

**RETURN WITH BID**

**CONTRACT I-19-4714**

**I-490 AND IL RTE 390 INTERCHANGE  
ROADWAY AND BRIDGE CONSTRUCTION**

**IL 390 M.P. 16.3 to M.P. 17.0**



Illinois Tollway  
2700 Ogden Avenue Downers Grove, IL 60515

**VOLUME III**

**SPECIAL PROVISIONS**



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**INDEX FOR SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS**

**Adopted January 1, 2021**

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA      Standard Specifications for Road and Bridge Construction  
(Adopted 4-1-16) (Revised 1-1-21)

**SUPPLEMENTAL SPECIFICATIONS**

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## CHECK SHEET RECURRING SPECIAL PROVISIONS

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

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**MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)**

Effective: January 1, 2018

Revised: March 1, 2019

**Description.** In addition to those manufactured according to the current standards included in this contract, manholes, valve vaults, and flat slab tops manufactured prior to March 1, 2019, according to the previous Highway Standards listed below will be accepted on this contract:

Product	Previous Standards		
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-05	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402-01	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-09	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-07	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-07	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-07	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426-01	602426	
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-04	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506-01	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04	

The following revisions to the Standard Specifications shall apply to manholes, valve vaults, and flat slab tops manufactured according to the current standards included in this contract:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4)..... 1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5) ..... 1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be as shown on the plans. Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi (31,000 kPa) at 28 days and manholes, valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”80393

**HOT-MIX ASPHALT – BINDER AND SURFACE COURSE (BDE)**

Effective: July 2, 2019  
 Revised: November 1, 2019

Description. This work shall consist of constructing a hot-mix asphalt (HMA) binder and/or surface course on a prepared base. Work shall be according to Sections 406 and 1030 of the Standard Specifications, except as modified herein.

Materials. Add the following after the second paragraph of Article 1003.03(c):

“For mixture IL-9.5FG, at least 67 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, steel slag sand, or combinations thereof meeting FA 20 gradation.”

Revise Article 1004.03(c) to read:

“(c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0	CA 11 <sup>1/</sup>
	SMA 12.5 <sup>2/</sup>	CA 13, CA 14, or CA 16
	SMA 9.5 <sup>2/</sup>	CA 13 or CA 16 <sup>3/</sup>
	IL-9.5	CA 16
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 <sup>1/</sup>
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ The specified coarse aggregate gradations may be blended.”

HMA Nomenclature. Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, SMA 9.5
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

Mixture Design. Revise the table in Article 1030.04(a)(1) and add SMA 9.5 and IL-9.5FG mixture compositions as follows:

"HIGH ESAL, MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>						
Sieve Size	SMA 12.5 <sup>5/</sup>		SMA 9.5 <sup>5/</sup>		IL-9.5FG	
	min.	max.	min.	max.	min.	max.
1 in. (25 mm)						
3/4 in. (19 mm)		100		100		
1/2 in. (12.5 mm)	90	99	95	100		100
3/8 in. (9.5 mm)	50	85	70	95	90	100
#4 4.75 mm)	20	40	30	50	60	75
#8 (2.36 mm)	16	24 <sup>4/</sup>	20	30	45	60
#16 (1.18 mm)				21	25	40
#30 (600 μm)				18	15	30
#50 (300 μm)				15	8	15
#100 (150 μm)					6	10
#200 (75 μm)	8.0	11.0 <sup>3/</sup>	8.0	11.0 <sup>3/</sup>	4.0	6.5
#635 (20 μm)		≤ 3.0		≤ 3.0		
Ratio of Dust/Asphalt Binder						1.0

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with N<sub>design</sub> = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ When establishing the adjusted job mix formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above 24 percent.

5/ When the bulk specific gravity (G<sub>sb</sub>) of the component aggregates vary by more than 0.2, the blend gradations shall be based on volumetric percentage."

Revise the table in Article 1030.04(b)(1) to read:

"VOLUMETRIC REQUIREMENTS, High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0	IL-9.5 IL-9.5FG	IL-4.75 <sup>1/</sup>	
50	13.5	15.0	18.5	65 - 78 <sup>2/</sup>
70			65 - 75 <sup>3/</sup>	
90				

1/ Maximum draindown for IL-4.75 shall be 0.3 percent.

2/ VFA for IL-4.75 shall be 76-83 percent.

3/ VFA for IL-9.5FG shall be 65-78 percent."

Revise the table in Article 1030.04(b)(3) to read:

"VOLUMETRIC REQUIREMENTS, SMA 12.5 <sup>1/</sup> and SMA 9.5 <sup>1/</sup>				
ESALs (million)	Ndesign	Design Air Voids Target, %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
≤ 10	50	4.0	16.0	75 - 80
> 10	80	4.0	17.0	75 - 80

1/ Maximum draindown shall be 0.3 percent."

Quality Control/Quality Assurance (QC/QA). Revise the third paragraph of Article 1030.05(d)(3) to read:

"If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure."

Add the following paragraphs to the end of Article 1030.05(d)(3):

"Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement). Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the second table in Article 1030.05(d)(4) and its notes to read:

“DENSITY CONTROL LIMITS			
Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density, minimum
IL-4.75	Ndesign = 50	93.0 – 97.4 % <sup>1/</sup>	91.0%
IL-9.5FG	Ndesign = 50 - 90	93.0 – 97.4 %	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0 %	90.0%
IL-9.5, IL-9.5L,	Ndesign < 90	92.5 – 97.4 %	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0 %	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 <sup>2/</sup> – 97.4 %	90.0%
SMA	Ndesign = 50 or 80	93.5 – 97.4 %	91.0%

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade.”

Equipment. Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm);

(3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and

(4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”

**CONSTRUCTION REQUIREMENTS**

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller .....1101.01”

Revise the third paragraph of Article 406.05(a) to read:

“All depressions of 1 in. (25 mm) or more in the surface of the existing pavement shall be filled with binder. At locations where heavy disintegration and deep spalling exists, the area shall be cleaned of all loose and unsound material, tacked, and filled with binder (hand method).”

Revise Article 406.05(c) to read.

“(c) Binder (Hand Method). Binder placed other than with a finishing machine will be designated as binder (hand method) and shall be compacted with a roller to the satisfaction of the Engineer. Hand tamping will be permitted when approved by the Engineer.”

Revise the special conditions for mixture IL-4.75 in Article 406.06(b)(2)e. to read:

“e. The mixture shall be overlaid within 5 days of being placed.”

Revise Article 406.06(d) to read:

“(d) Lift Thickness. The minimum compacted lift thickness for HMA binder and surface courses shall be as follows.

MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19) - over HMA surfaces <sup>1/</sup> 1 (25) - over PCC surfaces <sup>1/</sup>
IL-9.5FG	1 1/4 (32)
IL-9.5, IL-9.5L	1 1/2 (38)
SMA 9.5	1 1/2 (38)
SMA 12.5	2 (51)
IL-19.0, IL-19.0L	2 1/4 (57)

1/ The maximum compacted lift thickness for mixture IL-4.75 shall be 1 1/4 in. (32 mm).”

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Binder and Surface <sup>1/</sup>	V <sub>D</sub> , P <sup>3/</sup> , T <sub>B</sub> , 3W, O <sub>T</sub> , O <sub>B</sub>	P <sup>3/</sup> , O <sub>T</sub> , O <sub>B</sub>	V <sub>S</sub> , T <sub>B</sub> , T <sub>F</sub> , O <sub>T</sub>	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA <sup>4/ 5/</sup>	T <sub>B</sub> , 3W, O <sub>T</sub>	--	T <sub>F</sub> , 3W, O <sub>T</sub>	
Bridge Decks <sup>2/</sup>	T <sub>B</sub>	--	T <sub>F</sub>	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V<sub>D</sub>) or oscillatory roller (O<sub>T</sub> or O<sub>B</sub>) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder."

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

"O<sub>T</sub> - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O<sub>B</sub> - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m)."

Basis of Payment. Replace the second through the fifth paragraphs of Article 406.14 with the following:

"HMA binder and surface courses will be paid for at the contract unit price per ton (metric ton) for MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS; HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition, friction aggregate, and Ndesign specified."

## RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revised: January 2, 2021

Revise Section 1031 of the Standard Specifications to read:

### **“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). RAS is the material produced from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material by weight of RAS, as defined in the Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”. RAS shall come from a facility source on the Department’s “Qualified Producer List of Certified Sources for Reclaimed Asphalt Shingles” where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
  - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual RAP stockpiles meeting one of the following definitions. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. “Homogeneous Surface”).

Prior to milling, the Contractor shall request the Department provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. FRAP shall be fractionated prior to testing by screening into a minimum of



two size fractions with the separation occurring on or between the No. 4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mixture composition of the mix design.

- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogeneous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. Conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Conglomerate "D" Quality (Conglomerate DQ). Conglomerate DQ RAP stockpiles shall be according to Articles 1031.02(a)(1)-1031.02(a)(3), except they may also consist of RAP from HMA shoulders, bituminous stabilized subbases, or HMA (High or Low ESAL) binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, non-bituminous surface treatment (i.e. high friction surface treatments), pavement fabric, joint sealants, plant cleanout, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) or fine FRAP up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be B quality or better from an approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

Additional processed RAP/FRAP/RAS shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the original stockpile after the test results for the working pile are found to meet the requirements specified in Articles 1031.03 and 1031.04.

**1031.03 Testing.** RAP/FRAP and RAS testing shall be according to the following.

(a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2,000 tons (1,800 metric tons) and one sample per 2,000 tons (1,800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4,000 tons (3,600 metric tons).

(2) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the Department proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Each sample shall be split to obtain two equal samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction on the other test sample according to Illinois Modified AASHTO T 164. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to the Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1,000 tons (900 metric tons) and one sample per 500 tons (450 metric tons) or a minimum of once per week, whichever is more frequent, thereafter. A minimum of five samples are required for stockpiles less than 1,000 tons (900 metric tons).

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall perform a washed extraction and test for unacceptable materials on the other test sample according to Illinois Modified AASHTO T 164. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

The Contractor shall obtain and make available all of the test results from the start of the original stockpile.

**1031.04 Evaluation of Tests.** Evaluation of test results shall be according to the following.

(a) Limits of Precision. The limits of precision between the Contractor's and the Department's split sample test results shall be according to the following.

Test Parameter	Limits of Precision		
	RAP	FRAP	RAS
% Passing			
1/2 in. (12.5 mm)	6.0 %	5.0 %	
# 4 (4.75 mm)	6.0 %	5.0 %	
# 8 (2.36 mm)	4.0 %	3.0 %	4.0 %
# 30 (600 µm)	3.0 %	2.0 %	4.0 %
# 200 (75 µm)	2.5 %	2.2 %	4.0 %
Asphalt Binder	0.4 %	0.3 %	3.0 %
G <sub>mm</sub>	0.035	0.030	

If the test results are outside the above limits of precision, the Department will immediately investigate.

- (b) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation, and when applicable G<sub>mm</sub>. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	FRAP/Homogeneous/ Conglomerate
1 in. (25 mm)	
1/2 in. (12.5 mm)	± 8 %
# 4 (4.75 mm)	± 6 %
# 8 (2.36 mm)	± 5 %
# 16 (1.18 mm)	
# 30 (600 µm)	± 5 %
# 200 (75 µm)	± 2.0 %
Asphalt Binder	± 0.4 % <sup>1/</sup>
G <sub>mm</sub>	± 0.03 <sup>2/</sup>

1/ The tolerance for FRAP shall be ± 0.3 percent.

2/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Aggregate Bulk (Dry) Specific Gravity (G<sub>sb</sub>) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)".

