STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUPPLEMENT 1079

QUALIFICATION AND EVALUATION OF PRESTRESSED CONCRETE FABRICATORS

April 20, 2007

1079.01 General. This Supplement describes the processes to become a prequalified prestressed concrete fabricator; the levels of qualification; quality control requirements during fabrication; documentation requirements and the Office of Materials Management's (OMM) quality assurance requirements.

The implied subject of this Supplement is the Prestressed Concrete Fabricator.

1079.02 Prequalification Request Requirements. Submit a written request for prequalification to the OMM. Provide the following information with the request:

1. Prestressed Concrete Institute (PCI) plant certification for one of the following levels:
   - Level 1 - PCI Group B3, Box Beams with straight strands
   - Level 2 - PCI Group B3, I - Beams with straight strands
   - Level 3 - PCI Group B4, I - Beams with draped strands

2. The name(s) of the Quality Control Specialist(s) (QCS) who will be assigned quality control responsibilities full time. Assignment of duties other than quality control duties will mean loss of QCS status. The QCS will possess:
   a. PCI Level II Technician/Inspector certification
   b. Thorough understanding of the plans, supplements, proposals and specifications pertaining to Department projects.
   c. All tools and equipment necessary to provide effective quality control

according to the specifications.

d. Authority to accept / reject materials and stop work.

3. Assignment of QCS and additional inspection staff:

The Fabricator will designate a QCS, from the list submitted per 1079.02.2, for each prestressed box beam or I beam project.

When needed, provide additional quality control staff to perform specific quality control functions. Additional staff will be PCI level I certified or ACI level 1 and achieves PCI level 1 certification within 6 months. Provide the names and certifications for additional staff.

The designated QCS for the project is responsible for the accuracy of the records and acceptance of the prestress members.

Notify OMM and the OMM inspector of a change of the QCS for acceptance.

4. Qualified Welders:

If structural welding is performed, welders will be qualified according to Supplement 1011 and AWS D1.5. Provide the name and proof of qualification of the welders

For reinforcing steel welding the welder will be qualified according to Supplement 1011 procedures but to the AWS D1.4 welding code.

5. Compressive Strength Testing Technician:

Provide a QCS who is either an ACI strength testing technician or concrete laboratory testing technician level 1 for compressive strength testing of release and final acceptance cylinders. If another technician will perform testing provide the name and either the ACI strength testing technician or concrete laboratory testing technician level 1 certification.

Notify OMM and the OMM inspector of any changes of the compressive strength testing technician.

6. Concrete quality control testing personnel:

All personnel performing slump, air, yield, concrete temperature and making cylinders will be ACI concrete field testing technicians, Grade 1.

OMM will review the submittal and notify the Fabricator whether the information is acceptable or additional information needs to be submitted.

1079.03 Fabrication Facility Evaluation. After 1079.02 is completed, OMM will inspect the Fabricator's facility. During the inspection, furnish the OMM representative documents to validate that the criteria listed in Appendix I are met. The OMM representative will determine the Fabricator's ability to operate within the guidelines of PCI, C & MS 515 and Supplement 1079.

If the Fabricator's facility, equipment and processes are acceptable, the Fabricator will be notified and requested to make a submittal of the information required in 1079.04.

1079.04 Fabricator Quality Control Documentation Processes Requirements. An evaluation of the Fabricators quality control process and documentation format will be done before the qualification of the Fabricator and before the start of any fabrication process.

Each Fabricator must have an approved quality control plan as part of their PCI certification. The Department will review that quality control plan (QCP) and the Fabricator's methods for documenting all quality control inspections, dimensional checks, coating thicknesses, and all other quality control responsibilities including a final quality control discrepancy inspection report. The submittal will also include the minimum number of quality control measurements per quality control item for each fabricated member and how those measurements will be documented. The QCP will require that the person witnessing and inspecting the complete tensioning procedure for each project's member be PCI Level 1 certified at a minimum. The Department's review will be based on a comparison to the Department's Quality Assurance checklist and the completeness of the Fabricator's documentation to provide evidence that adequate quality control and verification documentation is available for each fabricated member.

