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IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

THIRD APPELLATE DISTRICT

(San Joaquin)

ARMANDO P. VANNI, as Trustee, etc., et al.,

Plaintiffs and Appellants,

v.

DEPARTMENT OF WATER RESOURCES,

Defendant and Respondent.

C072383

(Super. Ct. Nos. CV025820,
CV026726, CV028072)

On June 3, 2004, a levee on the Middle River in the California Delta failed, damaging farms and property of BNSF Railway Company (BNSF) and East Bay Municipal Utility District. Plaintiffs, area farmers, BNSF, and insurers, brought separate suits (later consolidated) for inverse condemnation against the Department of Water Resources (DWR), contending the operation of the California State Water Project (SWP) caused scour (erosion) which in turn caused the levee to fail. After a court trial, the court determined that plaintiffs had failed to prove their case and entered judgment for DWR.

On appeal, the farmers (the Vanni plaintiffs) and BNSF offer a new legal theory of DWR's liability.¹ They contend the levee that failed is indisputably part of the SWP, as planned and constructed, and therefore DWR is liable for its failure. They assert this new theory may be considered on appeal because it is based on undisputed facts. They further contend that the trial court's decision was predicated on its finding the absence of scour at the failure site and substantial evidence does not support this finding.

As we explain, we find plaintiffs' new theory of liability is not simply a question of law based on undisputed facts established at trial; thus plaintiffs may not raise this new theory for the first time on appeal. We reject plaintiffs' contention that the judgment was based on factual premise not supported by the evidence. Substantial evidence supports the trial court's judgment. Accordingly, we shall affirm.

FACTUAL AND PROCEDURAL BACKGROUND

The Delta and Nonproject Levees

The Delta covers 738,000 acres, ranging from Sacramento in the north to just past the City of Tracy in the south. From its western edge at the salinity gates of the Suisan Marsh (just west of Pittsburgh), it extends to east of Walnut Grove. The water in the Delta is influenced by the tides; indeed, the tides are the primary force on Delta waters. In each 25-hour period, there are two flood tides (coming in) and two ebb tides (going out).

Originally, the Delta was a tidal marsh, but farmers reclaimed the land and controlled the tides by building levees. The levees in the Delta were built by dredging the channels. Upper and Lower Jones Tract were excavated out of the marshlands. Land in the Delta contains a large amount of peat. Farming introduces oxygen into the peat, which breaks it down. The land then blows away, called subsidence. As a result, much of the land in the Delta is below sea level. Lower Jones Tract is 15 feet below sea level;

¹ Only the Vanni plaintiffs and BNSF appealed. The insurers are not parties on appeal.

Upper Jones Tract, where the levee breach occurred, is 11 feet below sea level.

Subsidence increases the pressure on the levees.

The levees on Upper Jones Tract are “non-project” levees under Water Code section 12980, meaning they were constructed by private interests, not by the government. Most were built by agricultural interests from the 1860’s to 1930’s. Project levees are maintained by the Corps of Engineers, but nonproject levees are owned and maintained by local reclamation districts. The state has no authority to maintain or take over nonproject levees. The state’s involvement with nonproject levees is through the subventions program, under which the state provides some reimbursement to reclamation districts for work on nonproject levees. The reclamation districts, not the state, are responsible for the work. DWR conducts inspections to determine only if the work was done, not to determine if the work was done properly. The state cannot require reclamation districts to perform work on nonproject levees.

The Water Projects: the SWP and the CVP

The SWP was designed and constructed in the 1960’s to transport water to various parts of California. Water from the Feather River flows into Lake Oroville, the initial storage facility and highest nonfederal dam ever built. Water is released from Lake Oroville into the natural channel of the Feather River which connects with the Sacramento River; the water then flows naturally into the Delta. The Sacramento River provides 80 percent of the fresh water in the Delta; the San Joaquin, Mokelumne, Cosumnes, and Calaveras Rivers provide the rest. Most of the water, 76 percent, flows out of the Delta to the ocean with the tides; six percent is used in the Delta; and 18 percent is exported to the Bay Area, and Central and Southern California. The North Bay Aqueduct takes water from the upper Delta and feeds the North Bay.

