



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 5, 2013

SUBJECT: FAS Route 2882(IL 37)
Project F-HSIP-2882(100)
Section (11, 12)R-1
Franklin County
Contract No. 78317
Item No. 102, June 14, 2013 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Replaced the Schedule of Prices.
2. Revised sheet 9 of the Plans.
3. Revised page ii of the Table of Contents to the Special Provisions.
4. Revised page 8 and 101-104 of the Special Provisions.
5. Added pages 171-186 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

John D. Baranzelli, P. E.
Acting Engineer of Design and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger P.E." with a small "P.E." to the right.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Jeffrey Keirn, Region 5, District 9; Mike Renner; D. Carl Puzey; Estimates

dp

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 78317

State Job # - C-99-048-12

County Name - FRANKLIN -
 Code - 55 - -
 District - 9 - -
 Section Number - (11,12)R-1

Project Number
 F-HSIP-2882/100/

Route
 FAS 2882

*REVISED: JUNE 4, 2013

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X2503100	MOWING	UNIT	157.000				
X7801004	WR THPL PM LINE 4	FOOT	35,326.000				
Z0012754	STR REP CON DP = < 5	SQ FT	172.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0016200	DECK SLAB REP (PART)	SQ YD	4.000				
Z0034105	MATL TRANSFER DEVICE	TON	6,236.000				
Z0076600	TRAINEES	HOUR	500.000		0.800		400.000
Z0076604	TRAINEES TPG	HOUR	500.000		10.000		5,000.000
20100110	TREE REMOV 6-15	UNIT	42.000				
20100210	TREE REMOV OVER 15	UNIT	637.000				
20100500	TREE REMOV ACRES	ACRE	0.590				
20200100	EARTH EXCAVATION	CU YD	15,174.000				
20400100	BORROW EXCAVATION	CU YD	875.000				
20900110	POROUS GRAN BACKFILL	CU YD	144.000				
25000200	SEEDING CL 2	ACRE	14.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25000350	SEEDING CL 7	ACRE	14.000				
25000400	NITROGEN FERT NUTR	POUND	2,437.000				
25000500	PHOSPHORUS FERT NUTR	POUND	1,218.000				
25000600	POTASSIUM FERT NUTR	POUND	1,218.000				
25000700	AGR GROUND LIMESTONE	TON	27.000				
25100115	MULCH METHOD 2	ACRE	27.000				
25100630	EROSION CONTR BLANKET	SQ YD	25,675.000				
28000250	TEMP EROS CONTR SEED	POUND	4,061.000				
28000305	TEMP DITCH CHECKS	FOOT	963.000				
28000400	PERIMETER EROS BAR	FOOT	7,835.000				
28000500	INLET & PIPE PROTECT	EACH	17.000				
28100707	STONE DUMP RIP CL A4	SQ YD	100.000				
35100100	AGG BASE CSE A	TON	279.000				
40200100	AGG SURF CSE A	TON	640.000				
40600300	AGG PR CT	TON	56.000				

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40600909	P LB MM IL-9.5FG N90	TON	1,863.000				
40600982	HMA SURF REM BUTT JT	SQ YD	48.000				
40600990	TEMPORARY RAMP	SQ YD	25.000				
40603243	P HMA BC IL19.0FGN90	TON	917.000				
40603545	P HMA SC "D" N90	TON	3,456.000				
40800010	BIT MATLS PR CT	GALLON	6,999.000				
40800050	INCIDENTAL HMA SURF	TON	124.000				
42300200	PCC DRIVEWAY PAVT 6	SQ YD	451.000				
44000152	HMA SURF REM 3/4	SQ YD	37,385.000				
44201445	CL C PATCH T2 18	SQ YD	156.000				
44201447	CL C PATCH T3 18	SQ YD	44.000				
44201449	CL C PATCH T4 18	SQ YD	283.000				
48203029	HMA SHOULDERS 8	SQ YD	29,838.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				

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50100500	REM EXIST STRUCT N3	EACH	1.000				
50100600	REM EXIST STRUCT N4	EACH	1.000				
50102400	CONC REM	CU YD	11.200				
50105220	PIPE CULVERT REMOV	FOOT	810.000				
50300255	CONC SUP-STR	CU YD	12.900				
50800205	REINF BARS, EPOXY CTD	POUND	1,850.000				
50800515	BAR SPLICERS	EACH	38.000				
52000110	PREF JT STRIP SEAL	FOOT	102.000				
542A5479	P CUL CL A 1 EQRS 24	FOOT	139.000				
542A5485	P CUL CL A 1 EQRS 30	FOOT	54.000				
542A5491	P CUL CL A 1 EQRS 36	FOOT	42.000				
542A5497	P CUL CL A 1 EQRS 42	FOOT	47.000				
542D0223	P CUL CL D 1 18	FOOT	773.000				
542D0229	P CUL CL D 1 24	FOOT	121.000				
542D0241	P CUL CL D 1 36	FOOT	47.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
542D1087	P CUL CL D 2 42	FOOT	46.000				
54213453	END SECTIONS 18	EACH	22.000				
54213459	END SECTIONS 24	EACH	6.000				
54213471	END SECTIONS 36	EACH	2.000				
54213477	END SECTIONS 42	EACH	2.000				
54213669	PRC FLAR END SEC 24	EACH	6.000				
54213675	PRC FLAR END SEC 30	EACH	2.000				
54213681	PRC FLAR END SEC 36	EACH	2.000				
54213687	PRC FLAR END SEC 42	EACH	2.000				
58100200	WATERPRF MEMBRANE SYS	SQ YD	1,271.000				
60240301	INLETS TB T8G	EACH	1.000				
60300105	FR & GRATES ADJUST	EACH	4.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	7,350.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	6.000				
63200310	GUARDRAIL REMOV	FOOT	643.000				

