



## Director's Claims Board ODOT Project 8007(07)

Claim 12-078007-01  
Foundation Rock Socket

*Decided October 23, 2008*

On Tuesday, May 27, 2008 at ODOT's Central Office in room 4A, the Director's Claims Board Hearing Panel ("Panel") heard oral presentations of the Anthony Allega Cement Company ("Allega" or "Contractor") and ODOT District 12 relative to the subject issue. Prior to the oral presentations and in accordance with the Dispute Resolution and Administrative Claim Process set forth in the contract, the Panel received written documentation from the Contractor on February 26, 2008 and then from the District on March 24, 2008.

The Panel consisted of William Lindenbaum, P.E., P.S., Deputy Director, Division of Construction; Keith Swearingen, P.E., P.S., Deputy Director, Division of Highway Operations; Tim McDonald, P.E., Deputy Director, Division of Production Management.

The District 12 representatives at the hearing were Ron Valdman, Randy Over and Geoffrey Neeson.

Gary Thomas represented Allega. Dave Eby and Thomas Velotta made the presentation for The Velotta Company, the subcontractor involved in the disputed work.

Pam Clawson of ODOT's Division of Construction Management observed the hearing and performed the duties of Secretary of the Board.

### **PROJECT DESCRIPTION:**

This purpose of this project is to realign SR 86 in Lake County from SR 84 south approximately one mile. The work involves constructing a large fill at the north end of the project and cutting and realigning the roadway at the south end of the project. A new bridge is to be constructed over Kellogg Creek. The project originally bid at \$6,395,922.96 and is currently at \$6,962,633.52. The contract was signed on July 10, 2007 with an original contract completion date of August 31, 2009. The work is currently on schedule.

### **CLAIM BACKGROUND:**

This claim involves a dispute over final measurements for Reference 178 Shale Excavation (\$60.00/CY) and Reference 181 Class HP Concrete, Substructure, As per Plan (\$375.00/CY). The Contractor claims the condition of the existing shale made it impossible to excavate the footings to plan lines causing additional excavation (258 CY) and the subsequent replacement with additional concrete (258 CY) which should be paid for in their entirety. The over-excavation caused by the poor shale condition also resulted in additional costs for forming and to support the reinforcing steel. The total amount requested is \$137,611.92 not including allowable prime contractor mark-up on force account work.

Allega notified the project of additional work due to "plan error for the elevation of top of shale" by letter of August 15, 2007. The Area Engineer notified Allega by letter of September 10 that their request for additional work was denied. On November 8 Allega requested a Step 2 meeting. The Step 2 meeting was held on December 26, 2008 and the Step 2 decision letter rejecting the additional costs was dated December 26, 2008. Allega submitted its Notice of Intent to File a Claim on January 7, 2008 and requested a Step 3 hearing.

**SUMMARY OF CONTRACTOR'S POSITION:**

Plan sheet 310/361 includes a note stating "Abutment footings, not including the shear keys, shall extend a minimum of two feet into bedrock or to the elevation shown, whichever is lower".

The Contractor contends that bedrock was not found at the forward abutment at the elevation specified in the plans. The Contractor contends that it dug until the average bottom of the footer was 1.8 feet deeper than plan. At this point the District had its consultant, Burgess & Niple (B&N), investigate the condition of the excavation. B&N found that most of the footer was socketed into one foot of bedrock except for the western 30 feet of the excavation which had just reached bedrock. B&N recommended excavating the western 30 feet of the abutment an additional one foot in depth and that the remaining footing area required no additional excavation.

The Contractor contends that the softness of the shale prevented it from achieving a vertical face along the perimeter of the excavation. Since there was not a vertical face the District ordered the Contractor to form the sides of ~~entirety~~ of the footer. <sup>with shoring</sup> The contractor also contends that since the bottom of the excavation was not at a uniform grade it was required to perform additional work to support the reinforcing steel at the plan elevation.

The rear abutment was much longer than the forward abutment. The Contractor contends that it requested to construct the rear abutment footer in two sections due to its extreme length. The District denied this request with no reason given for the denial.