If more than 20 percent of the test results for an individual parameter (individual sieves, G<sub>mm</sub>, and/or asphalt binder content) are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the Department for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for solvent extractions according to the document "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (c) Evaluation of RAS and RAS Blended with Manufactured Sand or Fine FRAP Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	RAS
# 8 (2.36 mm)	± 5 %
# 16 (1.18 mm)	± 5 %
# 30 (600 µm)	± 4 %
# 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If more than 20 percent of the test results for an individual parameter (individual sieves and/or asphalt binder content) are out of the above tolerances, or if the unacceptable material exceeds 0.5 percent by weight of material retained on the No. 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the Department for evaluation.

#### **1031.05 Quality Designation of Aggregate in RAP/FRAP.**

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate DQ stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from Class I binder, HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C quality coarse aggregate.
- (3) RAP from BAM stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

- (b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Coarse and fine FRAP stockpiles containing plus No. 4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate sample to the District Office. Consultant laboratory services will be at no additional cost to the Department. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

**1031.06 Use of RAP/FRAP and/or RAS in HMA.** The use of RAP/FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) surface and binder mixture applications.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. FRAP from conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus No. 4 (4.75 mm) homogeneous FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.
- (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement (ABR) shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % <sup>1/2/</sup>			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.
  - 2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % <sup>1/2/</sup>			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	--	--	25
IL-4.75	--	--	35

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

**1031.07 HMA Mix Designs.** At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP and/or RAS stockpiles are tested and found that no more than 20 percent of the individual parameter test results, as defined in Article 1031.04, are outside of the control tolerances set for the original RAP/FRAP and/or RAS stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP and/or RAS stockpiles may be used in the original mix design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP, and RAS stone bulk specific gravities ( $G_{sb}$ ) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity ( $G_{sb}$ ) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

**1031.08 HMA Production.** HMA production utilizing RAP/FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP/FRAP and/or RAS feed system to remove or reduce oversized material.

If the RAP/FRAP and/or RAS control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and/or RAS and either switch to the virgin aggregate design or submit a new mix design.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.
- (b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within  $\pm 0.5$  percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAP/FRAP/RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP/RAS moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP/RAS are recorded in a wet condition.)

- i. A positive dust control system shall be utilized when the combined contribution of reclaimed material passing the No. 200 sieve exceeds 1.5 percent.
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
  - b. HMA mix number assigned by the Department.
  - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
  - d. Mineral filler weight to the nearest pound (kilogram).
  - e. RAP/FRAP/RAS weight to the nearest pound (kilogram).
  - f. Virgin asphalt binder weight to the nearest pound (kilogram).
  - g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

**1031.09 RAP in Aggregate Applications.** RAP in aggregate applications shall be according to the Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications" and the following.

- (a) RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B. The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders, Type B shall be as follows.
  - (1) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply.
  - (2) 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.
- (b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Article 1031.06, except "Conglomerate DQ" and "Non-Quality" may be used."

80306



## TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

**“703.02 Materials.** Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III ..... 1095.06
- (b) Paint Pavement Markings ..... 1095.02
- (c) Pavement Marking Tape, Type IV ..... 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

**“703.07 Basis of Payment.** This work will be paid for as follows.

- a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

**“1095.11 Pavement Marking Tape, Type IV.** The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
  - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
  - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

**Wet Retroreflectance, Initial R<sub>L</sub>**

Color	R <sub>L</sub> 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

\*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.

- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

## **TRAFFIC CONTROL DEVICES - CONES (BDE)**

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

## TRAFFIC SPOTTERS (BDE)

Effective: January 1, 2019

Revise Article 701.13 of the Standard Specifications to read:

**“701.13 Flaggers and Spotters.** Flaggers shall be certified by an agency approved by the Department. While on the job site, each flagger shall have in his/her possession a current driver's license and a current flagger certification I.D. card. For non-drivers, the Illinois Identification Card issued by the Secretary of State will meet the requirement for a current driver's license. This certification requirement may be waived by the Engineer for emergency situations that arise due to actions beyond the Contractor's control where flagging is needed to maintain safe traffic control on a temporary basis. Spotters are defined as certified flaggers that provide support to workers by monitoring traffic.

Flaggers and spotters shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Flaggers shall be equipped with a stop/slow traffic control sign. Spotters shall be equipped with a loud warning device. The warning sound shall be identifiable by workers so they can take evasive action when necessary. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. Flaggers shall not encroach on the open lane of traffic unless traffic has been stopped. Spotters shall not encroach on the open lane of traffic, nor interact with or control the flow of traffic.

For nighttime flagging, flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 10 fc (108 lux) measured 1 ft (300 mm) out from the flagger's chest. The bottom of any luminaire shall be a minimum of 10 ft (3 m) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties. Nighttime flaggers shall be equipped with fluorescent orange or fluorescent orange and fluorescent yellow/green apparel meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 3 garments.

Flaggers and spotters shall be provided per the traffic control plan and as follows.

- (a) Two-Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies.

The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

- (b) Multi-Lane Highways. At all times where traffic is restricted to less than the normal number of lanes on a multilane pavement with a posted speed limit greater than 40 mph and the

workers are present, but not separated from the traffic by physical barriers, a flagger or spotter shall be furnished as shown on the plans. Flaggers shall warn and direct traffic. Spotters shall monitor traffic conditions and warn workers of errant approaching vehicles or other hazardous conditions as they occur. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. One spotter will be required for each separate activity with workers near the edge of the open lane or with their backs facing traffic.

Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement.”

## **WARM MIX ASPHALT (BDE)**

Effective: January 1, 2012

Revised: April 1, 2016

**Description..** This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

### **Equipment**

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

**"1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of  $\pm 2$  percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.
- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for

introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes.”

#### Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

“(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification.”

#### **Construction Requirements**

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

“The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C). WMA shall be delivered at a minimum temperature of 215 °F (102 °C).”

**Basis of Payment.** This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

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## WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant

with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

## **BRIDGE DECK GROOVING (LONGITUDINAL)**

Effective: December 29, 2014

Revised: March 29, 2017

### **Revise Article 503.16(a)(3)b. to read as follows.**

b. Saw Cut Grooving. The grooving operation shall not be started until after the expiration of the required curing or protection period and after correcting excessive variations by grinding or cutting has been completed.

The grooves shall be cut into the hardened concrete, parallel to the centerline of the roadway, using a mechanical saw device equipped with diamond blades that will leave grooves 1/8 in. wide and 3/16 in.  $\pm$  1/16 in. deep (3 mm wide and 5 mm  $\pm$  1.5 mm deep), with a uniform spacing of 3/4 in.  $\pm$  1/16 in. (20 mm  $\pm$  1.5 mm) centers. The grooving shall typically extend the full width of the traffic lanes and terminate at the edge of the traffic lane or shoulder. If the bridge has a variable width traffic lane, the grooving shall remain parallel to the centerline of the main roadway. Any staggering of the groove terminations to accommodate the variable width shall be within the shoulders. Grooves shall not be cut closer than 3 inches (75 mm) nor further than 6 inches (150 mm) from any construction joint running parallel to the grooving. In addition, grooves shall not be cut within 6 in.  $\pm$  1 in. (150 mm  $\pm$  25 mm) from deck drains and expansion joints.

The grooving machine shall contain diamond blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces. The grooving machine shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove. The grooving machine shall have a guide device to control multi-pass alignment.

The removal of slurry shall be continuous throughout the grooving operations. The grooving equipment shall be equipped with vacuum slurry pickup equipment which shall continuously pick up water and sawing dust, and pump the slurry to a collection tank. The slurry shall be disposed of offsite according to Article 202.03.

Cleanup shall be continuous throughout the grooving operation. All grooved areas of the deck shall be flushed with water as soon as possible to remove any slurry material not collected by the vacuum pickup. Flushing shall be continued until all surfaces are clean.

**Method of Measurement.** This work shall be measured for payment according to Article 503.21(b) except no measurement will be made for any grooving of the shoulders to accommodate a variable width traffic lane.

**Basis of Payment.** This work will be paid for at the contract unit price per square yard (square meter) for BRIDGE DECK GROOVING (LONGITUDINAL).

## HIGH LOAD MULTI-ROTATIONAL BEARINGS

Effective: October 13, 1988

Revised: April 1, 2016

**Description.** This work shall consist of furnishing and installing High Load Multi-Rotational type bearing assemblies at the locations shown on the plans.

High Load Multi-Rotational (HLMR) bearings shall be one of the following at the Contractors option unless otherwise noted on the plans:

- a) Pot Bearings. These bearings shall be manufactured so that the rotational capability is provided by an assembly having a rubber disc of proper thickness, confined in a manner so it behaves like a fluid. The disc shall be installed, with a snug fit, into a steel cylinder and confined by a tight fitting piston. The outside diameter of the piston shall be no more than 0.03 in. (750 microns) less than the inside diameter of the cylinder at the interface level of the piston and rubber disc. The sides of the piston shall be beveled. PTFE sheets, or silicone grease shall be utilized to facilitate rotation of the rubber disc. Suitable brass sealing rings shall be provided to prevent any extrusion between piston and cylinder.
- b) Shear Inhibited Disc Type Bearing. The Structural Element shall be restricted from shear by the pin and ring design and need not be completely confined as with the Pot Bearing design. The disc shall be a molded monolithic Polyether Urethane compound.

These bearings shall be further subdivided into one or more of the following types:

- 1) Fixed. These allow rotation in any direction but are fixed against translation.
- 2) Guided Expansion. These allow rotation in any direction but translation only in limited directions.
- 3) Non-Guided Expansion. These allow rotation and translation in any direction.

The HLMR bearings shall be of the type specified and designed for the loads shown on the plans. The design of the top and bottom bearing plates are based on detail assumptions which are not applicable to all suppliers and may require modifications depending on the supplier chosen by the Contractor. The overall depth dimension for the HLMR bearings shall be as specified on the plans. The horizontal dimensions shall be limited to the available bearing seat area. Any modifications required to accommodate the bearings chosen shall be submitted to the Engineer for approval prior to ordering materials. Modifications required shall be made at no additional cost to the State. Inverted pot bearing configurations will not be permitted.

The Contractor shall comply with all manufacturer's material, fabrication and installation requirements specified.

All bearings shall be supplied by prequalified manufacturers. The Department will maintain a list of prequalified manufacturers.

Submittals. Shop drawings shall be submitted to the Engineer for approval according to Article

105.04 of the Standard Specifications. In addition the Contractor shall furnish certified copies of the bearing manufacturer's test reports on the physical properties of the component materials for the bearings to be furnished and a certification by the bearing manufacturer stating the bearing assemblies furnished conform to all the requirements shown on the plans and as herein specified. Submittals with insufficient test data and supporting certifications will be rejected.

Materials. The materials for the HLMR bearing assemblies shall be according to the following:

- (a) Elastomeric Materials. The rubber disc for Pot bearings shall be according to Article 1083.02(a) of the Standard Specifications.
- (b) Polytetrafluoroethylene (PTFE) Material. The PTFE material shall be according to Article 1083.02(b) of the Standard Specifications.
- (c) Stainless Steel Sheets: The stainless steel sheets shall be of the thickness specified and shall be according to Article 1083.02(c).
- (d) Structural Steel. All structural steel used in the bearing assemblies shall be according to AASHTO M 270, Grade 50 (M 270M Grade 345), unless otherwise specified.
- (e) Threaded studs. The threaded stud, when required, shall conform to the requirements of Article 1083.02(d)(4) of the Standard Specifications.
- (f) Polyether Urethane for Disc bearings shall be according to all of the following requirements:

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS	
Hardness, Type D durometer	D 2240	45 Min	65 Max
Tensile Stress, psi (kPa) At 100% elongation, min	D 412	1500 psi (10,350 kPa)	2300 psi (15,900 kPa)
Tensile Stress, psi (kPa) At 200% elongation, min	D 412	2800 psi (19,300 kPa)	4000 psi (27,600 kPa)
Tensile Strength, psi (kPa), min	D 412	4000 psi (27,600 kPa)	6000 psi (41,400 kPa)
Ultimate Elongation, %, min	D 412	350	220
Compression Set 22 hr. at 158 °F (70 °C), Method B %, max	D 395	40	40

The physical properties for a durometer hardness between the minimum and maximum values shown above shall be determined by straight line interpolation.

