Transcript for the Drilled Shaft Log Form 700-010-84

We will go over the Drilled Shaft Log form. To begin, select the start button or press Shift+N on your keyboard.

Form number 700-010-84. This form is used to record the events observed during the excavation process. The log consists of two pages. They are available in pdf and excel formats. In the pdf formats the inspector needs to compute the data of the field highlighted in yellow. In the excel format these fields are computed automatically.

The form contains two pages. These can be accessed in the spreadsheet by clicking the tabs at the bottom. To better follow these instructions we suggest you have a copy of each of the two pages with you. The link to the Drilled Shaft Log can be found on the resources page.

Let's take a look at the different sections of the form.

Section 1 consists of the heading with the following basic information: Project name, Financial project number, Contractor's name, Inspector's name, dates, pier number, shaft number, stations and offsets and the bridge or structure number. This information may be filled in <u>before</u> the drilling starts. Be sure to print your name & the start date of drilling or casing installation. The Project Administrator or permit manager will sign the approval line.

The form allows the input of up to two casings (one outside and one inside). The inside casing may be segmental. The form allows the use of up to 5 segmental sections in the interior casing. The figure at the right side illustrates the casing sections for the input of this part of the form.

When using the excel spreadsheet, the yellow fields are formulas and you cannot enter anything on them. Type could be either permanent or temporary. ID, OD are the inside and outside diameters of the casings

For the outside casing you input the total length of the casing used. For the interior segmental casing you enter the individual segment lengths. The spreadsheet will compute the total length of the segments of the interior casing, and the bottom elevation of both casings.

If there is no segments but only one section just enter one section under the top section column.   Do not enter it under the collar column as it produces redundant information. Even though the information shown is correct it may be confusing for a reader.

Section 3: Enter Dates of casing installation, dates of excavation and the date of pouring. Section 4: Enter the initial reference elevations. Indicate ground surface elevation, water table and the shaft top elevations, both per plans and the "as built" elevation. The drilled shaft bottom elevation is determined after the average shaft bottom elevation is calculated in page 2. We will look into page 2 in a moment.

Section 5: Enter auger diameter used in inches. Enter rock socket diameter, rock socket length achieved in the shaft, and actual shaft diameters. Indicate whether the shaft was over reamed. The constructed shaft length is calculated from the actual shaft top elevation and the drilled shaft bottom elevation input in section 4.

Section 6: Enter the computed theoretical volume and actual volume of concrete placed and the ratio Actual over theoretical volumes A over T. This will be input after concrete is completed.

This is the main body of the log where you will document the materials encountered. We will cover the sections of this area: Section 7: Enter Depth. Depth can be measured by either: Contractor Kelly bar marks or The use of a Weighted tape.

Section 8: Enter times whenever tools go in and come out of hole. Be sure to input the AM and PM after the hour, or use military times based on 24 hours.

Section 9: Enter reference elevation. In the spreadsheet, if there are no changes you can just copy and paste the input down the column. This input is used to compute the elevations of the bottom of the shaft as the excavation progresses. Elevations in the yellow column, are calculated based on the reference elevation and the depth. In the spreadsheet this occurs automatically.

Section 10: Accurately describe soil and rock materials observed from the drilled shaft excavation. Enter any pertinent Notes regarding events observed during the excavation (example: loss of slurry, setting more casing, etc.)

This is page 2 of the form. On the left side, it contains a continuation of the sections 7 to 10 already covered when we saw the first page. We use these columns to keep inputting deeper information of the materials observed during excavation and pertinent notes of events observed. In deep shafts it may be required to use this page 2 more than once until completing the full depth of the shaft. We also use this page to record the bottom cleanliness and depth information.

We will cover now the sections at the right side of this page. Section 11: This is a quick checklist to document whether the rebar details were checked. Section 12: Indicate here what tools were used in the clean out operation.

Section 13: Enter here the date and time of the clean out completion. Section 14: Indicate here the method used to perform the bottom cleanliness inspection. Enter also the reference elevation to be used to compute the final tip elevation.

Section 15: Enter the sediment thickness and depth of the shaft at each of the points indicated. The next slide illustrates a detail of this section. Enter also the starting and finishing times of the bottom inspection.

Here we see a detail of a sample of section 15 of page 2. Input the information measured at each point. Depth is input at the top of the line in feet. Sediment thickness is input below the line in inches. For example, in point 5 of the example, the depth is 90.2 feet and the sediment is 0.3 inches thick.

The yellow fields are for the average shaft bottom elevation and the average shaft depth. These are computed based on the 5 points measured above and the reference elevation entered here. In the spreadsheet these are automatically computed and you cannot input data on them. The average shaft bottom elevation is also used in part 4 of page 1 as we saw earlier. This is the end of the instructions for the Drilled Shaft log.