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66600105	FUR ERECT ROW MARKERS	EACH	24.000				
*ADD 66900200	NON SPL WASTE DISPOSL	CU YD	3,100.000				
*ADD 66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
*ADD 66900530	SOIL DISPOSAL ANALY	EACH	4.000				
67000400	ENGR FIELD OFFICE A	CAL MO	11.000				
67100100	MOBILIZATION	L SUM	1.000				
70100405	TRAF CONT-PROT 701321	EACH	1.000				
70100460	TRAF CONT-PROT 701306	L SUM	1.000				
70100500	TRAF CONT-PROT 701326	L SUM	1.000				
70100600	TRAF CONT-PROT 701336	L SUM	1.000				
70106500	TEMP BR TRAF SIGNALS	EACH	1.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	11.000				
70300100	SHORT TERM PAVT MKING	FOOT	4,711.000				
70300220	TEMP PVT MK LINE 4	FOOT	3,925.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	1,832.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
70400100	TEMP CONC BARRIER	FOOT	625.000				
70400200	REL TEMP CONC BARRIER	FOOT	600.000				
70600250	IMP ATTN TEMP NRD TL3	EACH	2.000				
70600350	IMP ATTN REL NRD TL3	EACH	2.000				
78100100	RAISED REFL PAVT MKR	EACH	200.000				
78100105	RAISED REF PVT MKR BR	EACH	4.000				
78200420	GUARDRAIL MKR TYPE B	EACH	48.000				
78201000	TERMINAL MARKER - DA	EACH	6.000				
78300200	RAISED REF PVT MK REM	EACH	150.000				
86200300	UNINTER POWER SUP EXT	EACH	1.000				

TEMPORARY EROSION AND SEDIMENT CONTROL (BDE)	105
TRACKING THE USE OF PESTICIDES (BDE).....	106
TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)	106
TRAINING SPECIAL PROVISIONS (BDE)	106
IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)	109
UTILITY COORDINATION AND CONFLICTS (BDE).....	111
WARM MIX ASPHALT (BDE).....	116
WEEKLY DBE TRUCKING REPORTS (BDE).....	121
WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING (BDE).....	122
WORKING DAYS (BDE).....	122
BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID).....	123
FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID).....	126
STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID).....	130
404 PERMIT	134
STORM WATER POLLUTION PREVENTION PLAN.....	147
PROJECT LABOR AGREEMENT - QUARTERLY EMPLOYMENT REPORT	154
PROJECT LABOR AGREEMENT	155
QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE).....	171

TEMPORARY CONCRETE BARRIER RELOCATION

Effective 1988

Revised 7/17/03

This item shall be performed in accordance with the plans, the applicable portions of Section 704 of the Standard Specifications, and as specified herein.

The Contractor shall plan the operations involved in removing and relocating the temporary concrete barrier so as to minimize the period when the work zone will be unprotected; and to assure that, in the opinion of the Engineer, sufficient barrier will be in place at the end of each work day to shield traffic from all hazards. During the relocation operations, cones, drums or barricades shall be placed at 10 foot centers across all gaps in the barrier.

Prior to the relocation of the temporary concrete barrier from its initial location, the Contractor shall submit and obtain the Engineer's approval of a work plan for relocating the barrier which will meet the above requirements. The Engineer may require the Contractor to first furnish and install separate additional temporary concrete barrier of sufficient length to assure that the remaining needed barrier can be relocated from the initial installation in one daylight period.

Any additional barrier which must be furnished shall be paid for at the contract unit price per foot for RELOCATE TEMPORARY CONCRETE BARRIER. No additional compensation will be allowed on account of the above requirements.

HOT MIX ASPHALT QUALITY CONTROL FOR PERFORMANCE (BMPR)

Effective: January 1, 2012

Revised: January 1, 2013

Description. This special provision describes the procedures for production, placement and payment of hot-mix asphalt (HMA). This work shall be according to the Standard Specifications except as modified herein. This special provision shall apply to HMA mixtures as listed in the following table.

