OAH 65-1901-31124

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE DEPARTMENT OF LABOR AND INDUSTRY

Ken B. Peterson, Commissioner, Minnesota Department of Labor and Industry,

Complainant,

vs.

A-1 Excavating, Inc.,

Respondent.

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

This matter came before Administrative Law Judge Ann O'Reilly for a hearing on August 5, 2014.

Eric J. Beecher, Assistant Attorney General, appeared on behalf of the Minnesota Department of Labor and Industry (Department). Thomas R. Revnew appeared on behalf of A-1 Excavating, Inc. (Respondent or A-1).

At the conclusion of the Department's case-in-chief, Respondent made a Motion to Dismiss (Motion) pursuant to Minn. R. Civ. P. 41.02(b).

The Administrative Law Judge offered Respondent the opportunity to present its case-in-chief before ruling on the Motion. Respondent requested the opportunity to brief the issues and return to complete the presentation of its evidence if its Motion is denied.

The Motion record closed upon the Administrative Law Judge's response to post-hearing correspondence on November 19, 2014.

SUMMARY OF CONCLUSIONS

The Administrative Law Judge concludes that the Department has failed to satisfy its burden by proving the alleged violations by a preponderance of the evidence. As a result, Respondent's Motion to Dismiss is **GRANTED**.

Based on the evidence in the hearing record, the Administrative Law Judge makes the following:

FINDINGS OF FACT

1. Respondent is an "employer," as defined by Minn. Stat. § 182.651, subd. 7 (2014).[1] As an employer, Respondent is subject to the Minnesota Occupational Safety and Health Act of 1973, set forth in Minnesota Statutes, chapter 182 (2014).

2. Minnesota Statutes section 182.653, subdivsion 3 (2014) and Minnesota Rules part 5205.0010 (2013) incorporate into Minnesota law the federal standards promulgated under the United States Occupational Safety and Health Act of 1970 (OSHA).[2]

3. Respondent is an excavation contractor.[3] According to the Minnesota Occupational Safety and Health Administration (MNOSHA), excavation "is one of the most hazardous construction operations."[4] The primary hazard of excavation work generally, and trenches in particular, is the potential for cave-ins.[5] Cave-ins can cause crushing injuries, including asphyxiation and death.[6] There is usually no warning before a cave-in.[7]

4. Several factors indicate the likelihood of a cave-in, including the size of the excavation, the slope of the walls, the type of soil involved, the presence of water in the excavation, and any vibrations caused by equipment or passing traffic.[8]

5. Due to the dangers associated with excavation, the federal Occupational Safety and Health Administration (OSHA) has created special enforcement programs for trenching and excavation violations.[9] These programs are also administered on the state-level by MNOSHA, a division of the Department of Labor and Industry.[10]

Subject Inspection

6. On May 28, 2013, Respondent was performing an excavation at the intersection of Oxford Street and Livingston Avenue in Duluth, Minnesota.[11] The project included the replacement of municipal water mains and storm sanitary sewers.[12]

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[1] Complaint at 1 (August 22, 2013); Respondent's Answer and Affirmative Defenses (Answer) at 1 (September 6, 2013).
[2] *See* Minn. Stat. § 182.653, subd. 3; Minn. R. 5205.0010.
[3] Complaint at 1 (August 22, 2013); Respondent's Answer and Affirmative Defenses (Answer) at 1 (September 6, 2013).
[4] Exhibit (Ex.) 16.
[5] Testimony (Test.) of John Lawless at 16.
[6] *Id*.
[7] Ex. 16.
[8] Test. of J. Lawless at 17-18.
[9] *Id.* at 17.
[10] *Id.*
[11] Complaint at 1; Answer at 1; Test. of J. Lawless at 26-27; *see also* Minn. Stat. § 182.651, subd. 10 (2014) (defining "place of employment" as "any factory, plant, foundry, construction site, farm workplace, premises, vehicle or any other work environment where any employee is during the course of employment").
[12] Test. of J. Lawless at 27.

7. Earlier that day, MNOSHA received a citizen report that work was being performed in an excavation "without any protective systems."[13] John Lawless (Lawless), a consumer safety investigator with MNOSHA, was assigned to investigate the report.[14]

8. At the time of the report, Lawless had been employed by the Department for less than a year and had only performed approximately five trench inspections.[15] All training that Lawless had received related to trenching and excavations was provided in-house by MNOSHA.[16]

9. After receiving the report, Lawless drove to the jobsite and parked his car approximately one-half block from the excavation to observe the work being performed.[17] From his car, Lawless saw an excavator in operation.[18] He also witnessed two employees (later identified as Contact 3 and Contact 4) enter into the excavation.[19]

10. Lawless got out of his vehicle and took some pictures before proceeding to the jobsite to interview the workers.[20] By the time Lawless reached the excavation, Contacts 3 and 4 had exited the excavation.[21]

11. When he reached the jobsite, Lawless asked Contacts 3 and 4 who was in charge of the project.[22] Contacts 3 and 4 identified the excavator operator (Contact 2) as the "competent person" in charge of the operation.[23]

12. According MNOSHA guidance materials, a "competent person" is one who: (1) has had training in, and is knowledgeable about, soils analysis, the use of protective systems, and the requirements of the trenching and excavation standards; (2) is capable of identifying existing and predictable hazards in excavation work; and (3) has the authority to take prompt measures to abate hazards.[24]

13. Lawless then spoke with Contact 2, the excavator operator, who confirmed he was the "competent person" on the work site at that time.[25] Contact 2 stated that he had opened the excavation that morning.[26]

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[13] *Id.* at 28.
[14] *Id.*
[15] *Id.* at 72-73.
[16] *Id.* at 14, 71-72
[17] *Id.* at 76.
[18] *Id*. at 28.
[19] *Id*.
[20] *Id.* at 77.
[21] *Id*.
[22] *Id.*
[23] *Id*. at 29.
[24] Ex. 12 at DLI 0288.
[25] Test. of J. Lawless at 29.
[26] *Id*. at 30.

