

## STRUCTURE TYPE SELECTION MEMO

PROJECT IDENTIFICATION Doyle Drive High Viaduct Structures (Replace)						DATE December 9, 2008
DIST 04	CO SF	RTE 1, 101	PM 9.1 – 9.4	CD 34	EA 163700	DESIGN BRANCH 4
SP&Q: November 2009				SPS&E: January 2010		Contract 7

Bridge Name	Bridge Number	PM	Construction Cost	Design Hours Required
High Viaduct North Bound Alternative (1)	34-0157 R	9.1 – 9.4	\$ 49,748,000	14,000
High Viaduct North Bound Alternative (2)	34-0157 R	9.1 – 9.4	\$ 67,020,000	
<b>PROJECT TOTAL</b>				14,000

### TYPES CONSIDERED:

#### **High Viaduct North Bound Bridge (Replace):**

Alternative 1: CIP/PS Box with post-tensioned concrete deck, supported on multi-column bents and pile-shaft foundations. Parabolic haunched superstructure.

Alternative 2: CIP/PS Box with post-tensioned concrete deck, supported on variety of pile caps and pile groups for single column bents, and pile shaft foundations for multi-column bents. Straight line haunched superstructure.

### ARCHITECTURAL RECOMMENDATIONS:

- Consistency with the existing Doyle Drive structure by remaining subordinate to the Golden Gate Bridge in scale and design.
- Minimize the number of columns for the High Viaduct for preserving views to Crissy Field, Stillwell Hall, Angel Island and the Golden Gate Bridge, from specific viewpoints.
- Develop continuity with the historic Golden Gate Bridge through the design of guardrails and light fixtures for the new High Viaduct Structure.
- Light pole attachments for the High Viaduct structure shall coincide with the new bridge rail and post attachments.
- Haunched superstructure (parabolic or straight line).

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|-------------------|-------------------|-------------------------------|
| (1) DESIGN ENGR   | Minh Ha           | PROJECT ENGINEER              |
| (2) BR DES SUPV   | Ofelia Alcantara  |                               |
| (3) SR BR ARCHIT  | Javier Chavez     | PROJECT AESTHETICS CONSULTANT |
| (4) CHIEF STR DES | Kevin Thompson    |                               |
| (5) STR TASK MNGR | Majid Madani      |                               |
| (6) PROJECT ENGR  | Ahmed M M Ibrahim |                               |

Attachments: General Plan  
General Plan Estimate