There are water facilities in the Delta, including the Clifton Court Forebay and the Harvey Banks Pumping Plant. The Clifton Court Forebay is a man-made reservoir, known as “Mile Point Zero” of the California Aqueduct. Water from the Delta flows into the forebay through five intake gates. These gates do not have pumps; the water flows by

gravity due to the elevation difference. The Harvey Banks Pumping Plant is located off a canal of the Clifton Court Forebay. Water is pumped from this plant to the South Bay Aqueduct to supply the South Bay and to the California Aqueduct, a concrete lined channel flowing to Southern California. The Old River and the Middle River are the main channels that conduct water from the Delta into the Clifton Court Forebay. Thus, the channels of the Delta are part of the SWP's water conveyance system.

The Central Valley Project (CVP) is a federal project, funded during the 1930's as part of the New Deal Program. It, like the SWP, is a water project, designed to transport water from Northern to Southern California. The two water projects transport like amounts of water. The 20-year average is 2.5 million acre-feet pumped from the SWP and 2.3 million acre-feet pumped from the CVP per year. The CVP pumps water out of the Delta at the Tracy Pumping Plant (now the Jones Pumping Plant) into the Delta-Mendota Canal. It does not have a forebay, but pumps directly from the Delta. Unlike the SWP, the CVP pumps constantly.

Scour Monitoring Program

Scour is erosion or the removal of soil caused by running water. In 1969, in connection with the SWP, DWR started a scour monitoring program in the south Delta. There was concern that the SWP and the CVP could have an impact on the Delta relative to scour. The number of monitoring sites began at 26 and increased as time went by.

Monitoring is done by bathymetry, the practice of taking soundings to map underwater surfaces. Originally, DWR used single-beam bathymetry, but switched to multi-beam after 2003. Multibeam bathymetry covers a wider area by using multiple sound waves to gather depths. The levee breach was between two monitoring sites on the Middle River, MR-105R and MR-115R.

The Levee Failure

On the morning of June 3, 2004, the levee on Upper Jones Tract that holds back the Middle River failed, and water rushed onto the land. The force of the water

overturned farm equipment. It took until December 2004 to pump all the water out. There were at least two eyewitnesses to the levee failure.

One, Dennis Lass, flew over the Middle River every morning in an ultralight experimental aircraft. On June 3, 2004, he flew over at about 7:30 a.m. Flying at 12 feet above the river, he saw a levee breach across the Middle River from Woodward Island. He saw water spraying out from the levee into a field at about a 45 degree angle. The water was eight to 10 feet wide and coming from under the road. The water was white; it looked as if someone had opened a fire hydrant. Lass landed his aircraft and called the landowner and the sheriff. He returned to the air and saw the road on top of the levee fall.

Another witness, Giovanni Stagi, was driving on Bacon Island Road on the Upper Jones Tract to work that morning at about 7:30 a.m. He first saw water flowing into a field. As he got closer, he saw a two-foot gap in the road that went halfway down the levee. The water was coming from the middle of the levee. Stagi called his father who told him to call farmers in the area.

The Lawsuits

Three lawsuits were filed against DWR and others for damages caused by the levee failure. The plaintiffs were: (1) BNSF, claiming damage to a railroad right-of-way; (2) the Vanni plaintiffs, various landowners and tenants in the area, claiming loss of use of their property from the breach through December 2004; and (3) two insurance companies, claiming damage to three aqueducts owned by their insured East Bay Municipal Utility District. The three cases were consolidated.

The consolidated cases proceeded to a court trial on the single theory of liability of inverse condemnation. BNSF and the insurers entered into stipulations as to damages. Trial as to damages for the Vanni plaintiffs was bifurcated. Plaintiffs' theory of liability was that the SWP caused or contributed to the levee failure by altering the volume and velocity of water, which in turn caused scour in the Middle River. Plaintiffs argued the SWP was originally designed to use a peripheral canal to bypass the Delta. The failure to

build that peripheral canal placed an additional strain on the levees of the Delta and the resulting scour caused the levee at issue to fail.

Plaintiffs' Case

Ronald Noble, a civil engineer, performed a numeric modeling of a portion of the Delta, including the site of the levee failure. The purpose of his study was to characterize the flow of the Middle River in the area of the levee breach and to investigate the impact of SWP's pumping on channel flow and velocity.