Design. The fabricator shall design the HLMR bearings according to the appropriate AASHTO Design Specifications noted on the bridge plans.

Fabrication. The bearings shall be complete factory-produced assemblies. They shall provide for rotation in all directions and for sliding, when specified, in directions as indicated on the plans. All bearings shall be furnished as a complete unit from one manufacturing source. All material used in the manufacture shall be new and unused with no reclaimed material incorporated into the finished assembly.

The translation capability for both guided and non-guided expansion bearings shall be provided by means of a polished stainless steel sliding plate that bears on a PTFE sheet bonded and recessed to the top surface of the piston or disc. The sliding element of expansion bearings shall be restrained against movement in the fixed direction by exterior guide bars capable of resisting the horizontal forces or 20 percent of the vertical design load on the bearing applied in any direction, whichever is greater. The sliding surfaces of the guide bar shall be of PTFE sheet and stainless steel. Guiding off of the fixed base, or any extension of the base, will not be permitted.

Structural steel bearing plates shall be fabricated according to Article 505.04(l) of the Standard Specifications. Prior to shipment the exposed edges and other exposed portions of the structural steel bearing plates shall be cleaned and given a corrosion protection coating as specified on the plans and according to the applicable Special Provisions and Articles 506.03 and 506.04 of the Standard Specifications. During cleaning and coating the stainless steel, PTFE sheet and neoprene shall be protected from abrasion and coating material.

PTFE sheets shall be bonded to steel under factory controlled conditions using heat and pressure for the time required to set the epoxy adhesive used. The PTFE sheet shall be free from bubbles and the sliding surface shall be burnished to an absolutely smooth surface.

The steel piston and the steel cylinder for pot bearings shall each be machined from a solid piece of steel. The steel base cylinder shall be either integrally machined, gate into with a snug fit, or continuously welded to its bottom steel bearing plate.

Packaging. Each HLMR bearing assembly shall be fully assembled at the manufacturing plant and delivered to the construction site as complete units. The assemblies shall be packaged, crated or wrapped so the assemblies will not be damaged during handling, transporting and shipping. The bearings shall be held together with removable restraints so sliding surfaces are not damaged.

Centerlines shall be marked on both top and base plates for alignment in the field. The bearings shall be shipped in moisture-proof and dust-proof covers.

Performance Testing. The following performance tests are required. All tests shall be performed by the manufacturer prior to shipment. Where lot testing is permitted, a lot size shall be the number of bearings per type on the project but not to exceed 25 bearings per type.

Dimension Check. Each bearing shall be checked dimensionally to verify all bearing components are within tolerances. Failure to satisfy any dimensional tolerance shall be grounds for rejecting the bearing component or the entire bearing assembly.

Clearance Test. This test shall be performed on one bearing per lot. The bearing selected for this test shall be the one with the least amount of clearance based on the dimension check. The bearing assembly shall be loaded to its service limit state rated capacity at its full design rotation but not less than 0.02 radians to verify the required clearances exist. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction. Any visual signs of rubbing or binding shall be grounds for rejection of the lot.

Proof Load Test. This test shall be performed on one bearing per lot. The bearing assembly shall be load tested to 150 percent of the service limit state rated capacity at a rotation of 0.02 radians. The load shall be maintained for 5 minutes, removed then reapplied for 5 minutes. If the load drops below the required value during either application, the test shall be restarted from the beginning. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction.

The bearing shall be visually examined both during the test and upon disassembly after the test. Any resultant visual defects include, but are not limited to:

1. Extruded or deformed elastomer, polyether urethane, or PTFE.
2. Insufficient clearances such as evidence of metal to metal contact between the pot wall and the top plate.
3. Damaged components such as cracked steel, damaged seal rings, or damaged limiting rings.
4. Bond failure.

If any of the above items are found it shall be grounds for rejection of the lot.

Sliding Friction Test. For expansion bearings, this test shall be performed on one bearing per lot. The sliding surfaces shall be thoroughly cleaned with a degreasing solvent. No lubrication other than that specified for the bearing shall be used. The bearing shall be loaded to its service limit state rated capacity for 1 hour prior to and throughout the duration of the sliding test. At least 12 cycles of plus and minus sliding with an amplitude equaling the smaller of the design displacement and 1 inch (25 mm) shall then be applied. The average sliding speed shall be between 0.1 inch and 1.0 inches (2.5 mm and 25 mm) per minute. The sliding friction coefficient shall be computed for each direction of each cycle and its mean and standard deviation shall be computed for the sixth through twelfth cycles.

The friction coefficient for the first movement and the mean plus two standard deviations for the sixth through twelfth cycles shall not exceed the design value used. In addition, the mean value for the sixth through twelfth cycles shall not exceed 2/3 of the design value used. Failure of either of these shall result in rejection of the lot.

The bearing shall also be visually examined both during and after the testing, any resultant defects, such as bond failure, physical destruction, or cold flow of the PTFE shall also be

cause for rejection of the lot.

The Contractor shall furnish to the Department a notarized certification from the bearing manufacturer stating the HLMR bearings have been performance tested as specified. The Contractor shall also furnish to the Engineer of Tests at the Bureau of Materials and Physical Research (126 East Ash Springfield, IL 62704) a purchase order prior to fabrication. The purchase order shall contain, as a minimum, the quantity and size of each type of bearing furnished. The Department reserves the right to perform any of the specified tests on one or more of the furnished bearings. If the tested bearing shows failure it shall be replaced and the remaining bearings shall be similarly tested for acceptance at the Contractor's expense.

When directed by the Engineer, the manufacturer shall furnish an additional bearing assembly and/or random samples of component materials used in the bearings, for testing by the Department, according to Article 1083.04 of the Standard Specifications.

**Installation.** The HLMR bearings shall be erected according to Article 521.05 of the Standard Specifications.

Exposed edges and other exposed portions of the structural steel plates shall be field painted as specified for Structural Steel.

**Basis of Payment** This work will be paid for at the contract unit price each for HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED; HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION; or HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

When the fabrication and erection of HLMR bearings is accomplished under separate contracts, the applicable requirements of Article 505.09 shall apply.

Fabricated HLMR bearings and other materials complying with the requirements of this item, furnished and accepted, will be paid for at the contract unit price each for FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

Storage and care of fabricated HLMR bearings and other materials complying with the requirements of this item by the Fabrication Contractor beyond the specified storage period, will be paid for at the contract unit price per calendar day for STORAGE OF HIGH LOAD MULTI-ROTATIONAL BEARINGS if a pay item is provided for in the contract, or will be paid for according to Article 109.04 if a pay item is not provided in the contract.

HLMR bearings and other materials fabricated under this item erected according to the requirements of the specifications, and accepted, will be paid for at the contract unit price each for ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.



## CROSSHOLE SONIC LOGGING TESTING OF DRILLED SHAFTS

Effective: April 20, 2016  
Revised: August 9, 2019

**Description.** This work shall consist of furnishing and installing materials and equipment necessary to install access ducts in all drilled shafts of structures identified on the plans, and to perform Crosshole Sonic Logging (CSL) testing of selected drilled shafts on these structures. This work shall be according to Illinois Modified ASTM D6760. This work also includes analysis of the CSL data, preparation of reports summarizing the CSL data, and investigating anomalies identified in the CSL data. This work shall also include grouting of all access ducts after testing and approval by the Engineer.

**Materials.** Materials shall be according to the following.

(a) Nonshrink Grout (Note 1).....1024.02

Note 1. Grout shall attain a minimum strength equal to the required strength of the drilled shaft concrete at 14 days.

**Qualifications.** A consulting firm experienced in CSL testing shall conduct this work. The CSL consulting firm shall be a company independent from the Contractor with a minimum of 3 years of experience in performing CSL testing of drilled shafts. The individual employee of the CSL consulting firm performing analysis of the CSL data and preparing the report shall be an Illinois Licensed Professional Engineer and have experience on a minimum of 5 projects performing CSL testing of drilled shafts.

The name, contact information, and qualifications of the CSL consulting firm, including the names and experience of the individual employees performing and analyzing the test results and preparing the report, shall be submitted to the Engineer at least 30 days prior to drilled shaft construction.

**Construction.** Access ducts shall be placed in all drilled shafts for the structures indicated on the plans, attached to the reinforcement cage and situated symmetrically around the diameter of the shaft according to the Illinois Modified ASTM D6760. The Engineer will determine which drilled shafts shall have CSL testing performed after the concrete has been placed in the drilled shafts, and may direct additional tests, if necessary, due to problems encountered or observed during drilled shaft construction.

After permission is given by the Engineer, the access ducts shall be grouted. The grout shall be placed with a pump, starting at the bottom of each access duct.

Superimposed loads, either dead or live, shall not be applied to a drilled shaft until CSL testing is completed, CSL reports have been submitted, any necessary repairs have been completed, access ducts have been grouted, and permission has been granted by the Engineer.

Reports. Reports shall be according to Illinois Modified ASTM D6760. Each anomalous zone detected by the CSL testing shall be identified and discussed in the report. An anomalous zone shall be defined as areas where velocity reduction exceeds 20 percent of the average velocity of properly placed and cured shaft concrete at the time of testing.

Anomalies. If anomalies are identified, they shall be investigated by coring or other methods approved by the Engineer.

Correction of Drilled Shaft Defects. When testing determines that a defect is present, the Engineer will direct the Contractor to submit remedial measures for approval. No compensation will be made for remedial work, or losses, or damage, due to remedial work of drilled shafts found defective or not in accordance with the drilled shaft specifications or plans. Modifications to the drilled shaft design, or any load transfer mechanisms required by the remedial action, must be designed, detailed, and sealed by an Illinois Licensed Structural Engineer, and submitted for approval.

**Method of Measurement.** Installation and grouting of access ducts will be measured for payment per shaft by the linear foot of drilled shaft(s) with access ducts.

CSL testing, analysis, and reporting will be measured for payment by each drilled shaft foundation tested.

Investigation of anomalies will not be measured for payment.

**Basis of Payment.** Installation and grouting of access ducts will be paid for at the contract unit price per foot for CROSSHOLE SONIC LOGGING ACCESS DUCTS. CSL testing, analysis, and reporting will be paid for at the contract unit price per each for CROSSHOLE SONIC LOGGING TESTING.

