought in for free from construction contracts. Tr. 1310; BFI Exh. BD-1 at pp. 44-45. And he testified that the site has always had enough soil, and that soil can readily be purchased on the open market. Tr. 1311 & 1358; BFI Exh. BD-1 at p. 46. The only evidence pertaining to closure, post-closure and cost estimates for closure and post-closure was presented by BFI and the Executive Director. *See* BFI Exh. AM-1 at pp. 61-66; ED Exh. ED-AA-1 at pp. 22-25; *see also* APP001139-51.

TJFA did not present any evidence at all pertaining to soil balance or how any alleged imbalance factors in any way into matters pertaining to closure, post-closure or cost estimates pertaining to closure or post-closure. Nothing. This "issue" has no merit whatsoever and would warrant no-evidence summary disposition if soil balance had indeed been referred as an issue. (BFI further notes that TJFA stipulated that closure costs were not in dispute as part of the agreement that TJFA would withdraw James Neyens' pre-filed testimony. *See* Agreed Stipulations (Feb. 3, 2009); *see also* Tr. 805-06.)

VI. DRAINAGE

Overview

Issue A asks "whether the application demonstrates that natural drainage patterns will not be significantly altered by the expansion, in accordance with agency rules, including 30 TAC §330.56(f)(A)(iv)." The referenced regulation requires an applicant to provide "discussion and analysis to demonstrate that natural drainage patterns will not be significantly altered as a result of the proposed landfill development." The rule essentially establishes a three-part drainage inquiry. First, what are the natural drainage patterns? Second, how will the proposed landfill development alter or affect these patterns? Third, is any alteration significant?

The primary purpose of this rule is to ensure that downstream property and/or the environment is not damaged by flooding, erosion or sedimentation due to increased flows.¹¹ It is not to ensure that the flows from any landfill expansion precisely match the flows from the existing landfill. Flows can increase or decrease – just not by a lot. Whether any alteration is "significant" is not governed by any precise quantification or formula. Instead, it is a case-by-case determination applying professional judgment – a determination made first by the applicant's engineer, then by the Executive Director, then by the ALJ, and then by the TCEQ Commissioners.

¹¹ The regulation does not delineate downstream property as the exclusive property entitled to protection. *See* 30 TAC §330.56(f)(A). However, in practice, it is the property almost always considered. Additionally, it is possible that a water right can be damaged by significantly decreasing flows so as to limit diversion rights. No such claim exists in this case.

The TCEQ (and its predecessors) has been the agency vested with the authority to determine whether proposed landfill projects meet this regulatory requirement since the rule's inception in 1980.¹² After years of evaluating drainage submissions, the TCEQ developed Guidance Document RG-417 in 2004. In RG-417, the agency memorialized the demonstration required of applicants and developed a step-by-step process that was designed to help reduce confusion within the regulated community and the agency by streamlining the submission and review process. *See* BFI Exh. RS-34.

BFI followed the process laid out in RG-417 when it submitted its application for the proposed expansion in 2006. It made the proper comparison, and successfully demonstrated that the proposed expansion will not significantly alter natural drainage patterns. Adam Mehevec, BFI's drainage expert, described how this demonstration was performed, and his testimony was not refuted or challenged by any other witness in the hearing:

- Q. In addition to these rules, are there any guidance documents that are relevant to these portions of the application?
- A. Yes. TCEQ regulatory guidance document RG-417, which was published in June 2004 and revised in June 2006.
- Q. I will show you what has previously been marked Applicant's Exhibits RS-34 and GL-4. Can you identify these documents?
- A. They are copies of regulatory guidance document RG-417, "Guidelines for Preparing a Surface Water Drainage Plan for a Municipal Solid Waste Facility," dated June 2004 and June 2006 respectively.
- Q. Are these true and correct copies?
- A. Yes.
- Q. Did you rely on the 2004 guidance document in preparing the portions of the application that are relevant to drainage?

¹² *See* Tex. Dept. of Health, Municipal Solid Waste Regulations (Nov. 1980) at §E-2.3e(C)(c).

- A. Yes.
- Q. Are guidance documents such as these customarily relied on by experts in your field?
- A. Yes.
- Q. What parts of the application address this issue?
- A. The Groundwater and Surface Water Protection Plan found in Attachment 6 to Part III of the application. (APP 000921 to APP 001128)
- Q. I will show you a portion of what has previously been marked Applicant's Exhibit RS-11. Can you identify this document?
- A. Yes. It is a copy of the permit amendment application, which contains a copy of the drainage design report (Part III, Attachment 6).
- Q. Was Attachment 6 (the drainage report) prepared under your direct supervision?
- A. Yes.
- Q. Does Attachment 6 conform to the MSW rules and to both the 2004 and the 2006 RG-417 guidance documents?
- A. Yes.
- Q. What does this report show?
- A. That the expansion of the landfill will not result in a significant alteration of the natural drainage patterns.

BFI Exh. AM-1 at pp. 15-17. BFI met its burden of proof on this issue in all respects.

Notably, every expert witness who has reviewed this issue has similarly concluded that BFI has complied with the requirements of this regulation. In addition to Adam Mehevec and Ray Shull (BFI's experts), Matthew Udenenwu (the Executive Director's witness), Mike Kelly (the City of Austin's witness), and, significantly, Steve Stecher (TJFA's witness) all testified to the same conclusion. Tr. 69, 1897, 2197, 2278 & 2286; BFI Exh. AM-1 at p. 30; ED Exh. ED-

MU-1 at p. 11; *see* BFI Closing Argument at p. 28. The only people who contend there will be a significant alteration of natural drainage patterns are the lawyers for the protestants, NNC and TJFA.¹³

The Protestants' Divergent Drainage Arguments

TJFA and NNC have each made drainage arguments in their closing arguments, but have taken divergent tacks in their criticisms. TJFA is raising a purely legalistic procedural challenge based on RG-417 and the meaning of "natural drainage patterns." Its procedural challenge is nothing more than an attempt to "move the regulatory goal post" after its evidentiary challenges failed. NNC accepts RG-417 and the conventional definition and understanding of "natural drainage patterns," but is asserting that the 66 cubic foot per second (cfs) flow shown for the proposed drainage conditions at Outfall 5 on Exhibit AM-33 should be considered as the absolute limit for the estimated flow under the permit amendment proposed conditions. Its challenge is rooted in the misplaced apples-to-oranges comparison discussed in BFI's closing argument, and "supplemented" with a number of unfounded accusations and insinuations about BFI, its consultants, and their work.

BFI does concur with NNC on one point. Specifically, BFI concurs with the underlying premise of NNC's insistent position that the proper measuring stick by which to compare "natural drainage patterns" against "proposed drainage patterns" is the "existing permitted condition." *See* Tr. 152-53. Indeed, NNC's entire argument on this issue is premised on the fact that the estimated flow rates (Q's) shown at Outfalls 4 and 5 on Exhibit NNC-3, the existing permit

¹³ TJFA has replicated portions of NNC's factual challenge in its closing argument despite not raising the challenge during its direct case and despite the fact that its own expert testified that BFI has complied with the regulation.

condition for BFI's 2006 permit MOD, are less than the Q's shown on Exhibits AM-17 and 35¹⁴, the proposed permit conditions contained in BFI's application. While NNC is correct regarding the appropriate measuring stick to be used for comparison purposes, it is wrong on the facts.

TJFA's After-the-Fact Procedural Challenge

TJFA's new drainage challenge fits squarely in the “made up interpretation of the rules” category of the general observations noted above. It appears to be driven by the post-hearing realization that TJFA’s own drainage expert testified that BFI complied with the agency's drainage analysis rules, standards and procedures and the fact that no party presented any evidence challenging the correctness of the calculated peak flows (Q's), volumes or velocities depicted in BFI's existing condition summary (Exhibit AM-16 and/or AM-34) or in BFI's proposed condition summary (Exhibit AM-17 and/or AM-35).¹⁵ For the first time in this ten-month proceeding (and, indeed, ever since public comments on BFI's application were allowed), TJFA is asserting that the agency engaged in unauthorized rulemaking when it published RG-417. In short, since it has no way to mount a fact-based drainage challenge, TJFA has decided to try to move the regulatory goal post – after the whistle has already blown.

¹⁴ As discussed in BFI's closing argument, it submitted two versions of the existing and proposed drainage conditions in its application – one set using the TCEQ's methodology (Exhibits AM-16 & 17) and one set using the City of Austin's different methodology (Exhibits AM-34 & 35). Both submissions demonstrated that there would be no significant alteration in natural drainage patterns. Unless otherwise specified, all references to BFI's drainage submissions specifically refer to the TCEQ submission.

¹⁵ Both the TCEQ submission and the City of Austin submission show that natural drainage patterns will not be significantly altered even though the two sets of numbers are very different. Tr. 1037, 1044 & 1049. BFI reiterates that the two submissions which used different methodologies prove the same point. Yet the fact that they do so with different numbers highlights the point that the different Q's do not necessarily reflect different actual conditions. They are just different ways to calculate the same projected flows.

TJFA's argument ignores the agency's basic authority to issue and interpret regulations, issue guidance documents, or issue any clarification, information or suggestions for regulatory compliance. It also overlooks the fact that the agency could have continued to review drainage submissions on a case-by-case basis, without having taken the time to provide any written regulatory guidance contained in RG-417, and conducted the same analyses using the same interpretation of its own rules and reached the same conclusions. This is because the criteria the agency included in RG-417 merely summarized how the TCEQ already looked at this issue; the fact that the agency published a written guidance document did not strip it of the ability to conduct its analysis in the same way it had prior to 2004 (and still does today).

