

DISPUTE REVIEW BOARD RECOMMENDATION

September 30, 2003

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RE: FPN: 257093-1-52-01, 257093-1-56-01, 257093-1-56-02
Contract No. 21362
Memorial Causeway
Pinellas County
Disputes Review Board

Issue # 1 - "Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"

Dear Sirs:

The Owner, Florida Department of Transportation (Department), and the Contractor, PCL Civil Constructors, Inc. (PCL) requested a hearing on the above referenced issue. Should entitlement be established, the Parties were to negotiate the quantum of such entitlement.

Pertinent correspondence and other information relating to the Department's and the Contractor's positions were forwarded to this Board for review and discussion at the hearing that was held on September 23, 2003.

CONTRACTOR'S POSITION:

*Entitlement for Damage Incurred due to Rain Events of
April 25 and 26, 2003*



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Introduction

During the prosecution of our work, a severe rain event dropped 4.7" of rain on April 25 and 26, 2003. The majority of this rain fell in a four hour period between 10:00 p.m. and 2:00 a.m. The following areas of the project were catastrophically affected:

*Location #1 - Pierce Street
Location #2 - MSE wall #4
Location #3 - MSE wall #2*

Each of these locations is identified on the attached aerial photo. (Attachment #1, PAGE 18)

PCL and our Subcontractors, Craggs Construction and MSE Wall Systems, have reconstructed these areas and respectfully request compensation for our efforts. This narrative shall present and demonstrate justification for entitlement of this dispute.

The following issue statement has been jointly prepared by PCL and Parsons Brinkerhoff:

"Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"

As identified in the attached correspondence (Attachment 2, PAGE 19-110), PCL is requesting compensation for the cost of repairing permanent work damaged by the rain events of April 25 and 26, 2003. In addition, as a result of the damage, the Department requested that additional drainage features be installed in an effort to divert the off site water away from the permanent construction. PCL is seeking reimbursement for construction of the temporary sediment basins.

Entitlement

There are three fundamental reasons why PCL is requesting entitlement and quantum for the reconstruction and repairs to permanent work and for the additional work required to drain storm water through the jobsite:

- 1. 'Temporary Drainage' should be provided in the original design. The Department has pay items to cover this type of work including temporary sediment basins and temporary drainage structures. If this work is required, it is the Engineers responsibility to direct the Contractor, or it should be clearly shown in the contract and a method of payment should be provided.*
- 2. If drainage of offsite water through the jobsite is to be maintained, a 'Sequence of Construction' addressing the drainage issues should be included in the contract drawings.*
- 3. The rain event of April 25 and 26, 2003 is not typical of this region and should be considered a 'Catastrophic Event' in accordance with the Standard Specifications.*

Temporary Drainage

It is not the Contractor's responsibility to design catastrophic temporary drainage features to handle undetermined and non-specified amounts of runoff coming from off site. The hydraulic information necessary to properly design a temporary system is not provided in the contract documents. The stormwater runoff that subsequently caused the damage to MSE wall #2 and wall #4 came from off site.

The three areas that incurred severe damage as a result of the rain events of April 25 and 26, 2003 are:

*Location #1 - Pierce Street
Location #2 - MSE wall #4
Location #3 - MSE wall #2*

The water from the parking lots and Pierce Street breached a berm that was installed to divert and slow normal stormwater flow. The berm was installed at the top of Pierce Street with a pipe to divert the water into inlet S-107. The quantity and velocity of the water coming down the hill breached the temporary drainage provisions and damage occurred to Pierce Street, drainage and utility pipes and structures and wall 4.

On the south end of the project, all the water coming from the parking lot, Court Street and Bay Avenue flows downhill towards the wall construction. The contract does not provide for any

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temporary drainage. The design of the permanent drainage system is not effective until the embankment is complete and the proposed new permanent drainage system can be tied into S-19. The required sequence of construction for all utility and storm work is described in the section entitled 'Sequence of Construction.'

The issue with the erosion and damage is due to the quantity of water that is generated outside the project limits. The volume of water that comes off of Bay Avenue and Pierce Street drains through the jobsite and causes severe problems. No provisions were made for transporting this off site water through or around the jobsite. In addition, no provisions for temporary connections to the existing system were made to provide drainage until the permanent system could be completed. If temporary drainage structures were required, the Designer should have provided this information in the contract documents. Furthermore, if it were necessary to leave a structure (which ultimately gets removed) in place until the new system was installed, a note should have been provided in the contract plans.

Our contract does not require PCL or its subcontractors to perform topographic or hydraulic surveys of the jobsite and off site water shed areas. Nor does the contract require that PCL or its Subcontractors design temporary drainage systems to drain water from off site.

SEQUENCE OF CONSTRUCTION



A sequence of Construction should have been provided in the original contract documents. The proposed system does not tie in to an existing outfall. The proposed system on the East end of the project drains into the new S-19 outfall located at station 53+60 right. The proposed system cannot be installed and become active until the proposed utilities are installed and the old system and utilities are abandoned.

In order to continue to drain the east end of the project, the proposed system with the embankment had to be completely tied in before the old system could be modified or abandoned. The utility installation requirements and proposed drainage design does not allow for this. The existing pipes must be interrupted in order to complete the utility installation. The main structure that was draining Bay Avenue had to be removed during the course of proposed utility and storm sewer installation. The pipe that extends from the structure at the end of bay to the outfall is also shown to be removed on plan sheet 93 (Attachment #3, PAGE 112)

The sanitary sewer line must be installed and the old system abandoned before the embankment in the MSE wall area can begin. The old sanitary sewer lines are shown to be removed on the JPA plans. (Attachment #4, PAGE 113) Complete removal of the sanitary system requires that the existing structure at the end of Bay be removed. The old sanitary system was underneath the structure at the

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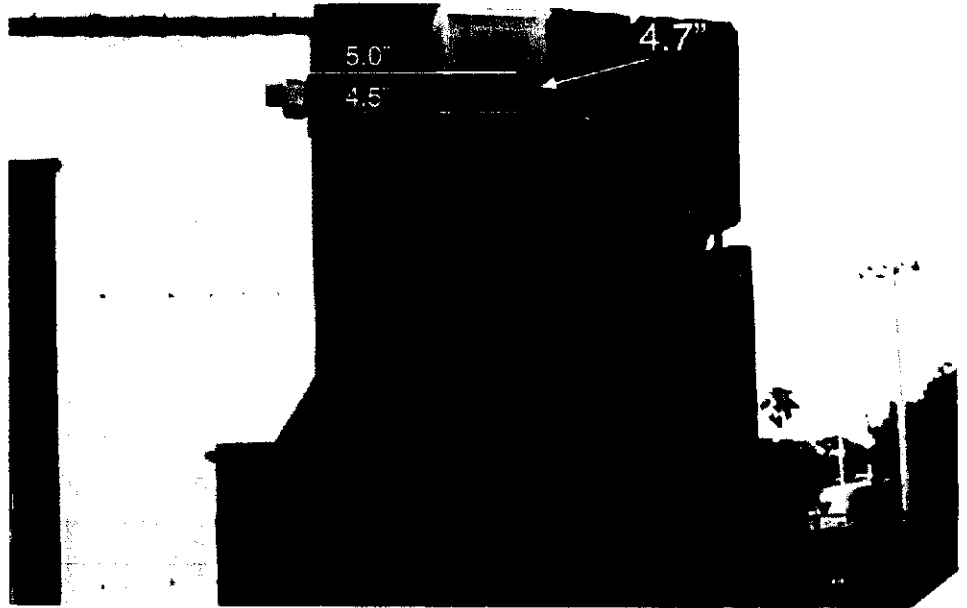
end of Bay. The proposed sanitary sewer is shown in attachment 4 with the location of the proposed and existing storm drainage (Attachment #4, PAGE 113).