14. During the opening conference, Contact 2 told Lawless that the job supervisor was currently off-site gathering materials.[27] The employees further informed Lawless that they were unable to properly slope the trench because they were not allowed to remove the curb and gutters.[28]

15. Contacts 3 and 4 acknowledged entering into the excavation. Contact 3 told Lawless that he had entered the excavation to position a grade stick to determine the depth of the excavation.[29] Contact 4 stated that he had entered the excavation to reposition the dewatering pump being used in the excavation.[30] Contacts 3 and 4 further informed Lawless that they had climbed down the side of the excavation to enter and climbed back up the same side to exit.[31] The employees did not mention using the dirt ramp.[32]

16. Lawless walked around the jobsite to observe the conditions of the excavation.[33] Through visual observation and a measurement of the sloped wall, Lawless estimated that the depth of the excavation was greater than five feet.[34]

17. Federal regulations require that each employee in an excavation deeper than five feet be protected from cave-ins by "an adequate protective system."[35] Protective systems include sloping, benching, and shielding systems, such as trench boxes and shoring, as expressly specified in the regulation.[36]

18. Lawless observed no benching, trench boxes, shoring, or other shield systems in place in the excavation.[37] The only protective system being utilized by A-1 in the excavation appeared to be a sloping system.[38] A sloping system is simply an excavation dug at an angle, with a wider opening and a narrower base.[39]

19. A sloping protective system is only permitted for an excavation if the slope of the excavation wall does not exceed the "maximum allowable slope."[40] "Maximum allowable slope" is defined in the federal OSHA regulations to mean:

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[27] *Id*. at 31.
[28] *Id*. at 42-43.
[29] *Id*. at 35.
[30] *Id*. at 35-36.
[31] *Id*. at 36.
[32] *Id.*
[33] *Id*. at 31.
[34] *Id.* at 39.
[35] 29 C.F.R. § 1926.652.
[36] *Id.*
[37] Test. of J. Lawless at 42.
[38] *Id.*
[39] 29 C.F.R. pt. 1926, subp. P, at Appendix B (2014).
[40] *Id.* at appendix A (2014).

> [T]he steepest incline of an excavation face that is acceptable for the most favorable site conditions as protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).[41]

20. To determine whether the sloping of an excavation meets the requirements of 29 C.F.R. § 1926.652, the OSHA inspector must determine: (1) the soil type of the ground being excavated; and (2) the angle of the maximum allowable slope for the soil type identified.[42]

21. There are four soil types identified under the federal regulations: Stable Rock, Type A, Type B, or Type C.[43] Each of these soil types dictates a different maximum allowable slope ratio.[44] For example, Stable Rock allows a nearly vertical excavation of 90 degrees.[45] Type B soil requires a horizontal distance to vertical rise (H:V) of 1-to-1 or no more than a 45 degree slope.[46] Type C soil requires a horizontal distance to vertical rise of 1½ -to-1 or no more than a 34 degree slope.[47] In other words, the looser the soils, the more sloping is required, resulting in a lesser maximum allowable slope.[48]

22. Soil typing can be performed by a "competent person" who is trained in the analysis of soils.[49] A-1's excavator operator (Contact 2) was the "competent person" on site who determined the soil type for the excavation.[50] Contact 2 told Lawless that he qualified the soil as Type C because it had previously been disturbed when the sewer and water pipes were first installed.[51]

23. Lawless concurred that the soil in the excavation looked "very granular and didn't appear very cohesive," which would be consistent with a Type C soil.[52] Lawless took a soil sample from a "spoil pile" (i.e., soil that had been removed as part of the excavation), but the sample was never tested to determine the soil type.[53] Lawless also had a penetrometer (a tool used to test the compressive strength of subsoil) with him at the jobsite, but he did not use it to test the soil.[54] He likewise did not perform a plasticity test, conduct a dry strength test, or permeate the soil with his thumb to determine the soil type.[55] Based solely upon his visual observation of the soil sample

