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STATE OF ALASKA,
DEPARTMENT OF LABOR,

Complainant,

vs.

H & H CONTRACTORS, INC.,

Contestant.

Docket No. 90-831
Inspection No. FR-7660-052-90

DECISION AND ORDER

This matter arises from an occupational safety and health inspection of a worksite under the control of H & H Contractors, Inc. ("H & H") on May 25, 1990 at 10th and Noble Streets in Fairbanks.

As a result of the inspection, the State of Alaska, Department of Labor ("Department") issued several citations to H & H for violations of Alaska occupational safety and health codes. Citation 1a alleges that H & H violated Construction Code 05.160(c)(3) by failing to shore or slope a trench more than four feet in depth and eight feet in length. Citation 1b alleges a

violation of Construction Code 05.160(b)(9)(A) for failing to store excavated material at least two feet or more from the edge of the trench. Both violations were grouped into a single "serious" citation and a penalty of $600 was assessed.

Citation 2 alleges a violation of Construction Code 05.050(a)(1) for failing to require employees to wear hard hats while working in a trench. The violation was classified as "serious" and a penalty of $600 was assessed.

Citation 3 alleges a violation of Construction Code 05.160(c)(8) for failing to provide a ladder as an adequate means of exit within 25 feet of where employees were working in a trench. The violation was classified as "other than serious" and no monetary penalty was assessed.

H & H timely contested the Department's citations, bringing the matter within the Board's jurisdiction. A public hearing was held before the full Board on December 12, 1990 in Fairbanks. The Department was represented by Assistant Attorney General Toby N. Steinberger. H & H was represented by Tony Nelson, its engineer in charge of the project. Both parties submitted evidence and made arguments to the Board. In addition, H & H withdrew its contest of Citation 3 and limited its contest of Citation 2 to the monetary penalty only.

Upon consideration of the evidence presented and the arguments of the parties, the Board makes the following findings of fact, conclusions of law, and order.

FINDINGS OF FACT

1. At approximately 11:00 p.m. on the evening of May 25, 1990, Department compliance officer Paul Frith drove past an excavation site on 10th and Noble Streets in Fairbanks. After observing the site, he became concerned that the trench under excavation was not adequately shored or sloped. He went home, got his measuring tape and camera, and returned to the site approximately 30 minutes later.

2. Frith is primarily an occupational health inspector for the Department but has been cross-trained to perform safety inspections and has completed courses in OSHA trenching requirements.

3. Pursuant to Program Directive 85-10, the Department has implemented a special emphasis program on trenching and excavation which requires all compliance officers to be on the lookout for safety violations (see Exhibit 6).

4. Upon returning to the excavation site, Frith observed a long and deep trench from a private residence out to the street (see Exhibits 3, 4 and 5). The portion of the trench from the house to the sidewalk had been excavated by Hilton Pumping and Thawing. The portion of the trench from the sidewalk into the street was being excavated by H & H.

5. According to Frith, the sides of the trench were nearly vertical and not in compliance with code requirements that they be sloped or shored. He measured the depth of the trench at

approximately 9-1/2 feet. He also noted a large pipe at the bottom of the trench (see Exhibit 1). According to City engineering records, the sewer main at 10th and Noble is located at a depth of approximately 9-1/2 feet (see Exhibit 12).

6. Because he believed the ditch was unsafe, Frith did not actually enter it to measure its width. However, based on the dimensions of the pipe at the bottom of the trench, he estimated that the trench was approximately 38 to 40 inches wide at the bottom and approximately 5-1/2 to 6-1/2 feet wide at the top. The uneven sides of the trench, combined with the spoil piles placed at the top edges of the trench, made it difficult to precisely measure the top width of the trench (see Exhibits 1, 3 and 4).

7. According to Frith's calculations based on the estimated width at the bottom of the trench, a properly-sloped trench should have had a width of at least 8-1/2 feet at the top (see Exhibit 10).

8. The soil conditions at the site consisted of asphalt on top of two feet of select gravel and unclassified material below (see Exhibit 9). Frith testified that the top two feet of soil were generally hard and compacted with portions that were dry and crumbly. In his opinion, at least the top three to four feet of soil were thawed and were subject to sloughing or sliding. Frith also took into account the significant vibration from the constant flow of traffic immediately adjacent to the

trench. Tenth Street is considered an arterial with approximately 3,300 cars per day.