ILLINOIS MODIFIED ASTM D6760

Effective Date: August 9, 2019

Standard Test Method for

**Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing**

Reference ASTM D6760-14

ASTM SECTION	Illinois Modification										
3.1.1	Revise this section as follows: <i>access ducts, n</i> – preformed steel tubes or drilled boreholes, placed in the concrete to allow probe entry in pairs to measure pulse transmission in the concrete between the probes.										
6.1	Revise the second sentence of this section as follows: The tubes shall be mild steel. Delete the third, fourth, and fifth sentences of this section.										
7.1.1	<p>Revise this section as follows: The access ducts shall be installed during construction of the drilled shaft.</p> <p>For drilled shafts foundations, access ducts shall be provided according to the following table.</p> <table border="1" data-bbox="712 989 1416 1199"> <thead> <tr> <th data-bbox="719 997 1027 1058">Reinforcing Cage Diameter (feet)</th> <th data-bbox="1034 997 1409 1026">Number of access ducts</th> </tr> </thead> <tbody> <tr> <td data-bbox="719 1066 1027 1096">≤ 4.0</td> <td data-bbox="1034 1066 1409 1096">3</td> </tr> <tr> <td data-bbox="719 1104 1027 1134">4.1 to 5.0</td> <td data-bbox="1034 1104 1409 1134">4</td> </tr> <tr> <td data-bbox="719 1142 1027 1171">to 7.0</td> <td data-bbox="1034 1142 1409 1171">6</td> </tr> <tr> <td data-bbox="719 1180 1027 1209">&gt; 7.0</td> <td data-bbox="1034 1180 1409 1209">8</td> </tr> </tbody> </table> <p>Access ducts shall be spread equally around the perimeter and spaced at an equal distance from the axis.</p> <p>Delete Fig. 4.</p>	Reinforcing Cage Diameter (feet)	Number of access ducts	≤ 4.0	3	4.1 to 5.0	4	to 7.0	6	> 7.0	8
Reinforcing Cage Diameter (feet)	Number of access ducts										
≤ 4.0	3										
4.1 to 5.0	4										
to 7.0	6										
> 7.0	8										
7.1.2	Revise the second sentence of this section as follows: The exterior tube surface shall be free from contamination (for example, oil, dirt, loose rust, mill scale, etc.) to ensure a good bond between the tube surface and the surrounding concrete.										
7.1.3	Delete the third sentence of this section.										

ILLINOIS MODIFIED ASTM D6760

Effective Date: August 9, 2019

Standard Test Method for

**Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing**

Reference ASTM D6760-14

7.2	<p>Revise the first sentence of this section as follows: The access tubes shall be installed such that their bottom is within 4 inches of the bottom of the concrete deep foundation element so that that the bottom condition can be tested.</p> <p>Revise the sixth sentence of this section as follows: Access tubes shall be filled with water prior to concrete placement to assure good bonding of the concrete to the tube after the concrete cools. The access tubes shall be kept full of water until the tubes are grouted.</p>
7.3	<p>Revise the first sentence of this section as follows: In cases where drilled shafts to be tested have access ducts that do not permit passage of the probes, do not retain water, are not plumb, are debonded from the concrete, or cannot be used for testing for other reasons, drilled boreholes shall be used to provide probe access.</p>
7.4.2	<p>Revise the second sentence of this section as follows: The tests shall be performed no later than 21 days after concrete casting.</p>
7.6	<p>Delete this section.</p>
7.8.1	<p>Revise the first sentence of this section as follows: If the ultrasonic profile indicates an anomaly, then the suspect anomaly zone shall be further investigated by special test procedures such as fan shaped tests, tests with the probes raised at a fixed offset distance, or other tomographical techniques (1, 2).</p>
7.8.2	<p>Delete Note 5 of this section.</p>

## **MAINTENANCE OF ROADWAYS (D-1)**

Effective: September 30, 1985

Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

## **CLEANING EXISTING DRAINAGE STRUCTURES (D-1)**

Effective: September 30, 1985

Revised: December 1, 2011

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned according to Article 602.15 of the Standard Specifications. This work will be paid for according to accordance with Article 602.16 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned according to Article 602.15 of the Standard Specifications.

**Basis of Payment.** This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED, of the diameter specified.

## **AGGREGATE IMPROVEMENT (D-1)**

Effective: February 22, 2012

Revised: April 1, 2016

Add the following Section to the Standard Specifications:

### **“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT**

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement.

**303.02 Materials.** Materials shall be according to the following.

Item Article/Section

(a) Coarse Aggregate 1004.07

(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3) 1031

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

**303.03 Equipment.** The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered.

**303.04 Soil Preparation.** The stability of the soil shall be according to the Department’s Subgrade Stability Manual for the aggregate thickness specified.

**303.05 Placing Aggregate.** The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

**303.06 Capping Aggregate.** The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

**303.07 Compaction.** All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.08 Finishing and Maintenance of Aggregate Subgrade Improvement.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

**303.09 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.10 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.

Add the following to Section 1004 of the Standard Specifications:

**“ 1004.07 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

- a. Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.
- b. Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.
- c. Gradation.
  - 1. The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS				
	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)				
	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20

- 2. The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.



## **COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)**

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

## **TRAFFIC CONTROL AND PROTECTION (ARTERIALS) (D-1)**

Effective: February 1, 1996

Revised: March 1, 2011

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

**Method of Measurement.** All traffic control (except "Traffic Control and Protection (Expressways)" and temporary pavement markings) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

**Basis of Payment.** All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Temporary pavement markings will be paid for separately unless shown on a Standard.

## **TRAFFIC CONTROL PLAN (D-1)**

Effective: September 30, 1985

Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall notify the Engineer at least 72 hours in advance of beginning work.

### STANDARDS:

- 701101 Off-Road Operations, Multilane, 15' to 24" From Pavement Edge
- 701106 Off-Road Operations, Multilane, More Than 4.5 m (15') Away
- 701427 Lane Closure, Multilane, Intermittent or Moving Operation, For Speeds less than or equal to 40 mph
- 701602 Urban Lane Closure, Multilane, 2W with Bidirectional Left Turn Lane
- 701606 Urban Lane Closure, Multilane, 2W with Mountable Median
- 701901 Traffic Control Devices
- 704001 Temporary Concrete Barrier
- 7200001 Sign Panel Mounting Details
- 7200006 Sign Panel Erection Details

### DETAILS:

- TC-10 Traffic Control & Protection for Side Roads, Intersections & Driveways
- TC-13 District One Typical Pavement Markings
- TC-16 Pavement Marking Letters & Symbols for Traffic Staging
- TC-21 Detour Signing for Closing State Highways
- TC-22 Arterial Road Information Sign
- Temporary Construction Entrance Detail (DuPage County)

### SPECIAL PROVISIONS:

- Temporary Pavement Markings (BDE)
- Maintenance of Roadways (D1)
- Traffic Control and Protection (Arterials) (D1)
- Furnish and Install Temporary Concrete Barrier (DSE)
- Traffic Control Devices – Cones (BDE)
- Traffic Spotters (BDE)

DEVICES:

Traffic Control Devices shall be per Article 701.15 of the Standard Specifications and as approved by the Engineer.

SIGNS:

All traffic control devices used for the maintenance of traffic, as detailed on the plans, shall be reflectorized prior to installation and cleaned as specified by the Engineer.

All existing roadway signs that restrict access to existing road and driveways based on vehicular classification shall be removed and reinstalled at a location approved by the Engineer per Article 107.25 of the Standard Specifications.

All conflicting existing roadway signs shall be covered during the maintenance of traffic staging. When covering existing Department signs, no tape shall be used on the reflective portion of the sign. Contact the District sign shop for covering techniques.

All signs for traffic control staging shall be considered incidental to the TRAFFIC CONTROL AND PROTECTION, (SPECIAL) pay item except for TEMPORARY INFORMATION SIGNING as noted on the plans.

CONSTRUCTION SEQUENCES AND TRAFFIC STAGING:

See the Maintenance of Traffic Plans for suggested construction sequencing and traffic staging.

HOLIDAY PERIODS:

Holiday periods shall comply with Article 107.09 of the Standard Specifications, unless otherwise noted. Holiday periods shall be as follows:

A Thanksgiving Weekend

A1 3:00 P.M., Wednesday, November 24, 2022 through 11:59 P.M., Sunday, November 28, 2022

A2 3:00 P.M., Wednesday, November 22, 2023 through 11:59 P.M., Sunday, November 26, 2023

B Christmas Day

B1 3:00 P.M., Friday, December 23, 2022 through 11:59 P.M., Monday, December 26, 2022

C New Year's Day

C1 3:00 P.M., Friday, December 30, 2022 through 11:59 P.M., Sunday, January 2, 2023

D Easter Weekend

D1 3:00 P.M., Friday, April 2, 2021 through 11:59 P.M., Monday, April 5, 2021

D2 3:00 P.M., Friday, April 15, 2022 through 11:59 P.M., Monday, April 18, 2022

D3 3:00 P.M., Friday, April 7, 2023 through 11:59 P.M., Monday, April 10, 2023

E Memorial Day Weekend

E1 3:00 P.M., Friday, May 27, 2022 through 11:59 P.M., Monday, May 30, 2022

E2 3:00 P.M., Friday, May 26, 2023 through 11:59 P.M., Monday, May 29, 2023

F Independence Day

F1 3:00 P.M., Friday, July 1, 2022 through 11:59 P.M., Monday, July 4, 2022

F2 3:00 P.M., Friday, June 30, 2023 through 11:59 P.M., Tuesday, July 4, 2023

G Labor Day Weekend

G1 3:00 P.M., Friday, September 2, 2022 through 11:59 P.M., Monday, September 5, 2022

G2 3:00 P.M., Friday, September 1, 2023 through 11:59 P.M., Monday, September 4, 2023

## **TRAFFIC SIGNAL GENERAL REQUIREMENTS (D-1)**

Effective: May 22, 2002

Revised: March 25, 2016

800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

### Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

### Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.

2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure

proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of



Existing Flashing Beacon Installation,” the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department’s Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor’s inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department’s Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department’s highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-

fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.

5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

#### Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2<sup>nd</sup> paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection,

the reduced-size set of contract drawings, stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible."

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157\_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data

- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	-87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2015	POST (Post)		41.651848	-87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	-87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	-87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3<sup>rd</sup> paragraph of Article 801.16.

#### Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

#### Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

#### Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

## **MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION (D-1)**

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

### **General.**

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

### **Maintenance.**

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down



time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or

flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

**Basis of Payment** This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

## **SP M-103.1: AIRPORT SAFETY & SECURITY**

**Description.** This work shall consist of conducting contract work operations in accordance with requirements for airport safety and security. The work for this contract will occur adjacent to, or in the vicinity of the Air Operations Area (AOA) and is subject to the operational safety and security requirements of the City of Chicago Department of Aviation (CDA), O'Hare Modernization Program (OMP) and the FAA. The Contractor must cooperate with CDA, airline tenants, other airport users, and other contractors on the airport including the City of Chicago, FAA and airline contractors. The Contractor may be required to share work areas with other contractors.

The work shall also include furnishing all materials and equipment, including but not limited to flag persons, sweepers, temporary gates, underground utility markings, other traffic control devices and necessary equipment, and other materials and equipment listed herein, and the maintenance thereof and all other labor, materials, equipment, tools and incidentals necessary to accomplish this work.

### **General Requirements**

1. The Contractor shall be required to comply with the requirements described herein and follow procedures and meet requirements in accordance with the following:
  - a. Federal Aviation Regulation (FAR) Part 139 and Part 77 guidelines
  - b. City of Chicago Department of Aviation's Airport Construction Safety Manual, available as M-103.6
  - c. all applicable FAA Advisory Circulars (AC's)
    - i. Operational Safety on Airports During Construction, AC 150/5370-2F
    - ii. Airport Design, AC 150/5300-13A
    - iii. Airport Foreign Object Debris (FOD) Management, AC 150/5210-24
    - iv. Hazardous Wildlife Attractants on Or Near Airports, AC No: 150/5200-33C
2. The Contractor shall carry out operations in a manner that must minimize interference with air traffic, and must cooperate with the FAA, the Chicago Department of Aviation Commissioner (hereafter referred to as "Commissioner"), the airlines, and other contractors working in the area.
3. The Contractor's access and work operations are limited to the work areas and haul roads depicted on the plans. Any changes desired to be made by the Contractor must be submitted a minimum of 45 days in advance for review by the CDA and FAA and are not guaranteed to be approved.