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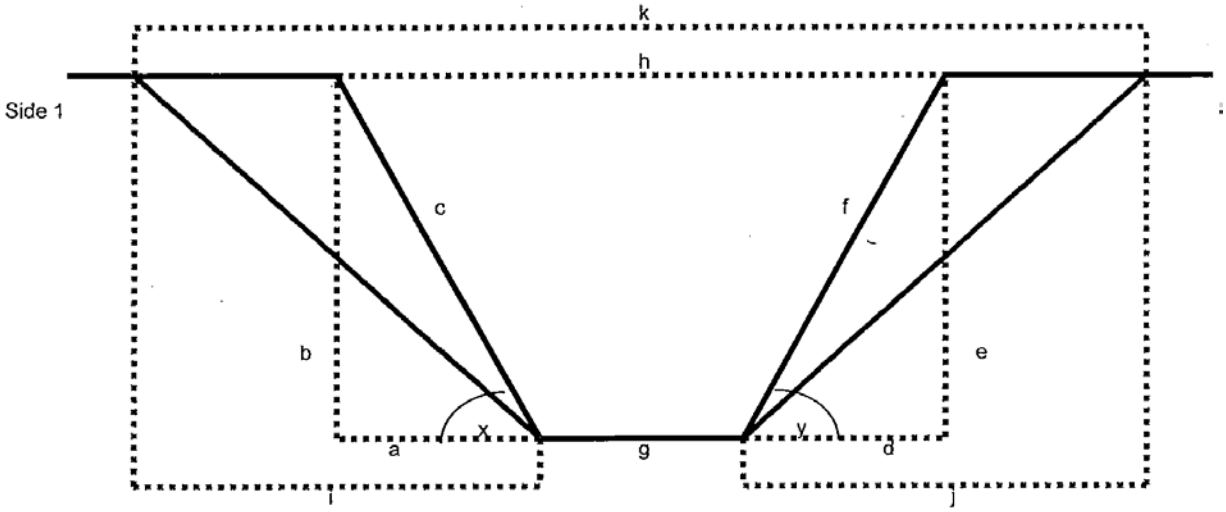
[41] *Id.* at Appendix B.
[42] *Id.* at Appendix A, B.
[43] *Id.* at Appendix A.
[44] *Id.* at Appendix B.
[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *Id.*
[49] Ex. 12 at DLI 288.
[50] Test. of J. Lawless at 29.
[51] *Id.* at 30.
[52] *Id*.
[53] *Id*. at 84-86.
[54] *Id*. at 87.
[55] *Id*. at 88.

from the spoil pile, Lawless concluded that the soil was Type C, as identified by Contact 2.[56]

24. Next, Lawless set out to determine whether the sloping system used was compliant with OSHA regulations. For Type B soils, the maximum allowable slope is one-to-one (1:1) horizontal distance to vertical rise, or a 45 degree slope, measured from the bottom angle.[57] For Type C soil, the maximum allowable slope is one-and-a-half-to-one (1½:1) horizontal distance to vertical rise, or a 34 degree slope, measured from the bottom angle.[58] This means that the width of the excavation, measured from the top, must be at least one-and-a-half times longer than the depth of the excavation; or the angle of the excavation face (i.e., sloping wall), as measured from the bottom angle, as shown as "x" and "y" in the diagram below, must be no more than 34 degrees.[59]

25. This concept is best explained by the MNOSHA in the following diagram:[60]



Key		
a & d	Horizontal distance of excavation face	h Top width
b & e	Depth	i Side 1 required horizontal
c & f	Length of excavation faces at angles x & y	j Side 2 required horizontal
x & y	Angle of excavation faces	k Required Top Width
g	Bottom width	

[56] *Id.* at 84-88
[57] 29 C.F.R. pt. 1926, subpart P, at Appendix B (Table B-1).
[58] *Id.*
[59] *Id.; see also* Department's Memorandum in Opposition to Motion to Dismiss at 18 (September 26, 2014).
[60] Ex. 12 at DLI 306.

26. Despite the fact that Lawless was called to investigate an alleged trenching or excavation violation, Lawless did not bring a "smart level" or a slope meter with him to the jobsite to measure the angle of the slope.[61] Consequently, he was left to determine the angle of the slope based upon other measurements and calculations.[62]

27. Lawless concluded that it would be unsafe to enter the excavation to measure the bottom width or the depth of the excavation.[63] As a result, he simply "guesstimated" these measurements.[64]

28. For the depth measurement, Lawless extended his tape measure down to the bottom of the excavation from one of the sloped sides, thereby measuring the depth of the excavation at an angle.[65] Lawless does not know what the exact measurement of the sloped wall was, but he estimated that it was "greater than 10 feet."[66] From that, he concluded that the depth of the trench was "approximately 10 feet."[67]

29. Lawless acknowledges that measuring the depth at an angle would not result in the same measurement if done vertically.[68] Thus, Lawless concedes that his depth measurement was only a "guesstimate" of the depth of the excavation.[69]

30. The Administrative Law Judge takes judicial notice of the fact that measuring depth at an angle results in a longer measurement than measuring on a straight vertical line.[70]

31. Similarly, because Lawless deemed it unsafe to enter the trench, he only estimated the bottom width of the excavation.[71] He did this by measuring the width of the backhoe bucket.[72] Lawless explained that, based upon his observations and his discussions with the backhoe operator, the trench "appeared to be approximately two bucket widths wide."[73] Lawless then measured the backhoe bucket, which he determined was three feet wide.[74] Using this measurement, Lawless concluded that the bottom width of the excavation was approximately six feet (or two bucket widths wide).[75]

32. As for the top width of the excavation, Lawless was able to obtain a more accurate measurement. By soliciting the assistance of the excavator operator, Lawless

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[61] Test. of J. Lawless at 75-76.
[62] *Id*. at 37.
[63] *Id.* at 41, 100.
[64] *Id.* at 83.
[65] *Id.* at 39, 83, 121-23.
[66] *Id*. at 39, 122.
[67] *Id*. at 122.
[68] *Id.* at 121-22.
[69] *Id.* at 39, 83, 121-22.
[70] *See* Minn. Stat. § 14.60, subd. 4 (2014); Minn. R. 1400.8100, subp. 2 (2013).
[71] Test. of J. Lawless at 40-41.
[72] *Id.* at 40.
[73] *Id.*
[74] *Id.*
[75] *Id.*

extended his tape measure across the excavation.[76] That measurement was "approximately 16 feet."[77]