If the Department determines the initial QCP or quality control documentation processes submitted is not adequate revise and resubmit for review. The initial accepted QCP and quality control documentation process is required before a Fabricator will be added to the Department's list of qualified Fabricators.

1079.05 Fabricator Quality Control performance The accepted QCP and quality control documentation processes are the minimum requirements for Fabricator quality control and documentation of any project.

The QCS is responsible for:

a. inspecting the work at all quality control points
b. maintaining quality control records
c. assuring compliance to the plans, specifications and applicable sections of this supplement
d. notifying OMM representatives of quality control problems found during quality control inspections
e. maintaining equipment calibrations and records
f. Compressive strength testing

All quality control documentation will be signed by the project QCS and the actual QC inspector if other than the project QCS

Through the project fabrication and manufacturing processes, the Department will perform quality assurance (QA) evaluations defined in the Appendix II. Those QA evaluations will include evaluation of the Fabricator's documentation. When the evaluations find non-compliance items (Appendix II), remedy these items. The Fabricator shall modify their quality control plan (QCP), documentation, or both to eliminate a reoccurrence of the non-compliance item. Do not hold a prefabrication meeting until the revised QCP is approved by the Department.

Project material quality control and quality assurance acceptance is based on Appendix III completion and

supporting mill certifications and test data prior to production. Incorporating materials that do not meet the specifications or failure to provide adequate documentation showing compliance to the specifications will be cause for rejection of the member(s) containing the material and the corresponding deductions in the quality assurance inspections conforming to Appendix II.

Provide quality control discrepancy inspection report at the end of each project that defines all discrepancies the project QCS had for the project and the corrections or the requests for repair and/or acceptance of the repair.

1079.06 Quality Assurance (QA) Inspection and Revisions. For mandatory quality assurance hold point inspections defined in 1079.081. 1079.082 and 1079.083, coordinate the required hold point schedule with the OMM QA inspector. When at the final inspection hold point, provide the quality assurance inspector with the quality control discrepancy inspection report required in 1079.05.

For all QA inspections the OMM representative will review the Fabricators project quality control documentation records in addition to physical inspection of bridge members for compliance to the plans and specifications of the project. The OMM representative will check the bridge for applicable quality assurance items listed in Appendix II.

When any non-compliance items are found during the final inspection hold point, provide revisions in QCP processes, documentation and inspection responsibilities to correct the non-compliance items for the next project. Do not hold a prefabrication meeting until the revised QCP is approved by the Department.

Material acceptance is based on Appendix III completion with supporting mill certifications and test data prior to production. Incorporating materials not meeting specifications or failure to provide adequate documentation showing compliance to the specifications will be cause for rejection of the member(s) containing the material and the corresponding deduction in Appendix II.

Provide one (1) complete legible and ordered copy of the Fabricator quality control documentation and materials records at the end of the project**.**

1079.07 Shipping. Once the quality assurance inspection is complete and found to be acceptable to the OMM representative, the Department will assign a Sample ID to the bridge members. Ship the members on the TE-24 System, using the assigned number, through the Departments Virtual Warehouse.

1079.08 Fabricator Rating System. OMM evaluates the level of quality throughout the fabrication process. This evaluation includes items detailed in Appendix II.

The Department will perform Quality Assurance reviews of the Contractor approved shop drawings following Appendix II.

The Department will perform random, specific hold point Quality Assurance (QA) inspections during production of beams following Appendix II and 1079.06.

The results of the shop drawing and fabrication QA ratings are combined as shown in Appendix II to establish the Fabricator's rating. The QA rating forms associated with each process are in Appendix II of this specification.

This rating is reported to the Fabricator and affects the qualification of the Fabricator as follows:

1079.081 A-Rated Fabricators: A Fabricator will be considered an A rated Fabricator if the rolling average of five (5) bridge ratings within 36 months is 90 percent or above, and no single bridge rating is less than 80 percent. These Fabricators will have the A-rating QA hold points and random QA inspection performed. The required QA Hold Point for an A-rating is:

- Final before shipment (Hold Point 10, Appendix II).

A single rating below 80 percent, or the average of five consecutive ratings dropping the average below 90 percent, will result in the Fabricator's qualification being lowered accordingly.