### **Submittals**

The Contractor shall submit the following to the Engineer within 30 days of the issuance of the Notice to Proceed:

1. The Contractor shall submit to the Engineer in writing a detailed **Construction Operation Plan** that documents the list of equipment to be used, and a general description of the procedures, methods, structures and equipment to be used. The plan must include, but not be limited to, construction sequencing of earthwork, paving, and drainage, . The plan must also include a breakdown of the work in each construction phase, as described in the Contract Plans. Where additional detail is required beyond that included in the contract plans, including specific means and methods of construction, the Contractor must include more specific information.

As part of the Construction Operation Plan, the Contractor must include the details provided on the **Airport Traffic Management Plan**. This component must address the control of construction equipment and vehicular movements for each construction phase.

At least 30 calendar days before commencing work in each phase, any updates to the plan must be submitted for approval. No work within the construction phase may commence until the phase work plan is approved. The Construction Operation plan provided by the Contractor will become part of [Safety Plan Compliance Document](#) submittal to the CDA and FAA as required by FAA Advisory Circular, AC 150/5370-2F Operational Safety on Airports During Construction.

2. The Contractor has sole and complete responsibility for development and implementation of a site specific **safety program**. The Contractor must submit to the Engineer in writing a detailed **Safety Plan** that outlines the procedures and methods intended to be used to maintain the safety of the airfield, the traveling public and the Contractor's employees. The plan must be broken down by each construction phase. The Contractor's safety program must, at a minimum, meet the requirements of the "Chicago Airport Systems Construction Safety Manual", as well as the requirements of the safety manual adopted by the OMP, which is incorporated by reference and made a part of this Contract, and provided as SP M-103.6. The Contractor must develop a site-specific safety program that includes the Contract Work of all contractors and subcontractors. It must be submitted to the Engineer for review and approval at least thirty (30) days before the start of the Work. No work shall commence until the Contractor's safety plan is approved in writing and can be immediately implemented. The Safety Plan provided by the Contractor will become part of [Safety Plan Compliance Document](#) submittal to the CDA and FAA as required by FAA Advisory Circular, AC 150/5370-2F Operational Safety on Airports During Construction. The plan shall address the following items, as applicable:
  - a. Scope of work to be performed, including proposed duration of work.
  - b. Limitations on equipment height and stockpiled materials.
  - c. NAVAIDs that could be affected, especially critical area boundaries, and temporary marking of underground FAA utilities. The Contractor must restrict movement of equipment, personnel, and material stockpiles so as to not penetrate NAVAID critical areas at any time.
  - d. Methods of separating vehicle construction traffic and+ keep equipment operators in restricted areas in which they are authorized to operate. Fencing, or some other form of restrictive barrier, is an operational necessity in some cases.
  - e. Limitations on construction.

- f. Required compliance of Contractor personnel with all Airport safety and security measures.
- g. Location of stockpiled construction materials, construction site parking, and access and haul roads. The Contractor staging and storage areas must be contained within the project limits, unless otherwise identified in the contract documents.
- h. Radio communications.
- i. Trenches and excavations in the vicinity of existing utilities and cover requirements.
- j. Procedures for notifying Engineer for further coordination with ARFF personnel if water lines or fire hydrants must be deactivated or if existing roads (that may serve as emergency access routes) must be rerouted or blocked.
- k. Wildlife management procedures that the Contractor will utilize to limit Hazardous Wildlife Attractants On Or Near Airports (PART139 and FAA AC No: 150/5200-33C)
- l. Foreign object debris (FOD) control provisions that the contractor will utilize to limit FOD (in accordance with PART 139 and Airport Foreign Object Debris (FOD) Management, AC 150/5210-24)
- m. Hazardous materials (HAZMAT) management.
- n. Notice to Airmen (NOTAM) issuance.
- o. Procedures for locating and protecting existing underground utilities, cables, wires, pipelines and other underground facilities in excavation areas. See Sections 16 and 17 of this Special Provision along with the standard O'Hare International Airport **Underground Construction Notification** ("dig book") form that must be prepared and submitted per SP M103.4.
- p. Procedures for contacting responsible representatives / points of contact for all involved parties. This should include off-duty contact information so an immediate response may be coordinated to correct any construction-related activity that could adversely affect the operational safety of the Airport. Particular care should be taken to ensure that appropriate Airways Facilities personnel are identified in the event that an unanticipated utility outage or cable cut occurs that impacts FAA NAVAIDs.
- q. Penalty provisions for noncompliance with Airport rules and regulations and the safety plan (e.g., if a vehicle is involved in a surface incident).
- r. Any special conditions that affect the operation of the Airport and will require a portion of the safety plan to be activated (e.g., low-visibility operations, snow removal).
- s. Inspection requirements.

3. Additional submittals and details regarding requirements for obtaining security badge applications are detailed within SP M-103.3, AIRPORT SECURITY AND OPERATIONS. The Contractor shall contact the O'Hare Badging Office at (773) 686-6487 to submit the necessary Airport security information for all vehicles and personnel required inside the restricted area during construction.

Unless otherwise indicated herein, the review, approval and issuance (where applicable) of the above listed items shall be assumed to be 30-60 days after submittal to the Engineer. The review period shall be reflected in the Contractor's Baseline Schedule.

## **Equipment and Materials**

### **Temporary Underground Utility Marking**

- a. Prior to start of earthwork, all underground utilities (to include but not limited to FAA ducts and cables, electrical and ComEd ductbanks and cables, telephone and communication lines, gas mains, watermains and sewer pipes, fuel lines, etc.) within the work area must be delineated with 2 inch diameter and 5 feet minimum length Schedule 40 PVC pipe posts with APWA colored labels identifying the specific utility type or as directed by the Commissioner. See Construction Requirements, Section 16a..
- b. Install the temporary underground utility marking in accordance with requirements included herein. Refer to OMP Detail Nos. 1-10/B1 provided at the end of this SP and 1-10/B2 provided in SP M-103.5.

## **Construction Requirements**

### **1. Control Requirements**

- a. The Contractor will be held responsible for controlling his employees and his subcontractors and their employees, with regard to traffic movement.
- b. The Contractor must rebuild, repair, restore, and make good at his own expense all injuries or damages to any portion of the work occasioned by his use of these facilities before completion and acceptance of the work.

### **2. Vehicle and Pedestrian Control**

- a. Vehicle and access routes will be controlled as necessary to prevent inadvertent or unauthorized entry of persons, vehicles or animals onto the Air Operations Area (AOA). No vehicle shall enter the AOA except at predetermined locations as designated on the contract plans. See M103.3 Airport Security for more information.

### **3. Airport Security Requirements**

- a. Entrance to the airfield is subject to strict security regulations. Equipment and personnel will be restricted to the work area defined on the Plans. Any violations

by Contractor's personnel will subject the Contractor to penalties imposed by the FAA and the CDA Airport Security Office.

- b. Airport restricted areas are fenced and must remain fenced at all times. All vehicles are subject to inspection upon entering the AOA. All vehicles may be searched each time prior to entering or exiting the security checkpoint and may be subject to random searches while operating in the AOA.
- c. All personnel entering the airfield must obtain and display security identification badges and all vehicles must have and display special permits which are available through the CDA Security Badge Office. See SP M-103.3: Airport Security for specific requirements.
- d. All vehicle deliveries must be coordinated in advance. The persons escorting the delivery will coordinate with the Engineer and CDA Operations. See SP M-103.3: Airport Security for specific requirements regarding irregular access.

#### 4. Coordination of Construction Activities

- a. Aircraft always have the right-of-way and construction equipment must always yield to aircraft.
- b. All communications with ATCT will be coordinated through CDA personnel, however, the Contractor must properly train his/her personnel on the proper procedures for monitoring radio communications on airport radio frequencies.

#### 5. Safety Requirements

- a. Emergencies and operating conditions may necessitate sudden changes, both in Airport operations and in the operations of the Contractor. Aircraft operations must always have priority over any and all of the Contractor's operations. Should runways or taxiways be required for the use of aircraft and should Airport operations, the ATCT, or the Commissioner deem the Contractor to be too close to active runways or taxiways the Contractor must suspend operations, remove personnel, plant, equipment, and materials to a safe distance and stand by until the runways and taxiways are no longer required for use by aircraft. There will be no compensation for delays or inefficiencies due to these changes.
- b. Equipment Height Restrictions
  - i. The Contractor must be aware of height restrictions on the project. Maximum allowable equipment height requirements are specified within SP M-103.5 FAA Provisions.
  - ii. If the Contractor is permitted to penetrate these surfaces, the penetrations will be limited in height and time duration as directed by the Commissioner and time will be coordinated. Coordination shall occur in the weekly STOP meeting and filing of NOTAMS through CDA.
  - iii. Atop all equipment booms must be mounted the white and orange checkered flag described herein. The top ten feet (10') of these booms

must be painted fluorescent orange and they must be equipped with a red obstruction light.

- iv. Any crane erections must be coordinated with the Engineer during every shift to enable appropriate notifications to CDA Operations and the Commissioner.
- c. The Contractor must be aware of the following types of safety problems and/or hazards. These problems or hazards will not be permitted. Should any of these problems or hazards arise during construction, the Contractor must immediately rectify/correct the problem or hazard to the satisfaction of the Engineer, Commissioner and CDA Personnel:
- i. Mounds or piles of earth, construction materials, temporary structures, or other objects within 400 feet of the centerline of any active runway, or within 160 or 193 feet of any active taxiway (as denoted on contract plans), or in a related safety, approach, or departure area.
  - ii. Vehicles or equipment (whether operating or idle) in any related safety, approach, or departure area.
  - iii. Vehicles, equipment, excavations, stockpiles, or other materials which could degrade or otherwise interfere with electronic signals from radios or electronic navigational aids (NAVAIDS).
  - iv. Unmarked utility, NAVAID, weather service, runway lighting, or other power or signal cables that could be damaged during construction.
  - v. Objects (whether or not marked or flagged) or activities anywhere in the vicinity of the Airport which could be distracting, confusing, or alarming to pilots during aircraft operations.
  - vi. Unflagged/unlighted low visibility items (such as tall cranes, drills, and the like) anywhere within the limits defined in Item iii, or in any approach or departure area.
  - vii. Failure to control vehicle and human access to active aircraft operating areas.
  - viii. Failure to maintain radio communication between construction/maintenance vehicles and the ATCT, as coordinated with Department of Aviation Operations personnel.
  - ix. Bird attractants on Airport, such as edibles (food scraps, etc.), miscellaneous trash, or ponded water.
  - x. Before actual commencement of construction activity, the Contractor must notify the Engineer in writing, at least seven (7) days in advance, so appropriate notification to CDA and the Commissioner regarding the Contractor's intentions to begin construction are made. Details must include the proposed time, date, and area construction is to occur in order,



and associated heights so any appropriate NOTAMs can be issued.

- xi. Debris, waste and loose material or any other FOD (including dust and dirt) capable of causing damage to aircraft landing gear, propellers or being ingested in jet engines must not be allowed on active aircraft movement areas or adjacent infield areas.

d. Miscellaneous

- i. Under no circumstances will flare pots be used.
- ii. All materials and equipment when not in use must be placed in approved areas where they will not constitute a hazard to aircraft operations and not penetrate clearance height restrictions as shown on the Construction Phasing Plan(s). All equipment must be parked in the appropriate area(s) when not in use
- iii. Except for emergencies, all contact with Airport personnel must be made through the Engineer. For emergencies involving safety (injuries, fires, security breaches, etc.), the Contractor shall make direct contact with the CDA followed by notification to the Engineer as soon as possible.

6. Construction Near Navigational Aids

- a. Construction materials and equipment must not be placed or parked where they may interfere with the line-of-sight of the ATCT and navigational aids in operation.