Furthermore, **the tie for the proposed 18" sanitary sewer must precede the installation of the proposed storm sewer due to elevations.** The plan sheet C-14 shows the elevation difference for the proposed storm and the elevation of the sanitary sewer. (Attachment #5, PAGE 114). Therefore, **there is a period of time when the existing drainage structure at Bay must be removed;** the sanitary sewer is removed before the proposed storm sewer can be installed.

The 8" water main installation is shown on the attached plan sheet (Attachment #6, PAGE 115). This proposed 8" line along Court is changed to a 12" line along Chestnut. The proposed 12" line is shown to be installed underneath the existing storm sewer (shown to be removed, Attachment #3, PAGE 112) and the proposed storm sewer (Attachment 7, PAGE 116). The 8" water main is shown to be installed on top of an existing 18" storm sewer that is shown to be removed (Attachment 8, PAGE 117). **This utility line must be installed before the proposed drainage can be installed.**

Lastly, installation of S25 and S26 includes construction of a **gravity wall** between the two structures. Without design and construction of any temporary drainage swales, **there is a period when storm water flow from Bay could not reach any of the existing structures** that are tied in to the existing outfalls.

CATASTROPHIC RAIN EVENT



On October 23, 2002 and on October 31, 2002 meetings were held with the County and with HDR to discuss control of the fugitive water. **Directives were given to construct berms and sediment basins to handle this water before the runoff gets to the Intracoastal.** These berms and sediment basins were installed and monitored to prevent erosion. Since October, these berms and basins were proven to be effective. However, **due to the unusual nature of this rain event which measured 4.5 to 5 inches in our rain gauges, the measures in place were unable to prevent the damage.**

PCL installed an earth berm and drainage pipes to divert and contain normal rainfall. Input was given by HDR for environmental reasons. These meetings were held in the field on October 23, 2002 and the proposed features were installed within the following week. This berm is visible on the aerial photograph (Attachment #7, PAGE 116). While PCL was compensated for some erosion control devices, **PCL was not paid for our efforts to install these temporary sediment basins and drainage swales.** These features were in place for a period of six months. However, the catastrophic rain events of April 25, and 26, 2003 breached the berms and subsequently caused damage to permanent work.

The rainfall experienced on April 25 and 26, 2003 was an unusual rain event that dropped 4.7" of rain in approximately a four hour period. The majority of the rain fell between 10:00 p.m. on April 25, 2003 and 2:00 a.m. on April 26, 2003. **This rain event amounted to 10% of the total annual anticipated rainfall for this region** (Correspondence Backup PCL Letter No. 431, Attachment #2, PAGE 58-70). PCL contends that the amount of rain fall is not typical for a normal rain event in this area. Prior to April 25, 2003, **the devices in place were sufficient to handle the water generated**

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within the project limits. In addition, these devices have been sufficient to handle the undetermined amount of runoff coming from off site. However, the excessive volumes of rain over a short time period caused the catastrophic damage.

PCL has researched the average annual rainfall for this region using the Southwest Florida Water Management District website. The average annual rainfall for Pinellas County is 51.70 inches. If the rain event experienced on April 25 and 26, 2003 were considered "normal", it would elude to the fact that 10% of the total annual rainfall would occur in a four hour period in one night.

Furthermore, Southwest Florida Water Management District tracks the average monthly rainfall for specific counties. The average rainfall for the entire month of April in Pinellas County is 2.37". Therefore, the rain event experienced on April 25 and 26, 2003 which dropped in excess of 5", far exceeds the total monthly average rainfall for Pinellas County. We have attached the monthly and annual rainfall documentation for your information. This information substantiates that this particular rain event far exceeds the anticipated rainfall for the whole month of April and exceeds what would be reasonable with consideration to the annual anticipated rainfall.

In summary, PCL contends that the rain event was not normal. This region is typically drought laden and negligible rainfall commonly forces our community into water restrictions. Torrential downpours of this nature are not typical of this region and could not have been reasonably anticipated by PCL. Subsequently, this unanticipated rain event which dropped in excess of 5" is in fact an unusual rain event that subsequently caused catastrophic damage to our proposed work.

Areas of Damage

Pierce Street ...



Enormous volumes of water swept the limerock down Pierce Street. Deep gullies exposed proposed utility work.

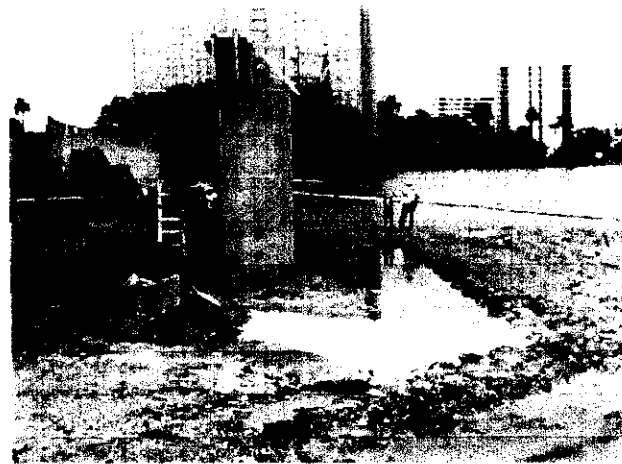
Deep Trenches were cut through the limerock along Pierce Street.

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The curb was undermined. The curb was salvaged during the reconstruction effort.

Wall #4...



Large volumes of water were contained adjacent to the MSE wall #4 and the abutment to the pedestrian ramp. This water was contained on the inside of the permanent sheet pile.



The corner of wall #4 was washed out. The area between wall #4 and wall #5 had to both be reconstructed because of the overlapping straps.

This area was reconstructed first as the critical path of the project depends on the completion of the abutment at 10.

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The leveling pad was destroyed. Drainage structure S-102 was covered because of erosion control. The berms that were constructed adjacent to wall #4 were breached.

Wall #2...



The access to the Oaks washed out.



Pipes were installed underneath The Oaks Service access to channel the storm water runoff from Bay Avenue to the sediment basin.

