

DISPUTE REVIEW BOARD DECISION

August 8, 1997

Faxed August 8, 1997

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Re: WPI No: 7143198
State Project No: 10190-3428/6428
F.A.P. No.: ACDPI-ACNH-0043-(6)(FO)
Contract: Interstate 4, Segment 2
Description: State Road 400 (I-4) from I-75 East to McIntosh Road
Counties: Hillsborough

Subject: I-4 Disputes Review Board - Issue #11
Finding of Fact Pertaining to Payment for Temporary Sheet Piling Placed in Baker Canal

On July 11, 1997, at the request of MK/Centennial representing the Florida Department of Transportation (DOT) and the Contractor, Cone and Graham (Cone), the Disputes Review Board heard oral testimony relating to the subject claim on the referenced project. Written documentation had previously been furnished to the Board by both parties. On August 06, 1997, the parties and the Board participated in a conference call with Ed Scarborough (Cone's past Senior Project Manager).

Issue:

Cone has requested payment under Item No. 455-133-1, Temporary Steel Sheet Piling, for the temporary sheeting placed in Baker Canal from the end of the existing culvert to the South right-of-way line (approx. 305'). Cone stated that the installation of the sheet piling was their best viable option to divert and maintain flow and prevent the flow of turbid water into the canal during construction within the canal, and they should be paid for this temporary sheeting as a temporary erosion control feature in accordance with Section 104 – Prevention, Control and Abatement of Erosion and Water Pollution of the Standard Specifications. The DOT stated that they were not informed by Cone of any intention to use the sheet piles for turbidity control and, therefore, were precluded from evaluating the desirability of the work. They contend that the temporary sheet piles were Cone's selected method to control water during construction and the cost is included in the contract unit prices for the Box Culvert items.

Construction at Baker Canal, which crosses I-4 at Sta. 1554+50 +/-, consists of replacing the existing triple 10x7 Box Culvert with a quadruple 12x10. The channel is to be excavated upstream and downstream and rubble riprap placed on the banks. A concrete weir to regulate discharge from the Mitigation Area is located in the East bank of Baker Creek north of the Box Culvert.

Exhibit I, attached, is a chronology of events and correspondence provided to the DRB:

Culvert.

Detailed excerpts from the chronology include:¹

Cone stated in their letter of 11/05/95:

"In the future we will expect payment for any erosion item² placed on the job unless you direct us not to install. In that case, if we are cited we will then file claim for any costs associated with any shut down that may occur due to the non placement.

...It might be a good idea to involve Hillsborough County EPC in case our people miss something, however, I will let you be the judge of that. I also hope that there will be no further mention of not compensating us for items clearly spelled out in the contract. "

Cone stated in their letter of 05/07/96:

"In preparation of this³ we would like to offer the following three scenarios for handling the flow of Baker Canal for your comments in hopes of achieving an amenable solution palatable to both parties.

Scenario 1

Baker Canal will be dammed off in it's entirety by way of an earth coffer dam on the south and north ends of the canal. Pumps sufficient to handle the volumetric flow rate present in Baker Canal would pump the water into Pond 6B, which would act as a settlement basin. Overflow pipes would be installed to allow the water to flow from Pond 6B down to the single box culvert at structure S-701. From here it would follow the existing/proposed drainage path back to Baker Canal on the north side of I-4 north of the proposed dam.

Scenario 2

Baker Canal would be dammed off as before and pumps with sufficient volume capacity would pump the water through a barrel of the existing box culvert while Phase I of the culverts are installed.

Scenario 3

Three of the barrels of the existing box culverts would be sheeted off with steel sheetpiling, allowing us to construct two of the new Phase I culverts. Upon completion of these two boxes, the sheet piling configuration would be reversed to allow construction of the remaining two boxes. Flow would be maintained through one box of the existing culvert at all times. "

MK stated in their letter of 05/31/96:

"Site inspections by MK Centennial on 30 May 1996 clearly confirmed the primary source of turbidity in the canal came from the mitigation area outfall ditch into Baker Canal and was directly attributable to the failure of the erosion control measures installed by the Cone Corporation. The Cone Corporation is, therefore, directed to stop all work activity within the mitigation area until properly functioning erosion control devices are installed in the outfall ditch.