33. Using these estimated measurements, Lawless concluded that the slope of the excavation was less than the one-to-one horizontal-to-vertical (H:V) ratio required for Type B soil, and was, therefore, less than the one-and-a-half-to-one (1½ : 1) horizontal-to-vertical (H:V) ratio required for Type C soil.[78] (If an excavation slope exceeds the maximum slope Type B soil, it necessarily exceeds the maximum slope for Type C soil, which has a lower maximum allowable slope.)[79]

34. According to Lawless, he was trained to determine the sufficiency of a slope by taking "twice the depth and adding the bottom measurement of the excavation to achieve the width of what the top of the excavation should be."[80] Lawless could not, however, explain why or how his calculation method resulted in a determination that the horizontal-to-vertical (H:V) ratio was not met.[81] When the Administrative Law Judge specifically asked why the depth was multiplied by two, Lawless responded that it was "[j]ust in the training that I received, that's how we calculate it."[82]

35. Based upon his depth "guesstimate" of 10 feet and his bottom width estimate of six feet, Lawless calculated that the required top width of the excavation should be 26 feet (2 x 10 feet + 6 feet = 26 feet) to achieve a one-to-one horizontal to vertical ratio required for Type B soil.[83] Because Lawless measured the top width to be only 16 feet, Lawless concluded that the excavation exceeded the maximum allowable slope for Type B soil and, therefore, also exceeded the maximum allowable slope for Type C soil.[84]

36. Lawless acknowledged that a slope meter could have measured the angle of the slope from the top of the excavation, but that he did not use such a tool.[85] Lawless further conceded that inaccurate measurements of an excavation would invalidate the calculation of a slope angle.[86]

37. Because determining the angle of a slope from the measurements of an excavation requires a fair amount of trigonometry, MNOSHA offers an Excavation Worksheet and Trench Calculation Tool for its field investigators.[87]

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[76] *Id.*
[77] *Id.*
[78] *Id.* at 49-50.
[79] 29 C.F.R. pt. 1926, subp. P, at appendix B.
[80] Test. of J. Lawless at 49-50, 83.
[81] *Id.* at 49-51, 123-24.
[82] *Id*. at 123-24.
[83] *Id*.
[84] *Id.* at 51. The maximum allowable slope for Type B soil is greater (or steeper) than the maximum allowable slope for Type C soil. Hence, if an excavation exceeds the maximum allowable slope for Type B soil (1:1 ratio or 45 degrees), then it necessarily exceeds the maximum allowable slope for Type C soil (1½ : 1 ratio or 34 degrees).
[85] *Id.* at 83.
[86] *Id.* at 83-84.
[87] Ex. 12.

38. The MNOSHA Excavation Worksheet is a "guide" to assist an investigator in determining whether an excavation meets all OSHA requirements.[88] The Trench Calculation Tool is an Excel calculator that allows an investigator to enter three, easily obtainable measurements of an excavation to determine whether the top width of the excavation is sufficient to meet the maximum allowable slope for each type of soil.[89] These measurements include: (1) the length of the sloped wall; (2) the angle of the sloped wall as measured from the top; and (3) the top width of the excavation.[90]

39. Once the measurements are entered, the Trench Calculation Tool applies trigonometry to determine the angle of the slope and the required top excavation width.[91] According to MNOSHA, the Trench Calculation Tool is "fast, effective, and [the] most important accurate way to measure an excavation."[92] However, it "is not the only way to calculate/measure an excavation."[93]

40. To use the Trench Calculation Tool for a simple slope (as was present at the jobsite in this case), Lawless would have needed to enter the exact length of the angled wall (the length of the excavation face, which he estimated at "greater than 10 feet")[94] and the angle of the slope measured from the top of the excavation.[95] Because Lawless failed to bring an angle indicator with him to the jobsite, he was unable to enter the angle of the slope as measured from the horizontal.[96] Therefore, he was unable to utilize the Trench Calculation Tool.[97]

41. While Lawless admits to "guesstimating" his measurements, Lawless acknowledged that if his measurements were inaccurate, it could invalidate the entire calculation.[98]

Safe Means of Egress

42. In addition to an adequate cave-in protection system, OSHA standards require that employees working within a trench excavation greater than four feet in

[88] Test. of J. Lawless at 89; Ex. 12.
[89] Ex. 12 at DLI 302.
[90] *Id.*
[91] *Id.* at DLI 306.
[92] *Id.* at DLI 299.
[93] *Id*.
[94] Notably, the measurement of the excavation face (sloped wall) was accessible to Lawless without entering the excavation. Therefore, there is no reason why Lawless could not provide the exact measurement of this surface.
[95] Ex. 12.
[96] Test. of J. Lawless at 83, 130; Ex. 12.
[97] Test. of J. Lawless at 130. Lawless testified, "If I would have had an angle indicator at the time, I could have gotten the angle and then used the math, the geometry, to figure out what the depth would have been by using the length of that side wall and that angle." *Id*.
[98] *Id*. at 84.

depth are provided with a safe means of egress to and from an excavation.[99] A safe "means of egress" includes, but is not limited to, a stairway, ladder, or ramp.[100]

43. The parties do not dispute that the excavation at issue in this action was greater than four feet in depth and that it constituted a "trench."[101]

44. The trench did not have a ladder for entering and exiting the excavation.[102] According to employees on the site, the ladder the employees normally used was on the supervisor's truck off-site.[103] The employees did not mention that a ramp was installed for use as the means of egress into and out of the trench.[104]

45. Lawless acknowledged that a dirt ramp can be a safe means of egress from a trench, but for a dirt ramp to qualify under the federal regulation an employee must be able to exit the trench walking upright on the ramp.[105] In other words, the ramp must not be so steeply sloped as to require an employee to bend over or crawl up the ramp.[106]