Mixture/Use:	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX D, N90
Location:	HOT-MIX ASPHALT SURFACE COURSE

Exceptions may be approved for small tonnage less than 800 (725 metric) tons and miscellaneous mixture applications as defined by the Engineer.

Revised 6-4-13

- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted.”

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Revise Article 669.01 of the Standard Specifications to read:

“**669.01 Description.** This work shall consist of the transportation and proper disposal of contaminated soil and water. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.”

Revise Article 669.08 of the Standard Specifications to read:

“**669.08 Contaminated Soil and/or Groundwater Monitoring.** The Contractor shall hire a qualified environmental firm to monitor the area containing the regulated substances. The affected area shall be monitored with a photoionization detector (PID) utilizing a lamp of 10.6eV or greater or a flame ionization detector (FID). Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. No excavated soils can be taken to a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation with detectable PID or FID meter readings that are above background. The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily. All testing shall be done by a qualified engineer/technician. Such testing and monitoring shall be included in the work. The Contractor shall identify the exact limits of removal of non-special waste, special waste, or hazardous waste. All limits shall be approved by the Engineer prior to excavation. The Contractor shall take all necessary precautions.

Based upon the land use history of the subject property and/or PID or FID readings indicating contamination, a soil or groundwater sample shall be taken from the same location and submitted to an approved laboratory. Soil or groundwater samples shall be analyzed for the contaminants of concern, including pH, based on the property's land use history or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605. The analytical results shall serve to document the level of soil contamination. Soil and groundwater samples may be required at the discretion of the Engineer to verify the level of soil and groundwater contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, location and elevation, and any other observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 and "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective.”

Replace the first two paragraphs of Article 669.09 of the Standard Specifications with the following:

“**669.09 Contaminated Soil and/or Groundwater Management and Disposal.** The management and disposal of contaminated soil and/or groundwater shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:
- (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. Such soil excavated for storm sewers can be placed back into the excavated trench as backfill, when suitable, unless trench backfill is specified. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
 - (2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as “uncontaminated soil” at a CCDD facility or an uncontaminated soil fill operation within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

Revised 6-4-13

- (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (5) When the Engineer determines soil cannot be managed according to Articles 669.09(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
- (b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC but the pH of the soil is less than 6.25 or greater than 9.0, the excavated soil can be utilized within the construction limits or managed and disposed of off-site as "uncontaminated soil" according to Article 202.03. However the excavated soil cannot be taken to a CCDD facility or an uncontaminated soil fill operation.
 - (c) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste.

All groundwater encountered within lateral trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer."

Revise Article 669.14 of the Standard Specifications to read:

"669.14 Final Environmental Construction Report. At the end of the project, the Contractor will prepare and submit three copies of the Environmental Construction Report on the activities conducted during the life of the project, one copy shall be submitted to the Resident Engineer, one copy shall be submitted to the District's Environmental Studies Unit, and one copy shall be submitted with an electronic copy in Adode.pdf format to the Geologic and Waste Assessment Unit, Bureau of Design and Environment, IDOT, 2300 South Dirksen Parkway, Springfield, Illinois 62764. The technical report shall include all pertinent information regarding the project including, but not limited to:

- (a) Measures taken to identify, monitor, handle, and dispose of soil or groundwater containing regulated substances, to prevent further migration of regulated substances, and to protect workers,
- (b) Cost of identifying, monitoring, handling, and disposing of soil or groundwater containing regulated substances, the cost of preventing further migration of regulated substances, and the cost for worker protection from the regulated substances. All cost should be in the format of the contract pay items listed in the contract plans (identified by the preliminary environmental site assessment (PESA) site number),
- (c) Plan sheets showing the areas containing the regulated substances,
- (d) Field sampling and testing results used to identify the nature and extent of the regulated substances,
- (e) Waste manifests (identified by the preliminary environmental site assessment (PESA) site number) for special or hazardous waste disposal, and
- (f) Landfill tickets (identified by the preliminary environmental site assessment (PESA) site number) for non-special waste disposal."

Revised 6-4-13

Revise the second paragraph of Article 669.16 of the Standard Specifications to read:

“The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.”

Qualifications. The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General. This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either “uncontaminated soil” or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District’s Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

- Station 147+00 to Station 149+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-31, 5400-5500 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 157+00 to Station 159+00 0 to 50 feet RT (Residence and Stable, PESA Site 2651-30, 5463 IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 168+00 to Station 172+50 0 to 50 feet LT (Vacant Land, PESA Site 2651-27, 5200+5300 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 174+00 to Station 180+00 0 to 50 feet LT (Jim R Sullivan Supply, PESA Site 2651-26, 5182 IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 183+00 to Station 185+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 187+00 to Station 189+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead.
- Station 191+00 to Station 195+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, Manganese, and Lead.
- Station 199+00 to Station 203+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-22, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 209+00 to Station 211+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-22, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 215+00 to Station 221+50 0 to 50 feet RT (Vacant Land, PESA Site 2651-22, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic and Lead.
- Station 223+00 to Station 225+00 0 to 50 feet RT (Shelby and Sons-west, PESA Site 2651-18, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 119+00 to Station 220+00 0 to 50 feet LT (Shelby and Sons-east, PESA Site 2651-16, 4294 IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 7+00 to Station 9+00 0 to 50 feet RT (Twin Mills Timber and Tie Company, PESA Site 2651-5, 3183 block of IL 37). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 15+00 to Station 17+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-3, 800-900 blocks of North Logan Street). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic.
- Station 143+00 to Station 147+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-31, 5400-5500 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.