7. Construction Site Access and Haul Roads

- a. The Contractor will not be permitted to use any access or haul roads other than those designated on the Contractor's approved construction phasing plan. Any proposed changes from the contract bid documents may not be acceptable and are not the subject of time or monetary claim.
- b. All existing and proposed service roads "landside" within the limits of work must be maintained by the Contractor. The Contractor must maintain these service roads to the satisfaction of the Commissioner. This maintenance is to be considered incidental to the contract and will include sweeping and pothole repair as required. In addition, all service roads must remain open for FAA traffic during the performance of the work. Where services roads are impacted by the Contractor's activities, the Contractor must maintain traffic at all times.

8. Construction Materials Stockpiling and Equipment Storage

- a. Stockpiled materials must not be stored near NAVAIDs, visual or approach aids, nor will they obstruct the ATCT's line of sight to any runway or taxiway. The Contractor must ensure that stockpiled construction materials and equipment do not cause degraded or hazardous conditions to Airport safety. This includes determining and verifying that stockpiled materials and equipment are stored or parked at an approved location, that they are properly stowed to prevent foreign

object debris (FOD), attraction by wildlife, or obstruction of air operations either by their proximity to NAVAIDs or to aircraft movement areas.

#### 9. Foreign Object Debris (FOD) Management

- a. Waste and loose materials capable of causing damage to aircraft landing gears or propellers, or capable of being ingested in jet engines must not be left or placed near active aircraft movement areas. Waste or loose materials which would attract wildlife must be carefully controlled and removed on a continuous basis.

#### 10. Control and Warning Devices for Marking and Lighting Construction Area Hazards

- a. The Contractor must provide the phone numbers of three (3) of its personnel, including the Project superintendent, who may be contacted in an emergency. Personnel must be on call 24 hours per day. The Contractor shall employ watchmen to maintain and service all traffic control equipment.

#### 11. Installation of Temporary Underground Utility Marking

- a. Existing Utility information shown on the plans was compiled based upon the best available utility records. The Contractor must provide a utility locator and verify the actual location prior to construction. The contractor shall be responsible for protecting all existing utilities in place unless otherwise noted or specified. The owner and director bear no responsibility for utilities not shown on the plans. Any and all damage to existing utilities must be repaired immediately at the Contractor's expense. Utilities interfering with construction must be reset or relocated by the utility company concerned unless noted otherwise. The Contractor must contact utility companies at least seventy-two (72) hours prior to beginning construction. Engineer will provide a current list of utility contacts upon Notice to Proceed.
- b. For FAA underground utilities including ducts, cables, and structures, the Contractor must provide, install, and maintain 2" PVC posts with light blue colored labels identifying FAA along the center and over the utility, at 25 feet intervals for the entire work zone except inside the 250' Runway Safety Area (RSA) or 160' or 193' Taxiway Object Free Area (OFA) as denoted on the contract plans, where marking paint on the ground only must be used to mark utilities. In areas where the FAA utility will be exposed, the Contractor must provide, install, and maintain two lines of similarly marked 2" PVC posts at 5 feet offsets each side of the FAA utility centerline at 25 feet intervals. Post markers must also be installed at all points where the FAA line changes direction (included after this specification). Construct in accordance with details 1-10/B2 provided at the end of this SP.
- c. For all other underground utilities (electrical and ComEd duct banks and cables, telephone and communication lines, gas mains, water mains, sewer pipes, fuel lines, etc.), the Contractor must provide, install and maintain 2" PVC posts with APWA colored labels identifying the specific utility type along the center and over the utility, at 25 feet intervals for the entire work zone except inside the 250' RSA and 160' or 193' Taxiway OFA as denoted on the contract plans, where marking paint on the ground only must be used to mark utilities (included after this specification). Construct in accordance with details 1-10/B1 provided at the end of

this SP.

- d. Labels for 2" PVC pipe must be self-adhesive vinyl labels, with high visibility APWA color coded per the CDA detail provided, a minimum 12 inches long by 7.5 to 7.75 inches wide, with 1.75 inches lettering with the words "GAS, POWER, FAA, PHONE, WATER, CED, FIBER, OR STORM/SAN" as required (included after this specification).
- e. Provide labels from the following manufacturers (or approved equal):
  - i. Mainstreet Lettering – 5659 Box Elder Road, Marmust, WI 53559, 608-655-4757.
  - ii. Uline – Custom Dept. 2105 South Lakeside Drive, Waukegan, IL 60085, 800-295-5510 Ext. 5099.
- f. The PVC posts must be a minimum of 5 feet in overall length. The exposed post height must be at least 4 feet and embedment to a depth necessary to keep the post vertical and stable. Maintenance of posts and/or replacement of any damaged posts will be at the Contractor's cost.

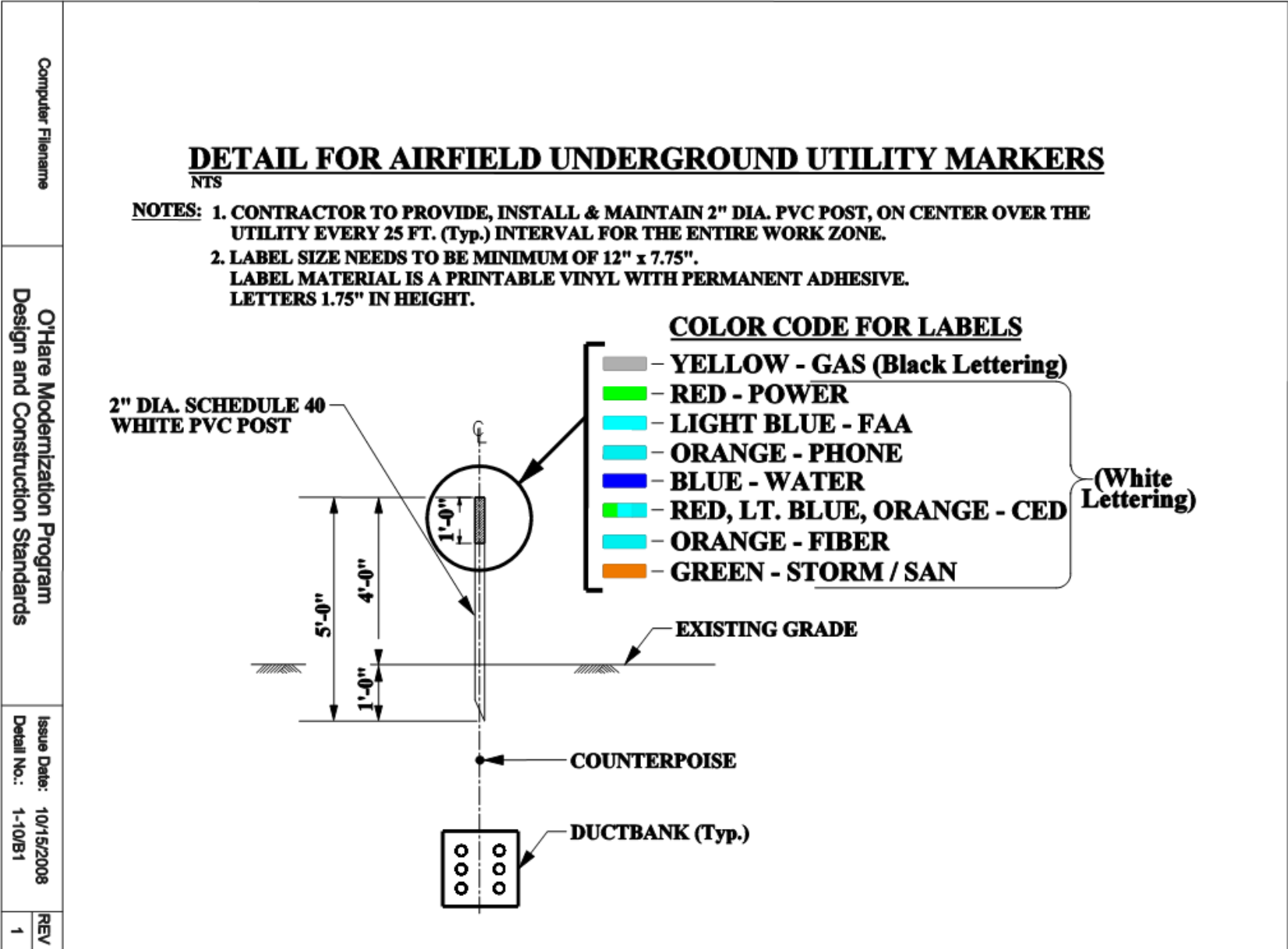
## 12. Protection and Supports for Underground Utilities

- a. All excavating within 5 feet on either side of existing underground utilities and infrastructures shall be performed by hand. The Contractor shall be responsible for locating and hand digging to locate the utility lines and structures.
- b. The Contractor must provide adequate provisions to protect all underground utilities and structures exposed during the proposed work or being crossed by access roads, new sewer lines, new electrical ducts, new drainage lines, and haul roads. The Contractor shall be responsible for notifying the utility owners at the Project pre- construction meeting should utility relocation become necessary (for FAA cable relocation, notify the FAA Technical Operations).
- c. FAA underground ducts, cables, and structures must be delineated by 2" diameter PVC pipe markers installed 5 feet away and on both sides of the FAA utility line within and throughout the construction footprint. The markers must be spaced at 25 feet. Markers must also be installed at all points where the FAA line changes direction.
- d. All underground utility lines crossing a proposed utility must be marked with the PVC markers at both sides of the proposed utility. The markers must be installed along the existing utility line out to within at least 50 feet of the lateral edge of the proposed work and to be spaced at 25 feet.
- e. Installation of the PVC pipe markers, shall be in accordance with details 1-10/B1 and 1-10/B2 provided at the end of this SP, must conform to the following:
  - i. The exposed pipe height must be at least 4 feet and embedment to a depth necessary to keep the pipe vertical and stable.

- ii. The PVC pipe must be color coded per detail.

**Method of Measurement.** The work will not be measured for payment.

**Basis of Payment.** Airport safety and security will not be paid for separately but shall be considered as included in the prices bid for the various pay items of the Contract and no additional compensation will be allowed.



## **SP M-103.2: AIRPORT OPERATIONS AND GENERAL REQUIREMENTS**

**Description.** This work shall consist of conducting contract work operations in accordance with the Airport general requirements. The work for this contract will occur adjacent to, or in the vicinity of the Aircraft Operations Area (AOA) and is subject to the operational safety requirements of the City of Chicago Department of Aviation (DOA), O'Hare Modernization Program (OMP) and the FAA. Airport Operations and General Requirements will include furnishing all materials, labor, equipment and incidentals necessary to perform the work described herein.

### **General Requirements.**

The Contractor shall carry out his operations in a manner that must minimize interference with air traffic, and must cooperate with the FAA, the Chicago Department of Aviation Commissioner (hereinafter referred to as "Commissioner"), the airlines, the City of Chicago (hereinafter referred to as "City") and other Contractors working in the area.

### **Requirements.**

#### **1. Coordination of Airport Operations**

- a. Chicago O'Hare International Airport will be in operation while construction under this contract is taking place.
- b. Timing and coordination of the Work is an essential feature of this Contract, and completion of all Work herein specified is required to be performed so as to offer the least obstruction and/or impediment to Airport traffic and the general operation of the Airport.
- c. Communication between all parties involved in the work is of the utmost importance. The Contractor, through the Engineer, Commissioner, and Chicago Department of Aviation (CDA) Airport Operations personnel must be in constant communication to ensure safe operations on the AOA.
- d. The Contractor's attention is called to the fact that arrivals and departures are under the control of the FAA Air Traffic Control Tower. Use of the Airport by all aircraft and Airport Operations will have precedence over all Contractor's operations.
- e. The Contractor must cooperate fully with the Department of Aviation Airport Operations, and the Commissioner in all matters pertaining to public safety and airport operations.
- f. The Contractor must not permit or allow its employees, subcontractors, material suppliers, invitees or any other persons over whom the Contractor has control to enter or remain upon, or to bring or permit any equipment or materials to remain upon, any part of the project limits and access haul roads if any hazard to aircraft or to airport maintenance and operation, on or off the ground, would be created in the opinion of either the Engineer, the Commissioner or the Department of Aviation Airport Operations.