1079.082 B-Rated Fabricators: A Fabricator will be considered a B rated Fabricator if the rolling average of five (5) bridge ratings within 36 months is 80 to 89 percent, and no single bridge rating is less than 70 percent These Fabricators will have all B-rating QA hold points and random QA inspection performed. The required QA Hold Points for a B-rating are:

- Testing and De-tensioning (Hold Point 8, Appendix II)
- Final before shipment (Hold Point 10, Appendix II)

A single rating below 70 percent, or the average of five consecutive ratings dropping below 80 percent, will result in the Fabricator's qualification being lowered accordingly.

1079.083 C-Rated Fabricators: The C-rating is an interim level for Fabricators to validate their QC performance in order to upgrade a B and/or A-rating level. Fabricators at the C-rating level will have all C-rating QA hold points and random QA inspection performed. The C-rating QA hold points are:

- Strand tensioning and pre-pour inspection (Hold Point 5, Appendix II)
- Testing and De-tensioning (Hold Point 8, Appendix II)
- Post inspection (Hold Point 9, Appendix II)
- Final before shipment (Hold Point 10, Appendix II)

The C-rating is not meant to be a permanent qualification level. Fabricators unable to achieve an average rating above 80 percent or above in five consecutive bridges within 36 months will be removed from the Prequalified list.

Fabricators that average between 70 to 79 percent on five consecutive bridges, with no individual rating less than 60 percent, will be reduced to a C-rating and placed on probation. The Fabricator will then have three additional consecutive bridge ratings to be averaged with the previous five ratings to achieve a B-rating. Fabricators that do not achieve a B-rating will be removed from the Prequalified Fabricator list.

Any time the average of three consecutive ratings drops below 70 percent or the Fabricator receives single rating below 60 percent, the Fabricator will be removed from the Prequalified Fabricator list. A Fabricator removed from the Prequalified list may apply for re-qualification 12 months after removal if evidence is provided showing that steps have been taken to resolve problems causing the removal from the list.

1079.09 Rating Review Process. The Department's quality assurance inspectors will perform quality assurance reviews throughout a project's fabrication. This is outlined under 1079.05 and 1079.06.

A Fabricator may contest a rating received on a project. Step one is a meeting between the Fabricator and the OMM representative issuing the rating to discuss the specific rated item(s) in question. If a resolution is made the rating will be revised by OMM.

If the Fabricator does not accept the step one resolution, the Fabricator will request, in writing, a reconsideration of the rating by the Department's Review Board. The Review Board is comprised of the Deputy Director, Division of Construction Management, the Administrator of the Office of Materials Management, and the Administrator of the Office of Structural Engineering, or their designated representatives. Submit the written request within 10 days of receiving the OMM's completed total rating. Define the specific areas being disputed and provide documentation or evidence supporting why the rating should be revised.

The Office of Materials Management will schedule a meeting so the Fabricator has an opportunity to present its case to the board. The Department may have representatives at the meeting offering evidence in rebuttal. The Board will consider the evidence and issue its decision within fifteen days of the meeting.

The Board will hear appeals concerning the Fabricator's rating on a specific project. The Board has no authority to hear appeals for revocation or suspension of a Fabricator from the Pre-qualified Fabricators list.

APPENDIX I

OHIO DEPARTMENT OF TRANSPORTATION

1600 W Broad Street, Columbus, OH 43223

Facilities inspection has been performed by the Office of Materials Management (OMM) on: / /

Based upon this report, your facility will be evaluated for acceptance into the Prequalified Fabricator List for Prestressed Concrete Bridge Members as specified by Supplemental 1079

FACILITIES EVALUATION CHECK LIST

Company Name:		
Address:		
Phone:	Fax:	E-Mail:

PCI Certification (Enclose Copy Of Certification)		
Level 1 **B3** - Box Beam W/ Straight Strand	**Level 2** **B3** - I Beam W/ Straight Strand	**Level 3** **B4** - I Beam W/ Draped Strand