TJFA claims that because the word "natural" is not defined in the Chapter 330 rules, a definition it selected from Merriam-Webster's On-Line Dictionary should become a compliance requirement for all applicants. TJFA Closing Argument at p. 17. Notably, it has not contended that its interpretation of the word "natural" is the best or even most logical way to achieve the underlying purpose of the rule, or that there is anything wrong with the substantive approach the TCEQ has memorialized in RG-417. Instead, it poses the lie-behind-the-log procedural argument that the TCEQ could only produce RG-417 via rulemaking – in spite of the use of these types of regulatory guidance documents for decades by the TCEQ with no previous objection from TJFA, TDS, TDSL or anyone else about the use of RG-417. RG-417 reflects an interpretation by the TCEQ that is completely consistent rather than in "irreconcilable conflict" with the rule and provides a common-sense approach to evaluating whether the proposed expansion satisfies the rule and its purpose.

RG-417 Did Not Require A Rulemaking.

TJFA argues that the term "natural drainage patterns" is not defined in the MSW rules and then jumps to the assertion that the TCEQ, therefore, cannot either interpret, memorialize or

clarify what the term means without undertaking a formal rulemaking. This has never been the law. Agency work would grind to a halt if every undefined term in the agencies' regulations, or if every effort by agencies to set out their view on how to demonstrate compliance with regulatory requirements, could only be accomplished through a rulemaking.

RG-417 Is Entitled to Deference.

A long line of cases stand for the proposition that an agency's interpretation of its own rules must be given deference. *PUC v. Gulf States Utilities Co.*, 809 S.W.2d 201, 207 (Tex. 1991) (holding that the "Commission's interpretations of its own regulations [are] entitled to deference by the courts"); *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570, 575-76 (Tex.App.—Austin 2002, pet. denied) ("If there is vagueness, ambiguity, or room for policy determinations in the regulation, courts will defer to the agency's interpretation unless it is plainly erroneous or inconsistent with the language of the rule."); *H.G. Sledge, Inc. v. Prospective Inc. Trading Co., Ltd.*, 36 S.W.3d 597, 604 (Tex.App.—Austin 2002, pet. denied) ("Courts must defer to agency's interpretation of its own regulations unless interpretation is plainly erroneous or inconsistent with the language of the rule."). The consistent theme in all the cases is that courts are only entitled to overrule the agency where the interpretation is plainly erroneous or inconsistent with the language of the rule. As explained below, the TCEQ's guidance in RG-417 is not erroneous or inconsistent with the language of the rule. In fact, any other interpretation yields absurd results.

Use of the Dictionary Definition of "Natural."

TJFA contends that an applicant or a reviewing court must turn to the dictionary rather than the TCEQ to understand the meaning of §330.56(f)(A)(iv). It then cherry picks three definitions of the word "natural" out of the fifteen definitions in Merriam-Webster's On-Line Dictionary. The common theme behind the definitions TJFA selected is that they totally exclude

the influence of man: "being in accordance or determined with nature," "having or contributing a classification based on features existing in nature," and "existing in or produced by nature: not artificial." See TJFA Closing Argument at p. 17.

There are several related problems with TJFA's suggestion above and beyond the longstanding rule that the agency's interpretation of its rules, and not TJFA's, is afforded deference.

As a threshold matter, TJFA's inquiry is far too narrow. The issue, properly framed, is what does the entire rule mean taken in the context of its purpose? TJFA is attempting to limit the inquiry to the definition of one word – but does so without any apparent effort to connect the dictionary definitions it selects with the underlying purpose of the regulation. Simply saying that "natural" does not mean "existing permit condition" does not make clear what point in time TJFA contends should be the baseline for the drainage comparison in lieu of the agency's baseline.

If, as TJFA contends, the baseline must exclude the activities of man, how should the TCEQ consider the effect of, say, an open stone quarry upgradient of the proposed landfill expansion? To be consistent with TJFA's proposal, the agency would have to ignore the hydrologic detention and/or retention time of the quarry because it is a man-made feature that it is "not in accordance with nature" or is "artificial." This approach ignores reality for the sake of what? If we assume the quarry did not exist at all or that it is not going to be filled back to its "natural" condition (*i.e.*, before man removed the rock), then the allowable discharge downstream would be greater – perhaps far greater – than it would be if the agency's definition of "existing permitted conditions" is used. Under TJFA's proposal, the permit applicant could conduct its hydrologic analysis as if the beneficial detention/retention effect that the quarry

provides does not exist – and thus a much higher existing flow condition would be estimated than actually occurs. This would yield the exact opposite result from the result intended by the regulation. And it would put downstream property at greater risk instead of protecting it.

TJFA's suggested definition, if adhered to, would essentially require the TCEQ to treat the landfill as an isolated time capsule somehow separated from the realities of the hydrologically developed present-day world. It would mean that the TCEQ would have to require an applicant to design for a flow condition that does not exist and has never existed. This does not make sense and cannot be the correct interpretation. Indeed, it leads to absurd results that are contrary to the policy behind the rule. The TCEQ has never interpreted this regulation in the manner TJFA suggests. It has always interpreted this regulation to include the influences of man on off-site conditions and to always consider the existing permitted conditions of the landfill.

TJFA's proposal also raises the question of how far back in time does an applicant have to go to get to the point where TJFA's proposed condition of the land is not impacted by man and instead only impacted by Mother Nature? For example, is it the farmer's field that preceded the landfill, with its unique hydrologic factors such as terraces, ditches, turn rows and plowed land that is periodically fallow? Or is it the grazing land for the cattle that preceded the farmer? Should the stock tanks that the rancher constructed on the land be considered? What about the roadways and bridges that the original settlers constructed to get to the property? Or something even earlier? The point is that TJFA's proposal has no defined starting point for virtually any modern-world drainage analysis. It is also not functional.

BFI submits that TJFA is not concerned whether the definition it wants actually serves the purpose behind the regulation. Instead, TJFA's proposed definition is a transparent attempt to try to invoke a one-time, after-the-fact procedural “game changer” to defeat a competitors’ application because TJFA did not and cannot effectively challenge the actual facts.¹⁶ That attempt should not be indulged.

Ambiguity.

BFI submits that §330.56(f)(A)(iv) is not ambiguous, the agency's interpretation of the rule is reasonable, and, indeed, the agency's interpretation of the rule is the only one that makes any sense. If for any reason the regulation is deemed ambiguous, however, the end result is the same: the agency's interpretation of its own regulation is given deference. *Gulf States Utilities Co.*, 809 S.W.2d at 207; *BFI Waste Systems of North America, Inc.*, 93 S.W.3d at 575-76 ; *H.G. Sledge, Inc.*, 36 S.W.3d at 604. (Perhaps the best reason to think the regulation might be ambiguous have been provided by TJFA and NNC. The very fact that the two of them have completely different interpretations of the appropriate baseline for comparison highlights how the rule language is potentially susceptible to different interpretations and therefore potentially ambiguous.) BFI submits that any potential ambiguity raised by TJFA is inherently suspect in light of its prior silence on this issue and the motivations that are clearly behind its participation in this proceeding.)

¹⁶ BFI will address the factual challenge raised by both NNC and TJFA that the Q's shown on Exhibit NNC-3 do not match the Qs on Exhibit AM-16 and explain why that challenge is unfounded in the next section.

**Each of BFI's Previous Permits and Modifications Satisfied the Standard
That It Not Significantly Alter Natural Drainage Patterns.**

There is one last potential interpretation of the term "natural drainage patterns." It falls between TJFA's back-to-nature/pre-impact-of-man definition and the conventional existing-permitted-condition definition understood and used by everybody except TJFA. This interpretation would define "natural" as whatever condition existed at the time of the original application. For the reasons explained above, BFI submits this is not appropriate or functional. However, BFI presented evidence to satisfy this potentiality. Specifically, Mehevec testified in his pre-filed testimony that:

A. ... **The drainage analyses that were performed for the original permit and subsequent permit modifications were all reviewed by the TCEQ and determined to not significantly alter natural drainage patterns. Therefore, this [existing permitted] condition has become the natural drainage condition.** Also, the guidance documents on surface water drainage clearly states that this is the correct comparison to make in order to be in compliance with the MSW rules.

Q. Is that what you did in this application?

A: Yes.

BFI Exh. AM-1 at pp. 18-19.

In other words, if the definition of natural drainage patterns were considered to start at the time of the original application (with whatever man-made influences that then existed), then BFI has also satisfied its burden that there would be no significant alteration in natural drainage patterns. The first time the Texas Department of Health rules incorporated the "natural drainage pattern" requirement was November 1980.¹⁷ Therefore, BFI has always been subject to the rule and has had each application reviewed for compliance with the rule. Each application has been

¹⁷ See footnote 12, *supra*.

approved. Moreover, there is no evidence to the contrary that rebuts this testimony. Indeed, there is no evidence on this issue other than the evidence presented by BFI. If the protestants wanted to challenge Mehevec on this testimony, they had the opportunity on cross-examination or by presenting their own evidence. However, they offered no such challenge.