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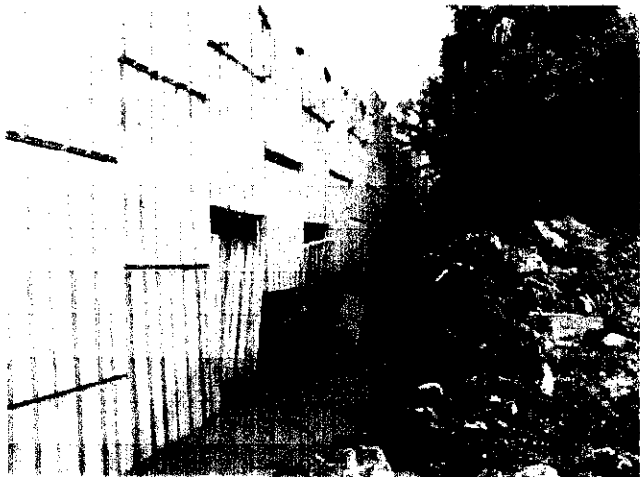


Wall panels along wall #2 were washed out from the top. Geogrid was exposed.

This upland area creates a slope behind the MSE wall which facilitated the washouts shown below.



Wall #2 panels were undermined. The water flow ran both inside and outside the wall panels. The leveling pad was undermined and the wall ultimately was completely removed and reconstructed from the leveling pad up.



Extreme damage caused to panels at wall #2.

PROJECT SPECIFICATIONS

- *Contractor's Responsibility for Work - Standard Specification Section 7-14*

Until the Department's acceptance of the work, take charge and custody of the work, and take every necessary precaution against injury or damage to the work by the action of the elements or from any other cause whatsoever, arising either from the execution or from the nonexecution of the work. Rebuild, repair, restore, and make good, without additional expense to the Department, all injury or damage to any portion of the work occasioned by any of the above causes before its completion and acceptance, except that in case of extensive or catastrophic damage. The Department may, at its discretion reimburse the Contractor for the repair of such damage due

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to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to Acts of God...

*The attached photographs indicate that PCL took the necessary precautions to divert and contain a reasonable amount of water. Therefore, PCL was not negligent in their responsibility to provide measures to protect our work. **The rain event of April 25, and 26, 2003 caused severe and catastrophic damage to proposed work.** This amount of damage, volumes of runoff and rate of flow could not have reasonably been predicted.*

- *Limitation of Operations - Standard Specification Section 8-4.5*

Drainage: Conduct the operations and maintain the work in such condition to provide adequate drainage at all times. Do not obstruct existing functioning storm sewers, gutters, ditches, and other run-off facilities.

*PCL provided temporary drainage pipes and sediment basins. Placement of these basins and drainage pipes was determined in conjunction with the Designer and the Engineer. **These features were adequate for normal rain events.***



This shows containment of the runoff in the area behind the strap zone.

This is the area where the berm was breached and subsequently damaged wall #2.



Shows the up lying area which was constructed as a sediment basin. The berm that was constructed to contain runoff from the South end of the project was breached due to the overwhelming volume of water flowing from Bay Avenue.

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The Pierce Street berm was breached. The volume of water coming from the Church and City parking lots and the sheet flow from the top of the hill on Pierce Street blew out the berm.

A drainage hose was installed on the upside of the berm to channel the water into S-107.

Conclusion

PCL is entitled to full and complete compensation for all damages and costs incurred due to this event. PCL has demonstrated prudent action and due diligence to protect our work.

- Temporary berms and swales were constructed to accommodate **normal** run-off quantities and to protect our work.
- During the prosecution of the JPA work, existing storm drains were interrupted. The contract plans did not provide alternate drainage due to this interruption.
- The unfortunate catastrophic rain event of April 25-26, 2003 was "due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor."

PCL carries builders risk insurance for such occurrences, however, the industry standard deductible that we carry exceeds the estimated value of the damage. Therefore, PCL shall seek reimbursement for the cost of these repairs up to the value of the deductible.

DEPARTMENT'S REBUTTAL:

This letter will serve as the Department's rebuttal to the position paper submitted by PCL to the Board regarding the referenced matter.

As we discussed in our position paper submitted on behalf of the Department, the question before the Board is: "Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"

In their position paper, PCL discusses the following issues:

1. Responsibility for design and construction of temporary drainage;
2. Responsibility for the sequence of construction;
3. Classification of the rain event on April 25, 2003 and April 26, 2003 as being a "catastrophic event".

*Only item #1 above deals with and addresses the question before the Board. Therefore, **the Board should not consider the merits of items #2 and #3 at the scheduled hearing.** Nevertheless, we have decided to address items #2 and #3 in this paper because we do not agree with the position taken by PCL and we do not feel that their position should go unanswered.*

Design & Construction of Temporary Drainage:

*Clearly, PCL has stated their position that they are not responsible to design and construct temporary drainage systems to accommodate runoff from offsite. **However, PCL has not provided any contractual basis for their position.** PCL does acknowledge section 8-4.5 of the specifications, but seems to believe that their contractual obligation to "provide adequate drainage at all times" was met by providing a couple of temporary 12" diameter drainage pipes and a sediment basin, both of which were requested by the Department to stem the flow of turbid water into the Clearwater Harbor. To the contrary, the Department believes that section 8-4.5 requires the Contractor to take all necessary actions to provide adequate drainage at all times. Compliance with the specification also involves maintenance of any temporary drainage pipes or pumps during a rain event in order to*

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protect the work. For example, it was reported that the temporary drainage pipe installed through the berm on Pierce Street was found to be plugged by a synthetic hay bale on the morning after the berm washed out.

Sequence of Construction:

PCL has stated that a sequence of construction should be provided in the contract if runoff through the project is to be maintained. However, the **Department rarely provides a sequence of construction for storm drainage unless it is required to maintain traffic on an active roadway.** By not providing a sequence of construction in the contract, the Contractor is given maximum freedom to sequence the work; in the manner that works best for its resources. However, **with the freedom to choose the means, methods and sequence, comes the responsibility to design and construct temporary drainage systems to facilitate the chosen sequence of operations.**

PCL claims the water that damaged the work in late April came from offsite. PCL has identified the specific areas they believe the offsite runoff came from. First, the Department does not agree that the offending runoff came only from offsite. In fact, it is the Department's position that there was **a significant amount of runoff from on-site that was not adequately dealt with either.** Second, PCL does not mention the fact that existing drainage structures were located within the project limits for the areas they identified as a source of offsite runoff. It was not until PCL **"changed the landscape" by removing the existing drainage structures and constructing the new work that the drainage problem came to be.** The Department agrees that there is a physical logic to how portions of the work needed to be constructed. But, when the Contractor removes a drainage structure at the bottom of a hill, common sense will tell you that the water has to go somewhere when it rains. **At the point the existing drainage structure is removed, the Contractor becomes responsible to handle the runoff with the means and methods they deem suitable.**

Catastrophic Rain Event:

PCL states in their position paper that the rain that fell on April 25, 2003 and April 26, 2003 was a "catastrophic event" and that the amount of rain was "not typical of this region". The Department agrees that the amount of rain was approximately 4.7" for the period. However, a review of the project records indicates that prior to late April 2003, **there were other periods that also had significant rain fall in the range of 2.3" to 5"+** (see exhibit A -pgs. 1-10). A review of the rainfall data for Pinellas County by the Southwest Florida Water Management District shows that **there were 4 days of rain in excess of 3.7", during 4 years preceding September 2001,** when the project was bid (see exhibit B - pgs. 11-16). Therefore, it is not reasonable for PCL to hold that the rain on April 25, 2003 and April 26, 2003 was either catastrophic or unusual for the region. Finally, it has been a long standing policy of the Department that **catastrophic weather events are normally with declared state of emergency by the State of Florida. No such determination was made by the State of Florida for the rain events in question.**

Conclusion:

In conclusion, the Department encourages the Board to **consider only the question that is before the Board:** "Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?" In doing so, the Department believes that the Board will find that PCL has not provided any contractual basis to support their position that they are not required to design and construct temporary drainage systems to accommodate runoff from offsite. Conversely, the **Department believes that the Board will find solid contractual language that requires the Contractor to provide adequate drainage at all times (section 8-4.5) and provides a method of payment for the work (section 9-2).**

DEPARTMENT'S POSITION:

Statement of Issue

As presented in the e-mail to you on August 1, 2003, the issue or question being put before the Board is: **"Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"**

Undisputed Events

On the dates of April 25, 2003 and April 26, 2003, there was rainfall in excess of 4 inches on the project. As a result of the runoff from the rain, portions of the partially completed MSE walls #2 & #4 were undermined and damaged. Additionally, there was curb and stabilized subgrade on Pierce Street that was undermined and damaged.

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PCL's Claim

On April 28, 2003, PCL sent letter number 417 giving notice to the Department of its intent to claim for the damage to the work resulting from the runoff (see exhibit 1 - pgs. 1 to 25). In the third paragraph on page 1 of exhibit 1, PCL claims that "all of the water coming from the parking lot, Court Street and Bay Avenue flows downhill towards the wall construction". Further, PCL claims "The contract does not allow for any temporary drainage" and that "The permanent drainage system is not effective until the embankment is complete and the drainage system can be tied into S-19".

In the second paragraph on page 2 of exhibit 1, PCL claims that "The issue with erosion and damage is due to the quantity of water that is generated outside the project limits" and that "No provisions were made for transporting this offsite water through the jobsite. In addition, no provisions for connections to the existing system were made to provide temporary drainage until the permanent system could be completed." Finally, in the last paragraph on page 2 of exhibit 1, PCL claims that "Control of this offsite water is an unforeseen condition and therefore, is not a part of our original contract."

On May 9, 2003, PCL sent letter number 431 (see exhibit 2 - pgs. 26 to 38) in response to PBCS' answer to PCL's letter #417. In the second paragraph of page 4 of the exhibits, PCL states "During the prosecution of our work drainage structures were removed and modified as part of the contract. The contract plans do not specify a sequence of construction for installation of drainage structures. Due to schedule constraints, it is not reasonable to anticipate constructing the drainage at Court Street and Cleveland Street after S-19 becomes active." In the third paragraph on page 26 of the exhibits, PCL states that "PCL is able to handle the onsite water during the course of a normal rain event. However, the contract documents do not provide information or a sequence of construction to handle undetermined volumes of water from off site." In the fourth paragraph on page 26 of the exhibits, PCL states "If it was the intent to temporarily drain water from off site into structures that ultimately are modified to manholes, this information along with volumes should have been provided in the contract documents." Lastly, in the first paragraph on page 27 of the exhibits, PCL states in part "Nor does the contract require that PCL or its subcontractors design temporary drainage systems to drain water from off site."

Based on the above listed excerpts from PCL's letters, we believe their claim can be summarized in the following bullets,

- All of the water coming from the parking lot, Court Street and Bay Avenue flows downhill towards the wall construction
- The permanent drainage facilities on the east approach are not effective until they are tied into drainage structure S-19.
- No temporary drainage facilities were shown in the plans and the plans do not specify a sequence of construction for the permanent drainage facilities.
- The contract documents do not provide information on the amount of off site water.
- Control of the off site water is an unforeseen condition and therefore not a part of their contract.
- The contract does not require PCL to design temporary drainage systems to drain water from off site.

FDOT Position

Listed above is the Department's summarization of PCL's claim. Emphasis has been added to the last bullet because it represents the issue that is being brought to the Board for a recommendation. However, we will attempt to address each of the bulleted points below.

- PCL Claim: All of the water coming from the parking lot, Court Street and Bay Avenue flows downhill towards the wall construction.
- FDOT Response: In April 2003, this claim may have been true (see exhibit 15 - pgs. 69 & 70). However, at the beginning of the project in February 2002, there were functioning drainage structures in the west parking lot, along Court Street and on Bay Avenue. As late as July 2002, these drainage structures were still in place (see exhibit 3 - pg. 39). These drainage structures collected the storm water and conveyed it to the Clearwater Harbor. In August 2002 and subsequent months, prior to the completion of the embankment and S-19, **PCL chose to disturb a significant portion of the east approach area.** This area of disturbance included the drainage

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structures that collected the storm water runoff for the west parking lot, Court Street and Bay Avenue, without providing any significant means of collecting the storm water from the west parking lot, Court Street and Bay Avenue (see exhibit 4 - pg. 40). Section 8-4.5 of the specifications (exhibit 5 - pg. 41) requires the Contractor to **"Conduct the operations and maintain the work in such condition to provide adequate drainage at all times. Do not obstruct existing functioning storm sewers, gutters, ditches, and other run-off facilities."** The Department does not believe that PCL conducted their operations to provide adequate drainage as required by the specifications, which resulted in damage to the work for which they are responsible under section 7-14 (exhibit 6 - pg. 42) and section 120-10 (exhibit 7 - pg. 43). At the point that PCL disturbed the existing drainage structures, it was necessary for PCL to provide temporary drainage facilities. PCL's chosen sequence of construction necessitated temporary conveyance of both on site and off site storm water through their work, which they did not provide.