Company Representatives		
Plant Manager		
Chief Engineer		
Production Superintendent		
Quality Control Specialist		
Prestressed Beds		
Bed 1 - Length (Ft)		
Bed 2 - Length (Ft)		
Bed 3 - Length (Ft)		
Bed 4 - Length (Ft)		
Bed 5 - Length (Ft)		
Bed 6 - Length (Ft)		
Steel Fabrication Facilities		
Reinforcing Steel Fabrication Area		
Adequate Bending Equipment		
Protection Method For Epoxy Coating On Reinforcement		
Method Of Cage Construction		
Reinforcing Welders AWS Qualified		
Concrete Testing Facility		
Capacity Of Testing Machine		
Calibration Documentation		
Capping Method		
Capping Equipment		

ODOT Inspectors Office
Minimum Floor Area Of 120 Square Feet (11 M^2).
Minimum Ceiling Height Of 7 Feet (2.1 M).
Adequate Storage Facilities, Lighting, Electrical Outlets, And Ventilation.
Adequate Work Spaces Include Desk Space, Lockable Files Or Storage Cabinets.
Heat Capable Of Maintaining A Temperature Of Not Less Than 68 °F (20 °C).
Telephone With Direct Access To Outside Trunk Line For The Inspector's Exclusive Use.
Set Of Keys For Lockable Files Or Cabinets In The Office.
Lifting Capacities
Crane Capacities
Concrete
Source
Mix Design
Established QC Procedures
Moisture Control
QC On Admixture Batching
QC For Strand
Written Procedures For Strand Tensioning
Straight Strand
Draped Strand
Written Procedures For Strand Release
Straight
Draped
Method Of Debonding
QC Controls For Materials
Cement
Aggregate
Admixtures
Reinforcing
Strand
Remarks

Appendix II
Prestress Concrete Fabricator Rating
Shop Drawings

County **Project** **SFN** **Date**

Bridge **Fabricator**

	Points	Y = Item Complied N = Item In Non Compliance Na = Not Applicable		
		Y	N	N/A
Contractor Coordination (10%)				
1. Cover Letter Provided By Contractor's Engineer	1			
2. Shop Drawings Approved And Stamped By The Contractor	1			
3. Shop Drawings Received 7 Days Prior To Prefabrication Meeting	1			
4. Contractor's Field Verification Reflected On Shop Drawings	1			
5. Contractual Changes Due To Field Conditions, Plan Errors, Fabrication Changes Or Other Conditions Addressed By The Fabricator	1			
Subtotal	**5**			
Title Block (1%)				
1. Reference Number(S) Shown	1			
2. County, Route And Section	1			
3. Checker / Reviewer Initials	1			
4. Shop Drawings Are Sequentially Numbered	1			
5. Fabricator's Name And Address Indicated	1			
Subtotal	**5**			
General Notes (15%)				
1. Release And 28 Day Concrete Strengths Are Defined And Agree With Contract	5			
2. Corrosion Inhibitor Type And Dosage Rate As Per Contract	2			
3. Keyways Are Sandblasted No More Than 4 Days Prior To Shipment	4			
4. Beam Ends Waterproofed As Per Contract	1			
5. Top Of Beams Textured As Per 515	1			
6. Correct ODOT Standard Drawings Referenced	1			
7. Release Pattern For Detensioning Strands Is Symmetrical And Defined	3			
8. Strand Type , Grade, Diameter And Initial Stressing Force As Per The Contract	5			
9. Correct Grade Of Reinforcing Steel	4			
10. Final Camber Conforming To Contract	1			
11. Keyways Omitted For Exterior Side Of Fascia Beam	1			
12. Procedure For Bending Extended Strand Without Heat	1			
Subtotal	**29**			