46. According to MNOSHA instructions:

> The sloped end of a trench (e.g. an earth ramp) may be considered a safe means of egress only if employees are able to walk the ramp in an upright manner when entering or existing the trench. The OSHI [Occupational Safety and Health Investigator] shall consider such factors as the degree of the slope, depth of the excavation, soil and environmental conditions, and the presence of any obstructions in determining whether or not the earth ramp can be used for safe egress.[107]

47. Lawless acknowledged that there was a dirt ramp in the trench.[108] However, he did not take any measurements of the ramp, including its width, depth, or

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[99] 29 C.F.R. § 1926.651(c)(2) (2014).
[100] *Id.*
[101] Test. of J. Lawless at 41. A "trench" is defined by OSHA regulations as:

> [A] narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

29 C.F.R. § 1926.650(b).
[102] Test. of J. Lawless at 41-42.
[103] *Id*. at 42.
[104] Ex. 1.
[105] Test. of J. Lawless at 93, 104; Ex. 12 at DLI 289.
[106] Test. of J. Lawless at 104.
[107] Ex. 12 at DLI 289.
[108] Test. of J. Lawless at 131.

slope.[109] Nor did he obtain a soil sample from the ramp.[110] In fact, Lawless's report does not mention the ramp as a means of egress.[111] The report focuses only on the absence of a ladder at the site, and the fact that Contacts 3 and 4 entered and exited the trench using the side of the excavation.[112]

48. Lawless did not see any employees walk up the ramp, nor did he attempt to walk the ramp himself.[113] Nonetheless, at the hearing, Lawless concluded that an employee could not walk the ramp in an upright manner.[114] Lawless explained that, in his opinion, the "steepness" of the ramp, the "looseness" of the soil, and the location of the excavator parked at the top of the ramp made egress unsafe for employees.[115]

Citations Issued

49. Based on his inspection, Lawless cited Respondent for two OSHA violations.[116] Citation 01 cited a violation of 29 C.F.R. § 1926.651(c)(2) for failing to provide a safe means of egress for "two employees working in an excavation that was more than four feet in depth."[117] Citation 02 cited a violation of 29 C.F.R. § 1926.652(a)(1) for exposing two employees to "cave-in/crushing hazards when working in an excavation greater than five feet deep without an adequate protection system."[118]

50. Lawless concluded that both violations were "serious" violations[119] and fined Respondent $1,650 per violation.[120]

Appeal of Citations

51. Respondent contested the citations, and on August 22, 2013, the Department filed a Complaint against Respondent.[121] Responded filed an Answer to the Complaint asserting various affirmative and other defenses.[122]

52. On November 19, 2013, the Department filed a Notice and Order for Hearing and Prehearing Conference.[123]

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[109] *Id*. at 90.
[110] *Id*.
[111] Ex. 1.
[112] *Id.*
[113] Test. of J. Lawless at 105.
[114] *Id*.
[115] *Id*. at 63.
[116] *Id*. at 48, 62.
[117] Ex. 1.
[118] *Id*.
[119] Minnesota Statutes, section 182.651, subdivision 12 (2014), defines a "serious violation" as "a violation of any standard, rule, regulation or order which creates a substantial probability that death or serious physical harm could result . . . unless the employee did not and could not, with the exercise of reasonable diligence, know of the presence of the violation.
[120] Ex. 1.
[121] *See* Complaint.
[122] *See* Answer.

53. A contested case hearing was held on August 5, 2014. Lawless was the only witness who testified. After Lawless's testimony, the Department rested and the Respondent moved to dismiss the Complaint in its entirety.[124]

54. The Administrative Law Judge agreed to take the motion under advisement and allowed Respondent the opportunity to present its case-in-chief.[125] The Respondent declined, opting instead to brief its Motion and return for its case-in-chief if its Motion is denied.[126]

55. The parties filed post-hearing briefs and correspondence on Respondent's Motion.

Based on these Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS OF LAW

Standard of Review

1. The Administrative Procedure Act and rules applicable to contested case hearings do not specifically address motions to dismiss or motions for a directed verdict. In ruling on motions where the administrative rules are silent, administrative law judges apply the Rules of Civil Procedure "to the extent that it is determined appropriate to promote a fair and expeditious proceeding."[127]

2. Minnesota Rule of Civil Procedure 41.02(b) provides for motions to dismiss in a bench trial. The Rule provides:

> After the plaintiff has completed the presentation of evidence, the defendant, without waiving the right to offer evidence in the event the motion is not granted, may move for a dismissal on the ground that upon the facts and the law, the plaintiff has shown no right to relief. In an action tried by the court without a jury, the court as trier of the fact may then determine the facts and render judgment against the plaintiff or may decline to render any judgment until the close of all the evidence. If the court renders judgment on the merits against the plaintiff, the court shall make findings as provided in Rule 52.01.[128]

3. Rule 41.02(b) permits a defendant, after the plaintiff has completed the presentation of evidence in the case, to move to dismiss on the ground that under the

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[123] Notice and Order for Hearing and Prehearing Conference (November 15, 2013).
[124] Hearing Transcript at 136; *see also* Minn. R. Civ. P. 41.02(b).
[125] Hearing Transcript at 155-57.
[126] *Id.*
[127] Minn. R. 1400.6600 (2013).
[128] Minn. R. Civ. P. 41.02(b).

facts and applicable law the plaintiff has not shown a right to relief, has failed to establish a cause of action, or has failed to show a right to recover.[129] For purposes of this proceeding, the "plaintiff" is the Department and the "defendant" is the Respondent.