NNC's Challenges

NNC agrees with BFI that the existing permitted conditions are the regulatory baseline for drainage comparison purposes, but contends that BFI is proposing to significantly alter the existing permitted conditions. (TJFA briefly echoes NNC's argument in its own closing argument, but does not raise anything different.) The argument is without merit.

NNC's Apples-to-Oranges Comparison.

NNC contends that there has been a significant alteration in natural drainage patterns because the Q's depicted on the face of Exhibit AM-33¹⁸ are less than the Q's depicted on Exhibit AM-16.¹⁹ See NNC's Closing Argument at pp. 14-18. NNC's assertion is wrong for a simple reason: it is using (whether mistakenly or deliberately) the wrong calculated Q's to make the comparison. As Adam Mehevec clearly explained at the hearing and BFI discussed in its closing argument, Exhibit AM-16 – not Exhibit AM-33 – is the proper document to compare to Exhibit AM-17 for existing/proposed conditions purposes. Tr. 1025; see BFI's Closing Argument at pp. 29-31.

¹⁸ This was the modification which deleted eleven acres from the landfill footprint in the northeast corner and resulted in a reduction in the Q at Outfall 1.

¹⁹ Exhibit AM-16 reflects the existing permitted condition in BFI's application using the TCEQ's method. See APP000967.

In furtherance of this argument, NNC liberally quotes from its attorney's cross-examination of Ray Shull. The point of the cross-examination appears to have been to elicit support for NNC's counsel's position that the Q's shown on Exhibit AM-33 for Outfalls 4 and 5 of 26 cfs and 66 cfs, respectively, reflect the actual existing permitted conditions at the landfill. An accurate reading of Shull's answers, however, simply reflects that he politely agreed that NNC's attorney had read the numbers correctly. *See* Tr. 157-59. Shull never agreed that those Q's reflected the actual existing permitted conditions. *See id.*

BFI's Alleged Failure to Construct the Landfill According to Its Permit.

NNC also contends that BFI has not built what it proposed to build and insinuates that this failure is all part of some grand scheme involving "sleight of hand" and "chicanery." *See* NNC's Closing Argument at pp. 15-17. Indeed, BFI's alleged "chicanery" warranted bold-lettered highlighting in several places in NNC's closing argument. While it is not clear from NNC's closing argument exactly what it contends was not built as required – the landfill or the buffer zone – it is clear that NNC is very wrong on both accusations. (The precise nature of NNC's complaint is unclear due to the somewhat conflicting nature of NNC's claims. On page 15 of its closing argument, NNC states: "The problem is - the Applicant did not construct the drainage system as they represented they would." On page 17, it asserts: "What has been revealed is a violation of the MOD, or perhaps, more kindly, a failure to build out the MOD as permitted.")

To be clear, to date BFI has constructed its landfill in complete compliance with the terms of its existing permit. If it does not receive this permit amendment, it will finish the construction exactly as set out in its existing permit. None of the drainage systems called for in the existing permit have been built yet because they are, by definition, to be built as part of the final cover drainage system. BFI is at least one year away from beginning that process. If

NNC's accusations are directed at this alleged failure, they reflect a basic lack of understanding of the way landfill final cover drainage systems are constructed.

If the "drainage system" NNC says BFI "did not construct" is the area in the buffer zone in and around the northwest corner, then it also misunderstands the facts of this application. This area has never had anything built on it nor has anything ever been proposed to be built on it unless and until BFI's permit amendment is granted. If the amendment is granted, BFI proposes to build Drainage Ditch "I" to carry some of the flow from the northwest corner of the landfill toward the south following the natural topography. *See* APP000968 & 972. As of both the 2002 and 2006 MODs, there has never been a ditch or any structure of any kind proposed for this area. If BFI's application is denied, nothing will ever be built in this area. As a result, there are not any examples of anything BFI "did not construct as they represented they would" nor has any violation of a MOD been revealed.

The only problem that seems to have been revealed is that NNC apparently either does not understand the process or the facts upon which it is basing its accusations, or it is intentionally attempting to create confusion about what should or should not have been constructed. (BFI notes parenthetically that, perhaps NNC's counsel suspected that these accusations might be too strident because, after each of the above quotes, he caveats his words with the concessionary observation that "at least to date" BFI has not constructed what was permitted in the MOD. The fact that NNC is apparently not sure of its own accusations greatly diminishes their viability. This is especially true since the other prong of NNC's challenge is its insinuation that Mehevec was somehow manipulating the submissions.)

BFI thinks that NNC may be complaining that BFI was obligated to somehow force the runoff from the triangular portion of Drainage Area 5 in the northwest corner of the landfill²⁰ to drain to the east because BFI depicted it as going to the east in Exhibit NNC-3. As Mehevec explained in re-direct and BFI discussed in its closing argument, the drainage divide in the northwest corner in the receiving buffer zone area was shown by the on-the-ground survey (performed after the 2002 MOD had been submitted and approved) to be slightly further east than the previous aerial topography indicated. Tr. 1038-1041; *see* BFI's Closing Argument at pp. 32-33. As a result of the survey, Mehevec realized that some of this area has always flowed to the south. Tr. 1026; BFI's Closing Argument at p. 33. Once the actual facts were determined, Mehevec corrected the mistake in the drainage calculations in the application using the new and improved survey data. Tr. 1026. NNC's counsel, on the other hand, apparently wants these mistaken flow arrows to be an "existing permitted condition" so much so that he wanted Mehevec to agree that he could engineer the flow direction of the drainage to match the mistake rather than match the actual topography. Tr. 993-95 & 1082-83. Mehevec, properly, did not agree. Tr. 996-1083.

There are policy, regulatory and engineering reasons why Mehevec's refusal to force the water to go where it does not naturally go is far and away the better approach.

²⁰ This is the area of the landfill highlighted on Exhibit AM-33 during cross-examination of Mehevec on which the runoff is directed to the northwest corner where it free flows with the natural topography. Tr. 993. There has been much discussion related to this triangular area. The exact size of this triangle was never quantified at the hearing, but it was discussed with Shull and delineated on AM-33 by Mehevec at the request of NNC's counsel. Tr. 170 & 993. Using the scale bar included on NNC-3, the triangle has a base of approximately 850 feet and a height of approximately 250 feet. The area of the triangle computes to approximately 2.5 acres using the standard formula for the area of a triangle (half the base times the height). This is less than 10% of the landfill area shown to contribute to Outfall 5 on NNC-3. Under any analysis, the increase in predicted flow from this little area which is the subject of this argument does not constitute a significant increase in flow whether it goes to the east or the south.

From a policy standpoint, once a factual mistake of this nature (improved survey information suggesting a minor correction from earlier aerial topographic data) is discovered after the permit/MOD/amendment has been granted, the better policy is to correct the mistake in a subsequent permit/MOD/amendment rather than to try to "force" the mistake into reality. To not correct the mistake will simply enable the mistake to become the new baseline and causes it to be perpetuated.

From a regulatory standpoint, requiring that the on-the-ground conditions be altered to conform to the mistake would require construction in an area where the permit does not contemplate construction. In other words, to implement what NNC is apparently suggesting, BFI would have to construct a drainage ditch in a place where no ditch had been proposed. BFI had no regulatory authority to construct the ditch that NNC apparently contends should have been constructed.

Finally, from an engineering standpoint, correcting the mistake on the ground would require altering natural drainage patterns – the very thing that the regulations prohibit and which BFI is accused of doing. To repeat, this area has always actually drained to the south. It was mistakenly believed to drain to the east based on less exact aerial topographic data. By revising the calculations to match the improved on-the-ground survey data, the actual drainage patterns to the south are maintained just as they actually have always existed. If, instead, the drainage area boundary is treated as a permit condition and BFI can be forced to undertake additional construction to force-feed compliance with the mistake, then BFI would alter the natural drainage patterns – albeit not significantly.

Finally, it is worthwhile repeating that all of this policy, regulatory and engineering dialogue revolves around a very small amount of runoff from a very small area. It is hardly

worth all the debate from a factual or prospective risk-of-harm basis. Whichever way the runoff flows, it would not constitute a significant alteration in natural drainage patterns.

Drainage Patterns.

NNC's closing argument perpetuates one remaining apparent misconception that must be clarified. When the regulation refers to a "drainage pattern" it is not referring solely to the Q. The Q is merely an estimate of the flow resulting from the drainage conditions using a particular analytical methodology, and is one way of evaluating those drainage conditions so that they may be compared to other scenarios. The entire physical condition of the landfill creates the "drainage pattern" at the landfill, which itself is a component of the larger drainage pattern in the drainage basin. The physical condition is basically the landfill's geometry (footprint, height, slopes, etc.), but also includes the extent of the vegetative cover and any design features that impact the drainage. So when BFI asserts that the 2006 MOD constituted the existing permitted condition, it was referring to the accurate depiction of the landfill's physical condition – that is, its geometry, design features and vegetative cover – that is reflected in Exhibit AM-33, and was not referring to the Q's at Outfalls 4 and 5.

BFI and Mehevec knew those Q's were not updated in Exhibit AM-33. They were not hiding something. The revised Q's for all outfalls were submitted just two weeks later in the expansion application. Tr. 1039-40. The reason the Q's for Outfalls 4 and 5 (and every outfall except Outfall 1) were not changed on Exhibit AM-33 was because the 2006 MOD only affected drainage in the northeast corner of the facility (at Outfall 1). Tr. 1046-47. It is standard practice to submit drawings that only depict changes that will be caused by the particular modification that is being sought as confirmed by Mike Kelly (Tr. 2224-25) and implicitly confirmed by Matthew Udenenwu. Tr. 2224-25 & 2285-86. There was simply no benefit to be derived by re-evaluating and recalculating the Q's for Outfalls 2 through 6 in the 2006 MOD. Had such a

deemed-to-be-unnecessary evaluation been performed, it would have resulted in calculated flows at the outfalls that are exactly the same as the existing condition flows shown in the landfill expansion application. Tr. 1092.