Revised 6-4-13

- Station 159+00 to Station 166+00 0 to 50 feet RT (Residence and Stable, PESA Site 2651-30, 5463 IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 162+00 to Station 168+00 0 to 50 feet LT (Vacant Land, PESA Site 2651-27, 5200+5300 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 172+50 to Station 174+00 0 to 50 feet LT (Vacant Land, PESA Site 2651-27, 5200+5300 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 185+00 to Station 187+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 189+00 to Station 191+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 195+00 to Station 199+00 0 to 50 feet RT (Wooded Land, PESA Site 2651-24, 4700-5100 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 203+00 to Station 203+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-22, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 211+00 to Station 215+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-22, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 221+50 to Station 223+00 0 to 50 feet RT (Farmstead, PESA Site 2651-19, 4351 IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 222+00 to Station 231+00 0 to 50 feet LT (Shelby and Sons-east, PESA Site 2651-16, 4294 IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 225+00 to Station 231+00 0 to 50 feet RT (Shelby and Sons-west, PESA Site 2651-18, 4300-4700 blocks of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 9+00 to Station 11+00 0 to 50 feet RT (Twin Mills Timber and Tie Company, PESA Site 2651-5, 3183 block of IL 37). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.
- Station 13+00 to Station 15+00 0 to 50 feet RT (Vacant Land, PESA Site 2651-3, 800-900 blocks of North Logan Street). This material meets the criteria of Article 669.09(b) and shall be managed in accordance to Article 669.09.

REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE)

Effective: November 2, 2012

Revise the first four paragraphs of Article 202.03 of the Standard Specifications to read:

“202.03 Removal and Disposal of Surplus, Unstable, Unsuitable, and Organic Materials. Suitable excavated materials shall not be wasted without permission of the Engineer. The Contractor shall dispose of all surplus, unstable, unsuitable, and organic materials, in such a manner that public or private property will not be damaged or endangered.

Suitable earth, stones and boulders naturally occurring within the right-of-way may be placed in fills or embankments in lifts and compacted according to Section 205. Broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities may be used in embankment or in fill. If used in fills or embankments, these materials shall be placed and compacted to the satisfaction of the Engineer; shall be buried under a minimum of 2 ft (600 mm) of earth cover (except when the materials include only uncontaminated dirt); and shall not create an unsightly appearance or detract from the natural topographic features of an area. Broken concrete without protruding metal bars, bricks, rock, or stone may be used as riprap as approved by the Engineer. If the materials are used for fill in locations within the right-of-way but outside project construction limits, the Contractor must specify to the Engineer, in writing, how the landscape restoration of the fill areas will be accomplished. Placement of fill in such areas shall not commence until the Contractor’s landscape restoration plan is approved by the Engineer.

Revised 6-4-13

QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE)

Effective: January 1, 2012

Revised: January 1, 2013

Add the following to Section 1020 of the Standard Specifications:

“1020.16 Quality Control/Quality Assurance of Concrete Mixtures. This Article specifies the quality control responsibilities of the Contractor for concrete mixtures (except Class PC and PS concrete), cement aggregate mixture II, and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

A list of quality control/quality assurance (QC/QA) documents is provided in Article 1020.16(g), Schedule D.

A Level I Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department’s training for concrete testing.

A Level II Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department’s training for concrete proportioning.

A Level III Portland Cement Concrete (PCC) Technician shall be defined as an individual who has successfully completed the Department’s training for concrete mix design.

A Concrete Tester shall be defined as an individual who has successfully completed the Department’s training to assist with concrete testing and is monitored on a daily basis.

Aggregate Technician shall be defined as an individual who has successfully completed the Department’s training for gradation testing involving aggregate production and mixtures.

Mixture Aggregate Technician shall be defined as an individual who has successfully completed the Department’s training for gradation testing involving mixtures.

Gradation Technician shall be defined as an individual who has successfully completed the Department’s training to assist with gradation testing and is monitored on a daily basis.

- (a) Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing.

Added 6-4-13

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Private Laboratory Requirements for Construction Materials Testing or Mix Design". Production of a mixture shall not begin until the Engineer provides written approval of the laboratory. The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" form.

Test equipment used to determine compressive or flexural strength shall be calibrated each 12 month period by an independent agency, using calibration equipment traceable to the National Institute of Standards and Technology (NIST). The Contractor shall have the calibration documentation available at the test equipment location.

