

INFORMATION HANDOUT

For Contract No. 07-243204

At 07-LA-5-39.4/R88.6

Identified by

Project ID 0714000274

MATERIALS INFORMATION

Geotechnical Design Report for Overhead Sign Structure, dated January 7, 2015

ADDED PER ADDENDUM No.1 DATED October 23, 2015

Memorandum

To : GRISH BIGLARIAN
Office of Traffic Design
Senior Transportation Engineer

Date: January 7, 2015

File No.: 07-LA-5 PM 39.4/R88.6
Project ID 0714000274
EA 07-243201
Upgrade existing overhead
and roadside signs

From : DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
METS-Geotechnical Service
Office of Geotechnical Design South-1

Subject : Geotechnical Design Report For Overhead Sign Structure

INTRODUCTION

Per your request, the Office of Geotechnical Design South-1 (OGDS1) has prepared a geotechnical foundation recommendation for the proposed seven overhead sign structures along State Route 5 (I-5) in Los Angeles County.

The locations and types of sign structures are summarized as follows:

Sign No.	Post-mile		Overhead Sign Type
OS8-4	80.6	FNBT	TRUSS
OS28-1	59.7	FSBT	TRUSS
OS28-4	59.3	FNBT	TRUSS
OS37-1	50.7	FSBT	TRUSS
OS39-2	47.7	FNBT	TRUSS
OS40-1	47.5	FSBT	TRUSS
OS40-2	47.9	FSBT	TRUSS

SCOPE OF WORK

The geotechnical work performed for this project includes:

- Review of geologic information.
- Visual inspection of job site.
- Interpretation of subsurface geologic and groundwater conditions.

- Foundation recommendation for proposed sign structure.

It should be noted that no subsurface exploration has been performed at the proposed sign structure locations due to late request for the recommendations.

SITE GEOLOGY AND SUBSURFACE CONDITIONS

Site Geology

The project site is located along the Interstate 5, between state route 118 and Kern county line. According to the Geologic Map of the Oat Mountain and Canoga Park Quadrangles Los Angeles County, California, 1992, the Geologic Map of the Newhall Quadrangles Los Angeles County, California, 1996 and to the Geologic Map of the Frazier Mountain and Lebec Quadrangles Ventura and Kern County, California, 2006, the project site generally consists of artificial fill and alluvial materials underlain by Saugus formation or unnamed shale of Peanut Hill. The alluvial materials consist of gravel, sand and clay of valley area and floodplain area. The Saugus formation consists of light gray to light reddish brown pebble-cobble conglomerate, sandstone and minor siltstone. The Peanut Hill consists of dark gray shale with minor beds of tan sandstone.

Subsurface Conditions

Based on the site visit and available site geology, subsurface condition at the proposed sign structures can be assumed to be artificial embankment fill, underlain by alluvial gravel, sand and clay of valley area.

Groundwater

According to the Water Data Library of Department of Water Resources, for all the sign structure locations except for OS8-4, a groundwater table can be assumed to be an elevation 1190 feet (NAVD88) State Well Number 04N16W33L001S (Latitude 34.383407 and Longitude -118.565753). For OS8-4 sign structure location, a groundwater table can be assumed to be an elevation 3350 feet (NAVD88) from State Well Number 08N18W23F001P (Latitude 34.770600 and Longitude -118.7614).

It should be noted that State Well locations above are far away from the proposed sign structures and groundwater table levels can fluctuate with the change of season and other factors including local irrigation.

CORROSIVITY

Due to no data available for corrosion tests, foundation soil at these overhead sign structure locations should be assumed to be corrosive.

GEOTECHNICAL RECOMMENDATIONS

Based on the review of geologic information, and the result of the site visit, the pile foundation will be constructed through embankment fill and alluvial materials, and these materials will have sufficient capacity to support the proposed overhead sign structures. Therefore, both square pedestal and round pedestal pile foundation shown in Caltrans Standard Plans S7 and S8 can be used for these sign structures.

CONSTRUCTION CONSIDERATIONS

Caving should be anticipated due to the presence of gravel and sandy material.

If you have any questions or comments, please contact Seungwoon Han at (916) 227-4533.



A handwritten signature in black ink, appearing to read "Seungwoon Han", written over a horizontal line.

Seungwoon Han, Ph.D., P.E.
Transportation Engineer
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