4. The judge, in considering a motion to dismiss made after the plaintiff's case-in-chief, shall apply the same standards and tests as would be applied to a motion for a directed verdict made at the end of the entire case.[130] The judge views plaintiff's evidence "in the same light that the judge would view plaintiff's evidence if the defendant rested without submitting any additional proof."[131] In a bench trial, the judge, "as the finder of fact, must determine credibility, draw factual inferences, and otherwise weigh the evidence."[132]

Burden of Proof

5. To demonstrate a serious violation of an OSHA safety standard, the Department must prove: (1) that the cited standard applies and that its requirements were not met; (2) that employees were exposed to, or had access to, the "violative" condition; and (3) that the employer knew or, through the exercise of reasonable diligence, could have known of this condition."[133]

6. The Department bears the burden of proving the alleged violations by a preponderance of the evidence.[134]

7. A "preponderance of the evidence" means that the ultimate facts must be established by a greater weight of the evidence.[135] "It must be of a greater or more convincing effect and . . . lead you to believe that it is more likely that the claim . . . is true than . . . not true."[136]

Adequacy of Sloping Protective System: 29 C.F.R. § 1626.652

8. OSHA regulations require that all employees in an excavation be protected from cave-ins by an adequate protective system designed in accordance with 29 C.F.R. § 1926.652(b), (c).[137]

9. An excavation is "any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal."[138]

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[129] 1A David F. Herr & Roger S. Haydock, *Minnesota Practice* § 41:19 (5th ed. 2010); *see also A.Y. McDonald Mfg. Co. v. Newstone*, 187 Minn. 237, 238, 244 N.W. 806, 807 (1932).
[130] *See Snortland v. Olsonawski*, 307 Minn. 116, 119, 238 N.W.2d 215, 217 (1976).
[131] 1A David F. Herr & Roger S. Haydock, *Minnesota Practice* § 41:21 (5th ed. 2010).
[132] *Id.*
[133] *Omaha Paper Stock Co. v. Sec'y of Labor*, 304 F.3d 779, 784 (8th Cir. 2002).
[134] *See* Minn. R. 1400.7300, subp. 5 (2013).
[135] 4 *Minnesota Practice*, CIVJIG 14.15 (2006).
[136] *State v. Wahlberg*, 296 N.W.2d 408, 418 (Minn. 1980).
[137] 29 C.F.R. § 1926.652(a). This requirement does not apply to excavations made entirely in stable rock, or excavations that are less than five feet in depth where an examination of the ground by a competent person provides no indication of a potential for cave-in. *Id.*

10. Adequate protective systems include sloping walls, benching systems, support systems, and shield systems.[139]

11. The evidence establishes that Respondent utilized sloping as its only protective system in the excavation on May 28, 2013.

12. A sloping protective system is only permitted for an excavation if the "actual slope"[140] of the excavation does not exceed the "maximum allowable slope."[141]

13. "Maximum allowable slope" is defined in the federal OSHA regulations to mean:

> [T]he steepest incline of an excavation face that is acceptable for the most favorable site conditions as protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).[142]

14. To determine whether the sloping of an excavation meets the requirements of 29 C.F.R. § 1926.652, the OSHA inspector must determine: (1) the soil type of the ground being excavated; and (2) the maximum allowable slope for the soil type identified.[143]

15. Soil is classified in the OSHA regulations in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability.[144] A soil classification shall be made based on the results of at least one visual and at least one manual analysis.[145] Soil that has been previously disturbed can only be classified as Type B or Type C.[146]

16. The evidence establishes that the soil in the excavation was either Type B or Type C soil.

17. The maximum allowable slope for Type B soil requires a horizontal distance to vertical rise (H:V) of one-to-one (1:1) or no more than a 45 degree slope.[147] The maximum allowable slope for Type C soil requires a horizontal distance to vertical rise of 1½ -to-1 (1½ : 1) or no more than a 34 degree slope.[148]

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[138] 29 C.F.R. § 1926.650(b).
[139] 29 C.F.R. § 1926.652(b), (c).
[140] "Actual slope" is defined as "the slope to which an excavation face is excavated." 29 C.F.R. pt. 1926, subp. P, at appendix B.
[141] *Id.* at appendix A.
[142] *Id.* at appendix B.
[143] *Id.* at appendix A, B.
[144] *Id.* at appendix A.
[145] *Id*.
[146] *Id*.
[147] *Id.*
[148] *Id.*

18. The Department has failed to establish by a preponderance of the evidence that the slope of the excavation made by Respondent on May 28, 2013, exceeded the maximum allowable slope for either Type B or Type C soil. Accordingly, the Department has failed to establish a violation of 29 C.F.R. § 1926.652(a)(1).

Safe Means of Egress from a Trench: 29 C.F.R. § 1926.651(c)(2)

19. OSHA regulations require that a stairway, ladder, ramp or other safe means of egress be located in trench excavations that are four feet or more in depth so as to require no more than 25 feet of lateral travel for employees.[149]

20. A "trench" is defined as:

> [A] narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m). . . .[150]

21. It is undisputed that the excavation at issue in this case constitutes a "trench."

22. According to MNOSHA's inspection protocol, "[t]he sloped end of a trench (e.g., an earth ramp) may be considered a safe means of egress only if employees are able to walk the ramp in an upright manner when entering or exiting the trench."[151] In making this determination, the inspector "shall consider such factors as the degree of the slope, depth of the excavation, soil and environmental conditions, and the presence of any obstructions in determining whether or not the earth ramp can be used for safe egress."[152]

23. The Department has failed to prove by a preponderance of the evidence that the dirt ramp located in the trench was not a safe means of egress. Accordingly, the Department has failed to establish by a preponderance of the evidence that Respondent was in violation of 29 C.F.R. § 1626.651(c)(2).