The Engineer will have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

- (b) Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material incorporated in the project. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

- (c) Quality Control by Contractor. The Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits, or to resolve test result differences with the Engineer. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

When a mixture does not comply with specifications, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

- (1) Personnel Requirements. The Contractor shall provide a Quality Control (QC) Manager who will have overall responsibility and authority for quality control. The jobsite and plant personnel shall be able to contact the QC Manager by cellular phone, two-way radio or other methods approved by the Engineer.

The QC Manager shall visit the jobsite a minimum of once a week. A visit shall be performed the day of a bridge deck pour, the day a non-routine mixture is placed as determined by the Engineer, or the day a plant is anticipated to produce more than 1000 cu yd (765 cu m). Any of the three required visits may be used to meet the once per week minimum requirement.

The Contractor shall provide personnel to perform the required inspections, sampling, testing and documentation in a timely manner. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level I PCC Technician shall be provided at the jobsite during mixture production and placement, and may supervise concurrent pours on the project. For concurrent pours, a minimum of one Concrete Tester shall be required at each pour location. If the Level I PCC Technician is at one of the pour locations, a Concrete Tester is still required at the same location. Each Concrete Tester shall be able to contact the Level I PCC Technician by cellular phone, two-way radio or other methods approved by the Engineer. A single Level I PCC Technician shall not supervise concurrent pours for multiple contracts.

Added 6-4-13

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

For a mixture which is produced and placed with a mobile portland cement concrete plant as defined in Article 1103.04, a Level II PCC Technician shall be provided. The Level II PCC Technician shall be present at all times during mixture production and placement. However, the Level II PCC Technician may request to be available if operations are satisfactory. Approval shall be obtained from the Engineer, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

A Concrete Tester, Mixture Aggregate Technician, and Aggregate Technician may provide assistance with sampling and testing. A Gradation Technician may provide assistance with testing. A Concrete Tester shall be supervised by a Level I or Level II PCC Technician. A Gradation Technician shall be supervised by a Level II PCC Technician, Mixture Aggregate Technician, or Aggregate Technician.

- (2) Required Plant Tests. Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Article 1020.16(g) Schedule A.
- (3) Required Field Tests. Sampling and testing shall be performed at the jobsite to control the production of a mixture, and to comply with specifications for placement. For standard curing, after initial curing, and for strength testing; the location shall be approved by the Engineer. The required minimum Contractor jobsite sampling and testing is indicated in Article 1020.16(g), Schedule B.
- (d) Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. Aggregate split samples and any failing strength specimen shall be retained until permission is given by the Engineer for disposal. The results of all quality assurance tests by the Engineer will be made available to the Contractor. However, Contractor split sample test results shall be provided to the Engineer before Department test results are revealed. The Engineer's quality assurance independent sample and split sample testing is indicated in Article 1020.16(g), Schedule C.

Added 6-4-13

- (1) Strength Testing. For strength testing, Article 1020.09 shall apply, except the Contractor and Engineer strength specimens may be placed in the same field curing box for initial curing and may be cured in the same water storage tank for final curing.
- (2) Comparing Test Results. Differences between the Engineer's and the Contractor's split sample test results will be considered reasonable if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	0.75 in. (20 mm)
Air Content	0.9%
Compressive Strength	900 psi (6200 kPa)
Flexural Strength	90 psi (620 kPa)
Slump Flow (Self-Consolidating Concrete (SCC))	1.5 in. (40 mm)
Visual Stability Index (SCC)	Not Applicable
J-Ring (SCC)	1.5 in. (40 mm)
L-Box (SCC)	10 %
Hardened Visual Stability Index (SCC)	Not Applicable
Dynamic Segregation Index (SCC)	1.0 %
Flow (Controlled Low-Strength Material (CLSM))	1.5 in. (40 mm)
Strength (Controlled Low-Strength Material (CLSM))	40 psi (275 kPa)
Aggregate Gradation	See "Guideline for Sample Comparison" in Appendix "A" of the Manual of Test Procedures for Materials.

When acceptable limits of precision have been met, but only one party is within specification limits, the failing test shall be resolved before the material may be considered for acceptance.

- (3) Test Results and Specification Limits.
- a. Split Sample Testing. If either the Engineer's or the Contractor's split sample test result is not within specification limits, and the other party is within specification limits; immediate retests on a split sample shall be performed for slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump, air content, slump flow, visual stability index, J-Ring, L-Box, dynamic segregation index, flow (CLSM), or aggregate gradation split sample retest result is a failure; or if either the Engineer's or Contractor's strength or hardened visual stability index test result is a failure, and the other party is within specification limits; the following actions shall be initiated to investigate the test failure:
1. The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.

Added 6-4-13

2. The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.
3. The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.

For aggregate gradation, jobsite slump, jobsite air content, jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, and jobsite flow (CLSM); if the failing split sample test result is not resolved according to 1., 2., or 3., and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work according to Article 105.03. If the mixture has already been placed, or if a failing strength or hardened visual stability index test result is not resolved according to 1., 2., or 3., the material will be considered unacceptable.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate according to items 1., 2., and 3.