The Cone Corporation will be authorized to resume work in the mitigation area only after acceptable erosion control devices and measures are in place and inspected by the Engineer. "

PBS&J wrote MK 06/11/96:

"We reviewed our files for the flow calculations in Baker Canal and found that the 25-year event was not determined since the minimum culvert design is for a 50-year event. Nor is any information available with respect to normal flows.

¹ Emphasis added.

² Temporary sheet piling would not readily be recognized as an erosion control feature

³ Box culvert construction at Baker Canal

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As I noted to you in our June 6, 1996 telephone conversation, the flow in Baker Canal actually reverses direction during heavy flow periods because of the influence of Pemberton Creek on the north side of I-4.

All the information we have available was sent to you on April 25, 1996 with respect to the flow data at the Bridge Class Box Culverts."

MK wrote Cone 6/14/96:

"Turbidity readings taken from water samples at the compliance stations on June 11, 12, 13, and 14, 1996, far exceed allowable limits. Readings as high as 164 NTUs, 162 above the background, have been recorded. These readings are directly attributable to two sources. One is the mitigation area outfall ditch into Baker Canal. The other is excavation along Baker Canal south of I-4 where erosion control measures were disregarded and removed by Craggs Construction crews.

The Cone Corporation is hereby directed to stop all work activity within the mitigation area and along Baker Canal until properly functioning erosion control devices are installed.

Although the Cone Corporation has made numerous improvements to the erosion control devices in the mitigation area, more needs to be done. In addition, construction work in or around Baker Canal must not begin without functional erosion control devices in place.

The Cone Corporation will be authorized to resume work in the mitigation area and along Baker Canal only after the erosion control devices are in place and inspected."

MK wrote Cone 6/20/96:

"Pursuant to the attached water quality monitoring report, turbidity readings at Baker Canal for 19 June 1996 were not in compliance with the permit conditions.

This situation appears to be the result of a lack of erosion control devices being installed along the recently graded banks of the Baker Canal. This condition must be immediately corrected. Please advise of actions to be taken by the Cone Corporation.

The Cone Corporation is also reminded that the failure to properly install and maintain required erosion control features constitutes a violation of the NPDES and permit requirements. Such violations are both a jailable and fineable offense."

MK wrote Cone 6/20/96 concerning its understanding of discussions held on June 04:

"Pursuant to discussions on 4 June 1996, the following shall confirm the Cone Corporation's planned construction for the subject box culvert:

- 1. Two 6" hydraulic pumps will be installed, one on each end of the canal at the right-of-way. The pumps will be capable of running 48 hours without maintenance and additional fuel, however it is intended that maintenance will be provided on a 24 hour basis.*
- 2. The upstream pump (under normal flow conditions) will be used to pump water from the Baker Canal north to the ROW. Six (6) inch pipe will be installed on the canal bank and run through the existing culvert.*
- 3. Upon completion of this installation, steel sheet pile will be driven across the canal cross-section at both the north and south ROW. Elevations of the center sections of sheet pile will be lower than the bank sections in order to provide an overflow in the event of a significant storm event. The center sheet pile section will have no more than 6" to 12" of freeboard from the normal water surface elevation.*
- 4. During the pile driving and box culvert construction operations, water from the canal will be pumped around both sheet pile dams in order to from the normal water surface elevation.*

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provide continuous water flow to the downstream wetland areas on the north side (Pemberton Creek Basin).

5. *Splash pads and turbidity control device will be installed at the pump/ pipe outfall. Additional turbidity control devices will be installed to control turbidity downstream from the pipe discharge point.*

Please review the above described Cone Corporation construction plan and advise of any planned changes, clarifications, or differences. Additionally, the following questions and concerns have yet to be addressed:

1. *What means for dewatering and turbidity control will be employed within the box culvert construction area?*
2. *How will stormwater run-off from the roadway and mitigation area be handled?*
3. *What measures for potential flow reversal during a significant storm event will be employed?*
4. *What contingency measures will be taken and how quickly in the event of equipment failure?*

As the Cone Corporation is planning to start installation of the Stage 1 box culvert section in the near future, please address these questions and concerns prior to installing the sheet pile dams at the Baker Canal. Also attached for your information, is the requested flow data⁴ at the Bridge Class Box Culverts."