9. It was still light during Frith's inspection. Temperatures during the day had reached into the mid-70s.

10. During his inspection, Frith spoke to Mike Erickson, the H & H on-site supervisor. When Frith asked Erickson whether the trench had been sloped according to the code, Erickson said no and began immediate efforts to abate the hazard to avoid receiving an imminent danger (red tag) citation.

11. Frith also pointed out spoil piles which had been placed along the top edges of the trench (see Exhibits 1, 2, 3 and 4). H & H immediately took steps to move the piles away from the edge of the trench.

12. Frith further observed an H & H employee, Jim Erickson (son of the H & H foreman), working inside the trench without a hard hat (see Exhibits 1 and 2).

13. Due to the potential for serious injury in the event of a trench collapse, Frith recommended that the sloping violation, the spoil pile violation, and the hard hat violation be classified as "serious" violations.

14. Since the sloping violation and the spoil pile violation involved similar or related hazards, they were grouped into a single "serious" citation. The proposed penalty of $1,000 was decreased by 40 percent due to H & H's small company size, good faith in abating the violations, and no previous history of

violations. The penalty for the hard hat violation was similarly reduced.

15. Larry Long, a plumbing and mechanical inspector for the City of Fairbanks for the past nine years, was called in to inspect the excavation site after being notified that some of the buried pipe was rotten. Long, who had previously operated his own excavation business, confirmed Frith's estimate that the top of the trench was approximately five to six feet wide. He also saw several workers in various parts of the trench and noted that spoil piles had been placed on both sides of the trench at the top edge. Long agreed with Frith's assessment that the trench was not safe.

16. The Department presented the testimony of Terry McFadden as an expert witness. McFadden is a professor of engineering at the University of Alaska-Fairbanks and also serves as vice president of McFadden Engineering and Consulting (see Exhibit 14). He has substantial experience and expertise in cold weather engineering and construction.

17. According to Professor McFadden, the soil at the excavation site had thawed to an approximate depth of four to 4.3 feet (with a margin of deviation of up to one foot). His estimate was developed using the "Bergman equation" to calculate the depth of thaw based on the following assumptions: two feet of compacted gravel over unclassified soil; a moisture content of

15 percent; and an average number of degree days based on previous climate records.

18. In the event the sides of the trench were to collapse on an employee, Professor McFadden estimated that the approximate weight of the "wedge area" falling on the employee (as depicted in Exhibit 10) would be 2,500 pounds over a six-foot long section. In his view, such a collapse would likely be sudden and devastating.

19. Based on his knowledge of the facts of this case, Professor McFadden further stated his opinion that a 45 degree angle of repose would be the minimum safe slope for the trench in question. It was his belief that the trench was unsafe for employees working inside it.

20. Tony Nelson was H & H's engineer in charge of the excavation project. He was at the excavation site only briefly on May 24-25 and was not present during Frith's inspection.

21. Nelson disagreed with some of Frith's observations and measurements regarding the trench. Specifically, he contended that the top width of the ditch was greater than five to six feet and was more likely eight to nine feet. He also felt the ground was sufficiently frozen to prevent any danger of collapse. However, he acknowledged that frozen ground had been encountered at a depth of about four feet, which would be consistent with Professor McFadden's calculations. Nelson did

not present any of his own measurements of the trench or thaw calculations other than visual estimates.

22. Nelson testified that H & H made an effort to try to keep the spoil piles away from the edges of the trench, and that any failure to do so was minimal and inadvertent.

CONCLUSIONS OF LAW

Citation 1a: Upon consideration of the testimony and exhibits presented, particularly the photographs marked as Exhibits 1-5, we conclude that the Department has demonstrated by a preponderance of the evidence that the sides of the trench excavated by H & H were not adequately or sufficiently sloped. There is no question that the trench was more than four feet in depth and more than eight feet in length. The photographs convincingly demonstrate that the areas of the trench where H & H employees were working were only slightly sloped or not at all (see, e.g., Exhibit 1). On trenches of this depth, the Construction Code requires an angle of repose of no less than 1:2, as illustrated in Exhibit 10. The proper angle of repose would have resulted in a top trench width of at least 8-1/2 feet. Although the top width of the trench varies from section to section, a preponderance of the evidence persuades us that the trench was not sufficiently wide at the top to demonstrate adequate sloping of the sides.