- b. Independent Sample Testing. For aggregate gradation, jobsite slump, jobsite air content jobsite slump flow, jobsite visual stability index, jobsite J-Ring, jobsite L-Box, jobsite dynamic segregation index, jobsite flow (CLSM); if the result of a quality assurance test on a sample independently obtained by the Engineer is not within specification limits, and the mixture has not been placed, the Contractor shall reject the material, unless the Engineer accepts the material for incorporation in the work according to Article 105.03. If the mixture has already been placed or the Engineer obtains a failing strength or hardened visual stability index test result, the material will be considered unacceptable.
- (e) Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:
- (1) The Contractor's compliance with all contract documents for quality control.
 - (2) Validation of Contractor quality control test results by comparison with the Engineer's quality assurance test results using split samples. Any quality control or quality assurance test determined to be flawed may be declared invalid only when reviewed and approved by the Engineer. The Engineer will declare a test result invalid only if it is proven that improper sampling or testing occurred. The test result is to be recorded and the reason for declaring the test invalid will be provided by the Engineer.
 - (3) Comparison of the Engineer's quality assurance test results with specification limits using samples independently obtained by the Engineer.

Added 6-4-13

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (1), (2), or (3).

(f) Documentation.

- (1) Records. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, the subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Department's form MI 504M, form BMPR MI654, and form BMPR MI655 shall be completed by the Contractor, and shall be submitted to the Engineer weekly or as required by the Engineer. A correctly completed form MI 504M, form BMPR MI654, and form BMPR MI655 are required to authorize payment by the Engineer, for applicable pay items.

- (2) Delivery Truck Ticket. The following information shall be recorded on each delivery ticket or in a bound hardback field book: initial revolution counter reading (final reading optional) at the jobsite, if the mixture is truck-mixed; time discharged at the jobsite; total amount of each admixture added at the jobsite; and total amount of water added at the jobsite.

- (g) Basis of Payment and Schedules. Quality Control/Quality Assurance of portland cement concrete mixtures will not be paid for separately, but shall be considered as included in the cost of the various concrete contract items.

SCHEDULE A

CONTRACTOR PLANT SAMPLING AND TESTING			
Item	Test	Frequency	IL Modified AASHTO or Department Test Method ^{1/}
Aggregates (Arriving at Plant)	Gradation ^{2/}	As needed to check source for each gradation number	2, 11, 27, and 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Gradation ^{2/}	2,500 cu yd (1,900 cu m) for each gradation number ^{3/}	2, 11, 27, and 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture ^{4/} : Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pycnometer Jar, or 255
	Moisture ^{4/} : Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pycnometer Jar, or 255
Mixture ^{5/}	Slump Air Content Unit Weight / Yield Slump Flow (SCC) Visual Stability Index (SCC) J-Ring (SCC) ^{6/} L-Box (SCC) ^{6/} Temperature	As needed to control production	T 141 and T 119 T 141 and T 152 or T 196 T 141 and T 121 SCC-1 and SCC-2 SCC-1 and SCC-2 SCC-1 and SCC-3 SCC-1 and SCC-4 T 141 and T 309
Mixture (CLSM) ^{7/}	Flow Air Content Temperature	As needed to control production	Illinois Test Procedure 307

1/ Refer to the Department's "Manual of Test Procedures for Materials".

2/ All gradation tests shall be washed. Testing shall be completed no later than 24 hours after the aggregate has been sampled.

3/ One per week (Sunday through Saturday) minimum unless the stockpile has not received additional aggregate material since the previous test.

One per day minimum for a bridge deck pour unless the stockpile has not received additional aggregate material since the previous test. The sample shall be taken and testing completed prior to the pour. The bridge deck aggregate sample may be taken the day before the pour or as approved by the Engineer.

4/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests. The Department's "Water/Cement Ratio Worksheet" form shall be completed when applicable.

5/ The Contractor may also perform strength testing according to Illinois Modified AASHTO T 141, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318.

Added 6-4-14

The Contractor may also perform other available self-consolidating concrete (SCC) tests at the plant to control mixture production.

- 6/ The Contractor shall select the J-Ring or L-Box test for plant sampling and testing.
- 7/ The Contractor may also perform strength testing according to Illinois Test Procedure 307.