[149] 29 C.F.R. § 1926.651(c)(2).
[150] 29 C.F.R. § 1926.650(b).
[151] Ex. 12.
[152] *Id*.

ORDER

Because the Department failed to prove the alleged violations by a preponderance of the evidence, Respondent's Motion to Dismiss is **GRANTED.** The Department's Complaint is hereby **DISMISSED** and the citations issued to Respondent on June 5, 2013, are hereby **RESCINDED**.

Dated: January 8, 2015

s/Ann O'Reilly
ANN O'REILLY
Administrative Law Judge

Reported: Digitally Recorded
Transcript prepared

NOTICE

Pursuant to Minn. Stat. § 182.661, subd. 3 (2014), this Order is the final decision in this case. Under Minn. Stat § 182.661, subd. 3 and Minn. Stat. § 182.664, subd. 5 (2014), the employer, employee, or their authorized representatives, or any party, may appeal this Order to the Minnesota Occupational Safety and Health Review Board within 30 days following service by mail of this Decision and Order.

MEMORANDUM

In an action involving the issuance of OSHA citations, the Department has the burden to prove, by a preponderance of the evidence, that the Respondent violated the regulations cited and that the penalty imposed is warranted by fact and law.[153] In this case, the Department carries the burden to present facts sufficient to establish: (1) that the sloping protective system used by Respondent was inadequate because it exceeded the maximum allowable slope for the soil type present in the excavation; and (2) that Respondent failed to provide a safe means of egress for its employees who were working in a trench.

A "preponderance of the evidence" means that the ultimate facts must be established by a greater weight of the evidence.[154] "It must be of a greater or more convincing effect and … lead you to believe that it is more likely that the claim . . . is true than . . . not true."[155] In other words, if it is more likely than not that the facts support the Department's allegations, then the Department has met its burden. In contrast, if the evidence casting doubt on the Department's allegations is stronger and more persuasive, then the Department has failed to meet its burden. Under this standard, the Department maintains the ultimate burden of persuasion to prove that the violations occurred.

The burden of proof must be satisfied with the presentation of evidence. Evidence is "[s]omething (including testimony, documents and tangible objects) that tends to prove or disprove the existence of an alleged fact."[156] Legal arguments are not evidence.[157]

The facts are undisputed that Respondent created an excavation, and that the excavation resulted in a trench, as defined by OSHA regulations. The unrefuted facts further establish that at least two of Respondent's employees went into the excavation to perform work, subjecting them to the dangers of a cave-in. Therefore, both a protective system and a safe means of egress were required for the excavation.

The evidence establishes that Respondent utilized the sloping method as the sole protective system in the excavation and that a dirt ramp was present in the trench to provide a means of egress for the workers. The only issues in dispute, then, are: (1) whether the sloping protective system utilized by the Respondent was "adequate" under OSHA regulations; and (2) whether the dirt ramp was a safe means of egress.

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[153] Minn. R. 1400.7300, subp. 5.
[154] 4 *Minnesota Practice*, CIVJIG 14.15 (2006).
[155] *State v. Wahlberg*, 296 N.W.2d 408, 418 (Minn. 1980).
[156] *Black's Law Dictionary* (9th ed. 2009).
[157] *See State v. Pearson*, 775 N.W.2d 155, 164 (Minn. 2009) (stating that the district court instructed the jury that "counsels' arguments are not evidence"); *see also In re Welfare of Children of M.A.W.*, No A06-2159, 2007 WL 1599655, at *5 (Minn. Ct. App. June 5, 2007) (stating that "a lawyer's arguments are not evidence"); *Johnson v. 1999 Silver BMW Convertible*, No. C0-01-840, 2001 WL 1570278, at *3 (Minn. Ct. App. Dec. 11, 2001) (stating that a lawyer's argument regarding value is not evidence).

Adequate Sloping System

OSHA regulations require that each employee in an excavation be protected from cave-ins by "an adequate protective system."[158] Adequate protective systems include sloping walls.[159] The adequacy of a sloping system depends upon the steepness of the slope in relation to the type of soil present in the excavation.[160]

Respondent's "competent person" determined that the soil was Type C and Lawless concurred with that determination based upon his own observation. Nonetheless, when issuing the citation, Lawless applied the maximum allowable slope for Type B soil. Because the maximum allowable slope for Type B soil is greater than for Type C, if the sloped wall exceeded the maximum allowable slope for Type B, it would necessarily exceed the maximum allowable slope for Type C soil.

The fact that the soil was previously disturbed results in the fact that the soil was at least a Type B, but could have been Type C. Regardless, for purposes of this Motion, it is not necessary to determine whether the soil was Type B or Type C. It was, at a minimum, Type B soil.

The maximum allowable slope for Type B soil is a horizontal distance to vertical rise (H:V) of one-to-one (1:1) or no greater than 45 degrees.[161] Therefore, if the slope of the excavation wall was greater than 1:1 or 45 degrees, Respondent's sloping system would be inadequate for either Type B or Type C soil, resulting in a violation regardless of whether the soil was Type B or Type C.