MK wrote Cone 6/26/96:

"Pursuant to the attached water quality monitoring report, turbidity readings at Baker Canal for June 25, 1996 were not in compliance with the permit conditions.

This situation appears to be the result of continued erosion along the graded banks of Baker Canal. Although The Cone Corporation has installed some erosion control devices along the canal, the exposed soil continues to cause excessive turbidity during, and following, rain events. This condition must be corrected immediately. Please advise of the actions to be taken.

The Cone Corporation is reminded continued failure to meet permit and Storm Water Pollution Prevention Plan requirements could result in work stoppage and/or fines."

Cone stated in their letter of 06/27/96:⁵

- 1.) *Starting with stage 1,⁶ temporary sheeting will be installed as outlined in the attached drawing.*
- 2.) *After completion of temporary sheeting, a minimum of 2 precast box culvert barrel runs will be placed along with stage 1 of channel excavation and riprap placement along the west bank of Baker Canal.*
- 3.) *Three of the existing barrels contained within the sheet pile will be plugged to prevent backflow of water from the north.*
- 4.) *Stage 2 will merely be a reverse of Stage 1, completing the remaining precast culvert, channel excavation and rubble riprap.*

As for your questions and concerns, I offer the following:

- Q. *What means for dewatering and turbidity control will be employed within the box culvert construction area?*

⁴ This refers to PBS&J's memo to MK of June 11, 1996 which revealed that the flow in Baker Canal reversed during heavy flow periods.

⁵ This letter is RE: BOX CULVERT CONSTRUCTION AT BAKER CANAL. However, it addresses box culvert, channel excavation and rubble riprap.

⁶ The actual staging of construction seems reversed from this letter. This drawing makes no distinction between the sheeting laid parallel to I-4 and that running perpendicular to I-4 the length of the canal. (Both are shown on this drawing)

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- A. A wellpoint system will be installed to insure a stable footing for the precast units, turbidity will not be a concern mainly because all water will be pumped to pond 6A and/or 6B depending on the stage of construction.
- Q. How will the stormwater run-off from the roadway and mitigation area be handled?
- A. Roadway stormwater is handled by temporary storm structures already installed to either side of the existing/proposed culverts. As for the mitigation area, water control will have no effect on stage 1 of the culvert construction.
- Q. What contingency measures will be taken and how quickly in the event of equipment failure?
- A. **All reasonable measures have been taken into account with the method of construction.**"

Cone stated in their letter of 09/24/96:

"Upon reviewing the most recent estimate, we note that payment for the temporary sheet piles installed for the construction of S-611, lateral ditch excavation and placement of rip rap rubble along Baker Canal was not included. Please review your records and include payment for this sheetpiling in the up-coming estimate".

Conclusion:

Temporary Sheeting is a pay item on the subject project. The design and location of the Temporary Sheet anticipated is shown in the plans.

Although Cone's letter of 06/27/96 notifies the Engineer of Cone's intent to install temporary sheeting, it does not notify him that Cone expects to be paid for the temporary sheeting as an erosion control method. Temporary sheeting is not listed as a temporary erosion control item under 104-1 Basis of Payment of the Standard Specifications.

Section 104-2 General of the Standard Specifications states:

*"...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 this additional work will be paid for a unforeseeable work."*

There is no doubt that the **Engineer had the authority to direct the use of temporary sheeting** as an erosion control measure as has been done on other FDOT projects. There is no evidence in this instance that he was requested to do so. Nor was there discussion between the Contractor and Engineer as to the Contractor being compensated for installing this sheeting at that time.

During the DRB hearing, Cone acknowledged that they never addressed, requested or discussed with MK whether the Temporary Sheet Pile detailed and labeled on the drawing attached to the 06/27/96 letter would be paid for under contract item 455-133-1 prior to installation. Likewise, MK acknowledged that it never responded to this letter nor considered or discussed payment for the Temporary Sheet Pile detailed prior to Cone's letter of 09/24/96.