SCHEDULE B

CONTRACTOR JOBSITE SAMPLING & TESTING ^{1/}			
Item	Measured Property	Random Sample Testing Frequency per Mix Design and per Plant ^{2/}	IL Modified AASHTO Test Method
Pavement, Shoulder, Base Course, Base Course Widening, Driveway Pavement, Railroad Crossing, Cement Aggregate Mixture II	Slump ^{3/ 4/}	1 per 500 cu yd (400 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 100 cu yd (80 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 1250 cu yd (1000 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
Bridge Approach Slab ^{9/} , Bridge Deck ^{9/} , Bridge Deck Overlay ^{9/} , Superstructure ^{9/} , Substructure, Culvert, Miscellaneous Drainage Structures, Retaining Wall, Building Wall, Drilled Shaft Pile & Encasement Footing, Foundation, Pavement Patching, Structural Repairs	Slump ^{3/ 4/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
Seal Coat	Slump ^{3/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 250 cu yd (200 cu m) or minimum 1/day when air is entrained	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 250 cu yd (200 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23

Added 6-4-14

CONTRACTOR JOBSITE SAMPLING & TESTING ^{1/}			
Curb, Gutter, Median, Barrier, Sidewalk, Slope Wall, Paved Ditch, Fabric Formed Concrete Revetment Mat ^{10/} , Miscellaneous Items, Incidental Items	Slump ^{3/ 4/}	1 per 100 cu yd (80 cu m) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 50 cu yd (40 cu m) or minimum 1/day	T 141 and T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 400 cu yd (300 cu m) or minimum 1/day	T 141, T 22 and T 23 or T 141, T 177 and T 23
The Item will use a Self-Consolidating Concrete Mixture	Slump Flow ^{3/} VSI ^{3/} J-Ring ^{3/ 11/} L-Box ^{3/ 11/}	Perform at same frequency that is specified for the Item's slump	SCC-1 & SCC-2 SCC-1 & SCC-2 SCC-1 & SCC-3 SCC-1 & SCC-4
The Item will use a Self-Consolidating Concrete Mixture	HVSI ^{12/}	Minimum 1/day at start of production for that day	SCC-1 and SCC-6
The Item will use a Self-Consolidating Concrete Mixture	Dynamic Segregation Index (DSI)	Minimum 1/week at start of production for that week	SCC-1 and SCC-8 (Option C)
The Item will use a Self-Consolidating Concrete Mixture	Air Content ^{3/ 5/ 6/}	Perform at same frequency that is specified for the Item's air content	SCC-1 and T 152 or T 196
The Item will use a Self-Consolidating Concrete Mixture	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	Perform at same frequency that is specified for the Item's strength	SCC-1, T 22 and T 23 or SCC-1, T 177 and T 23
All	Temperature ^{3/}	As needed to control production	T 141 and T 309
Controlled Low-Strength Material (CLSM)	Flow, Air Content, Compressive Strength (28-day) ^{13/} , and Temperature	First truck load delivered and as needed to control production thereafter	Illinois Test Procedure 307

1/ Sampling and testing of small quantities of curb, gutter, median, barrier, sidewalk, slope wall, paved ditch, miscellaneous items, and incidental items may be waived by the Engineer if requested by the Contractor. However, quality control personnel are still required according to Article 1020.16(c)(1) The Contractor shall also provide recent evidence that similar material has been found to be satisfactory under normal sampling and testing procedures. The total quantity that may be waived for testing shall not exceed 100 cu yd (76 cu m) per contract.

If the Contractor's or Engineer's test result for any jobsite mixture test is not within the specification limits, all subsequent truck loads delivered shall be tested by the Contractor until the problem is corrected.

- 2/ If one mix design is being used for several construction items during a day's production, one testing frequency may be selected to include all items. The construction items shall have the same slump, air content, and water/cement ratio specifications. For self-consolidating concrete, the construction items shall have the same slump flow, visual stability index, J-Ring, L-Box, air content, and water/cement ratio specifications. The frequency selected shall equal or exceed the testing required for the construction item.

One sufficiently sized sample shall be taken to perform the required test(s). Random numbers shall be determined according to the Department's "Method for Obtaining Random Samples for Concrete". The Engineer will provide random sample locations.

- 3/ The temperature, slump, and air content tests shall be performed on the first truck load delivered, for each pour. For self consolidating concrete, the temperature, slump flow, visual stability index, J-Ring or L-Box, and air content tests shall be performed on the first truck load delivered, for each pour. Unless a random sample is required for the first truck load, testing the first truck load does not satisfy random sampling requirements.
- 4/ The slump random sample testing frequency shall be a minimum 1/day for a construction item which is slipformed.
- 5/ If a pump or conveyor is used for placement, a correction factor shall be established to allow for a loss of air content during transport. The first three truck loads delivered shall be tested, before and after transport by the pump or conveyor, to establish the correction factor. Once the correction is determined, it shall be re-checked after an additional 50 cu yd (40 cu m) is pumped, or an additional 100 cu yd (80 cu m) is conveyed. This shall continue throughout the pour. If the re-check indicates the correction factor has changed, a minimum of two truckloads is required to re-establish the correction factor. The correction factor shall also be re-established when significant changes in temperature, distance, pump or conveyor arrangement, and other factors have occurred. If the correction factor is >3.0 percent, the Contractor shall take corrective action to reduce the loss of air content during transport by the pump or conveyor. The Contractor shall record all air content test results, correction factors and corrected air contents. The corrected air content shall be reported on form Bmpr MI654.
- 6/ If the Contractor's or Engineer's air content test result is within the specification limits, and 0.2 percent or closer to either limit, the next truck load delivered shall be tested by the Contractor. For example, if the specified air content range is 5.0 to 8.0 percent and the test result is 5.0, 5.1, 5.2, 7.8, 7.9 or 8.0 percent, the next truck shall be tested by the Contractor.
- 7/ The test of record for strength shall be the day indicated in Article 1020.04. For cement aggregate mixture II, a strength requirement is not specified and testing is not required. Additional strength testing to determine early falsework and form removal, early pavement or bridge opening to traffic, or to monitor strengths is at the discretion of the Contractor. Strength shall be defined as the average of at least two cylinder or two beam breaks for field tests.