His study indicated that when the gates of the Clifton Court Forebay were open during flood tides, the velocity of the Middle River increased. The highest amount of increase was .3 feet per second. He testified the flow could be increased by as much as 45 percent during flood tides.

Jonathan Rogers, who had a Ph.D. in geological and geotechnical engineering, had investigated several levee failures. He investigated this one, finding it interesting because "technically nobody had a real good explanation." The levee failure was blamed on beavers, "but we know the beaver dens weren't the reason." He concluded the levee was damaged by erosion and localized scour. The SWP's water transfers were a contributing factor. In his opinion, the levee failure was a foundation piping failure and the eyewitnesses described "classic piping failure."

Rogers testified there had always been a concern that using the Delta as a conveyance system for the SWP, instead of building a peripheral canal, would cause problems with levee stability because the SWP increased the strain on the levees. In his opinion, if the peripheral canal had been built, scour, sediment transfer, and reverse flow would not have occurred and a levee failure was less likely. He claimed that was the position of the DWR in the 1960's and 1970's. Rogers opined the levee failure would not have occurred if the peripheral canal had been built or DWR had armored the levees.

Rogers testified the SWP increased the velocity in the channels from approximately 1.4 feet per second to 1.8 feet per second. Generally, it took a velocity of three feet per second to induce scour in sand. While the velocities here never reached

that point, Rogers claimed there was a lower scour threshold for finer sands, loams, and silts.

Rogers acknowledged a DWR engineer believed the cause of the failure was beavers, but he did not take him seriously. Rogers claimed blaming a levee failure on beavers was the “party line” to get insurance. He discounted beavers as a cause because there was no evidence of beaver burrows in the area and the failure was linear in nature.

Rune Storesund, who also had a Ph.D. in geotechnical engineering, provided research and engineering support for Rogers’s investigation of the levee failure. He claimed that at the outset of the SWP, DWR did an evaluation of the integrity of the Delta channels and concluded they were inadequate. Two mitigating measures were identified, a master levee system or a peripheral canal, but neither was built.

In Storesund’s opinion, the reverse flow in the Middle River, caused by SWP pumping, was a significant contributing cause of the Jones Tract piping failure. As a rule of thumb, it required a velocity of three feet per second to mobilize sediment. Here the velocities were lower, but the sediment was moving.

DWR’s Case

David Mraz, a principal engineer with DWR and chief of the delta levee environmental engineering branch, opined the levee failed as the result of burrowing rodents. A burrowing rodent on the water side connected with one from the land side. He testified that Stagi’s description of a two-foot gap in the road sounded like a collapsed beaver dam. He acknowledged DWR had issued a statement that the cause of the levee failure was unknown.

Jamie Anderson, a senior water resources engineer in the modeling section at DWR, testified that with or without the SWP, the velocities of water in the Delta were dominated by tides. Ninety-eight percent of the time, the velocity was less than two feet per second. The rare velocities over two feet per second were due to storm events and not associated with the SWP.

Francis Chung, the chief of DWR's modeling support branch, testified the modeling for a 14 and a half year period showed the SWP lowered the water level in the Delta. He opined the SWP could not have possibly affected the levee breach.

Brad Hall testified as an expert in sediment transport, the motion of material on the bottom of a river or estuary. He explained the Delta had two key types of sediment, sands that were larger than .062 millimeters and finer silts and clays which have cohesive properties. Cohesion makes clays more difficult to move than sand, requiring a higher velocity. The lowest velocity needed to start movement of sands of .31 millimeters (the median size in the Delta) would be from less than one to 2.5 feet per second. At a velocity of 2.7 to four feet per second, there would be a small degree of movement, and significant movement occurred only at a velocity of three to six feet per second.

Hall opined the hydrodynamic effects of the South Delta Project were insignificant. Such effects at the break site were sufficient to cause some movement of sediment, but that area was net depositional, meaning more sediment was deposited than removed. He further opined there was no information or analysis to indicate that erosion had occurred at this area that would have caused the levee failure. He noted that there had been some dredging in the area. Asked about plaintiffs' reliance on DWR reports from the 1970's predicting scour as a result of the SWP, he responded, "Their hypothesis has not proven to be true."