The Contractor also contends that it requested direction on the excavation of the footing due to concerns over the poor quality of the shale. The shale that was encountered was very weathered and was not competent rock. The Contractor excavated the rear abutment footer until it believed it had achieved the requirements of the plan note, being a two foot socket into bedrock, then requested an inspection from the District on September 13, 2007. B&N did not perform the inspection until September 20. The Contractor states that he was instructed to "keep digging" by the project engineer. The Contractor states that he thought this meant to keep digging in the vertical direction but the project engineer later said he meant the horizontal direction. The Contractor stated there was an inspector watching the work so the District was aware that the exaction was below plan elevation and beyond plan limits on the width. <sup>can</sup>

Lastly, the Contractor contends it used "normal" means and methods (a backhoe) to perform the abutment excavation work but could not control the trench widths due to the poor condition of the shale.

**SUMMARY OF DISTRICT'S POSITION:**

The borings in the vicinity of the footers accurately depict the actual site conditions for the type and elevation of the shale. There were two borings at the forward abutment wing wall indicating top of shale to be at elevation 603 and 606 respectively. The top of shale in that area was found to be at elevation 605.54.

The means and methods used by the Contractor resulted in additional excavation to both the forward and rear abutments and required more concrete to fill the excavation.

The 2005 Construction & Material Specifications Items 503, 508 and 511 require the contractor to fill any over-excavation with concrete at the contractor's expense. The 2005 C&MS Items 503, 508 and 511 also describe the method of measurement for excavation and limit the outer dimensions for shale/rock excavation to the outer edges of the footer. The specifications also require the Contractor to exercise care not to disturb the surrounding material. The project did authorize an additional 1 foot of excavation for 27'-6.75" of the forward abutment east wing wall footer. This excavation and subsequent concrete will be paid in the final measurements.

If the Board determines that the volume of excavation directly below the footprint of the footers is eligible for compensation, the volume based on survey records which have been calculated to be 67.58 CY for the forward abutment footer and 56.52 CY for the rear abutment footer.

The costs associated with the HP concrete should only reflect material costs. There is no tangible increase in effort to consolidate or finish the thicker footer.

The force account records the Contractor relies upon for the extra work to form the sides and support the reinforcing steel have not been verified by the District.

**DIRECTOR'S CLAIMS BOARD FINDINGS:**

I. Facts

The Board finds many of the facts contained in the submissions and presentations by the parties are either consistent or undisputed and can be relied on to form the basis of this decision.

1. Item 503.05 of the 2005 C&MS requires the contractor to fill the portion of the excavation into rock or shale that is below the top of the footing with concrete.
2. Item 503.09 of the 2005 C&MS describes the method of measurement for excavation and establishes the limits for the outer dimensions for shale/rock excavation as the outer edge of the footer.
3. Plan sheet 310/361 includes a note stating "Abutment footings, not including the shear keys, shall extend a minimum of two feet into bedrock or to the elevation shown, whichever is lower"
4. The top of the shale was encountered at or about the elevation indicated by the borings.

5. The District relied on the advice of its designer, B&N, to determine the appropriate bottom of footer elevation.
6. The shale encountered at the elevation of the footer was very weathered.
7. At the forward abutment (the first abutment excavated), the Contractor requested an inspection of the excavation when it believed it met the requirement set forth on plan page 310. At that time the average bottom of the footer was 1.8 feet lower than the plan specified bottom of footing elevation. B&N determined that most of the footer was socketed into one foot of bedrock with the exception of the western 30 feet. B&N determined that the excavation for the western 30 feet had just reached bedrock. B&N recommended ceasing excavation on all but the western 30 feet of the footing. B&N recommended that the western 30 feet of the abutment be excavated one additional foot in depth.
8. The Contractor was required to provide supports for the reinforcing steel so that it could be placed at the plan specified elevation.
9. During its inspection of the excavation for the rear abutment footing B&N determined that the entire footing and shear key would be socketed into competent shale.”

Other information was presented that was not mutually agreed upon by both parties but were used, tempered with judgment and experience, by the Board to form the basis of the decision.

1. The District submitted sketches of the abutment footing excavations it alleges to have prepared from field measurements provided by the Contractor. During its presentation the Contractor indicated that he did not accept the width dimensions in the sketches presented by the District as accurate. However, the dimensions shown on the District's sketches are identical to the dimensions presented by the Contractor in its Step 2 documents. The Board finds the sketches submitted by the District to be the best evidence of the size of the excavation and the volume of work performed by the contractor.
2. There was misunderstanding by both the District and the Contractor as to the purpose of the plan note's "two feet into bedrock" requirement.
3. There was miscommunication on the project when the Contractor was told to "keep on digging".

## II. Conclusions

The total overrun of the excavation and accompanying concrete quantities, for which the Contractor is requesting compensation, were a result of two factors: additional depth and additional width of the footings.