BFI's Alleged Misrepresentations.

One of NNC's more interesting criticisms is that "BFI's engineers knew exactly what they were doing." NNC's Closing Argument at p. 14. This hardly seems like it should be a troublesome criticism. However, the insinuation is that Mehevec somehow conveniently had the flow go to the east for purposes of the 2002 MOD and then go to the south for purposes of the present application. This accusation ignores or discredits Mehevec's testimony where he strongly rejected the suggestion that he misrepresented anything:

Q. [by Mr. Blackburn] One might suggest that you were misrepresenting the flow in your modification.

MR. GOSSELINK: Objection; argumentative.

JUDGE NEWCHURCH: Response?

A. [by Mr. Mehevec] And I would strongly disagree with that.

JUDGE NEWCHURCH: Just a second. Do you have a response?

A. [by Mr. Mehevec] I disagree with that statement.

JUDGE NEWCHURCH: No, not you.

Tr. 996. It also ignores the fact that it would have been vastly simpler for Mehevec, if he had wanted to manipulate anything, to have never pursued the more detailed topographic survey and/or to have never noted that the flow actually was to the south. This is because the miniscule additional flow from the small acreage involved would have been truly insignificant within the greater than 1000 cfs flow at Outfall 1. Instead, what Mehevec did was seek out the most

accurate data he could find and then do exactly what a good engineer is supposed to do when confronted with a newly discovered condition: he designed drainage features to match the on-the-ground facts and accomplish the regulatory goal. Mehevec explained this at the hearing:

- A. That's right. It's correctly depicted on the existing in the application, and then we adjusted the top deck – the berms on the top deck of the landfill to reduce the area that's going to Outfall 5.

Tr. 1087. What this shows is that Mehevec had to deal with a previously unknown fact he had uncovered by going the extra step and checking out the topography more closely. Rather than this being some grand scheme designed to allegedly benefit BFI, it was really just an engineering problem that Mehevec had to solve. And he did.

Finally, as Mehevec explained at the hearing and BFI discussed in detail in its closing argument, this change in understanding of the actual on-the-ground direction of flow in the northwest corner was by far the smallest component of the three factors which together resulted in a change in the Q's (although not a change in the actual projected flows) from 66 to 175 cfs at Outfall 5. The other two factors were the mandated change in the methodology used (based on the change in the underlying TxDOT methodology) and the inclusion of the buffer zone areas that had been excluded from the prior calculations. *See* BFI's Closing Argument at pp. 27-36. The bottom line is that there will be no significant change in natural drainage patterns when the proper apples-to-apples comparison is made.

Conclusion

Each of the drainage arguments posed by the TJFA and NNC have been shown to be incorrect or not supported by regulatory requirements:

- The TCEQ's publication of RG-417 memorialized its interpretation of §330.56(f)(A)(iv) and its practices, and did not strip the agency of its ongoing (independent of whether RG-417 was ever written) authority to interpret its own regulations.
- The TCEQ's interpretation and clarification of this rule is the only interpretation that makes sense.
- TJFA's alternative interpretation of the term "natural" to mean without man-made alterations would lead to dysfunctional results.
- If the term "natural drainage pattern" is considered ambiguous, the case law is full of examples that make it clear that the TCEQ has the ability to clarify and interpret any such ambiguity.
- The difference in the values shown for the flow rates (Q's) at Outfalls 4 and 5 between the permit modifications and the expansion application have valid explanations. While NNC and TJFA don't like the explanations, all the experts agree that BFI has satisfied this regulatory requirement – including even the protestant's drainage expert, Steve Stecher.
- The existing permitted condition (the appropriate baseline for comparison with the proposed conditions) is not defined by just the value of the Q's. Rather, it is defined by the geometry, design features and vegetative cover of an area.
- There is no challenge to the correctness of the design flows for either the existing conditions (Exhibit AM-16 and/or Exhibit AM-34) or the proposed condition (Exhibit AM-17 and/or Exhibit AM-35). As Mehevec testified, these conditions had to be, and were, in continuous compliance with this requirement so that whatever amendment or modification was proposed would not significantly alter natural drainage patterns.
- The original permit and amendment/modification to that permit have all been approved by the TCEQ or its predecessors while the no-significant-alteration rule was in place. There is no evidence on the record or argument in the briefs to the contrary.
- BFI is in complete compliance with its existing permit. No final drainage system structures are due to be built for at least one year, so BFI could not be guilty of failing to construct those systems as alleged.
- BFI has never constructed or proposed to construct anything in the buffer zones in the northwest corner. Moreover, doing so in order to try to match the mistaken flow arrows would not be allowed under the permit NNC

contends BFI violated and would not make sense from a policy or engineering perspective either.

- Mehevec sought out the most accurate data and provided a professional engineering solution to enable BFI to comply with the rule. Had he been inclined to be the manipulative individual NNC insinuates, he would have done the exact opposite and allowed the incorrect assumption that this small area's runoff went east. He did not. Mehevec did it the right way, and directly and forthrightly disputed NNC's insinuations to the contrary.

BFI has met its burden of proof on the drainage issue. Natural drainage patterns will not be significantly altered. The TCEQ has conducted its review in complete accordance with its policy, regulatory, engineering and legal requirements, and agrees that BFI has complied with all regulatory requirements for this issue. All qualified professionals who testified in the hearing have agreed that the proposed drainage from this proposed landfill expansion would not result in a significant alteration of natural drainage patterns – including the only drainage expert offered by the protesting parties.

VII. EROSION AND SEDIMENTATION CONTROLS

Issue Y asks "[w]hether the erosion control methods identified in the application and draft permit are sufficient." Issue C asks "whether the application proposes adequate protection of groundwater and surface water, in compliance with agency rules, including 30 TAC §§330.55(b)(1), 330.56(f), 330.134 and 330.200-206." These two issues have been grouped together by TJFA in its closing argument, and will be discussed jointly in this reply because they logically are directed at the same practical question: has BFI shown that its proposed erosion and sedimentation controls will adequately protect the surface waters? The answer is yes because BFI has fully met its burden on these related issues by virtue of the combination of (1) the existing design features and practices, (2) the additional design features proposed in the

application, and (3) the obligations contained in the proposed special conditions derived from the City/BFI/Giles settlement agreement.

TJFA's Abandoned Criticisms

TJFA is the only party to challenge BFI on issues pertaining to erosion and sedimentation. Its experts, Stecher and Chandler, mounted multiple criticisms in their pre-filed testimony and at the hearing. Many of these criticisms have not been brought forward in TJFA's closing argument.²¹ In particular, none of Chandler's criticisms are included. The list of criticisms initially alleged by Chandler and Stecher that are not discussed in TJFA's closing argument includes:

- BFI did not calculate the amount of sediment that would erode during final cover conditions under the Revised Universal Soil Loss Equation (RUSLE);
- BFI cannot achieve 85% vegetative cover;
- BFI would never have to comply with significant parts of the City/BFI/Giles settlement agreement because they would manipulate their activity patterns to always be sure the landfill slopes and top deck were "disturbed areas";
- 2H:1V berms could not be constructed on 4H:1V side slopes;
- Runoff would overtop the sidewalls of the downchutes at the bends in the downchutes;
- The water quality/detention/sedimentation pond was wrongly sized, did not have various features, and would not remove sediment effectively;
- The water quality/detention/sedimentation pond would not have enough water during dry periods to function and that it would be a source of nuisance odors²²; and

²¹ Apparently, even TJFA realizes that lots of what Chandler and Stecher threw at the wall was not worth pursuing further.

²² None of the seventeen alleged deficiencies noted by Stecher regarding the water quality/detention/sedimentation pond on pages 12-15 of his pre-filed testimony are included in TJFA's closing argument.

- There were no temporary berms or downchutes or that the berms or downchutes were inadequate.

It is understandable that all of these initial criticisms have been abandoned because BFI showed that they were both unsubstantiated and incorrect. There is a reasonable basis to presume that the remainder of the criticisms were prepared with the same inadequate degree of diligence since more than half of TJFA's challenges were so wrongly asserted that even TJFA is not further urging them.

TJFA's Remaining Criticisms

TJFA's remaining criticisms focus on three design features: (1) sedimentation ponds; (2) downchutes; and (3) drainage areas and ditches. These are addressed in order below.

Sedimentation Ponds.

Stecher offered a variety of criticisms about the size, design and inadequate cleanout practices of the sedimentation ponds at Outfalls 4 and 5 and the sedimentation traps at Outfalls 2 and 3. As BFI has already extensively responded to the bulk of Stecher's sedimentation pond concerns, this reply will be limited to the versions presented in TJFA's closing argument.²³

TJFA's and Stecher's complaint that the sedimentation ponds are undersized has neither regulatory nor factual support. On the regulatory side, it is worth repeating that there is no TCEQ requirement that any sedimentation pond be constructed. Tr. 2282. Many erosion and sedimentation control practices other than sedimentation ponds can be employed. If such a pond is used, the TCEQ has no criterion that prescribes the minimum size for a sedimentation pond. The City of Austin does have a requirement when sedimentation ponds are used: they must be

²³ See pages 43-35 of BFI's closing argument for a more complete rebuttal discussion of Stecher's sedimentation pond challenges.

designed to capture the first half inch of runoff. Tr. 964. The ponds by Outfalls 4 and 5 were designed to this standard, and the application requires that the ponds (or traps) by Outfalls 2 and 3 also be maintained to the same standard. Tr. 1052.