Curtis Schmutte, an engineering consultant with an extensive background in Delta levees, opined the levee failure was a through levee piping failure. He believed it was not due to scour because otherwise there would be signs of scour closer to the Clifton Court Forebay. Further, there was aquatic vegetation on the banks of the river that would not survive a highly erosive environment, and Hall's study showed the Delta was net depositional. He believed the SWP had no effect on the levee failure; it was a through piping failure caused by rodents, an old tree root, or an old box culvert.

Statement of Decision and Judgment

The trial court found plaintiffs had failed to carry their burden of proof as to the cause of the levee failure. “They did not show the existence of scour or erosion at the failure site nor that this alleged scour/erosion was related to the operation of the SWP. Nor did they show that the alleged scour/erosion caused the levee failure due to a foundational piping failure through or under the levee.” The court found analyses by experts for both sides showed that the flow in the Middle River does not usually reach sufficient velocity to cause scour. State experts showed such threshold conditions were reached only in extreme flow conditions, such as floods, and the SWP had no effect on these extreme flow events.

The trial court found the evidence did not show the SWP altered the natural flow and sediment transport patterns in the Delta. Schmutte testified if the operation of the SWP caused scour, it would be found closer to the intake gates of the Clifton Court Forebay. Hall showed that the stretch of the Middle River from north of the break site to the junction with Victoria Canal was depositional, except for an area of a sharp bend and areas that had been dredged. The scour monitoring surveys supported the conclusion that the Middle River in the area of the breach is net depositional.

Although believing the exact cause of the levee failure would never be known, the court found evidence to support a through-levee piping failure rather than a foundational piping failure. Stagi’s eyewitness testimony of a two-foot gap in the road was not consistent with a foundational piping failure. The court found it more likely than not that a through-levee piping failure occurred, possibly caused by burrowing animals, old tree roots, wooden box culverts, or old roads.

Judgment was entered for DWR.

DISCUSSION

I

New Theory of Liability: the Levee as Part of the SWP

Plaintiffs contend on appeal that once the state chose not to build the peripheral canal as part of the SWP, the SWP was designed to incorporate the existing levee system of the Delta. Accordingly, the Jones Tract Levee was necessary for and deliberately designed *as part of* the SWP. They argue the state is liable for the levee failure because the levee is part of the SWP and the SWP failed to operate properly as designed and constructed.

Plaintiffs recognize that this is a new and different theory of liability from that advanced at trial. They contend we should nonetheless consider this new theory because it is a pure question of law and it is based on undisputed facts. They assert it “is not really disputable” that the Jones Tract Levee was a necessary part of the SWP. “The only real question is whether the state’s use of the levee meets the ‘deliberately constructed and planned’ test.” DWR responds the issue of whether the levee is part of the SWP “is entirely disputable.” DWR contends the issue presents a mixed question of fact and law (although it fails to identify what facts are involved) and plaintiffs have waived it by failing to raise it below. We agree with DWR.

A. *The Law*

“An appellate court ordinarily will not consider arguments made for the first time on appeal. [Citations.]” (*C9 Ventures v. SVC-West, L.P.* (2012) 202 Cal.App.4th 1483, 1491 (*C9 Ventures*)). “The general rule confining the parties upon appeal to the theory advanced below is based on the rationale that the opposing party should not be required to defend for the first time on appeal against a new theory that ‘contemplates a factual situation the consequences of which are open to controversy and were not put in issue or presented at the trial.’ [Citation.]” (*Ward v. Taggart* (1959) 51 Cal.2d 736, 742 (*Ward*)). “However, a new theory raising a pure question of law on undisputed facts can be raised for the first time on appeal. [Citation.]” (*Fort Bragg Unified School Dist. v. Colonial*

American Casualty & Surety Co. (2011) 194 Cal.App.4th 891, 907 (*Fort Bragg*.) “On appeal, a party may raise a new issue of law based on undisputed facts [citation] and may even ‘change the legal theory he relied upon at trial, so long as the new theory presents a question of law to be applied to undisputed facts in the record’ [citation].” (*C9 Ventures, supra*, 202 Cal.App.4th at p. 1492.)

