Chapter 1: Introduction (John)

1.1 Project Discription – use info from the Request for Engineering Services
1.2 Design Codes - AASHTO, WV DOH, AISC, PCI Institute
1.3 Potential Design Components
- Girder Design
- Deck Design
- Lateral Bracing Design (if necessary)

1.4 Scope of work – use info from the Request for Engineering Services
1.5 Description of alternative designs
- Steel Plate girder
- Concrete I-Beam
- Steel Rolled Beam

Chapter 2: Alternative Design #1 - Steel Plate Girder (Natasha)

2.1 General Description - Layout, Type of steel
2.2 Assumptions made:

* Beam can be fabricated into 2 beams (100' + 25') and contain a bolted connection.

2.3 Design Details:

- 4 beams
- 9.5' spacing
- 27" deck overhang
- plate dimensions

2.4 Quantity Estimates - See Excel Spreadsheet w/ quantities
2.5 Scheduling Estimates - RS Means?
2.6 Cost Estimates - MII Report
2.7 Sustainability Related Issues - Generic Statement from Dr. Mike

Ch 3: Alternative #2 - Concrete I-Beam (Brandon D.)

3.1 - General Description - AASHTO Type V Beams

of beams

3.2 - Assumptions made:

* Due to shipping length limits & large span length & single span limitations - beams are not manufactured long enough for 125' span.

3.3 - Design Details:

- 4 beams
- 8' spacing
- 2.75' overhang
- Beam dimensions
- Reinforcement details

3.4 Quantity Estimates - See Excel Spreadsheet w/ quantities

3.5 Scheduling Estimates - RS Means?

3.6 Cost Estimates - MII Report

3.7. Sustainability - Generic Statement from Dr. Mike

Ch 4: Alt #3 - Steel Rolled Beam (Zach C)

4.1 General Description - W__ x ___, Type of Steel

4.2 Assumptions made:

* Due to span length requirements, there is not a readily-manufactured rolled section that would be sufficient in terms of capacity (due to depth & thickness)

4.3 Design Details:

Check THIS

- 4 beams
- 9.5' spacing ?
- 27" overhang ?
- Beam dimensions

4.4 Quantity Estimates - See Excel Spreadsheet w/ quantities

4.5 Scheduling Estimates - RS Means ?

4.6 Cost Estimates - MII Report

4.7. Sustainability - Generic Statement from Dr. Mike

Ch 5: Selection of Design Alternative (Natasha / Michael)

5.1 Comparison Methodology:

* Alternatives were compared on a basis of cost, shipping limitations, and manufacturing availability.

(We can add scheduling & time lines if need be).

5.2 Comparison of Design Alternatives

* Maybe a Table with a small paragraph or two for each alternative

Alternative	Cost (materials)	Cost (Labor)	Shipping	Manufacturing
Plate Girders				
Conc. Type V				
Rolled Beam				

5.3 Selected Alternative

* Discussion of benefits of plate girders vs other alternatives & ultimate selection of plate girders.

5.4 Remaining Design Tasks:

Anything Else?

- Refined Shear & Moment Design
- Lateral Bracing Design
- Camber Design
- Approach Slab Design
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References .... etc.