Lawless asserts that he was able to determine that the slope of the excavation exceeded the maximum allowable slope from the measurements he took of the excavation. Lawless testified that he measured the angled face of the sloping wall to be "greater than 10 feet" and, from that information, he "guesstimated" that the depth of the excavation was "approximately 10 feet."[162]

It is a commonly known fact that measuring a depth at an angle results in a longer measurement than measuring a depth vertically. Therefore, the fact that the angled wall measured "greater than 10 feet" does not, in any way, establish that the depth of the trench was actually 10 feet. Consequently, Lawless's determination of the trench's depth was a mere guess.

In a similar fashion, Lawless merely estimated the bottom width of the trench. Based upon his observations, Lawless determined that the trench appeared to be as wide as two excavator buckets. He then measured the bucket to be three feet, doubled that figure, and determined that the bottom of the trench was six feet wide. Again, Lawless's estimate was merely a guess. The fact that the trench looked to be "about

[158] 29 C.F.R. § 1926.652(a)(1).
[159] *Id.* (b), (c).
[160] 29 C.F.R. pt. 1926, subp. P, at appendix B.
[161] *Id.*
[162] Test. of J. Lawless at 83.

two excavator buckets wide" does not establish, as a matter of fact, that the bottom of the trench was six feet wide.

From his "guesstimates" of the trench depth ("approximately 10 feet") and bottom width ("approximately six feet"), Lawless applied a basic calculation, which he was unable to explain, to determine that the top width of the trench was insufficient to meet the 1:1 horizontal-to-vertical ratio required for an excavation in Type B soil. Lawless's conclusion, however, does not establish by a preponderance of the evidence that the slope of the excavation exceeded the maximum allowable slope for either Type B or Type C soil, or that the sloping system was inadequate.

A "guesstimate" is not an accurate measurement. It is merely an estimate, a guess, or an approximation. It is nothing more than speculation or conjecture. A guess does not establish a fact. And it certainly does not establish the type of accurate measurements necessary to determine whether an excavation satisfies the precise requirements of the OSHA regulations.

The Department's attorney's attempt to "prove" Lawless's estimates through legal argument by applying the Pythagorean Theorem is intellectually interesting but similarly flawed.[163] While it is true that the depth of a trench can be mathematically calculated if the measurements of the slopped wall, the top width, and the bottom widths are known, the depth cannot be **accurately** calculated unless all of the known measurements are **accurately** measured. If any of the known measurements are inaccurate, so, too, is the final calculation of depth. Here, because the bottom depth measurement is merely a guesstimate, and the sloping wall measurement is only an approximation, any calculation resulting from those figures is unreliable.

MNOSHA provides its field investigators with specific tools to accurately measure and calculate the slope of excavation walls because accurate measurements are necessary to determine compliance with very specific OSHA sloping regulations. These tools include angle indicators and the Trench Calculation Tool. Using such tools, Lawless could have easily determined, with precision and accuracy – and without entering into the trench – whether the slope of the excavation was compliant with the law. Lawless failed to utilize these tools. Instead he used guesstimates and estimates to conclude that Respondent's sloping system was inadequate. Such speculation is simply insufficient to satisfy the Department's burden of proof in this case.

Safe Means of Egress

The Department has similarly failed to satisfy its burden of proving that the dirt ramp located in the trench was unsafe for egress.

Under OSHA standards, "[a] stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet (1.22 m) or more in depth

[163] Moreover, counsel's legal argument is just that – legal argument. It is not evidence or fact. *See Pearson*, 775 N.W.2d at 164.

so as to require no more than 25 feet (7.62 m) of lateral travel for employees."[164] According to Minnesota OSHA's inspection protocol, "[t]he sloped end of a trench (e.g., an earth ramp) may be considered a safe means of egress only if employees are able to walk the ramp in an upright manner when entering or exiting the trench." [165] In making this determination, the inspector "shall consider such factors as the degree of the slope, depth of the excavation, soil and environmental conditions, and the presence of any obstructions in determining whether or not the earth ramp can be used for safe egress."[166]

At the hearing, Lawless acknowledged that there was a dirt ramp located in the trench.[167] Lawless, however, did not take any measurements of the ramp, including the width, depth, or slope.[168] He likewise did not obtain any soil samples from the ramp.[169] Although he testified that he did not believe a person could have walked upright out of the trench on the ramp, Lawless admitted that he did not walk on the ramp himself and he did not witness anyone else walk on the ramp.[170] Therefore, Lawless's mere assertion that he "does not believe" a person could safely exit the trench is without factual support.

Lawless's report does not even mention the dirt ramp as a means of exit. Instead, Lawless's report was focused on the absence of a ladder at the site. It is apparent that the missing ladder was the original basis for the citation, not any deficiency related to the dirt ramp. Only after the ramp was identified by the Respondent in its defense does Lawless now assert that it was unsafe.

MNOSHA's inspection protocols require that inspectors consider various objective factors in determining whether a dirt ramp provides a safe means of egress. Here, however, the Department relies upon Lawless's personal, subjective beliefs about the safety of ramp. Lawless's subjective, after-the-fact evaluation of the ramp, without more, is simply insufficient to satisfy the Department's burden of proving that the ramp was not a safe means of egress from the trench.

In conclusion, the Department has failed to prove by a preponderance of the evidence that Respondent violated either 29 C.F.R. §§ 1926.651(c)(2) or 1926.652(a)(1). Accordingly, Respondent's motion to dismiss is granted and both citations are hereby rescinded.

A. C. O.

[164] 29 C.F.R. § 1926.651(c)(2).
[165] Ex. 12.
[166] *Id*.
[167] Test. of J. Lawless at 90.
[168] *Id*.
[169] *Id*.
[170] *Id*. at 105, 131.