In *Ward*, plaintiffs brought an action for fraud against two real estate brokers and recovered both compensatory and exemplary damages. (*Ward, supra*, 51 Cal.2d at p. 740.) On appeal, defendants contended the judgment had to be reversed because damages in tort for fraud must be limited to out-of-pocket losses and there was no evidence of such damages. (*Ibid.*) Although there was an exception to this limitation of damages in cases of a fiduciary relationship, there was no evidence of such a relationship. (*Id.* at p. 741.) Our Supreme Court held plaintiffs could recover on the quasi-contractual theory of unjust enrichment, even though that theory was not presented at trial. “Although the facts pleaded and proved by plaintiffs do not sustain the judgment on the theory of tort, they are sufficient to uphold recovery under the quasi-contractual theory of unjust enrichment since that theory does not contemplate any factual situation different from that established by the evidence in the trial court. Defendants were given ample opportunity to present their version of the transaction involved, and the issue of whether or not their actions constituted fraud was decided adversely to them by the trial court.” (*Id.* at p. 742.)

Other cases have considered new legal theories on appeal where no new facts were involved. In *Fort Bragg, supra*, 194 Cal.App.4th 891, the appellate court considered a new argument that the claim was barred by a statute barring any claim for subrogation. All parties had stipulated in the trial court that the action was a subrogation action. (*Id.* at p. 907.) In *Phillips v. TLC Plumbing, Inc.* (2009) 172 Cal.App.4th 1133 at page 1141, the court exercised its discretion to consider whether there was a duty of care “in the undisputed circumstances of this case.” In *Collins v. State Department of Transportation*

(2003) 114 Cal.App.4th 859 at pages 864 through 865, the court considered a new argument that presented only the interpretation of a statute on undisputed facts.

B. *Analysis*

Here, unlike in *Ward* and the other cases discussed *ante*, plaintiffs' new legal theory of liability contemplates a different factual scenario than that addressed at trial. Instead of focusing on why the levee failed--the subject of considerable expert testimony at trial--the new theory focuses on whether the levee was part of the SWP *for purposes of inverse condemnation liability*. This new theory " 'contemplates a factual situation the consequences of which are open to controversy and were not put in issue or presented at the trial.' [Citation.]" (*Ward, supra*, 51 Cal.2d at p. 742, emphasis added.)

Although the trial court made no factual finding as to whether the levee was part of the SWP, it did find "[t]he Upper Jones Tract levee is not a public project or a public improvement of [the] State of California." The statement of decision explained the levee was a nonproject levee and the state had no jurisdiction over it and had not substantially participated in its planning, approval, design, construction, operation, or maintenance.

Plaintiffs contend that although the levee was not independently a public improvement of the state, the state incorporated it into the SWP by not building the peripheral canal. Therefore, plaintiffs argue, the state is responsible for its failure, even though the state did not build the levee. Plaintiffs' argument, however, requires factual findings in their favor that were not made at trial. The new theory is not based on undisputed facts.

"To state a cause of action for inverse condemnation, the plaintiff must allege the defendant substantially participated in the planning, approval, construction, or operation of a public project or improvement which proximately caused injury to plaintiff's property." (*Wildensten v. East Bay Regional Park Dist.* (1991) 231 Cal.App.3d 976, 979-980.) Plaintiffs are correct that a public entity need not itself build an improvement to have liability for it. "When a public entity accepts responsibility for an improvement, it becomes that entity's public improvement regardless of who built it. [Citations.]"

(*Paterno v. State of California* (2003) 113 Cal.App.4th 998, 1029.) The question of acceptance (or approval) is a factual issue.

We have rejected the argument that the state is liable for failure of a nonproject levee that is part of a state water project where the state did not accept or approve the work. “Nonproject levees, while in a sense part of the statewide water control system, are not subject to the same direct control of the state as project levees and are maintained on a local basis. Being a part of a complex system of levees for both flood control and other purposes does not of itself determine liability for damages for failure of a given portion of a levee. The levee in question was not under the general control of the state insofar as maintenance was concerned.” (*Galli v. State of California* (1979) 98 Cal.App.3d 662, 688.)