- PCL Claim. The permanent drainage facilities on the east approach are not effective until they are tied into drainage structure S-19.
- FDOT Response: Reference is made to plan sheets 35 through 38 (exhibit 8, pgs. 44 to 47). The outfall for the majority of the drainage system for the new roadway is through S-19 as claimed by PCL. However, the outfall structure S-19 has an invert elevation of 3.00 and was installed on February 7, 2003, after the construction of MSE wall #2 began, but **more than 2 months prior to the rain** events on April 25, 2003 and April 26, 2003. While S-18 is a curb inlet that could not be installed until the embankment was up to at least elevation 24.00, **the 30" pipe between S-18 and S-19 is a vertical pipe that could have been used as an outfall by pumping treated water into it.** In addition, curb inlet S-102 and ditch bottom inlets S-103 and S-105 which outfall through an existing 48" pipe culvert were installed early in the project (September 16, 2002, October 17, 2002 and October 17, 2002, respectively) and were also available to collect storm water runoff, but **were not effectively utilized by PCL.** Therefore, **PCL's claim that the permanent drainage system is not effective until the embankment is complete and the drainage system can be tied into S-19, is not accurate.** There was significant drainage capacity available through the permanent structures that had been installed prior to April 28, 2003. However, PCL did not take any action to utilize these drainage structures.
- PCL Claim. No temporary drainage facilities were shown in the plans and the plans do not specify a sequence of construction for the permanent drainage facilities.
- FDOT Response: **The Department concurs with PCL that no temporary drainage facilities were included in the plans.** Nor has a sequence of construction been provided for the construction of the permanent drainage facilities. The Department has produced a **Drainage Handbook for Temporary Drainage Design** (exhibit 9 - pgs. 41 to 61). **Unless it is necessary to provide drainage for temporary pavement or temporary detour, the FDOT Drainage guidelines do not require temporary drainage facilities to be included in plans.** In addition, if a construction sequence is not specified, then the Contractor can sequence the work as they determine is most productive for their overall plan. However, the Contractor must still comply with Section 8-4.5 (exhibit 5 - pg. 41) which requires them to maintain adequate drainage at all times.
- PCL Claim: The contract documents do not provide information on the amount of off site water.
- FDOT Response: PCL contends that the amount of off-site water to be expected was not provided in the plan sheets. While the **Department agrees that numerical amounts were not provided,** the size of the drainage structures used to convey the storm water was shown on the plans and should have given them a good indication of the volume of water to be expected. Additionally, the information provided in the project's plans is consistent with the information provided in other FDOT plans and consistent with Section 5.1 of the FDOT's Plans Preparation Manual (exhibit 10 - pg. 62). Lastly, Section 2-4 of the specifications (exhibit 11 - pg. 63) **requires the Contractor to "Investigate the conditions to be encountered..."** It is the Department's position that if PCL had properly investigated the conditions to be encountered at the site, they could have anticipated the amount of off-site water that would flow through the project and constructed the temporary drainage facilities necessary to handle the flows.
- PCL Claim: Control of the off-site water is an unforeseen condition and therefore not a part of their contract.
- FDOT Response: In section 4-3.7 of the specifications (exhibit 12 - pgs. 64 & 65), "Differing Site Conditions" is identified as "latent physical conditions... differing materially from those indicated in the Contract," or "...**unknown physical conditions of an unusual**

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nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract..." The Department does not believe that the runoff from the off site locations identified by PCL constitute a "latent physical condition" since no significant changes to the area took place between the bid date in September 2001 and the rains in April 2003, except for the disturbance of the existing drainage facilities by PCL. Additionally, the Department does not believe the runoff from the off site locations identified by PCL constitute "unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract. Key here is the bolded portion. Off site runoff is not unusual for a roadway project. In the case of this project, it should have been **clearly evident during a pre-bid site visit that water at the top of the bluff would flow to the Clearwater Harbor, through the project site.**

In section 4-4 of the specifications (exhibit 13 - pgs. 66 & 67), "Unforeseen Work" is identified as "work that is not covered by a price in the Contract..." The Department does not believe that the work of designing and constructing temporary drainage facilities is work that meets the definition of "Unforeseen Work". Clearly, Section 8-4.5 of the specifications (exhibit 5 - pg. 41) requires the Contractor to "provide adequate drainage at all times". In addition, Section 9-2 of the specifications (exhibit 14 - pg. 68) states in part "Accept the compensation as provided in the Contract as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its final acceptance; also for all other costs incurred under the provisions of Division I." Since the requirement for maintaining adequate drainage is required in section 8-4.5, which is part of Division I of the specifications and section 9-2 states that payment for the costs incurred for the provisions of Division I is included in the scope of payments, then the control of the off site storm water does not meet the definition of "Unforeseen Work". Nothing new or different was added by the Department after the contract was let.

- **PCL Claim:** The contract does not require PCL to design temporary drainage systems to drain water from off site.
- **FDOT Response:** As stated above, section 8-4.5 of the specifications (exhibit 5 - pg. 41) clearly requires the Contractor to provide adequate drainage at all times. Further, section 120-10 (exhibit 7 - pg. 43) requires the Contractor to "...maintain adequate drainage of the roadbed at all times..." and to "Maintain all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water."

Summary & Conclusion

In summary, the Board has been asked to determine "Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?" PCL has claimed in their letters to the Department that it is not their responsibility to design and construct temporary drainage facilities, but have **not provided any contractual reference to justify their position.** Opposite to PCL's position, the Department believes that **design and construction of any temporary drainage facilities necessary to maintain adequate drainage and serve the Contractor's means, methods and sequencing are the responsibility of the Contractor** under section 8-4.5 of the specifications (exhibit 5 - pg. 41) and that payment for the work is addressed under section 9-2 of the specifications (exhibit 14 - pg. 68). Because of PCL's schedule of operations, existing drainage was modified and this required PCL to design whatever temporary drainage facilities were necessary for their sequence of operations.

In conclusion, the Department believes that **PCL has a contractual obligation to provide adequate drainage at all times; adequate for the traveling public and adequate for the construction and protection of the work.** Further, the Department believes that sufficient contractual reference has been provided in this position paper and the attachments to support the Department's position. After review of the facts and supporting documents presented herein, **we believe the Board will have no choice but to recommend that the answer to the question before the Board is YES.**

CONTRACTOR'S REBUTTAL:

PCL is in receipt of the full position papers provided by the Department regarding the Disputes Review Board Hearing scheduled for September 23, 2003.

The Department has the following position with regard to the statement presented before the Board:

"Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"

1. *"It is the Contractor's responsibility to maintain the work in such condition to provide adequate drainage at all times. Do not obstruct existing functioning storm sewers, gutters, ditches, and other run-off facilities."*

Bay Avenue:

*PCL contends that the installation of the JPA utilities and the **required sequence of storm water construction, by contract, interrupts existing drainage facilities.** Prior to construction, the flow coming from off-site ran along a gutter line and was caught in several drainage structures, including the drainage structure at the end of Bay Avenue. During the prosecution of our work the impervious area was disturbed and PCL provided temporary berms and drainage pipes to accommodate the storm water runoff. **These berms and temporary drainage pipes were in addition to the sediment basins provided as part of the runoff treatment suggested by the Designer of Record.** In fact the berm that was breached (shown on the cover of the position papers) surrounded the temporary holding pond constructed to contain the runoff from off site.*

Pierce Street:

*PCL provided temporary drainage to handle the storm water runoff and maintain and protect our work. However, due to the nature of the specific rain event experienced on April 25 and 26, 2003 the **volume of water could not be contained in the temporary system.** Furthermore, due to events "beyond the control of the contractor" this **temporary system failed and subsequently catastrophic damage** occurred to the proposed work. PCL prudently took reasonable measures to protect our work.*