## 1. Restrictions

1. The Contract must be constructed in accordance with the contract documents and any rules, regulations, standards or specifications referenced therein. The contract is subject to inspection by representatives of the City of Chicago, OMP, DOA, FAA and other governing agencies.
2. The Contractor is advised that certain rules and restrictions, as contained in FAA Advisory Circular 150/5370-2E (or current edition), Operational Safety on Airports during Construction, and augmented by the Contract Documents, shall apply. The Contractor must maintain all areas of work in compliance with the requirements thereof at all times.
3. The Contractor must be aware of the FAA holiday moratorium dates during Thanksgiving and Christmas that may affect work activities in designated areas.
  - a. The Chicago Department of Aviation adopts the same shutdown periods and hard stand moratoriums at both Thanksgiving and Christmas periods that impact all contracts. The actual duration and start/end dates of the moratorium will vary depending upon the year. The Contractor shall contact Engineer no later than August 1 of any calendar year to confirm aforementioned moratorium dates.
  - b. The Contractor's Detailed Baseline Schedule shall include a full shutdown of work impacting FAA facilities for the extended Thanksgiving period and for the extended Christmas and New Year's period. No construction work will be allowed to occur within these dates unless directed by the Engineer.
4. The Contractor must restrict movement of equipment, personnel, and material stockpiles so as to not penetrate NAVAID critical areas at any time. The Contractor is advised that there may be adverse impacts to the integrity of the NAVAID signals required for approaches to operating runways caused from the construction operations which may not be identifiable prior to the start of construction. Any such adverse impacts must be mitigated as necessary to the satisfaction of the Engineer and the mutual benefit of the Contractor and the airport. Contractor personnel and equipment must vacate all appropriate NAVAID critical areas and operational surfaces when so directed by the Engineer or Commissioner.
5. The Contractor must have a sufficient number of operating vacuum power sweepers and operators on the job site at all times. Airport operations and the Engineer will determine the adequacy and number of sweepers required. A minimum of one (1) sweeper is required at all times while this project is in progress, for the duration of this contract.
6. The Contractor's superintendent must be on the construction site at all times during the working hours while this project is in progress. The contractor's superintendent must be the designated responsible contractor representative and must be available in case of emergencies on a twenty-four (24) hour basis.
7. Existing NAVAID signal operations may require the Contractor to restrict the use

of communication devices. There will be no additional compensation to the Contractor due to any restrictions on his/her communication devices.

### **Traffic Control and Safety**

1. The Contractor must remain within the designated work areas, staging areas or designated haul routes.
2. The Contractor must be responsible for transporting employees and/or visitors between access gates and the contract work area.
3. The Contractor shall plan construction operations so that material, equipment, supplies and working personnel necessary to perform the work must enter and leave the contract work areas via the routes designated on the contract plans.
4. The Contractor is responsible for the construction, repair and/or maintenance of all haul roads and access roads to and from designated entrances to the various work areas. All existing and proposed service roads, "landside" within the limits of work must be maintained by the Contractor. The Contractor must maintain these service roads to the satisfaction of the Commissioner. This maintenance is to be considered incidental to the contract and will include sweeping and pothole repair as required. In addition, all roads must remain open for traffic during the performance of the work. Where roads are impacted by the Contractor's activities, the Contractor must maintain traffic at all times.
5. Access gates to the AOA will be manned by bonded security guards. Security guards assigned outside the AOA to control access and construction traffic to the Contractor's work site will be provided by the Contractor at the Contractor's cost.

### **Utilities**

All existing utilities serving the Airport will remain in continuous operation during the prosecution of the Work.

1. The Contractor must maintain existing utilities in operation at all times except when specific permission is given by the Commissioner to shut down such utilities for the purpose of making connections thereto. When such utility service must be taken out of operation, the Contractor shall notify the Engineer at least two weeks in advance of such time, and shall obtain approval for such shut down prior to interrupting the service. The Engineer will coordinate the activities with the Commissioner and Airport Operations personnel as necessary. Interruption of service on all utilities shall be kept to an absolute minimum, and the Engineer will have the right to require the Contractor to perform Work which occasions such interruptions in stages in order to reduce time of each interruption. Interruptions in electrical services and the length of services outage shall be kept to a minimum and in any case service must be placed in operation prior to sunset of the same day.
2. The Contractor must take the utmost care in construction operations such as trenching, jacking of pipe and casing, excavations of all types, grading and movement of vehicles over and around FAA facilities, equipment and structures. All such facilities are critical to the operation of the air traffic control function of the Airport.



3. Any cable or other existing utility lines that is damaged during the performance of this Contract must be repaired immediately by the Contractor, under the Engineer's direction and at the Contractor's expense. During the period of time that the above types of cables or utilities are out of service due to the Contractor's operations, all Work must be suspended unless otherwise directed by the Engineer. The Engineer may order, in writing, the Contractor to halt all operations until service is restored.
4. The Contractor must investigate the availability of an adequate supply of suitable water, make all arrangements (permits) for the purchase of the water, and provide necessary facilities to furnish water for use during construction, solely at the contractor's expense. The Contractor shall assume that water is not available within the work areas and that the Contractor shall furnish all water required to perform the work.

### **Barricades**

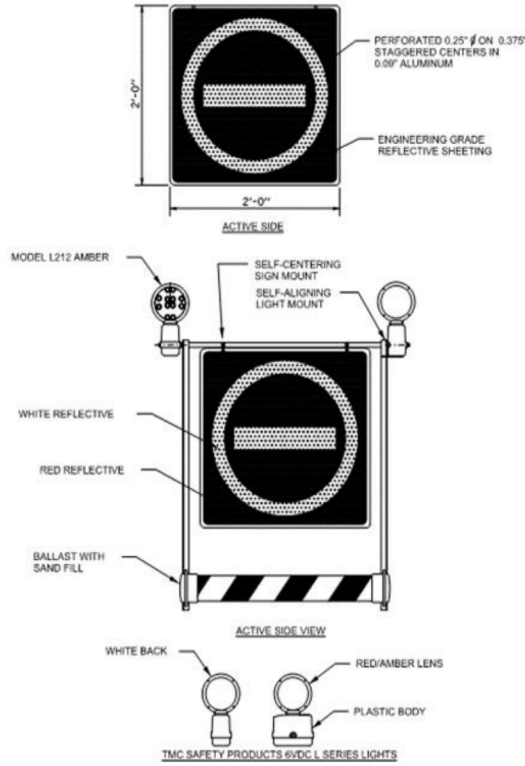
1. The Contractor must provide and maintain lighted barricades and all signs required to control construction traffic. The exact location and spacing of all barricades will be determined by the Engineer.

### **Construction Limitations**

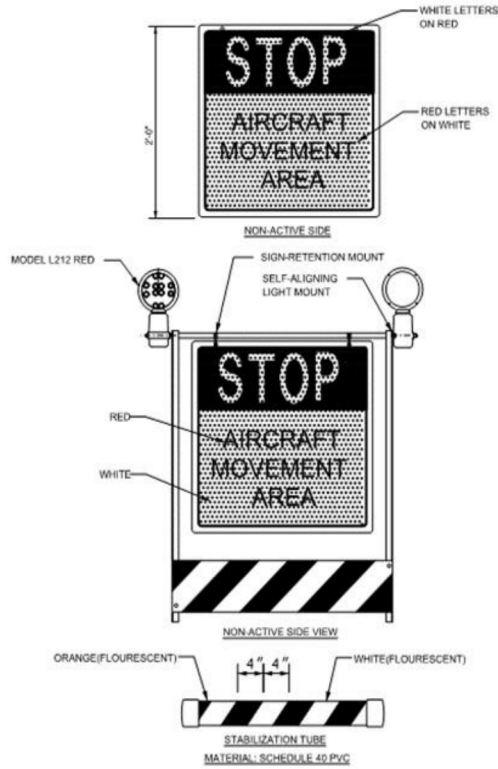
1. All cranes or booms used for construction Work must be lowered to ground level during all hours of darkness and during all daylight hours when the aircraft ceiling is below the minimums specified in the FAA 7460 airspace study response letter and moved four hundred (400) feet from the runway centerline. The Contractor must lower any cranes or booms when notified by Airport Operations personnel.
2. Attention must be given to reduce the noise of heavy construction equipment and to the control of dust, smoke and fumes from construction equipment and other operations on the Work site and the dirt and noise created by heavy truck operations in accordance with ordinances of the City and as directed by the Engineer. The discharge of oily, greasy and/or chemical materials or Hazardous Materials into waterways or City sewers will not be permitted.

**Method of Measurement.** This work will not be measured for payment.

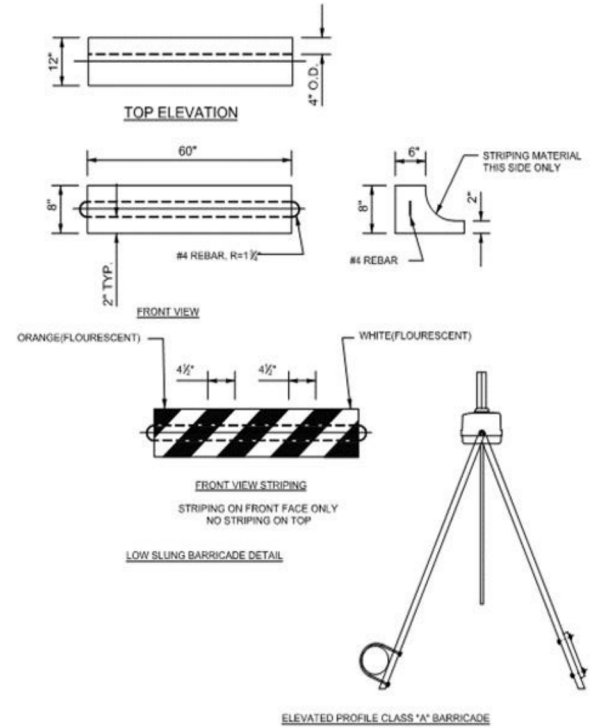
**Basis of Payment.** This work will not be paid for separately but shall be considered as included in the prices bid for the various pay items of the Contract and no additional compensation will be allowed.



**CLASS "A" BARRICADE DETAILS**  
NOT TO SCALE  
(DETAIL NO. 1-10(A1))



**CLASS "A" BARRICADE DETAILS**  
NOT TO SCALE  
(DETAIL NO. 1-10(A2))



**CLASS "A" BARRICADE DETAILS**  
NOT TO SCALE  
(DETAIL NO. 1-10(A3))

## **SP M-103.3: AIRPORT SECURITY**

**Description.** This work shall consist of conducting contract work operations in accordance with requirements for airport security. The work for this contract will occur adjacent to, or in the vicinity of the Aircraft Operations Area (AOA) and is subject to the security requirements of the City of Chicago Department of Aviation (CDA), O'Hare Modernization Program (OMP) and the FAA. Airport security will include furnishing all materials, labor, equipment and incidentals necessary to perform the work described herein.

### **General Requirements**

The Contractor shall carry out his operations in a manner that must minimize interference with air traffic, and must cooperate with the FAA, the Chicago Department of Aviation Commissioner (hereinafter referred to as "Commissioner"), the airlines, the City of Chicago (hereinafter referred to as "City") and other Contractors working in the area.