Plaintiffs rely on *Marin v. City of San Rafael* (1980) 111 Cal.App.3d 591 (disapproved on another point in *Bunch v. Coachella Valley Water Dist.* (1997) 15 Cal.4th 432, 447-448), but *Marin* does not support their argument. Rather, *Marin* demonstrates that inverse condemnation liability for a privately constructed improvement depends on factual issues of acceptance and approval. There homeowners sued San Rafael for inverse condemnation after a storm pipe under their home, installed by previous owners, ruptured. The court phrased the issue as “whether, as a matter of law, plaintiffs’ property suffered physical damage proximately caused by a public improvement or public use maintained as deliberately planned and designed by the City.” (*Id.* at p. 595.) Although the pipe was constructed by a private party, not the city, the city was liable if it approved or accepted the work, and such approval or acceptance could be shown by official acts of dominion and control, such as use for a public purpose. (*Id.* at pp. 595-596.) In finding the city liable, the court looked to the evidence at trial to establish the fact of approval and acceptance. “In our opinion the evidence of the trial -- particularly that relating to (1) the City’s engineer who supervised and directed installation of the drainage pipe across lot 7, (2) the City’s knowing and continued use of the pipe for drainage purposes over many years, and (3) the City’s superior court

concession that the pipe was part of its ‘storm drainage system’ -- manifested, as a matter of law, that plaintiffs’ damages had proximately resulted from the City’s maintenance and use of a public improvement as deliberately planned and designed by the City.” (*Id.* at p. 596.)

In contrast to the evidence of supervision of installation of the pipe in *Marin*, here there is *no* evidence DWR supervised or directed installation of the levee or controlled its maintenance. At most, plaintiffs can show DWR used the Middle River as a conveyance channel and the levee made such use possible. Plaintiffs have not demonstrated--and cannot demonstrate, without the introduction of additional facts, if at all--that the levee was part of the public improvement of the SWP for purposes of inverse condemnation liability.

Mere use of a river is insufficient to convert it into part of a public improvement; the governmental entity must exert control over it and assume some responsibility for its maintenance. (*Locklin v. City of Lafayette* (1994) 7 Cal.4th 327, 370-371 [using natural watercourse for drainage of surface waters did not transform it into a public storm drainage system absent evidence of control and responsibility for maintenance]; *Ullery v. County of Contra Costa* (1988) 202 Cal.App.3d 562, 570 [although creek was part of drainage system, absence of dominion and control supported finding of no public use].) A creek was found to be part of a public storm drainage system where the *evidence* “established that the City required the developer to construct storm drains to carry surface water into the creek and accepted the dedication of those drains. The City also required the developer to dedicate an easement for drainage along the creek channel, and accepted that easement.” (*Souza v. Silver Development Co.* (1985) 164 Cal.App.3d 165, 170.)

Here it is not undisputed that the failed levee was part of the SWP for purposes of inverse condemnation liability. Such a conclusion rests upon factual issues of control and acceptance not resolved at trial in plaintiffs’ favor. Indeed, to the extent such factual issues were resolved at trial, they were resolved against plaintiffs. Because plaintiffs’ new legal theory of DWR’s liability is not based on undisputed facts, we will not

consider this new argument on appeal. (*Piscitelli v. Friedenber*g (2001) 87 Cal.App.4th 953, 983 [declining to address new argument containing question of fact].)

II

Substantial Evidence

Plaintiffs contend the trial court's finding regarding the absence of scour at the failure site is not supported by substantial evidence.² They contend DWR's sediment transport expert Hall provided evidence of scour when he testified there was lateral erosion of five to 10 feet on the right side of the river bank near the failure site (between monitoring sites MR-105R and MR-115R) that occurred between 1996 and 2004.³ Plaintiffs contend this error was fatal to the trial court's conclusion that DWR was not liable. They urge that since there was evidence of scour, "it matters not" that (1) the modeling showed the SWP did not increase velocities sufficiently to cause scour; (2) Hall found the velocities never reached a scour threshold; (3) Schmutte claimed if there was scour, evidence of that should have been found closer to the Clifton Court Forebay and it was not; (4) Hall opined the area of the levee was net depositional; and (5) Schmutte opined the vegetation along the bank of the Middle River indicated low velocities.

