

**Oregon Department of Transportation**

Delivery & Operations Division/

Engineering & Technical Services

7163 ­‑ Geotechnical Engineering,

Engineering Geology & Hazmat Section

4040 Fairview Industrial Dr SE, MS 6

Salem, Oregon 97302

Phone: (503) 986-3377

Fax: (XXX) XXX-XXXX

FILE CODE:

**DATE: Wednesday, November 22, 2023**

**TO:** Susan C. Ortiz, P.E., G.E.

State Geotechnical Engineer

**FROM: Curran Mohney Phone: (503) 508-3628**

**Engineering Geology Program Lead**

Oregon Department of Transportation

**SUBJECT: Proposed Revision to Geotechnical Design Manual**

**To Section Number** 20.5.5

**Problem Statement:**

The current GDM Section 20.5.5 does not give sufficiently definitive direction to include the location and layout of structures and features in the Geotechnical Datasheet profile view.

[Provide a copy of the section being revised]

20.5.5 Profile

The profile view shows the engineering geology interpretation of the subsurface conditions at

the structure or feature location. This interpretation is depicted by geologic graphic columns or

“stick logs” that represent each exploration at the station and elevation at which they occur

along the alignment. Geologic graphic columns consist of separate sections that represent the

subsurface materials by patterned symbology. An Engineering Geologic Unit Description is used

to describe the materials represented by the patterns in a legend format. The legend-style

Engineering Geologic Unit Descriptions are separate and distinct from the standard legend

showing the standard graphic symbols.

Each Engineering Geologic graphic column is labeled at the top with the exploration number

offset (optional), elevation, and the date the boring was completed.

Additional information with depth is shown alongside the Engineering Geologic graphic column.

Samples and in-situ test results are shown with their designated symbols at the depth they were

taken or performed along the right side of the graphic column. SPT (Standard Penetration Test)

intervals are to be labeled by their N-Value. Sample intervals are denoted by the vertical length

of the symbol. Continuous sampling methods such as rock coring are shown by dimensions

labeled with the sample name. Groundwater is shown on the left side of the graphic column.

The standard groundwater symbols are placed at the depth of the highest and lowest

groundwater levels measured. These symbols are labeled with the dates that the readings were

taken. Provide a statement if no groundwater was encountered.

Provide Rock Core Tables to show specific rock core data for each boring. Provide a table for

each Engineering Geologic graphic column with rock coring with the core run, percent recovery,

hardness, Rock Quality Designation (RQD), and date obtained. Place these tables below the

profile where the corresponding Engineering Geologic graphic column occurs. Sheet space

limitations may require a different distribution of the rock core tables.

Profiles are shown along the alignment(s) used for construction as described in the preceding

LAYOUT section. Provide each Engineering Geologic graphic column aligned with the

corresponding exploration symbol on the plan view immediately above the profile. Profiles are

displayed on station and elevation grids. Label stations on the bottom of the grid. Include

labeled elevations on the left side of the grid. Grid lines may be subdued to avoid conflict with

Engineering Geologic graphic columns showing geologic interpretations or the various

Engineering Geologic graphic column labels. Profiles are labeled as “PROFILE AT ‘LINE

NAME’”.

Avoid depicting numerous explorations on a single profile, which obscure data or lead to a

cluttered appearance. Several options can be used to alleviate this situation:

•Expand the horizontal scale of the drawing

•Use supplemental sections, profiles, or cross-sections. Provide supplemental sections,

profiles, and cross-sections in the Geotechnical Data Sheet format.

**Proposal:**

Update the language in GDM Section 20.5.5 to direct users to include the location and layout of all existing, previous, or abandoned structures on the profile view of Geotechnical Datasheets.

[Provide a copy of the proposed revised language here]

20.5.5 Profile

The profile view shows the engineering geology interpretation of the subsurface conditions at

the structure or feature location. This interpretation is depicted by geologic graphic columns or

“stick logs” that represent each exploration at the station and elevation at which they occur

along the alignment. Geologic graphic columns consist of separate sections that represent the

subsurface materials by patterned symbology. An Engineering Geologic Unit Description is used

to describe the materials represented by the patterns in a legend format. The legend-style

Engineering Geologic Unit Descriptions are separate and distinct from the standard legend

showing the standard graphic symbols.

Each Engineering Geologic graphic column is labeled at the top with the exploration number

offset (optional), elevation, and the date the boring was completed.

Additional information with depth is shown alongside the Engineering Geologic graphic column.

Samples and in-situ test results are shown with their designated symbols at the depth they were

taken or performed along the right side of the graphic column. SPT (Standard Penetration Test)

intervals are to be labeled by their N-Value. Sample intervals are denoted by the vertical length

of the symbol. Continuous sampling methods such as rock coring are shown by dimensions

labeled with the sample name. Groundwater is shown on the left side of the graphic column.

The standard groundwater symbols are placed at the depth of the highest and lowest

groundwater levels measured. These symbols are labeled with the dates that the readings were

taken. Provide a statement if no groundwater was encountered.

Provide Rock Core Tables to show specific rock core data for each boring. Provide a table for

each Engineering Geologic graphic column with rock coring with the core run, percent recovery,

hardness, Rock Quality Designation (RQD), and date obtained. Place these tables below the

profile where the corresponding Engineering Geologic graphic column occurs. Sheet space

limitations may require a different distribution of the rock core tables.

Profiles are shown along the alignment(s) used for construction as described in the preceding

LAYOUT section. Provide each Engineering Geologic graphic column aligned with the

corresponding exploration symbol on the plan view immediately above the profile. Profiles are

displayed on station and elevation grids. Label stations on the bottom of the grid. Include

labeled elevations on the left side of the grid. Grid lines may be subdued to avoid conflict with

Engineering Geologic graphic columns showing geologic interpretations or the various

Engineering Geologic graphic column labels. Profiles are labeled as “PROFILE AT ‘LINE

NAME’”.

Avoid depicting numerous explorations on a single profile, which obscure data or lead to a

cluttered appearance. Several options can be used to alleviate this situation:

•Expand the horizontal scale of the drawing

•Use supplemental sections, profiles, or cross-sections. Provide supplemental sections,

profiles, and cross-sections in the Geotechnical Data Sheet format.

Show existing structure(s) or feature(s), the proposed structure(s) or feature(s), and previous or

abandoned structure(s) on the Profile view. For bridges, locate and label existing and proposed

bent and abutment locations. Show the footprint or general layout of other existing or proposed

structures and features.

**Analysis / Research / Other Supporting Data:**

None

Attached:



**Geotechnical Engineering, Engineering Geology & HazMat Section Response:**

Accepted for consideration as submitted

Accepted for consideration as noted

Proposal tabled, see Remarks

Proposal not accepted, see Remarks

**Remarks:**

[Enter Remarks here]



Click to enter Technical Resource name. Click or tap here to enter reviewer’s name.

Click to enter Technical Resource title. Click or tap here to enter reviewer’s title.