

| Requirement                     | GDOT                                                                                                                               | NCDOT                                                                                                                       | SCDOT                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Cement Content                  | Contractor's Responsibility                                                                                                        | 639 lbs - 850 lbs                                                                                                           | 650 lbs - 850 lbs                                                                                      |
| Maximum W/C ratio               | 0.35                                                                                                                               | Precast = 0.48<br>Prestress = 0.45 (if 28-day strength < or = 6000 psi)<br>Prestress = 0.40 (if 28-day strength > 6000 psi) | 0.40                                                                                                   |
| SCMs / Pozzolan Allowed         | fly ash, slag, microsilica, metakaolin                                                                                             | fly ash, slag, silica fume, limestone powder                                                                                | fly ash, slag, silica fume                                                                             |
| Amount of SCMs / Pozzolans      | No more than 3 can be used<br>If 1 SCM - replace no more than 20% of cement<br>If 2 or 3 SCMs - replace no more than 40% of cement | May be substituted for a portion of the cement with permission of the Engineer                                              | May be substituted for a portion of the cement                                                         |
| Coarse to Fine Aggregate Ratio  | Contractor's Responsibility                                                                                                        | Fine Aggregate content 40% to 60% of combined coarse and fine aggregate weight                                              | Fine Aggregate content 40% to 60% of combined coarse and fine aggregate weight                         |
| Admixtures                      | Type F or G HRWR may be used<br>Viscosity Modifying Admixtures may be used                                                         | Viscosity Modifying Admixture recommended but not required                                                                  | Viscosity Modifying Admixtures are allowed                                                             |
| Air Entrainment                 | 3.5% to 6.5%                                                                                                                       | 5.0% +/- 2.0%                                                                                                               | 0.0% to 4.5%                                                                                           |
| Slump Flow                      | Minimum = 20" and within +/-2" of design slump flow                                                                                | 24" - 30" Spread                                                                                                            | 24" - 30" Spread in combination with the VSI of 0 - 1                                                  |
| T-20" (Time to 20" spread)      | 3 - 8 seconds                                                                                                                      | Not addressed in Special Provision                                                                                          | Not addressed in Special Provision                                                                     |
| Visual Stability Index (VSI)    | Submit results with mix design                                                                                                     | Not addressed in Special Provision                                                                                          | 0 - 1                                                                                                  |
| L Box                           | Blocking Ratio (H1/H2)= 0.8 - 1.0                                                                                                  | Blocking Ratio (H1/H2) = 0.8 - 1.0                                                                                          | Blocking Ratio (H1/H2) = 0.8 - 1.0                                                                     |
| U-Box                           | Blocking Ratio (H1/H2)= 0.75 - 1.0                                                                                                 | Not addressed in Special Provision                                                                                          | Not addressed in Special Provision                                                                     |
| J-Ring                          | Not addressed in Special Provision                                                                                                 | Difference in spread with and without J-Ring shall not exceed 2"                                                            | Difference in spread with and without J-Ring shall not exceed 2"                                       |
| Shrinkage                       | Not addressed in Special Provision                                                                                                 | For Prestressed Concrete Only - Shall not exceed 0.04% at 28 days                                                           | *Shall not exceed 0.04% in 28 days                                                                     |
| Creep                           | Not addressed in Special Provision                                                                                                 | Not addressed in Special Provision                                                                                          | *Normalized creep shall be < 0.52 at 300 days                                                          |
| Compressive Strength            | 5,000 psi @ 28 days or as shown on the plans                                                                                       | As shown on the plans or Standard Specifications                                                                            | 6,000 psi. Shall meet the requirements of the project. Match curing required for strengths >10,000 psi |
| Modulus of Elasticity           | Not addressed in Special Provision                                                                                                 | Testing Required for Prestressed Concrete only                                                                              | Shall be greater than 4,000 ksi at 56 days                                                             |
| Chloride Permeability @ 56 days | Beams Max = 4000 Coulombs<br>Piling Max = 2000 Coulombs                                                                            | Not addressed in Special Provision                                                                                          | *Max = 3000 Coulombs                                                                                   |

\* may be waived based on past positive performance

Specifications used for comparison

GDOT - DRAFT - Section 500 - Concrete Structures Special Provision - (November 16, 2005)

NCDOT - Self-Consolidating Concrete (SCC) for Precast and Prestressed Concrete (Special) - (Revised 12-5-2005)

SCDOT - DRAFT - Self Consolidating Concrete (SCC) for Precast and Prestressed Concrete - Special Provision (December 2010)

**This document is for information only. It is not a specification or special provision and shall not bind any agency.****In cases of discrepancy, each agency's special provisions and / or specifications shall govern.**