The City reviewed BFI's application for the sedimentation ponds at Outfalls 4 and 5 and issued a City permit. Tr. 2203-04. While TJFA attempts to discredit the City's approval by noting that Kelly did not personally cross-check these calculations, Tr. 2203-04, it did not provide any evidence that the calculations were incorrect. Kelly's response to TJFA's supposed criticism was simple and straightforward: he did not personally cross-check these calculations was because BFI's application was reviewed and approved by other City personnel. Tr. 2200. Kelly appropriately relied upon the fact the City's review team formally approved the application, which was sealed by BFI's engineers. Tr. 2204.

TJFA next tries to imply that the half-inch criteria is not applicable to landfills by mischaracterizing Kelly's testimony: "[Kelly] acknowledged that the rule does not specifically apply to landfills." TJFA Closing Argument at p. 28. But TJFA only quoted half of what Kelly said. The rest of Kelly's answer makes it clear that the rule does, in fact, apply to landfills. His full statement was:

- Q. And does that rule [referring to City of Austin Environmental Criteria Manual] specifically apply to landfills?
- A. No it does not **specifically** apply to landfills. It applies to the construction phrase of **any** land development project.

Tr. 2204 (emphasis added). The rule simply does not single out landfills because Austin, like most cities, does not have a drainage code just for landfills. A landfill, as Kelly indicates, falls within the scope of the rule.

More to the point is the fact that neither Chandler nor Stecher could identify a single instance where sediment has flowed off-site or where there has been any sediment in the outfalls. *See* Tr. 1843 & 1964-66. Nor could Stecher find any water quality problem caused by the landfill in the receiving streams, even after performing a stream study to see if he could find just such evidence. Tr. 1843-44.

Perhaps even more persuasive is the fact that, after investigating four separate complaints by Joyce Best, both the City and the TCEQ concluded that the landfill erosion controls – including these sedimentation ponds – had functioned effectively and no violation had occurred. Tr. 1959-66; *see* BFI-29. The finding on page 3 of BFI-29 is especially pertinent as it relates to these specific sedimentation ponds and the separate allegations regarding Williams, Ltd.'s downstream properties:

BFI Outfalls 004 and 005 discharge offsite and to the west. During this investigation it was noted that both outfalls had been modified to improve storm water prior to discharge. Both outfalls consist of a series of settling areas and filters prior to discharge. Previous treatment consisted of a larger holding area with rock and filter fabric prior to discharge. **No evidence was apparent during this investigation that sediment or waste had discharged from any outfall.** Vegetation on the other side of the outfalls did not appear covered or choked with silt or waste. **No evidence of silt sediment, trails of deposition soil or debris were noted.** Vegetation was noted to be dense and vigorous for the season at and below the outfalls. **No ravines or arroyos were noted below the outfalls.**

No violations were alleged and the complained investigation was terminated.

Exh. BFI-29 at p. 3 (emphasis added). The storm referenced in this investigation was reported as intense, with an estimated rainfall rate of 20.57 inches per hour, and there still was no evidence of sediment or of ravines or arroyos due to erosion. *See id.* This favorable situation can only get better once the provisions of the City/BFI/Giles settlement agreement are implemented.

TJFA makes a one-sentence comment that BFI does not plan to increase the size of the sedimentation ponds despite the fact that the landfill will increase in height. TJFA's Closing Argument at p. 26. While neither Stecher nor Chandler tied any criticism of the size of the sedimentation basins to the height increase, the comment deserves rejoinder. The reason that a larger pond is not required is simple: there will be no additional rain falling on the landfill just because it is taller, so the volume of rainfall will not increase. An increase in height of a landfill merely increases the amount of side slope area in the contributing watershed as opposed to the top cap area. The amount of rain that will fall in the basins watershed area is exactly the same. The use of the side slope capture and diversion berms will allow the stormwater velocity to remain below the levels that would result in a significant increase in the amount of silt in the stormwater.

The last point to offer on this issue – and, indeed, all of Stecher's and Chandler's criticisms about the alleged inadequacy of the erosion and sedimentation control features presently at and proposed for the landfill – is that neither witness ever took the time or initiative to conduct a site visit. *E.g.*, Tr. 1439 (Chandler) & 1841-42 (Stecher). They have no personal knowledge of any of the features and practices they criticized.

Downchutes.

TJFA's closing argument continues to pursue two of Stecher's criticisms regarding final cover downchutes. The first criticism is stated as follows on page 31 of TJFA's closing argument: "Mr. Stecher testified that the proposed downchutes have inadequate freeboard ... ". That is not exactly what Stecher said. What Stecher actually testified was: " ... and some of them [downchutes] don't even have full freeboard ... ". Tr. 1925 (emphasis added). As indicated in this quote, Stecher's criticism is limited to only "some" of the downchutes, and he never says which ones. Also, implicit in the quote is the fact that some downchutes have full

freeboard and all have some freeboard. In any event, TJFA's poor paraphrasing of Stecher's aside, the concept invoked reflects that Stecher misunderstands the applicable design criteria and the actual analysis undertaken by BFI.

Stecher's stated substantive concern is that "the downchutes should have been designed for the 100 year storm." TJFA Closing Argument at p. 31. This is yet another example of TJFA's and its experts' use of made-up rules or made-up interpretations of rules. The TCEQ rules require that drainage features must be capable of conveying the 25-year, 24-hour peak flow. *See* 30 TAC §330.55(b)(3). The rules do not require that drainage features convey the 100-year storm, irrespective of Stecher's opinion of what the rules *should* require. Further, the rules applicable to this application do not require freeboard on any drainage features except flood control levees. §330.55(b)(7)(B). Accordingly, since all of the downchutes have some freeboard, all are designed in excess of the TCEQ's rules.

More importantly, BFI actually analyzed for what is known as a "full flow analysis" to show how much water the downchutes could actually carry. *See* APP001026-30. The full flow analysis demonstrates that the capacity of the "A" style downchutes is 735.96 cfs (*see* APP001028) and the capacity of the "B" style downchutes is 1,198.14 cfs (*see* APP001030) – each of which are considerably greater than the actual 100-year flows for these styles of downchutes.²⁴ Therefore, it is clear that each of the downchutes can carry the 100-year event and they each have more than adequate freeboard.

²⁴ The actual calculated 100-year flow at the landfill for the worst-case A style downchute is 386.2 cfs and 512.0 cfs for the worst-case B style downchutes. *See* APP000968.

The other downchute issue still argued by TJFA is Stecher's contention that the rocks used as rip rap in the downchutes are too small. Once again, TJFA's closing argument overstates Stecher's actual criticism. Stecher merely noted that there was a "potential" that the rip rap was undersized:

Q. Okay. When I asked you on page 94, line 13, if you concluded that the rocks would be dislodged, you said, 'No,' there was a potential, but you could not confirm that. Do you remember that statement?

A. Yes, I do.

Tr. 1881. Stecher's criticism came down to a disagreement with Mehevec regarding the appropriate roughness (Mannings "n") coefficient that should be used in the applicable formula. *See* Tr. 1883-84. Mehevec used the value of .07 in his calculations, while Stecher said he would have selected a value of .05. *Id.* Both values, however, fall within an acceptable range of values for this type of watercourse. Tr. 1884. There is no *per se* right answer, and Stecher agreed that reasonable engineers could employ their judgment to reach different conclusions about what was an acceptable Mannings "n" coefficient when viewing the same on-the-ground feature. Tr. 1884-85.

Ditch K and Drainage Areas 1 and 3.

TJFA's criticisms of these two drainage features are interrelated inasmuch as Drainage Area 1 drains into Ditch K on the way to Outfall 1 and Drainage Area 3 also drains to Outfall 1. *See* APP000968. The first complaint raised about Drainage Areas 1 and 3 is that they don't drain into a sedimentation pond prior to being discharged. To repeat, there is no requirement that a drainage area drain into a sedimentation pond. Tr. 2282. Sedimentation can be controlled by using other design features, as is the case here. These features include establishing vegetation on the landfill areas to reduce erodible areas, use of temporary diversion and permanent berms to

reduce stormwater velocities, silt removal by vegetation in the channel, and silt fences at the toe of the landfill side slopes. Tr. 1869-70.

The second, related complaint is that Ditch K, the channel into which Drainage Area 1 flows, does not have enough erosion controls in Stecher's opinion – an opinion not shared by any other expert. Despite its name, Ditch K is not just a ditch. The channel was constructed up to over 100 feet wide to help keep velocities low during the first half-inch of runoff. *See* APP000974. Further, there are multiple sediment traps and rock berms across the channel to remove sediment. Exh. BFI-7 at p. 13. Ditch K was fully authorized by the TCEQ in the 2002 MOD, by Travis County, and by the City in the related channel project permit. Tr. 1942; *see* BFI Exh. AM-33. Moreover, it is actually constructed and presently operating as an erosion control feature. Tr. 2282. And it is doing the job it is designed to do, notwithstanding Stecher's opinion. *See* Exh. BFI-29 (the TCEQ investigation responding to Joyce Best's complaints). Indeed, Stecher's own testimony that he cannot identify any instance where sedimentation has gone off site undermines his opinion. *See* Tr. 971-72.