The contract contained a plan note which read: "Abutment footings, not including the shear keys, shall extend a minimum of two feet into bedrock or to the elevation shown, whichever is lower". The Contractor was attempting to excavate two feet into what it considered "competent shale". For the purposes of a spread-footer, keying it into two feet of solid, stable shale is not necessary to achieve the

design parameters. It is the opinion of the Board that the Contractor was not given detailed and timely guidance by the District as to the requirements to meet the intent of the plan note.

The Board was not presented with enough evidence to be persuaded that the condition of the shale impacted the Contractor's ability to control of the width of the footer excavation. The fairly consistent trench width that was evident in the District's dimensioned sketches, as well as the pictures of the excavations presented lead the Board to the conclusion that the stability of the side slopes was not the cause of the excessive width but rather the Contractor's lack of field control of the excavation.

The Board finds that shale was removed below plan elevation to meet the intent of the plan note and thus, the Contractor is not responsible for the additional volume associated with the additional depth. However, the Contractor did not adequately control the width of the excavation and is responsible for additional excavation, concrete and other costs resulting from the additional width. The additional volume, directly below the planned footprint of the footers, will be paid at the appropriate bid prices.

Burgess and Niple recommended maintaining the reinforcing steel at the planned elevation. Because the elevation was lowered, additional time and materials to support the reinforcing steel was required. This work will be reimbursed by ODOT since it is a direct result of excavating the footing to a greater depth.

Additional forming was required due to the over excavation of the footing width. All the expenses due to additional width excavation must be borne by the contractor.

**DAMAGES:**

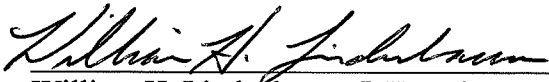
As calculated by the District, the additional volume is 67.58 CY for the forward abutment footer and 56.62 CY for the rear abutment footer. The shale excavation was bid at \$60.00 per CY and the HP substructure concrete was bid at \$375.00 C.Y. This totals \$54,027.

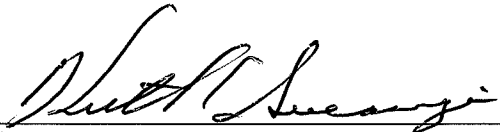
Force account costs were submitted by the Contractor but included costs for both the forming and the supporting of the reinforcing steel. For the purposes of resolution the Board will pay 2 workers, 1 day for each abutment for the work to support the reinforcing steel, which calculates to \$1,669.63 with the appropriate markup. The costs for the brick and block used to support the steel totaled \$394.45 including markup.

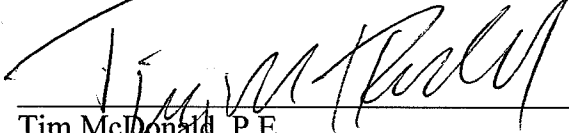
The total damage as determined by the Board is \$56,091.08.

This recommendation submitted this 23rd day of October, 2008.

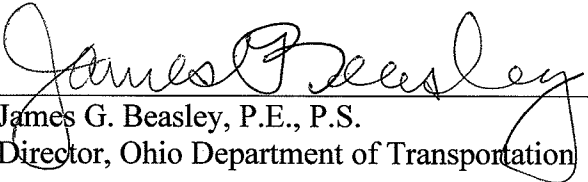
Director's Claims Board:

  
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William H. Lindenbaum, P.E., P.S.  
Deputy Director, Division of Highway Operations

  
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Keith Swearingen, P.E., P.S.  
Deputy Director, Division of Construction

  
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Tim McDonald, P.E.  
Deputy Director, Division of Production Management

Approval of this recommendation:

  
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James G. Beasley, P.E., P.S.  
Director, Ohio Department of Transportation

11/10/08  
Date

NOTE: THE PRECEDING IS AN "OFFER TO COMPROMISE" A DISPUTE SUBMITTED ON BEHALF OF THE OHIO DEPARTMENT OF TRANSPORTATION AS THAT PHRASE IS SET FORTH IN RULE 408 OF THE OHIO RULES OF EVIDENCE; THEREFORE, ANY ADMISSION OF FACT HEREIN OR ANY STATEMENT REGARDING AN OFFER TO RESOLVE THE DISPUTE HEREIN IS DEEMED INADMISSIBLE IN AN SUBSEQUENT LEGAL PROCEEDING.