Cone contends that the sheets were placed in the canal to divert and maintain flow and to help control turbidity. At that time, they did not feel that they had the option of damming the Canal, because of concerns that flooding might occur. Review of the above correspondence tends to confirm that assertion. There is also no doubt that they were having considerable difficulty maintaining acceptable turbidity levels in Baker Canal. However, their letter of 06/27/96 outlining their proposed method of construction South of I-4 in Baker Canal did not describe the sheets as a means of prevention, control or abatement of erosion and water pollution. Nor did they mention payment under the item Sheet Piling (Steel)(Temporary).

outlining their proposed method of construction South of I-4 in Baker Canal did not describe the

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Cone's letters of 09/24/96 and 02/28/97 regarding payment for these sheets also did not mention their use in turbidity control. The DOT has said that the first time they were informed that one purpose for the sheets was erosion control was at a partnering meeting in April, 1997.

The DOT argues that they were not informed of Cone's intentions to utilize the sheet piling for turbidity control and did not evaluate their suitability for this purpose. They stated that they did not consider, did not direct and did not approve the use of sheet piles for erosion control.

The Board finds that Cone did not give notice to the Engineer that the installation of the temporary sheeting in question was for any other purpose than his means of dewatering the site.

The Board, therefore, finds in favor of the Department.

Note:

The Board does take notice of the Department's 1994 constructability review comments:

"...How will water be diverted for box culvert work. Will there be room to divert all water to the other existing boxes or will temporary pipe be needed?"

...there is not enough information to allow contractor to build it and maintain flow.

...Will the contractor be able to temporarily divert the flow during construction? Has the Designer analyzed the drainage to see if one of the barrels can handle the flow while the other barrels are in construction/demolition?"

Sheet piles may need to be used for water direction flow and shoring during culvert replacements."

These comments appear to have been addressed at least partially. However, it was not until 06/06/96 that MK was advised by PBS&J:

As I noted to you in our June 6, 1996 telephone conversation, the flow in Baker Canal actually reverses direction during heavy flow periods because of the influence of Pemberton Creek on the north side of I-4.

It does not appear that MK advised Cone of this until 06/20/96:

Please review the above described Cone Corporation construction plan and advise of any planned changes, clarifications, or differences. Additionally, the following questions and concerns have yet to be addressed:

...

- 3. What measures for potential flow reversal during a significant storm event will be employed?*

...

As the Cone Corporation is planning to start installation of the Stage 1 box culvert section in the near future, please address these questions and concerns prior to installing the sheet pile dams at the Baker Canal. Also attached for your information, is the requested flow data at the Bridge Class Box Culverts."

It was not until Cone received this added information that he chose to sheet the length of the canal. He so notified the Engineer of his intent on 06/27/97.

It would seem that the omission of information known to the designer from the bid documents precluded the Contractor from adequately assessing, evaluating, planning and pricing the work contemplated in Baker Canal. It appears that, in addition to failing to divulge their flow and erosion condition concerns in the canal to the Contractor, the Department prodded and pushed the Contractor into the extraordinary measure of using steel sheeting for the length of the canal by threats of work stoppage and fines because of turbidity violations. (Notwithstanding that at contemplated in Baker Canal...It appears that, in addition to failing to divulge their flow and ...

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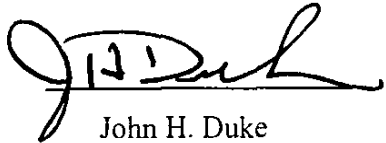
least some of the turbidity problems were due to the Contractor's failure to install and maintain erosion control features in an effective manner.) Given the nature and tendency of the soils encountered in the canal to remain in suspension and the extremely strict turbidity limit imposed by the permitting agency even heroic erosion control measures were not likely to be successful.

Since this is a Partnering Project, the Board strongly feels that the DOT and Cong. should have worked early on to cooperatively arrive at an equitable solution to this complex problem rather than forcing the Contractor to unilaterally work on the solution.

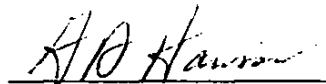
However, given the facts as presented, the Board is compelled to find in favor of the DOT.

I certify that I participated in all of the meetings of the DRB regarding the Dispute indicated above and concur with the findings and recommendations.

