



ATTACHMENT 3

Items that should be considered in developing the Type Selection Memo.

DESIGN ISSUES

- Project Description**
 - EA and CO-RTE-KP
 - Structure Names and Numbers
 - Vicinity Map
 - Purpose
 - General Plans for all structures and alternatives
 - Project Engineer and Architect
- Project Schedule**
 - Design Hours for each structure
 - Structures P&Q and PS&E date
 - Critical dates for other functional units
 - Ability to meet schedule
 - Missing Design Data
- Previous Advanced Planning Studies**
- Design Alternatives**
 - List Alternatives Considered
 - Structure Depth
 - Span Arrangements
 - Material Alternatives
 - Construction Alternatives
 - Describe Pros and Cons
- Physical Constraints**
 - Horizontal Clearance
 - Vertical Clearance
- Loads**
 - Special Loading Requirements
 - Construction Overloads
- Adjacent Structures**
 - Clearances
 - Transition to other structures
- Existing Bridge**
 - Removal/Replacement
 - Strengthening
 - Widening Methods
- Future Widening**
 - Superstructure
 - Lower Roadway
 - Impacts on Current Project
- Frame Layout**
 - Hinge Locations
 - Selection Process
- Abutment**
 - Embankment Slopes
 - Seat, diaphragm, bin, strutted, rigid frame
 - Embankment surcharge and settlement
 - Approach Slabs
 - Slope Protection
 - Skew

- Bent/Pier Wall Types**
 - Number of Column/Bent
 - Drop Cap/Integral Cap
 - Column Fixity
 - Superstructure Fixity
 - Outrigger/C Bents
 - Skew
- Railing and Barriers**
 - Type
 - Rail Replacement Requirements
- Corrosion Issues**
- Signs and Lighting**
- Joints Seals**
- Deck Surfacing**
- Sidewalks/Medians**
- Hinge Access**
- Bearing Systems**
- Deck Drainage**
 - Design Rainfall Intensity
 - Inlet/Piping/Outlet Locations
 - Access openings
- Retaining Walls and Soundwalls**
 - Construction Materials
 - Special Design Required
- Utilities**
 - Type and location of utilities carried by structure
 - Future Utility Opening requirements
 - Interfering Underground and Overhead Utilities
 - Soffit openings
- Permits and Agreements Required**
- Railroad Requirements**
- Structure Type Recommendations**

DISTRICT ISSUES

- Presentations required for Outside Agencies**
- Commitments to outside Agencies**
- Environmental Constraints**
 - EIR Requirements
 - Protected species
 - Mitigation measures
 - Monitoring requirements
 - Construction Windows
 - Hazardous Waste

AESTHETICS ISSUES

- Requirements of EIR, District or other Agencies**
- Sketches of architectural treatment**

FOUNDATION ISSUES

- Preliminary Report**
- Groundwater**
- Soil Profile**
- Foundation and Pile Types**

SEISMIC ISSUES

- Seismic Performance Criteria**
- Seismic Analysis Methods**
- Fault Magnitude and Distance from structure**
- PGA & ARS**
- Liquefaction Potential and Design methods**
- Retrofit requirements**
- Isolation Systems**
- Critical Seismic Issues**
- Peer Review Requirements**
- Proposed New Criteria**

MAINTENANCE ISSUES

- Utilities**
- Widenability of existing bridges**
- Repair/Rehabilitation**
 - Deck Condition
 - Deck Seals
 - Joint Seals
 - Bearing Systems
- Hydraulics/Hydrology**
 - Final Hydraulic Report
 - Recommendations
 - Waterway Area requirements
 - Scour depths and protection
 - Bank Protection
 - Construction Methods in Waterway
 - Pier Shapes, location and skew
- Special Railing Requirements**

CONSTRUCTION ISSUES

- Constructibility**
- Stage Construction**
- Storage Facilities**
- Construction Sequence Access**
- Falsework**
 - Temporary Vertical Clearances
 - Temporary Opening Widths
 - Temporary Support Locations
- Traffic Control Issues**
 - Detours
 - Lane Reductions and Closures
 - Column/Footing Construction Requirements
 - K-Rail and Crash Cushions
 - Stage Construction