	Points	Y	N	N/A
Framing Plan (10%)				
1. Beam Sizes Shown	1			
2. Skew Shown From The Vertical To The Center Line Of Bearing	1			
3. End Of Beam To Centerline Of Bearing Detailed	1			
4. Out - Out Dimension Of Beam	1			
5. Diaphragm And Tie-Rod	1			
6. Guardrail Inserts	1			
7. Beam Piece Marked For Erection	1			
8. Phased Construction Width Meets Contract Dimensions	1			
Subtotal	**8**			
Beam Details (34%)				
1. End And Intermediate Diaphragm Connections Are Dimensionally Located Per The Plan	2			
2. Continuity Connection Details Of The Beam And End Supported At Pier	3			
3. Expansion Device Supports And Dimensional Details Meet Plan Specifications	2			
4. Beams Are Piece Marked According To Framing Plan	1			
5. Beam Voids Are Dimensionally Correct, Spaced Correctly And Do Not Interfere With Beam Lifting	2			
6. Beams Detailed To Theoretically Fit Tight At Crown Or Change In Roadway Surface	2			
7. Members Meet Plan Skew And Are Dimensioned Correctly	5			
8. Location Of Draped Points As Per Plans	5			
9. Longitudinal Reinforcing Steel And Laps Are Detailed According To Plans	5			
10. Epoxy Coated Reinforcing Steel Location	5			
11. Transverse Reinforcing Steel	4			
12. Concrete Cover	3			
13. End Block Reinforcing Detailed As Per Plan	3			
14. Railing, Diaphragms And Other Plan Or Contractor Required Inserts Are Completely Detailed	3			
15. Holes In Beams Meet Contract Requirements	3			
16. Connections For Utilities, Metal Diaphragm, Scuppers, Etc Are Included	2			
17. All Hardware Cast In The Beam Has Protective Coating	1			
18. Dimensions, Location And Fabrication Of Embedded Bearing Load Plates	2			
Subtotal	**53**			
Cross Section Details (30%)				
1. Strand Pattern And Spacing	5			
2. Strands Debonded Correctly	3			
3. Extended Strands Are Not Debonded Strands	3			
4. Concrete Cross-Section Dimensions	4			
5. Longitudinal Reinforcing Steel Placement And Size	3			
Subtotal	**18**			

Calculating The Shop Drawing Rating 3 [Y/(Y+N) X Factor = Shop Drawing Rating					
	Y		**(Y + N)**	**Factor**	**Rating**
Contractor Coordination		÷		X 10	
Title Block		÷		X 1	
General Notes		÷		X 15	
Framing Plan		÷		X 10	
Beam Details		÷		X 34	
Cross Section		÷		X 30	
3 **[Y/(Y+N) X Factor]**					

Appendix II
Prestress Concrete Fabricator Rating
Fabrication

Fabricator	**Project No.**	**SFN**			
QA Inspector			**Y = Item Complied N = Item In Non Compliance NA = Not Applicable**		
Hold Point Descriptions		**Points**	**Y**	**N**	**NA**
Strand And Steel Reinforcing Materials		**QA Hold Point 1**			
1. Certified Test Data's Heat Number Matches Tagging Identification On Rebar And Strand		5			
2. Yield Strength Of Reinforcing Meets Plan Requirements, Fy (Psi)		3			
3. Tensile Strength Of Reinforcing Steel Meets Plan Specifications, Fu (Psi)		1			
4. Tensile Strength Of Prestressing Strand Meets Plans And Specifications, Fu (Psi)		5			
5. Strand And Reinforcing Inspected For Acceptable Surface Conditions Rust, Etc.		1			
	Hold Point 1 Sub Total	**15**			
Concrete Mix Inspection		**QA Hold Point 2**			
1. Concrete Mix Design Provided To OMM		5			
2. Batch Weights Controlled- Equipment Calibrated		3			
3. Corrosion Inhibiting Admixture Batched Correctly		3			
4. Aggregates Checked For Segregation, Contaminants, And Proper Handling		2			
	Hold Point 2 Sub Total	**13**			
Reinforcing Inspection - Pre-Form:		**QA Hold Point 3**			
1. Pre-Fabrication - Cages Meet Dimensional Requirements		5			
2. Individual Bars Checked For Dimensions, Size And Grade Before Installation		1			
3. Tack Welded Assemblies, Welds Acceptable And Rebar Coating Repaired		3			
4. Welders Qualified D1.4 (D1.5 If Performing Structural Plate Welding)		2			
5. Welder Following Qualified Procedure For Reinforcing		2			
6. Lap Lengths Built Into Longitudinal Bar Assemblies Meet Requirements; Stirrups Properly Spaced		2			
	Hold Point 3 Sub Total	**15**			
Form Inspection		**QA Hold Point 4**			
1. Cross-Section Dimensionally Correct		3			
2. Skew Ends Meet Dimensions And Angle		2			
3. Hold Down Points Located As Per Shop Drawings (+/- 6 Inches)		3			
4. Holes Plugged And Flush, Welds Ground Flush		1			
5. Form Joints Sealed		1			
6. Forms String Lined For Straightness And Acceptable Flatness		2			
7. Length Of Members Conform To Specifications; Bulkheads Correctly Installed		4			
	Hold Point 4 Sub Total	**16**			