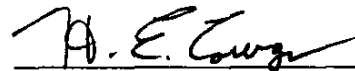
I-4 Project Disputes Review Board



John H. Duke
Chairman



G. A. "Dolph" Hanson
Member



H. E. "Gene" Cowger
Member

CC: Brian McKishnie, P.E.

EXHIBIT I

CHRONOLOGY

Listed below is a chronology of events and correspondence provided to the DRB:

- 10/12/95 Letter from MK directing Cone to remove temporary crossing at Baker Canal north of I-4 citing increased flood potential and associated hazard to motorists and property.
- 10/25/95 Cone was advised at the weekly progress meeting to provide erosion control of slopes at Baker Canal south of I-4. Said slopes had been cleared earlier than necessary for channel reconstruction.
- 11/02/95 Letter from MK including warning notice regarding uncontrolled sediment and turbid water discharge into Baker Canal from the outfall ditch running from Pond No. 7 through the mitigation site.
- 11/05/95 Letter from Cone taking issue with several statements in MK's letter of 11/02/95. They also stated that, "In the future **we will expect payment for any erosion item placed on the job unless you direct us not to install.**"
- 04/03/96 Letter from MK stating that the turbidity in Baker Canal exceeds allowable limits, apparently due to soil erosion in the proximity of Baker Canal.
- 04/25/96 Letter from Post, Buckley, Schuh and Jernigan forwarding flow information for Baker Canal. Cone had requested this information to order pumps for the project.
- 05/07/96 Letter from Cone outlining three scenarios for installation of the Box Culvert in Baker Canal. One scenario used sheeting to block three barrels of the existing culvert.
- 05/15/96 Letter from MK identified erosion control deficiencies throughout the project. Baker Canal mentioned.
- 05/31/96 Letter from MK stating that the turbidity in Baker Canal exceeds allowable limits. Primary source – Mitigation Area.
- 06/14/96 Letter from MK stating turbidity readings far exceeded allowable limits at Baker Canal. The sources of turbidity were the Mitigation Area and excavation of West bank of Canal south of I-4.
- 06/20/96 Letter from MK stating turbidity readings at Baker Canal were not in compliance due to lack of erosion control devices along the recently graded banks of the Canal.
- 06/20/96 Letter from MK referencing Cone's letter of 05/07/96 and discussions on 6/4/96. They asked the question, "What means for dewatering and turbidity control will be employed within the Box Culvert construction area?"
- 06/26/96 Letter from MK stating turbidity readings at Baker Canal were not in compliance due to contaminated erosion along the bank of Baker Canal.
- 06/27/96 Letter from Cone outlining revised planned construction for the Box Culvert at Baker Canal pursuant to discussions with MK on 6/26/96. They answer the question quoted above in MK's letter of 6/20/96 as follows, "A well point system will be installed to insure a stable footing for the project with turbidity will be the primary concern. We will for future projects, all our work with dewatering a concern with MK because all

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water will be pumped to Pond 6A and/or 6B depending on the stage of construction.” Attached to this letter was a sketch showing temporary sheeting running from the end of the existing culvert south to the right-of-way line (approx. 305’) and hence along the right-of-way line to the West bank of the Canal.

- 07/15/96 Letter from MK stating turbidity readings at Baker Canal were not in compliance due to erosion of exposed soil from the graded banks.
- 07/15/96 – Installed sheet piles at Baker Canal.
- 08/02/96
- 08/09/96 Commenced placing precast sections for three of the four barrels.
- 08/10/96 Again placing riprap on East bank.
- 08/19/96 Letter from MK re excessive turbidity readings in Baker Canal. Sources – Mitigation Area outfall ditch and excavation along Baker Canal south of I-4.
- 09/11/96 – Removed sheet piles from Baker Canal. Constructed earthen dam across Baker Canal south of I-4.
- 09/27/96
- 09/24/96 Letter from Cone requesting payment for sheet piling.
- 09/30/96 Letter from MK denying payment for sheet piling stating that the cost of temporary sheet piling necessary to dewater the area for box culvert construction is included in the contract item for that work.
- 10/07/96 Completed box culvert south of I-4.
- 11/14/96 Completed riprap along the East bank of Baker Canal south of I-4.
- 02/28/97 Letter from Cone filing claim for payment of sheet piling.