That Ditch K adequately provides sedimentation control should not be hard to understand given the multiple design features included in the system. These features were acknowledged by Stecher during his cross-examination. The list of features includes:

- a grass channel with lots of vegetation in it;
- five rock berms;
- three constructed wetland pools;
- silt fences around the pond at Outfall 1;
- various settlement agreement provisions specifically applicable to this drainage area, including:

- buffalo grass sod at the top of the related downchutes; and
- mulch berms and silt fences at the top and bottom of those downchutes.

Tr. 1869-71. In addition, the County requested that BFI construct a small sediment trap on the northwest end of Ditch K during its permitting of this channel. Stecher acknowledges the trap's existence but claims that "no place in the application did it say that there was a sediment trap".

Tr. 1869. This is not exactly contending that it doesn't trap sediment. Rather, it is typical of many of the kitchen-sink criticisms Stecher leveled rather than presenting any substantive objections.

The Executive Director's expert, Matthew Udenenwu, testified that he considered Stecher's criticisms but disagrees with Stecher. Tr. 2281. Instead, he concurs with BFI that the erosion control features of Ditch K are effective. *Id.* Also, the City's expert, Mike Kelly, understandably had no criticism of Ditch K since the City authorized it. Tr. 2200. In its closing argument, TJFA offers an interpretation of Kelly's opinion on this issue that misrepresents Kelly's and the City of Austin's position. It claims that Kelly testified that the City/BFI/Giles settlement agreement "mitigated" some of his concerns. TJFA Closing Argument at p. 30. In fact, Kelly testified that it "satisfied" his concerns.²⁵ COA Exh. 8 at p. 6. Finally, Chuck Lesniak, the other City of Austin witness to discuss erosion and the lead witness for the City on this issue, unequivocally concluded:

²⁵ The other half of TJFA's attempt to have Kelly's testimony appear to support its position fails also. Saying that Kelly could not testify that Drainage Areas 1 and 3 drain to sedimentation ponds adds nothing. This is because, as discussed earlier, they are not designed to drain to sedimentation ponds because the erosion control features in Ditch K are effective.

- A. Yes, these conditions [the special conditions called for in the settlement agreement] do address my concerns regarding erosion and sedimentation control, particularly those regarding erosion.

Tr. 2157.

Stormwater Sampling.

TJFA's final criticism in this area is leveled at BFI's stormwater sampling. TJFA Closing Argument at p. 31. It complains that BFI has not taken many samples – but never alleges that BFI missed a required sample. Stecher himself lamented that "[i]t's just really hard to get out there and sample." Tr. 1896. TJFA further suggests that the fact that there was one exceedence of the TSS benchmark at one outfall one time constitutes some problem. Exceeding a benchmark in the Stormwater Pollution Prevention Plan (SWPPP) does not mean that BFI has violated any permit limit. Tr. 1054. If the benchmark is consistently exceeded, the landfill needs to reconsider and revise relevant aspects of its SWPPP (which could include raising the benchmark). *Id.* In BFI's case there have been no other exceedences. TJFA's assertion that this one-time, one-outfall, one-parameter exceedence indicates a problem reflects just how tenuous its criticisms are.

Conclusion

All parties except TJFA, and those parties' experts, agree that the City/BFI/Giles settlement agreement has resolved all of their concerns regarding BFI's erosion and sedimentation control plans. Even TJFA's experts have agreed that the agreement resolved most of their criticisms of the application. The limited criticisms TJFA has continued to pursue on this issue are completely without merit. The sedimentation ponds are properly sized and have been effective. Indeed, TJFA could muster no examples of instances where off-site sedimentation has occurred. To the contrary, repeated complaints by protestants were

investigated by both the TCEQ and the City of Austin but never resulted in any findings by either entity of any problems despite at least one very intense and fully-investigated storm event.

The site is in compliance with its TPDES permit, which was written, issued and enforced by the TCEQ to protect surface waters. The downchutes are properly sized to more than handle the 100-year storm, much less the regulatorily-required 25-year storm. The rock rip rap is correctly sized. Ditch K currently provides effective sediment removal exactly as planned and will continue to do so. In short, there are no sedimentation control problems now and, with the implementation of the additional provisions in BFI's application and the special provisions based on the City/BFI/Giles settlement agreement, there will not be an erosion or sedimentation control issue at Sunset Farms. Thus, the application's erosion and sedimentation controls are sufficient, and the application is protective of surface water.

VIII. LAND USE/LAND USE COMPATIBILITY

NNC, TJFA and OPIC have each claimed that the proposed expansion is not compatible with surrounding land uses in their closing arguments. Their arguments overlap, and will be addressed together.

No Criticisms Regarding the Accuracy or Sufficiency of the Application

No protestant has raised any challenge to the accuracy or completeness of the land use information that was contained in the application. Nobody disputes that the application satisfies the requirements of TCEQ's land use rules. Nobody has cited any instance where the testimony (whether pre-filed or live testimony) given by John Worrall, Charles Heimsath or Donna Carter was factually inaccurate, or that any exhibit that these witnesses sponsored was inaccurate, incomplete or invalid. The growth trends studies conducted by Worrall and Heimsath have never been challenged. Those studies showed that growth in the areas located within one and

five miles of the facility, respectively, has been vigorous for the past 20 years even though landfill operations have been occurring along Giles Road for fifty years or more – demonstrating that the facilities are, in any objective sense, compatible with the land uses in that area of the county. BFI Exh. JW-1 at pp. 19-24; BFI Exh. CH-1 at pp. 8-46; *see* BFI Exhs. JW-3, JW-4 and CH-3 through CH-6. Neither NNC nor TJFA presented any expert testimony regarding land use or land use compatibility in the hearing.

Governmental Reviews/Approvals/Non-Opposition

The evidentiary record shows that no governmental body opposes issuance of the permit amendment. The Executive Director reviewed the application – including the land use report – and concluded that it satisfied the agency's land use regulations. ED Exh. ED-AA-1 at pp. 36-37. The Capitol Area Council of Governments (CAPCOG) reviewed BFI's application in the context of the COG's regional solid waste plan, corresponded with BFI, and issued its "conditional conformance" letter when BFI promised to cease accepting waste at the site on or before November 1, 2015 and agreed to five other conditions. BFI Exh. RS-1 at pp. 21 & 36-37; BFI Exhs. RS-31, RS-32 & RS-33. In so doing, CAPCOG has deemed that BFI's application – and thus the draft permit with the special provisions that have since been included – conforms with the regional plan. Travis County does not oppose issuance of the permit as long as the special conditions that BFI has requested are included in the permit. TC Exh. 1 at p. 10. And the City of Austin, which entered into a settlement agreement with BFI and Giles, does not oppose issuance of the permit. *See* Tr. 2046-47 & 2073; *see also* BFI Exh. RS-42. The City/BFI/Giles settlement agreement includes the November 1, 2015 cessation-of-waste-acceptance date, an agreement not to use the site as a transfer station, enhanced erosion controls, limits on truck traffic on Blue Goose Road, and other measures. *See id.*

CAPCOG's conditional conformance letter and the County and City's non-opposition are all predicated on the unique – indeed, previously unheard of – commitment BFI has made to cease accepting waste by November 1, 2015. In so doing, BFI has effectively committed itself to closing the landfill after only four (and perhaps less) additional years of operation, and has committed to closing the landfill three years earlier than the 2016 closure date it had estimated as part of its 1994 Subtitle D MOD. BFI Exh. BD-1 at p. 34; *see* Tr. 2069, 2101 & 2133-34.

Historical and Geographical Context of Surrounding Land and Land Uses

The protestants' land use arguments must be analyzed in the context of what is actually around the landfill and the historical uses of those lands.

Sunset Farms was first permitted in 1981 and became operational in 1982. APP000025; BFI Exh. JW-1 at p. 21. The area along Giles Lane where Sunset Farms is located has been used for landfilling operations for 50 years or more. Tr. 2132. The Austin Community Landfill (ACL), which is located immediately south of Sunset Farms, has been open since the early 1970s. BFI Exh. JW-1 at pp. 11, 17-18 & 33; Tr. 2100. The old Travis County Landfill, which is now closed, predated both Sunset Farms and ACL by 20 years or more. BFI Exh. JW-1 at p. 18; Tr. 2132. The existence of these three landfills has been no "secret" to developers or potential homebuyers, and, by any account, there was "general knowledge that [the Sunset Farms landfill] was there." Tr. 2103.

The tracts of land adjacent to Sunset Farms are all large, and no tract is used for residential purposes. ACL borders the entirety of Sunset Farms' southern boundary. BFI Exh. JW-1 at p. 11. An industrial facility (Applied Materials) is located immediately to the east across Giles Lane. *Id.* The property to the west is primarily open, though part of it has been leased by Williams, Ltd. for communications towers. *Id.*; *see* Tr. 1186 & 2025 and APP000156. The

properties to the north are agricultural. Tr. 1978 & 1984-85; *see* APP000156. The closest residential area is the Harris Branch subdivision, which is located to the northeast of Sunset Farms. *See* APP000156. The closest residence in Harris Branch is located 1045 feet (almost one-quarter mile) from the Sunset Farms permit boundary, and, because of the 50-plus acre effective buffer area in the northeast corner of the facility, is located 1830 feet (over one-third of a mile) from the landfill itself. BFI Exh. JW-1 at p. 24. (With the vertical expansion, landfilling operations will be even further from this residence. *See id.*) Many of the houses in Harris Branch are over one-half mile away from the landfill. *See* APP000154 & 56.