Plaintiffs appear to argue any amount of evidence of scour *alone* establishes DWR's liability. They contend this is so because only one theory offered at trial--Rogers's opinion that the SWP caused scour in the Middle River that weakened the levee and caused its failure--is consistent with and explains the presence of scour. Thus they argue that if there was scour, it was caused by the SWP, and it was *perforce* the reason for the levee's failure. We disagree.

² The trial court's actual finding was that plaintiffs failed to "show the existence of scour or erosion at the failure site."

³ DWR contends this interpretation of Hall's testimony is "erroneous" and "not accurate," but fails to provide what it believes is the proper interpretation of Hall's testimony.

First, the evidence of scour on which plaintiffs rely is ambiguous. Counsel for the insurers questioned Hall on cross-examination about cross-section plots developed from the scour survey data. On these plots, the black line represented May 2004 and the blue line represented October 1996. Counsel for BNSF further questioned Hall about page 17 of exhibit 371, which was the cross-section plot for monitoring site MR-105R, asking if there was erosion between 1996 and 2004 “at this spot here.” Hall answered there was lateral erosion of five to 10 feet. In response to a subsequent question, he identified the breach site as between monitoring sites 105R and 115R. The record is unclear as to how close “this spot here” is to the breach site. Counsel failed to clarify exactly what area Hall was testifying about. Curiously, no one questioned Hall further about his testimony. No one asked if this lateral erosion was scour, what caused it, or how there could be scour if the velocity of the water was below the scour threshold, as Hall testified. The record is far from conclusive about even the meaning, much less the import, of the testimony.

Second, assuming *arguendo* that Hall’s testimony meant there was scour at the breach site, plaintiffs have still not shown that insufficient evidence supports the judgment. The factual finding that plaintiffs challenge is the absence of scour at the failure site. But they agree that “there was no evidence exactly at the breach since that area washed away in the failure.” The trial court’s finding may simply reflect that uncontested fact.

Further, the trial court found not only that plaintiffs failed to prove there was scour, but that “this alleged scour/erosion was related to the operation of the SWP,” or “that the alleged scour/erosion caused the levee failure due to a foundational piping failure through or under the levee.” Plaintiffs do not challenge the sufficiency of the evidence to support these findings, and the evidence to support them is substantial.

The opinion of a single witness, even an expert witness, may provide substantial evidence to support a finding by the trier of fact, even if there is evidence to the contrary. (*People v. Vega* (2005) 130 Cal.App.4th 183, 190; *Howard v. Owens Corning* (1999) 72

Cal.App.4th 621, 631.) Here, the substantial evidence the SWP did not cause scour in the Delta came from several witnesses.

Plaintiffs' experts, Rogers and Storesund, agreed it generally requires a velocity of at least three feet per second to cause scour in sand. Hall testified a greater velocity is required to move smaller particles of clay and other cohesive material. The SWP increased the velocity of the water in the channels only .3 feet per second, and only during flood tides. The velocities in the Delta were always less than two feet per second, unless there was a flood condition. Hall testified this velocity was insufficient to cause scour. Schmutte testified the aquatic vegetation in the Delta was inconsistent with scour, and the absence of evidence of scour closer to the Clifton Court Forebay indicated there was no scour at the site of the levee failure. Finally, Hall suggested scour could be caused by boat wakes or dredging. Rogers agreed dredging could exacerbate erosion.

Further, there was substantial evidence scour did not cause the levee failure. Hall testified the Delta, and especially the area of the levee failure, was net depositional. Chung opined the operation of the SWP "cannot, or would not, possibly cause the levee failure on June 3rd, 2004." Mraz opined the levee failure was caused by burrowing animals, and this theory was consistent with Stagi's observation of a two-foot gap in the road. Lass had seen beavers near the breach site. Schmutte opined the levee failure was a through levee piping failure caused by rodents, an old tree root, or an old box culvert. The evidence that the actions of DWR did not cause the levee failure, through scour or any other means discussed at trial, was substantial.

DISPOSITION

The judgment is affirmed. DWR shall recover costs on appeal. (Cal. Rules of Court, rule 8.278(a)(1) & (2).)

DUARTE, J.

We concur:

BLEASE, Acting P. J.

HOCH, J.