2. *The Department states that S-19 could have been used as an outfall by pumping treated water into it.*

*It is not reasonable to assume that **a pump could have handled the volume of flow generated** during the storm of April 25 and 26, 2003. Furthermore, it is not reasonable to assume that off-site water could be pumped for a length in excess of 500 linear feet. In addition, it is **not reasonable to assume that a pump is on constant standby to handle water that is generated from off-site.** The intensity of this rain event did not allow adequate time to reasonably respond to prevent the catastrophic damage.*

*PCL provided temporary drainage to protect the work. These features were effective for a period of 7 months prior to the catastrophic event. The **undetermined quantity of flow could not have been reasonably foreseen prior to the rain event.** The rain event of April 25 and 26, 2003 is considered a **10 year storm event** as per the FDOT Drainage Manual. Since the drainage structures along old Pierce Boulevard were abandoned during the course of construction, the system could not have handled the volume of water that was generated from off-site.*

3. *The Department contends that temporary drainage is only required to provide drainage for temporary pavement or a temporary detour.*

*PCL contends that the **lack of temporary drainage is a result of inadequate sequencing of the work on the part of the Designer.** No consideration was given for constructability of the JPA work. The installation of the JPA work **interfered with the existing storm system.** The JPA utility work had to be installed and made active and the old system removed before the embankment could be constructed and S-19 could become active. It is the **responsibility of the Designer of Record to coordinate the JPA utility plans to provide a design that could accommodate construction of the JPA utilities.** In accordance with the CPAM, it is the Engineers responsibility to oversee the utility work. Therefore, the Department should have been aware that installation of the JPA utilities would interrupt a drainage facility that would ultimately be removed, as per the contract.*

4. *The Department states that it is the Contractor's responsibility to "investigate the conditions to be encountered."*

PCL observed during the seven months prior to the event of April 25 and 26, 2003, normal rain events and the effect on the disturbed areas. PCL made accommodations to protect our work by constructing

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temporary features to control the stormwater flow. PCL is **not provided information on the outfall structure for the entire Clearwater area**. This information is however researched by the Designer of Record. Therefore, during the design process, reasonable consideration for temporary drainage should have been recognized and provision made in the contract.

5. The Department states that the rain event was not considered unusual in nature differing materially from those ordinarily encountered...

PCL's statement that the event is unforeseen is meant to be interpreted that the **unnatural catastrophic event could not have reasonably been foreseen prior to the episode**. We do not believe that the damage to the proposed work is caused by a differing site condition. However, PCL does believe that the remedial "fix" to provide additional temporary drainage is additional work and PCL should therefore be compensated. This additional work, as directed by the Department, was a reactionary measure due to the extremity of the rain event of April 25 and 26, 2003. PCL is not requesting compensation for the original temporary drainage features that were breached as a result of the catastrophic event.

6. The Department states that the Contractor is required to provide adequate drainage at all times.

PCL exercised due diligence in providing reasonable temporary drainage features to protect our work. PCL took "**reasonable precautions to prevent loss of material from the roadway due to the action of wind or water.**" Interpretation is left to what should be considered reasonable precautions. Certainly the temporary features provided by PCL were effective for a period of 7 months. This should be considered reasonable and such features were adequate prior to the catastrophic event of April 25 and 26, 2003.

In conclusion, the **undetermined amount of run-off generated from off-site could not have been reasonably anticipated**. PCL exercised due diligence in protecting our work. The untimely event of April 25 and 26, 2003 resulted in significant damage to our work. Due to the **required** construction sequence of the JPA utilities, acknowledgment of the constructability of the system and transporting off-site storm water through the site should have been recognized by the Designer of Record. Temporary drainage features were installed by PCL to protect our proposed work. These features were proven to handle normal storm water runoff. The **abnormal catastrophic event of April 25 and 26, 2003 could not have reasonably been foreseen**.

PERTINENT SPECIFICATIONS:

2000 Standard Specifications for Road and Bridge Construction

- **SECTION 7
LEGAL REQUIREMENTS AND
RESPONSIBILITY TO THE PUBLIC**
- **7-14 Contractor's Responsibility for Work.**
Until the Department's acceptance of the work, take charge and custody of the work, and **take every necessary precaution against injury or damage to the work by the action of the elements or from any other cause whatsoever**, arising either from the execution or from the nonexecution of the work. Rebuild, repair, restore, and make good, without additional expense to the Department, all injury or damage to any portion of the work occasioned by any of the above causes before its completion and acceptance, **except that in case of extensive or catastrophic damage. The Department may, at its discretion, reimburse the Contractor for the repair of such damage due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor**, including but not restricted to Acts of God, of the public enemy, or of governmental authorities.
- **SECTION 8
PROSECUTION AND PROGRESS**
- **8-3 Prosecution of Work.**
8-3.2 Submission of Working Schedule: Within 21 calendar days after Contract award or at the preconstruction conference, whichever is earlier, submit to the Engineer a work progress schedule for the project.

Provide a schedule that shows the various activities of work in sufficient detail to demonstrate a **reasonable and workable plan** to complete the project within the Contract Time. **Show the order and interdependence of activities and the sequence for accomplishing the work.**

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Describe all activities in sufficient detail so that the Engineer can readily identify the work and measure the progress on of each activity. Show each activity with a beginning work date, a duration, and a monetary value. Include activities for procurement fabrication, and deliver of materials, plant, and equipment, and review time for shop drawings and submittals. Include milestone activities when milestones are required by the Contract Documents. In a project with more than one phase, adequately identify each phase and its completion date, and do not allow activities to span more than one phase.

Conduct sufficient liaison and provide sufficient information to indicate coordination activities with utility owners that have facilities within the limits of construction have been resolved. Incorporate in the schedule any utility adjustment schedules included in the Contract Documents unless the utility company and the Department mutually agree to changes to the utility schedules shown in the Contract.

Submit a working plan with the schedule, consisting of a concise written description of the construction plan.

The Engineer will return inadequate schedules to the Contractor for corrections. Resubmit a corrected schedule within 15 calendar days from the date of the Engineer's return transmittal. When approved, the Engineer will use this original schedule as the baseline against which to measure the progress.

Submit an updated Work Progress Schedule only when the Engineer requests it. If the Engineer requires revisions to the working schedule, furnish revised charts and analyses within 21 calendar days after the Engineer provides such notification.

If the Contractor fails to finalize either the initial or a revised schedule in the time specified, the Engineer will withhold all Contract payments until the Engineer approves the schedule.

- **8-4 Limitations of Operations.**

8-4.2 Sequence of Operations: Do not open up work to the prejudice of work already started. The Engineer may require the Contractor to finish a section on which work is in progress before starting work on any additional section.

8-4.5 Drainage: Conduct the operations and maintain the work in such condition to provide adequate drainage at all times. Do not obstruct existing functioning storm sewers, gutters, ditches, and other run-off facilities.