Almost ninety percent (89%) of the residential properties within one mile of the landfill were built after Sunset Farms was permitted. BFI Exh. JW-1 at pp. 18, 21 & 33. The Harris Branch subdivision was platted and first developed in the late 1980s – several years after Sunset Farms was permitted. Tr. 2126-27. Notably, the landfill operated without complaint for its first 20 years – proving that landfills in the area can reasonably co-exist with the surrounding properties and land uses, including single-family residences.²⁶ Tr. 2147-48.

Because no protestant could point to or has pointed to any regulatory flaw in the land use analysis portion of BFI's application (such as a zoning ordinance that prohibits the proposed expansion, a negative effect on growth trends, or the existence of drinking water wells that could be affected by the facility), the protestants have resorted to a fuzzy NIMBY-type argument: the landfill is incompatible with surrounding land uses just because it is. Putting aside the fact that communities generate solid waste that has to be placed *somewhere*, that argument has to be placed in context of the historical and geographic land uses in the area discussed above and in BFI's testimony. It is no different than homebuyers who purchase property in a new subdivision

²⁶ The evidentiary record shows that Sunset Farms has received only one violation in its 26-plus years of existence. Tr. 2147-49.

located in an area that was historically used for agricultural purposes, and then complain that the nearby farms should be shut down or limited because they don't like the use of spray fertilizers or the mooing of the cows. Because the farmers were there *first* and are using their land in a lawful manner, the homeowners' complaints about the farming operations – however heartfelt – must be viewed in that context. So must the farmers' complaints about any legally-platted subdivision. Land use compatibility, in other words, is a two-way street.

Greg Guernsey's Testimony

NNC, TJFA and OPIC each cite portions of Greg Guernsey's testimony in their closing arguments. Guernsey is the City's Director of Neighborhood Planning and Zoning Development Department. Tr. 2048. He did not testify about the compliance of BFI's application with the TCEQ's land use compatibility criteria, and testified that he would defer to the agency and its consideration of the land use compatibility considerations "with regard to [its] permitting powers [sic] procedures and state laws." Tr. 2097.

Among other things, Guernsey testified that he did not identify any factual errors in the application or in the testimony of BFI's expert witnesses. Tr. 2055. He also agreed that the landfill proper is outside the City's jurisdiction and not subject to any zoning ordinance that would prohibit the proposed expansion. Tr. 2098-99. He testified that the City's Smart Growth Initiative, with its embedded designation of the Desired Development Zone (DDZ), is "more of a guide" than a plan and is not enforceable in the way that a zoning ordinance is. Tr. 2055. He did not testify that development of new landfills or expansions of existing MSW facilities are excluded from the DDZ.

At the hearing, Guernsey stated his personal opinion that operating landfills are not generally compatible with single-family residential. *See* Tr. 2088. NNC, TJFA and OPIC each highlight this general proposition in their closing arguments, but ignore the totality of Guernsey's testimony in their eagerness to argue that the proposed expansion of Sunset Farms is incompatible with its surrounding land uses. Guernsey's testimony, taken in its entirety, does not support their conclusion – for any number of reasons. First, Guernsey by his own admission did not look at the application in terms of the TCEQ regulations or regulatory compliance. Tr. 2097. Second, his observation was a general observation and was not specific to Sunset Farms. Indeed, throughout his testimony he only offered a "general" opinion regarding compatibility. *E.g.*, Tr. 2070, 2072, 2085, 2086, 2088, 2096 & 2125. He did not conduct a specific analysis and offered no specific opinion here. Indeed, there was nothing at all analytical about Guernsey's opinion. Nothing he said was based on any particular regulation, study, analysis or treatise, and he did not base his general opinion on any objective land use criterion such a zoning ordinance or anything quantifiable such as housing starts or growth trends. Third, his general opinion was given solely in the context of "single-family residences." *See* Tr. 2088 & 2125. He offered no such opinion regarding compatibility with other MSW facilities (ACL), industrial sites (Applied Materials) open space (Williams, Ltd.'s property), communications towers (again, Williams, Ltd.'s property), agricultural land (the Remmert and TJFA properties) or any other uses. Fourth, his observations were repeatedly couched in terms of single-family residences that are "next door" or "adjacent to" a generic operating landfill. *E.g.*, Tr. 2089 & 2092. As discussed above, Sunset Farms is not "next door" or "adjacent to" any single-family residence – including any Harris Branch residence. Guernsey specifically testified that any single-family residential compatibility concerns he has lessen when, as here, such residences are further away from a facility. Tr. 2121-

22. And, finally, Guernsey testified that the City/BFI/Giles settlement agreement had been executed by the City Manager by authorization of the city council "sufficiently mitigated" any land use compatibility concerns he might have had:

Q. ... It's your testimony that the city council has supported this [settlement] agreement. Right?

A. The agreement has been signed by the City Manager by authorization of the city council.

Q. All right. And that's because the landfill, the operators agreed to cease accepting waste before November 1, 2015. Right?

A. Among other things, yes.

Q. Okay. And has agreed not to use the property as a transfer station going forward. Correct?

A. Yes.

Q. And that there's a number of additions to the operations of the facility, including matters pertaining to seeding and sodding and erosion control. Is that correct?

A. Yes.

Q. **Okay. So all those thing taken together add up to your – those things taken together sufficiently mitigate your concerns that the landfill may be incompatible with land uses. Is that correct?**

A. **Yes.**

Tr. 2122-23 (emphasis added).

IX. NUISANCE

NNC put forth several arguments under the caption or label "nuisance" in its closing argument, but those arguments generally miss the mark because they fall outside the regulatory definition of nuisance. "Nuisance" has a specific definition in the Chapter 330 rules:

(86) Nuisance—Municipal solid waste that is stored, processed, or disposed of in a manner that causes the pollution of the surrounding land, the contamination of groundwater or surface water, the breeding of insects or rodents, or the creation of odors adverse to human health, safety, or welfare.

30 TAC §330.2(86) (pre-March 2006 rules). The rules define "pollution," in turn, as follows:

(102) Pollution—The man-made or man-induced alteration of the chemical, physical, biological, or radiological **integrity of an aquatic ecosystem**.

Id. at §330.2(102) (emphasis added).

Much of what NNC labels as potential nuisance conditions thus do not fall within scope of the regulatory definition of nuisance. Those issues – including windblown trash, dust, buzzards, truck traffic and noise – are discussed in the "Past History/Operational Issues" section below. Odors that are adverse to human health, safety or welfare are within the definition. BFI discussed odors, odor control and landfill gas management at length in its closing argument, and those issues are also discussed below. Notably, however, aside from the single 2002-era violation that BFI included with its pre-filed testimony, no witness offered any testimony that would suggest that any alleged odor complaint rose to the level of a nuisance – and the TCEQ concluded otherwise when it investigated those complaints. Other issues that NNC labels as potential nuisance conditions such as flooding, erosion and surface water protection that also fall within the regulatory definition are addressed in BFI's closing argument and elsewhere in this brief – including the groundwater, groundwater monitoring, slope stability, drainage, erosion and sedimentation discussions.

X. PAST HISTORY/OPERATIONAL ISSUES

The Three "Past History" Fallacies

NNC's discussion of potential nuisance conditions is based on three "past history" fallacies: (1) BFI's past history at the site is bad; (2) a few cherry-picked photos are representative of the site's operational performance; and (3) past performance is an absolute predictor of future performance.

BFI's past history at the site is not bad. In fact, it has quite a good history. Both the site's compliance history and BFI's compliance history, as the operator of several landfills, fall within the upper end of the "adequate" category of TCEQ's compliance rating scores. BFI Exh. RS-1 at pp. 103-05 & RS-41. The evidentiary record shows that BFI has only been cited for regulatory violations once in its 26-plus year history. Tr. 2147-49. And, as discussed in BFI's closing argument, the TCEQ's Strike Force team found no violations during a period of intense scrutiny.

NNC relies heavily on selected photographs that were taken by Joyce Best, Delmer Rogers and Evelyn Remmert, claiming more than once that "a picture is worth a thousand words." *E.g.*, NNC Closing Argument at pp. 15-26. These photos do not truly, fully or fairly depict what NNC says they do, however. Joyce Best's photos of stormwater runoff, for example, do show water running off the site after several heavy rain events. *E.g.*, NNC Exh. BEST-6. But the evidentiary record shows that both the TCEQ and the City of Austin investigated the photos and each of the rain events depicted in the photos and concluded that BFI had not violated any permit condition or city stormwater ordinance. Tr. 1959-66; *see* Exh. BFI-29. Evelyn Remmert's pictures of trucks at the site – photos that are apparently intended to suggest that there is an off-site dust problem but instead simply show short, low trail of dust behind trucks that are well inside the permit boundaries. *E.g.*, NNC Exh. ER-5. No photo showed any dust off-site. Similarly, NNC offered several photos showing windblown trash at the site – primarily showing

trash that had collected inside the facility on its facility's litter fencing or netting (showing that these devices work as intended). *E.g.*, NNC Exh. BEST-8. But no testimony was provided regarding the wind or weather conditions at the time these photos were taken. *See* Tr. 1967-68. No witness said how long the windblown trash had been there at the time the photos were taken, or how long it took for BFI to remove it (several of the photos actually show litter pick-up crews). No attempt was made to document the same scene over time to show that the event depicted was a persistent problem and not an isolated incident arising from intense winds. *See* Tr. 1969. And when asked the witnesses agreed that the BFI litter patrol crews are "right on it" picking up any trash that escapes the landfill. *E.g.*, Tr. 1671.