- 8/ In addition to the strength test, a slump test, air content test, and temperature test shall be performed on the same sample. For self-consolidating concrete, a slump flow test, visual stability index test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample as the strength test. For mixtures pumped or conveyed, the Contractor shall sample according to Illinois Modified AASHTO T 141.
- 9/ The air content test will be required for each delivered truck load.
- 10/ For fabric formed concrete revetment mat, the slump test is not required and the flexural strength test is not applicable.
- 11/ The Contractor shall select the J-Ring or L-Box test for jobsite sampling and testing.
- 12/ In addition to the hardened visual stability index (HVSI) test, a slump flow test, visual stability index (VSI) test, J-Ring or L-Box test, air content test, and temperature test shall be performed on the same sample. The Contractor shall retain all hardened visual stability index cut cylinder specimens until the Engineer notifies the Contractor that the specimens may be discarded.
- 13/ The test of record for strength shall be the day indicated in Article 1019.04. In addition to the strength test, a flow test, air content test, and temperature test shall be performed on the same sample. The strength test may be waived by the Engineer if future removal of the material is not a concern.

Added 6-4-14

SCHEDULE C

ENGINEER QUALITY ASSURANCE INDEPENDENT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins, Slump and Air Content	As determined by the Engineer.
Jobsite	Slump, Air Content, Slump Flow, Visual Stability Index, J-Ring, L-Box, Hardened Visual Stability Index, Dynamic Segregation Index and Strength	As determined by the Engineer.
	Flow, Air Content, Strength (28-day), and Dynamic Cone Penetration for Controlled Low-Strength Material (CLSM)	As determined by the Engineer

ENGINEER QUALITY ASSURANCE SPLIT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per aggregate gradation number and per plant.
	Slump and Air Content	As determined by the Engineer.
Jobsite	Slump ^{2/} , Air Content ^{2/ 3/} , Slump Flow ^{2/} , Visual Stability Index ^{2/} , J-Ring ^{2/} and L-box ^{2/}	At the beginning of the project, the first three tests performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Hardened Visual Stability Index ^{2/}	As determined by the Engineer.
	Dynamic Segregation Index ^{2/}	As determined by the Engineer.
	Strength ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 20% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Flow, Air Content, and Strength (28-day) for Controlled Low-Strength Material (CLSM)	As determined by the Engineer.

1/ The Engineer will perform the testing throughout the period of quality control testing by the Contractor.

- 2/ The Engineer will witness and take immediate possession of or otherwise secure the Department's split sample obtained by the Contractor.
- 3/ Before transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant. After transport by pump or conveyor, a minimum of 20 percent of total tests required of the Contractor will be performed per mix design and per plant.

Added 6-4-14

SCHEDULE D

CONCRETE QUALITY CONTROL AND QUALITY ASSURANCE DOCUMENTS

- (a) Model Quality Control Plan for Concrete Production (*)
- (b) Qualifications and Duties of Concrete Quality Control Personnel (*)
- (c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)
- (d) Required Sampling and Testing Equipment for Concrete (*)
- (e) Method for Obtaining Random Samples for Concrete (*)
- (f) Calibration of Concrete Testing Equipment (BMPR PCCQ01 through BMPR PCCQ09) (*)
- (g) Water/Cement Ratio Worksheet (BMPR PCCW01) (*)
- (h) Field/Lab Gradations (MI 504M) (*)
- (i) Concrete Air, Slump and Quantity (BMPR MI654) (*)
- (j) P.C. Concrete Strengths (BMPR MI655) (*)
- (k) Aggregate Technician Course or Mixture Aggregate Technician Course (*)
- (l) Portland Cement Concrete Tester Course (*)
- (m) Portland Cement Concrete Level I Technician Course - Manual of Instructions for Concrete Testing (*)
- (n) Portland Cement Concrete Level II Technician Course - Manual of Instructions for Concrete Proportioning (*)
- (o) Portland Cement Concrete Level III Technician Course - Manual of Instructions for Design of Concrete Mixtures (*)
- (p) Manual of Test Procedures for Materials

* Refer to Appendix C of the Manual of Test Procedures for Materials for more information."

Added 6-4-14