- **SECTION 9**

- MEASUREMENT AND PAYMENT**

- MODIFIED BY:**

- SUPPLEMENTAL SPECIFICATIONS page 93 - FPID(S): 257093-1-52-01, etc...**

- 009 SCOPE OF PAYMENTS.**

- (REV 10-26-00) (FA 11-17-00) (7-01)**

- **ARTICLE 9-2 (Pages 86-89) is deleted and the following substituted:**

- 9-2 Scope of Payments.**

- 9-2.1 Items Included in Payment: Accept the compensation as provided in the Contract as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its final acceptance; also for all other costs incurred under the provisions of Division I.**

- For any item of work contained in the proposal, except as might be specifically provided otherwise in the basis of payment clause for the item, include in the Contract unit price (or lump sum price) for the pay item or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.*

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- **SECTION 104
PREVENTION, CONTROL, AND ABATEMENT OF
EROSION AND WATER POLLUTION**

- **104-1 Description.**

Provide erosion control measures on the project and in areas outside the right-of-way where work is accomplished in conjunction with the project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the project right-of-way and damage to work on the project. Construct and maintain temporary erosion control features or, where practical, construct and maintain permanent erosion control features as shown in the plans or as may be directed by the Engineer.

- **104-2 General.**

Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract. Due to unanticipated conditions, the Engineer may direct the use of control features or methods other than those included in the original Contract. In such event, the Department will pay for this additional work as unforeseeable work.

- **104-5 Preconstruction Conference.**

At the Preconstruction Conference, provide to the Department a special plan to prevent, control, and reduce erosion and water pollution, meeting the requirements or special conditions of all permits authorizing project construction. If no permits are required or the approved permits do not contain special conditions or specifically address erosion and water pollution, the project erosion control plan will be governed by Subarticles 7-1.1, 7-2.2, 7-8.1, 7-8.2, and Articles 104-1 through 104-10.

- **104-6 Construction Requirements.**

104-6.2 Incorporation of Erosion Control Features: *Incorporate permanent erosion control features into the project at the earliest practical time. Use approved temporary erosion control features to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion prior to the time it is practical to construct permanent control features, or to provide immediate temporary control of erosion that develops during normal construction operations, which are not associated with permanent erosion control features on the project.*

The Engineer may authorize temporary erosion control features when Topsoil is specified in the Contract and the limited availability of that material from the grading operations will prevent scheduled progress of the work or damage the permanent erosion control features.

104-6.3 Scheduling of Successive Operations: *Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable. Schedule and perform clearing and grubbing so that grading operations can follow immediately thereafter. Schedule and perform grading operations so that permanent erosion control features can follow immediately thereafter if conditions on the project permit.*

104-6.4 Details for Temporary Erosion Control Features:

104-6.4.1 General: *Use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw, floating turbidity barrier, staked turbidity barrier and silt fence. For design details for some of these items, refer to the Water Quality Section of the Roadway and Traffic Design Standards.*

104-6.4.3 Temporary Sod: *Furnish and place sod in accordance with Section 575 within areas designated by the Engineer to temporarily control erosion. If the Engineer determines that the sod will be of a temporary nature, he may not require fertilizer and lime. Keep the sod in a moist condition in order to ensure growth. The Department will pay for all required watering under Item No. 570-9 [2570-9].*

104-6.4.4 Temporary Mulching: *Furnish and apply a 2 to 4 inch [50 to 100 mm] thick blanket of straw or hay mulch to designated areas, then mix or force the mulch into the top 2 inches [50 mm] of the soil in order to temporarily control erosion. Use only undecayed straw*

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or hay which can readily be cut into the soil and which otherwise complies with 981-3.1. The Contractor may substitute other measures for temporary erosion control, such as hydromulching, chemical adhesive soil stabilizers, etc., for mulching with straw or hay, if approved by the Engineer. When beginning permanent grassing operations, plow under temporary mulch materials in conjunction with preparation of the ground.

104-6.4.5 Sandbagging: Furnish and place sandbags in configurations to control erosion and siltation.

104-6.4.6 Slope Drains: Construct slope drains in accordance with the details shown in the plans, the Roadway and Traffic Design Standards, or as may be approved as suitable to adequately perform the intended function.

104-6.4.7 Sediment Basins: Construct sediment basins in accordance with the details shown in the plans, the Roadway and Traffic Design Standards, or as may be approved as suitable to adequately perform the intended function. Clean out sediment basins as necessary in accordance with the plans or as directed.

104-6.4.8 Berms: Construct temporary earth berms to divert the flow of water from an erodible surface.

104-6.4.10 Temporary Silt Fences:

104-6.4.10.1 General: Furnish, install, maintain, and remove temporary silt fences, in accordance with the manufacturer's directions, these Specifications, the details as shown on the plans, and the Roadway and Traffic Design Standards.

104-6.4.10.2 Materials and Installation: Use a geotextile fabric made from woven or nonwoven fabric, meeting the physical requirements of Section 985 according to those applications for erosion control.

Choose the type and size of posts, wire mesh reinforcement (if required), and method of installation. Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective temporary silt fence that controls sediment comparable to the Roadway and Traffic Design Standards, Index No. 102.

Install all sediment control devices in a timely manner to ensure the control of sediment and the protection of lakes, streams, gulf or ocean waters, or any wetlands associated therewith and to any adjacent property outside the right-of-way as required.

At sites where exposure to such sensitive areas is prevalent, complete the installation of any sediment control device prior to the commencement of any earthwork.

After installation of sediment control devices, repair portions of any devices damaged at no expense to the Department.

Erect temporary silt fence at upland locations across ditchlines and at temporary locations shown on the plans or approved by the Engineer where continuous construction activities change the natural contour and drainage runoff. Do not attach temporary silt fence to existing trees unless approved by the Engineer.

- **104-7 Maintenance of Erosion Control Features.**

104-7.1 General: Provide routine maintenance of permanent and temporary erosion control features, at no expense to the Department, until the project is complete and accepted. If reconstruction of such erosion control features is necessary due to the Contractor's negligence or carelessness or, in the case of temporary erosion control features, **failure by the Contractor to install permanent erosion control features as scheduled**, the Contractor shall replace such erosion control features at no expense to the Department. If reconstruction of permanent or temporary erosion control features is necessary due to factors beyond the control of the Contractor, the Department will pay for replacement under the appropriate Contract pay item or items.

- **104-9 Method of Measurement.**

When **separate items for temporary erosion control features are included in the Contract**, the quantities to be paid for will be: (1) the areas, in square yards [square meters], of Artificial Coverings; (2) the area, in acres [hectares], of Mowing; (3) the volume, in cubic yards [cubic meters], of Sandbagging, measured in accordance with 530-4.1; (4) the length, in feet [meters], of Slope Drains (Temporary), measured along the surface of the work constructed; (5) the number of Sediment Basins acceptably constructed; (6) the number of Sediment Basin Cleanouts acceptably

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accomplished; (7) the number of hay or straw bales; (8) the length, in feet [meters], of Floating Turbidity Barrier; (9) the length, in feet [meters], of Staked Turbidity Barrier; (10) the length, in feet [meters], of Staked Silt Fence; (11) seeding materials in accordance with Section 570 and (12) the number of Rock Bags acceptably placed.