The third fallacy is the past-performance-will-show-future-performance fallacy. Odors and odor management highlight this fallacy. BFI has openly and honestly agreed that Sunset Farms had contributed to some of the odor problems that existing in the vicinity of the landfills in late 2001 and 2002. But BFI took immediate and aggressive action to address and resolve those issues. *See* BFI Exh. MS-5. It built out a 180-well gas collection system that covers the entirety of the landfill. Tr. 871; *see* BFI Exh. MS-6. It eliminated the liquid waste stabilization basin, and no longer accepts liquid wastes that don't pass the paint filter test. BFI Exh. BD-1 at p. 13. It stopped recirculating leachate and condensate, which is now disposed off-site at a POTW. *Id.* It installed and uses a mister system. BFI Exh. RS-1 at pp. 56-57. It developed and implemented an Odor Management Plan, and, as part of that plan, it now conducts a daily odor inspections at the site. It agreed not to use alternate daily cover. BFI Exh. SL-1 at pp. 33-34. And it has incorporated various practices involving waste acceptance, placement and compaction that all serve to control potential odors. *Id.* at p. 37. In short, the conditions that gave rise to the odor complaints in 2001-02 do not exist and will not exist under the permit amendment, and any

claim that the 2001-02 conditions necessarily reflect what will occur in the future are simply incorrect.

NNC's arguments based on past history are also procedurally flawed. The purpose of this proceeding is to judge what's in the application: does the application include sufficient ownership, design and operational provisions to meet the requirements of the rules? In other words, this proceeding is fundamentally forward looking. The TCEQ has a way for the ALJ to take past operations into account: compliance history. As discussed above, the compliance history of both the facility and its operator are satisfactory, and no party has presented any evidence or argument to the contrary.

Operational Issues

In its closing argument NNC raises several non-nuisance operational issues pertaining to windblown trash, dust, buzzards, truck traffic and noise. Each of these issues were addressed at length in the application, in BFI's pre-filed testimony, in BFI's closing argument, and, in some instances, elsewhere in this brief.

The Site Operating Plan (SOP) includes detailed provisions regarding control of windblown trash – including the placement and use of temporary and permanent litter fencing and netting, waste placement and compacting techniques designed to minimize windblown trash, tarping requirements for vehicles accessing the facility, daily on-site litter patrols, and routine litter pick-up of area roadways within two miles of the facility. *See* APP001746-49. These provisions plainly comply with the agency rules and serve to control windblown trash.

Similarly, the SOP includes detailed provisions for controlling dust. Among other things, it provides for a paved site access road to the entrance facility/gatehouse; routine (weekly) inspections of all access roads; routine maintenance of on-site and other access roads; wetting of

unpaved roads to reduce dust; use of a wheel wash during wet-weather conditions; daily inspections of access roads during wet weather conditions; and routine sweeping or washing of area roadways. BFI Exh. RS-1 at pp. 76-79; *see* APP001756-58. Again, these and other provisions in the application comply with the agency rules and will serve to control dust.

Some NNC lay witnesses discussed buzzards and other birds in their testimony. Bill Southern, BFI's bird expert and the gentleman who developed its bird control plan (BCP), was the only witness who provided expert testimony regarding buzzards or any other kind of bird. He described the success of BFI's BCP. BFI Exh. WS-1 at p. 20. Gulls have been reduced to almost zero at the site, other birds have been reduced to ambient levels (the number that would be expected even if the landfill were not there). Tr. 1251; BFI Exh. WS-1 at pp. 18-19. The BPC has prevented vultures from feeding at and frequenting the landfill. *Id.* at p. 26. Southern testified that vultures eat carrion; that they are drawn to the area primarily because of the power lines to the west of the facility, upon which they roost, and not the landfill; that vultures roam forty or more miles per day in search of food; and that they are very unlikely to spread disease. BFI Exh. WS-1 at pp. 10 & 21; Tr. 1251-52 & 1260. No party presented any evidence to rebut Southern's findings or opinions.

NNC cites several witnesses' testimony about truck traffic in its closing argument. No party controverted any aspect of the traffic/transportation study that BFI included in its application or any testimony that was provided by BFI's traffic/transportation engineer, Mike McInturff. The record also shows that truck traffic has been and is highly restricted in the vicinity of the landfill – both by state and municipal traffic controls and by BFI itself (both voluntarily and by agreement). Several area roadways – including Springdale, a portion of Yager Lane, Harris Branch Parkway and portions of Blue Goose Road – have "no truck traffic"

postings. Tr. 2150-51. In its settlement agreement with the City of Austin, BFI agreed to prohibit commercial waste haul vehicles from using Blue Goose Road to access the site (except those few trucks that are actually servicing residences and businesses in the area); discipline its own drivers who ignore this prohibition; and contractually obligate commercial haulers who use Sunset Farms from using Blue Goose Road. *Id.*; see BFI Exh. RS-42 at p. 5. This agreement memorializes BFI's own policy prohibiting BFI trucks from using Blue Goose Road. *Id.*; Tr. 2151; BFI Exh. BD-1 at pp. 42-43. Thus, in effect, commercial waste haul vehicles can only enter and exit Sunset Farms from Highway 290 and Giles Lane – and none of the major arteries used by the protestants to access their properties (except 290 and Giles) can be used by commercial waste haul trucks that aren't picking up garbage from those residences.

Finally, NNC discussed noise in its closing argument. Noise does not fall within the regulatory definition of "nuisance" (see above), and, indeed was not referred as an issue by the TCEQ Commissioners.²⁷ No evidence was presented by any party at the hearing that BFI has ever been cited for any noise violations, whether by TCEQ, the County or the City. (It hasn't.) And no party presented any expert testimony regarding noise or any objective, analytical or scientific data in support of any anecdotal claims regarding noise.

XI. TRANSCRIPTION COSTS

This case is not typical. One of the protestants, TJFA, is 100% owned by Bob Gregory. Gregory is not a small business owner as TJFA suggests in its closing argument. Rather, he and his companies, TDS and TDSL, are aggressive competitors of BFI in both the waste hauling and landfill disposal businesses. Moreover, Gregory essentially came looking for a fight by buying, through TJFA, a tract of land near Sunset Farms in November 2004 so he could be sure to

²⁷ Noise was on the list of issues considered for referral, but was not among the issues that was actually referred.

engage in a proceeding he well knows can be both difficult and expensive. (As the record shows, this is but one of four proceedings TJFA has elected to participate in during the past four years by purchasing property near a landfill that is seeking an expansion permit.) Through the use of experts who have worked for Gregory, TDS and TDSL for two decades – witnesses who the records shows TJFA paid several hundred thousand dollars to for their services in this proceeding – TJFA manufactured a myriad of criticisms that it knew BFI would have to expend significant sums to rebut.

As a landfill owner who went through his own lengthy contested case hearing, Gregory well knows that an applicant has the burden of proof on all issues and cannot afford to ignore any issues. Hence, he and TJFA engaged in what BFI has dubbed "the spaghetti at the wall" technique of protesting. Why did they do this? To paraphrase TJFA's own closing argument (p. 76), it is unlikely that Gregory would spend the hundreds of thousands of dollars necessary to engage in these processes unless he determined that he would profit handsomely from the closing of the facility.

It requires little imagination to realize that, if Gregory, TDS and TDSL could eliminate the largest volume competitor they have in the market, any investment as a protestant would pay off handsomely. There is no other plausible rationale for what TJFA has done (certainly, spending several hundreds of thousands of dollars on lawyers and experts "protecting" a piece of property appraised at \$90,000 doesn't make sense for any "real estate holding company").

As a result, BFI suggests that the ALJ and Commission could legitimately assess all the costs against TJFA to, in part, send a message that environmental permit hearings before SOAH and the TCEQ are not the proper venues for hardball business tactics. In the alternative, BFI acknowledges the correctness of TJFA's point that BFI also hopes to benefit from the receipt of

its amended permit. And BFI acknowledges that NNC did not present any experts and was much more time conscious in its cross-examinations.²⁸ Therefore, BFI submits that if TJFA is not assessed all transcription costs, then TJFA be assessed one-half of the transcription costs and BFI be assessed the other half less whatever percentage, if any, the ALJ elects to assess against any other party.

XII. CONCLUSION

BFI met its burden of proof with respect to every referred issue. As such BFI requests that the draft permit (with the special provisions that have been requested) be issued as a final permit and that its proposed findings of fact and conclusions of law be entered in support of the issuance of the permit.

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²⁸ Indeed, a rough page-count-to-page-count comparison of the hearing transcript indicates that TJFA's lawyers consumed more time in their examinations than BFI's lawyers did.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of Applicant's Closing Argument was served on the following counsel/parties of record by certified mail (return receipt requested), regular U.S. mail, facsimile transmission and/or hand delivery and via e-mail on March 30, 2009:

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