H & H argues that the inspector failed to take direct and precise measurements of the trench, his photos were not "scientific," and he made arbitrary judgments regarding the relevant dimensions. Alaska OSHA law, however, does not require that the Department prove safety or health violations beyond any reasonable doubt. While the Department does have the burden of proving code violations, it meets that burden by showing that it is more likely than not that the cited code provision was violated. This is known as a "preponderance of the evidence."

The inspector did use measuring tape to measure the depth of the trench at 9-1/2 feet. He visually estimated the width of the bottom of the trench by comparing it to the diameter of a pipe resting on the bottom. There is no requirement that the inspector must enter a trench whose safety is questionable in order to take the most accurate measurements possible. To do so would endanger the inspector as well as any employees working in the trench. All that is required is a reasonable estimate under the circumstances. We believe the inspector met this standard in this case.[1/] We also find it significant that the inspector's observations, measurements and conclusions were largely corroborated by the local plumbing and mechanical inspector.

1/ Of course, where the Department has available specialized measurement equipment such as an inclinometer or a telescoping measuring device, it should make use of such equipment. Videotaping the worksite may also be useful to help establish dimensions, distances or spatial relationships.

H & H also insists that the ground was frozen in the area of the excavation, obviating the need for any shoring or sloping. This objection is without merit. First, the clear weight of the evidence indicates the soil was thawed down to a depth of four feet, meaning it presented a significant hazard because it was more likely to collapse or cave in on an employee working in the trench. Second, the Construction Code makes no allowance or exception for frozen conditions or the temperature of the soil. Even if the ground were frozen right to the surface, the Code would still require adequate sloping.

In its contest letter prior to the hearing, H & H made the additional argument that it was not responsible for the section of the ditch found to be unsafe. The testimony at the hearing, however, made clear that the citations were based on the portion of the ditch from the sidewalk into the street, for which H & H was responsible. In addition, Exhibits 1 and 2 depict an H & H employee working in an unsafe area of the trench.

Citation 1b: Here again, the Department's photographs serve to graphically illustrate the hazard posed by the spoil pile placed at the top edges of the trench. It is not difficult to see how such material could easily fall on an employee working in the ditch. The likelihood of such an event is further enhanced by the vibrations from the constant flow of traffic immediately adjacent to the trench. Despite H & H's contention in its contest letter that the trench was evacuated of personnel

until the spoil piles were moved away from the ditch, the photographs and the testimony presented at the hearing demonstrate otherwise.

H & H contends that the spoil pile violation was caused by the other contractor and therefore should not be its responsibility. The photographs, however, show spoil piles immediately adjacent to the area excavated by H & H from which it can be reasonably inferred that H & H placed them there. Even if H & H's contention were true, we have repeatedly held -- consistent with federal OSHA law -- that contractors are responsible for known safety hazards to which their employees are exposed even if those hazards were created by another person or contractor. See, e.g., Dept. of Transportation and Public Facilities, Docket No. 90-817, Decision and Order at 5 (December 21, 1990); see generally Rothstein, Occupational Safety and Health Law § 166 (3d ed. 1990).

Citation 2: H & H admits liability for this citation but argues that a warning would be more appropriate. However, neither federal nor Alaska OSHA law permit warnings to be issued in place of citations for demonstrated code violations. Once observed, the law requires that a violation such as failure to wear a hard hat must be cited. H & H's arguments in this regard are more appropriately directed to the Legislature rather than to this Board. Further, there is no evidence that H & H was singled out for harassment or selective enforcement. H & H has failed to

carry its burden of proof as to any such claim. See Rothstein, supra, at § 124.

Penalties: H & H contests the penalty amounts as excessive. However, the evidence shows that in its penalty calculations, the Department awarded H & H a reduction of 40 percent on both Citations 1 and 2 for company size, good faith and lack of previous violations. We believe these reductions were appropriate and find no basis to make any further adjustment to the penalty amounts.

ORDER

Based on the foregoing findings of fact and conclusions of law, the Board hereby AFFIRMS the citations and penalties issued by the Department.

DATED this 11th day of March, 1991.

ALASKA OCCUPATIONAL SAFETY
AND HEALTH REVIEW BOARD

J.C. Wingfield, Chairman

Donald F. Hoff, Jr., Member

Lawrence D. Weiss, Member