Hold Point Descriptions	Points	Y	N	NA
Strand Tensioning Pre-Pour Inspection:	**QA Hold Point 5**			
1. Strand Diameter & Type Correct, Clean And Free Of Oil Dirt, Etc.	5			
2. Strands Inspected In Bed For Nicks, Gouges	2			
3. Correct Strands Debonded At The Correct Length	3			
4. Check Elongation Established Using Strand Reel Modulus Of Elasticity (E), Measured; Area Of Strand And Corrections For Temperature, Bed Shortening, Additional Strand Length Due To Draping, Slippage At Ends And Seating Losses	5			
5. Jacking Equipment Calibrated As Per Specification	2			
6. Written Strand Stressing Procedure At Jacking Location	1			
7. Pre-Load Applied	2			
8. Strands Loaded Symmetrically, Final Load Applied, Elongation Checked	6			
9. Draped Strand Force At Bed Ends Shall Be Validated To Be Within 5%	4			
Hold Point 5 Sub Total	**30**			
Reinforcing Placement Pre-Pour Inspection:	**QA Hold Point 6**			
1. Reinforcing Steel Sizes Correct, Clean , Coating Repaired	5			
2. Clearance Of Reinforcing And Strand From Forms Meets Concrete Cover	3			
3. Lap Splice Reinforcing Installed And Meet Specifications	3			
4. Reinforcing Adequately Tied Against Movement	2			
5. Guardrail And Inserts Installed Correctly	3			
6. Reinforcing Located As Per Shop Drawings	2			
7. Tie-Rod Holes And Anchor Holes Dimensionally Correct	2			
8. Release Agent Applied On Forms	1			
9. Lifting Devices Installed	3			
Hold Point 6 Sub Total	**24**			
Member Fabrication Concrete Qc	**QA Hold Point 7**			
1. Unit Weight, Slump And Air Tested And Meet Requirements	3			
2. Verification Cylinders Made	5			
3. Vibration Performed As Per Specifications And Plant Approved Procedure	2			
4. Slump And Air Tested Minimum Every 20 Yd Or 2 Tests Per Fabricated Member	2			
Dimensional				
5. Concrete Cover Checked During Placement	3			
6. Concrete Depth Checks Performed For Top And Bottom Flange	4			
7. Composite Reinforcing Checked For Extension Out Of Member, Cleanliness And Damage	2			
8. Voids Inspected For Location After Concrete Placed (Box Beam)	2			
9. Top Of Member Surface Finish Meets Specifications	1			
10. Lifting Devices Final Location Meets Specifications	4			
Cure Application				
11. Protection Of Concrete Before Initial Set Performed	2			
12. Set Time Of Mix Exceeded Before Accelerated Cure Applied	3			

13. Temperature Measurement During Accelerated Cure	5			
14. Cylinders Cured As Per Member	3			
Hold Point 7 Sub Total	**43**			

Hold Point Descriptions	**Points**	**Y**	**N**	**NA**
Testing And De-Tensioning:	**QA Hold Point 8**			
1. Cylinders Tested For Release Strength	5			
2. Cylinder Testing Equipment Calibrated	1			
3. Cure Removed	2			
4. De-Tensioning Procedure Performed And Meets Specifications	4			
5. Initial Camber Checked For Each Beam And Recorded	2			
Hold Point 8 Sub Total	**14**			
Post Inspection	**QA Hold Point 9**			
1. Beam Length Dimensionally Correct	3			
2. Cavities In Concrete Surfaces Repaired	1			
3. Honeycombing Inspected And Documented QA Inspector Notified	2			
4. Validate Dimensional Locations Of Tie-Rods, Guardrails And Other Inserts	3			
5. Sweep Meets Required Tolerances	2			
6. Composite Reinforcing Meets Required Clearance	1			
7. Reinforcing Steel Coating Inspected And Repaired As Per Requirements	1			
Hold Point 9 Sub Total	**14**			
Final Inspection Before Shipment	**QA Hold Point 10**			
1. Cylinders Tested For 28 Day Strength To Meet Specifications	5			
2. Final Camber Measured For Each Beam. For Box Beams Evaluated Against Adjacent Members And Tolerances For I Beams Evaluated Against Tolerances	2			
3. Final Sealing Applied; Document Cleaning And Rate Of Application	3			
4. Inspection For Cracks, Lifting Damage, Etc.	3			
5. Qc Inspection Documentation Complete And Accurate	5			
Hold Point 10 Sub Total	**18**			