The quantity of floating turbidity barrier, relocated turbidity barrier, staked turbidity barrier, and staked silt fence to be paid for will be the total length, in feet [meters], furnished, installed, and accepted at a new location, regardless of whether materials are new or used or relocated from a previous installation on the project.

- **104-10 Basis of Payment.**

Prices and payments will be full compensation for all work specified in this Section, including construction and routine maintenance of temporary erosion control features and for mowing. Any additional costs resulting from compliance with the requirements of this Section, other than construction, routine maintenance, and removal of temporary erosion control features and mowing, will be included in the Contract unit prices for the item or items to which such costs are related. The work of Grassing or Sodding designated as a temporary erosion control feature in accordance with 104-6.4.2 or 104-6.4.3 will be paid for under the appropriate pay items specified in Sections 570 and 575.

Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations. The Contractor shall include these costs in the Contract prices for grading items.

Additional temporary erosion control features constructed as directed by the Engineer will be paid for as unforeseeable work.

In case of repeated failure on the part of the Contractor to control erosion, pollution, or siltation, the Engineer reserves the right to employ outside assistance or to use the Department's own forces to provide the necessary corrective measures. Any such costs incurred, including engineering costs, will be charged to the Contractor and appropriate deductions made from the monthly progress estimate.

Payment will be made under:

- Item No. 104- 1- Artificial Coverings - per square yard.
- Item No. 2104- 1- Artificial Coverings - per square meter.
- Item No. 104- 4- Mowing - per acre.
- Item No. 2104- 4- Mowing - per hectare.
- Item No. 104- 5- Sandbagging - per cubic yard.
- Item No. 2104- 5- Sandbagging - per cubic meter.
- Item No. 104- 6- Slope Drains (Temporary) - per foot.
- Item No. 2104- 6- Slope Drains (Temporary) - per meter.
- Item No. 104- 7- Sediment Basins - each.
- Item No. 2104- 7- Sediment Basins - each.
- Item No. 104- 9- Sediment Basin Cleanouts - each.
- Item No. 2104- 9- Sediment Basin Cleanouts - each.
- Item No. 104- 10- Baled Hay or Straw - each.
- Item No. 2104- 10- Baled Hay or Straw - each.
- Item No. 104- 11- Floating Turbidity Barrier - per foot.
- Item No. 2104- 11- Floating Turbidity Barrier - per meter.
- Item No. 104- 12- Staked Turbidity Barrier - per foot.
- Item No. 2104- 12- Staked Turbidity Barrier - per meter.
- Item No. 104- 13- Staked Silt Fence - per foot.
- Item No. 2104- 13- Staked Silt Fence - per meter.
- Item No. 104- 16- Rock Bags - each.
- Item No. 2104- 16- Rock Bags - each.
- Item No. 104- 75- Relocate Floating Turbidity Barrier - per foot.
- Item No. 2104- 75- Relocate Floating Turbidity Barrier - per meter.

BOARD RECOMMENDATION:

Although many issues were addressed in the position papers, based on the materials supplied to the Board and presentations to the Board at the DRB hearing, **the Board finds that**, on this particular project, under the given circumstances and damage that occurred, **the answer to the question posed:**

"Is it the Contractor's responsibility to design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits?"

is No.

BASIS OF THE BOARD'S DECISION:

The Department's position relies in part on Specification:

SECTION 8

PROSECUTION AND PROGRESS

8-3 Prosecution of Work.

8-3.2 Submission of Working Schedule: *Within 21 calendar days after Contract award or at the preconstruction conference, whichever is earlier, submit to the Engineer a work progress schedule for the project.*

Provide a schedule that shows the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the project within the Contract Time. Show the order and interdependence of activities and the sequence for accomplishing the work.

and Section:

8-4 Limitations of Operations.

8-4.5 Drainage: *Conduct the operations and maintain the work in such condition to provide adequate drainage at all times. Do not obstruct existing functioning storm sewers, gutters, ditches, and other run-off facilities.*

These sections speak to sequencing the work in a logical manner and **maintaining** the work in such condition to provide adequate drainage. There was no other sequence, utilizing existing contract features, in which the project could be constructed that would not have presented the same condition.

Neither Sections specify or address the aspect that the Contractor shall Design a Storm Water Drainage System to accommodate storm water runoff generated from outside the project limits.

The position of the Department further relies on Specification Section:

009 SCOPE OF PAYMENTS.

9-2 Scope of Payments.

9-2.1 Items Included in Payment: *Accept the compensation as provided in the Contract as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its final acceptance; also for all other costs incurred under the provisions of Division I.*

The designer did not contemplate the need of the design of temporary drainage systems to accommodate storm water runoff generated from outside the project limits; otherwise he would have included it in the plans.

However, the event that precipitated this dispute was an extensive event that occurred on April 25 and April 26, 2003. The occurrence of 4.7 inches of rain in a four hour period was indeed "extensive". It is doubtful that even extra ordinary preventive measures would have prevented the damage.

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There was **no note on the plans** that called for the Contractor to “design and construct temporary drainage systems to accommodate storm water runoff generated from outside the project limits.”

There was not a “Drainage Map” included in the plans from which the Contractor could gather the necessary information to make such design calculations.

This was not a design build project.

It has long been held that an owner implicitly warrants the information, plans and specifications furnished to the contractor and that the contractor will not be liable to the owner for loss or damage which results solely from insufficiencies or defects in such information, plans and specifications.

It is the responsibility of the Contractor to maintain drainage for the project pursuant to Section 104.

At the hearing, the Department clarified that the issue at hand was not one of prevention, control and abatement of erosion and water pollution as specified in Section 104 of the Specifications, but rather the design of temporary inlets, manholes and pipe lines that may be necessary to accommodate storm water runoff generated from outside the project limits through the project.

This Board sincerely appreciates the cooperation of all parties and the information presented for its review in making this recommendation. The Disputes Review Board’s recommendation should not prevent, or preclude, the parties from negotiating an equitable solution (should it be appropriate) to any issue pursuant to their partnering agreement.

Please remember that a response to the DRB and the other party of your acceptance or rejection of this recommendation is required within 15 days. Failure to respond constitutes an acceptance of this recommendation by the non-responding party.

I certify that I have participated in all of the meetings of this DRB regarding this issue and concur with the findings and recommendations.

Respectfully Submitted

Disputes Review Board
Robert P. Bayless P.E., DRB Chairman
John H. Duke, Sr.; DRB Member
Jimmy Lairscey P.E.; DRB Member

SIGNED FOR AND WITH THE CONCURRENCE OF ALL MEMBERS:

Robert P. Bayless P.E.
DRB Chairman

EC: Mr. Jim Moulton P.E. (jim.moulton1@dot.state.fl.us)
Mrs. Joy Christiano P.E. (joy.christiano@dot.state.fl.us)