Calculating The Fabrication Rating				
	Hold Point	**Yes / (Yes + No)**	**Weight Factor**	**Rating Total**
1*	Strand And Steel Reinforcing Materials		X 12	
2	Concrete Mix Inspection		X 10	
3	Reinforcing Inspection - Pre-Form		X 5	
4	Form Inspection		X 5	
5*	Strand Tensioning Pre-Pour Inspection		X 16	
6	Reinforcing Placement Pre-Pour Inspection		X 7	
7	Member Fabrication - Concrete Qc		X 12	
8*	Testing And Detensioning		X 13	
9	Post Inspection		X 8	
10	Final Inspection Before Shipment		X 12	
			Total Rating	

Summation fabricator rating for performance of QA inspection = _____

* Y /(Y + N) X 100 for hold points 1, 5 and 8. If any of these individual ratings are lower than the summation fabricator rating, then the Fabricator rating shall be based upon the lowest individual section rating.

Required Hold Points
A Rating - Hold Points = 10
B Rating - Hold Points = 8 And 10
C Rating - Hold Points = 5, 8, 9 And 10

Final Total Fabricator Rating	**Shop Drawing Rating**	**X .20**	
	Fabrication Rating	**X .80**	
		Total	

If no shop QA rating is performed, the fabrication QA rating will be the fabricator's QA rating for the project.

Appendix III
Materials Certification Form

Fabricator **Project No** **SFN**

Cement			
Manufacturer	**Plant Location**	**Type**	**Inspector Approval**

Cementitious Materials (Fly Ash, GGBF Slag, Micro Silica)			
Manufacturer	**Plant Location**	**Type**	**Inspector Approval**

Fine Aggregate				
Producer	**Location**	**Type**	**Soundness %**	**Inspector Approval**

Coarse Aggregate					
Producer	**Location**	**Deleterious Materials**	**Soundness %**	**Abrasion %**	**Inspector Approval**

Admixtures (Corrosion Inhibitor, Retarding, Air Entraining, Superplasticizing, Accelerating...)				
Manufacturer	**Brand Name**	**Admixture Type**	**Dosage Rate**	**Inspector Approval**

Reinforcing Steel						
Rebar Use						
Rebar Size (Epoxy / Black)						
Manufacturer						
Heat Number						
Yield Strength						

Tensile Strength						
Elongation %						
Coating Thickness						
TE - 24 / Certified Source						
Inspector Approval						
Wire Mesh Reinforcing						
Mesh Size						
Heat Number						
Tensile Strength (Longitudinal)						
Diameter						
Area						
Tensile Strength (Transverse)						
Diameter						
Area						
Weld Shear						
Coating Thickness						
TE-24 / Certified Producer						
Inspector Approval						
Prestressed Strand						
Heat Number						
Coil Number						
Nominal Diameter						
Area						
Yield Strength						
Ultimate Strength						
Elongation						
Modulus Of Elasticity						
Coating Thickness						
Inspector Approval						

Transverse Tie Rod
Heat Number
Nominal Diameter
Area
Yield Strength
Ultimate Strength
Elongation
Coating Thickness
TE-24/ Certified Source
Inspector Approval

Inserts (Including Embedded Inserts, Bolts, Nuts, Washers, Coupling Nuts)					
Insert Description					
TE-24 / Certification					
Mill Certification					
Coating Thickness					
Inspector Approval					

Fabricated Plate (Bearing Insert Plates, Welding Connection Plates, Etc.)					
Description					
Diameter					
Length Width Thickness					
Depth					
Coating Thickness					
Inspector Approval					