#### **1. Proximity to AOA Fence**

The Contractor must not stage any materials, equipment, facilities or appurtenances within twenty-five (25) feet of an air operations area (AOA) fence.

#### **2. Confidentiality of Project Data**

All Deliverables, data, findings or information in any form prepared, assembled or encountered by or provided to or by the Contractor in connection with this Contract (collectively, "Project Data") are property of the Illinois Tollway and are confidential. The Contractor agrees that, except as specifically authorized by the Engineer in writing or as may be required by law, Project Data shall be made available only to the Engineer, the Illinois Tollway, the Chicago Department of Aviation and, on a need-to-know basis, Contractor's employees, Subcontractors, material suppliers and consultants. The Contractor acknowledges that Project Data may contain information vital to the security of the airport ("Airport Security Data") and may be subject to the requirements of 49 CFR Parts 15 and 1520. If the Contractor fails to safeguard the confidentiality of Airport Security Data, the Contractor is liable for the reasonable costs of actions taken by the City of Chicago, the Illinois Tollway, the airlines, the Federal Aviation Administration ("FAA"), or the Transportation Security Administration ("TSA") that the applicable entity, in its sole discretion, determines to be necessary as a result, including without limitation the design and construction of improvements, procurement and installation of security devices, and posting of guards. All Subcontracts or purchase orders entered into by the Contractor, with parties providing material, labor or services to complete the Work, must contain the language of this section. If the Contractor fails to incorporate the required language in all Subcontracts or purchase orders, the provisions of this section are deemed incorporated in all Subcontracts or purchase orders.

**Method of Measurement.** The work will not be measured for payment.

**Basis of Payment.** Airport Safety and Security will not be paid for separately but shall be considered as included in the prices bid for the various pay items of the Contract and no additional compensation will be allowed.

## SP M-103.4: AIRPORT SAFETY AND ENVIRONMENT

**Description.** This work shall consist of conducting contract work operations in accordance with requirements for airport safety and environment. The work for this contract will occur adjacent to, or in the vicinity of the Air Operations Area (AOA) and is subject to the operational safety and environment requirements of the City of Chicago Department of Aviation (DOA), O'Hare Modernization Program (OMP) and the FAA. Airport safety and environment will include furnishing all materials, labor, equipment and incidentals necessary to perform the work described herein.

### General Requirements

The Contractor shall carry out his operations in a manner that must minimize interference with air traffic, and must cooperate with the FAA, the Chicago Department of Aviation Commissioner (hereinafter referred to as "Commissioner"), the airlines, the City of Chicago (hereinafter referred to as "City") and other Contractors working in the area. **As such, the Contractor's access and work operations are limited to the work areas and haul roads depicted on the plans and as denoted within the Construction Safety Phasing Plan.** Any changes desired to be made by the Contractor must be submitted a minimum of 45 days in advance for review by the CDA and FAA and are not guaranteed to be approved.

### Submittals

The Contractor shall submit the following to the Engineer within 30 days of the issuance of the Notice to Proceed:

1. The O'Hare International Airport **Underground Construction Notification** (aka dig book) form must be prepared and submitted. The Contractor cannot perform any excavation or work around existing utilities without receiving a fully executed O'Hare International Airport Underground Construction Notification form, attached to this SP.

A Pre-Construction/Pre-Activity Meeting and approved Notice to Users Form are required components of this process. Access to the E-Forms system to complete the Notice to Users Form can be done via: <https://eforms.cityofchicago.org/uforms>.

2. The Contractor must include in the Detailed Progress Schedule, Monthly Schedule Update and Two-Week Look Ahead Schedules a predecessor milestone and task for the submittal and execution of the Underground Construction Notification form for each activity associated with excavation and utility work. The milestone denotes the submittal of the form to the weekly Short Term Operational Planning Meeting (S.T.O.P.) which is held every Monday.
3. The Contractor has sole and complete responsibility for development and implementation of a site specific **safety program**. The Contractor's safety program must, at a minimum, meet the requirements of the "Chicago Airport Systems Construction Safety Manual", as well as the requirements of the safety manual adopted by the OMP, which is incorporated by reference and made a part of this Contract, and provided as SP M-103.6. The Contractor must develop a site-specific safety program that includes the Contract Work of all contractors and subcontractors. It must be submitted to the Engineer for review and approval at least

thirty (30) days before the start of the Work.

## **Equipment and Materials**

The Contractor will be required to furnish all required equipment and materials as necessary to comply with the requirements specified herein.

## **Requirements**

### **1. Protection of Utilities**

- a. The Contractor must determine the locations of all utilities in the vicinity of the site of the Work and will take suitable care to protect and prevent damage to such utilities from its operations under this Contract as specified in the following requirements.
- b. Prior to receiving authorization to begin construction work, the O'Hare International Airport Underground Construction Notification Form (Dig Book) must be fully executed by all required parties indicating that existing utilities have been located by the respective owner or utility locate service and marked by the Contractor according to Details No. 1-10/B1 and 1-10/B2, located in SP M-103.1. A copy of the approved form must be kept with the Contractor on site at all times during construction activity. The O'Hare International Airport Underground Construction Notification form is 8 pages long, consisting of 7 pages that are required for the initial submittal and the 8<sup>th</sup> page which is a daily inspection sheet. The document is attached to this SP.
- c. When performing Work adjacent to existing sewers, drains, water and gas lines, electric or telephone or telegraph conduits or cables, poles lines or poles, or other utility equipment or structures, which are located outside of the neat lines of the excavations to be made or of the structures to be constructed under this Contract and which are to remain in operation, the Contractor must preserve and maintain such utility equipment, structures and utility marking posts in place at its own expense and shall cooperate with the City department, utility company or other party owning or operating such utility equipment or structures in the maintenance thereof.
- d. The Contractor is responsible for and must repair all damage to any such utility, equipment or structures caused by its acts, whether negligent or otherwise, or its omission to act, whether negligent or otherwise and will leave such utility, equipment or structures in as good condition as they were in prior to the commencement of its operations under this Contract. However, it is hereby agreed that any such utility equipment or structures damaged as a result of any act, or omission to act, of the Contractor may, at the option of the City department, utility company, or other party owning or operating such utility, equipment or structures damaged, be repaired by such City department, utility company, or other party and in such event the cost of such repairs will be borne by the Contractor.

### **2. Protection of FAA Facilities**

- a. FAA facilities are critical to the operation of the air traffic control functions at the Airport and all possible steps must be taken to identify, protect and prevent damage to such utilities and to ensure their integrity throughout the period of construction

activity. See SP M-103.5: FAA PROVISIONS for requirements.

### 3. Protection of Existing Structures and Property

- a. The Contractor must avoid damage, as a result of its operations, to trees, plant life, existing sidewalks, curbs, streets, pavements, utilities, adjoining property, the work of other contractors and the property of the City, the FAA and others and shall at its own expense repair any damage thereto caused by its operations.

### 4. Protection of Existing Trees in the Right of Way

- a. It is the responsibility of the Contractor to protect all trees from damage at the construction site in accordance with the contract plans. Any damage to trees shall be repaired or replaced at the Contractor's expense.
- b. The Contractor will be required to replace any permanently damaged tree with a new tree of the same type and said new tree will have a trunk with a minimum one and one-half (1-1/2) inch diameter.
- c. The protection of trees shall consist of tree protection fencing installed at minimum of 1 foot outside of the critical root zone of each tree. Work may be conducted under the critical root zone of trees by tunneling, drilling or boring only. All other disturbance to the critical root zone of trees shall be under the on-site supervision and care of an ISA Certified Arborist. The critical root zone or surface area directly under the tree canopy shall not be disturbed under the following guidelines:
  - i. The critical root zone shall equal a minimum of 1 foot radius for every inch of trunk diameter at breast height (DBH) as measured 4.5 feet about the highest grade at the base of tree, with a minimum undisturbed depth of 4 feet.

### 5. Cooperation Among Contractors

The Contractor shall cooperate with CDA, airline tenants, other airport users, and other contractors on the airport including the City of Chicago, FAA and airline contractors. The Contractor may be required to share work areas with other contractors.

## **Health and Safety**

### 1. Project Health and Safety

- a. The Contractor shall designate a safety representative for the project. This person shall be present whenever work is being performed at the site or at any staging area on the Airport property. The safety representative shall have the project safety responsibilities as his or her exclusive responsibility and not have any other responsibilities regarding this project. The safety representative must have the authority and the experience level to fulfill the duties stated in the Chicago Airport Systems Construction Safety Manual, SP M-103.6. The Contractor must provide the safety representative with the authority necessary to ensure the safety of the airport, Contractor's and Subcontractor's employees and property. Among other responsibilities concerning project safety, the safety representative must provide:

safety training, safety orientation, safety inspections and conduct toolbox safety meetings.

- b. The Contractor must comply with the requirements of Regulations 29 CFR Part 1926 (Originally CFR Part 1518) - Safety and Health Regulations for Construction of the Williams-Steiger Occupational Safety and Health Act of 1970 (Federal, OSHA). Copies may be obtained from the Regional Administrator of the Department of Labor, Federal Office Building, and Chicago, Illinois. The Contractor's attention is directed to the "Health and Safety Act" of the State of Illinois. The rules pursuant to this Act are on file with the Secretary of State of Illinois and are identical in every respect with the standards in effect under the Federal, OSHA, and law, pursuant to orders of the Illinois Industrial Commission. The Federal and State standards require that the Contractor provide reasonable protection to the lives, health, and safety of all persons employed under the Contract. Such act and rules and the applicable parts thereof will be considered as part of these specifications.
- c. The Contractor must comply with all local safety laws including, but not limited to, blasting or use of explosives, and those set forth in Title 15 of the Municipal Code of Chicago, Ch. 15-4, Art.5, and Ch. 15-20, Art.1.
- d. The Contractor must keep on the site of the Work, completely equipped first aid kits readily accessible at all times. The Contractor shall designate a person on each shift to be in charge of first aid and will cause such person to receive proper instructions therein.
- e. The Contractor must furnish and place, in all buildings connected with the Work, a sufficient number of fire extinguishers, of a type and capacity approved by the Illinois Inspection and Rating Bureau.
- f. Only such materials and equipment as are necessary for the construction of the Work under this Contract, shall be placed, stored or allowed to occupy any such space at the site of the Work. If gasoline, flammable oils, or other highly combustible materials must be stored at the site, they shall be stored in approved safety containers and placed where directed by the Engineer.

## 2. Fire Protection

Fire protection must comply with all fire regulations and with all specific regulations of the Commissioner and other City officials who have jurisdiction, and will include the following:

- a. An ample number of suitable, fully charged fire extinguishers shall be provided as approved. Also water type fire extinguishers for combustible materials shall be provided in case of fire prior to daily removal of debris from the site.
- b. All tarpaulins or other protective coverings shall be of approved flame retardant material.
- c. Not more than one (1) day's supply of flammable liquid including oil, gasoline, paint or solvent shall be brought to the site at any one time. All 110 degree F., or below, flash point liquids shall be confined to "U.L." approved safety cans. No open fires of any type will be permitted.

- d. The Contractor must prohibit all lighting of fires about the premises and all smoking in restricted areas where posted with "NO SMOKING" signs and must use due diligence to see that such prohibition is enforced. "NO SMOKING" signs must be furnished and posted by the Contractor. Smoking is prohibited everywhere on the AOA.
- e. No debris or waste materials, including hazardous materials, will be burned at the construction site.
- f. During construction, all cutting or welding operations shall be carried out with all precautions taken to prevent fires resulting from sparks or hot slag. Extreme care shall be exercised to determine that such sparks or embers do not fall into any combustible materials, even if such material is stored on lower floors. Sheet metal windscreens shall be provided around the lead-melting furnaces whether building is enclosed or not. Portable fire extinguishers shall be provided at and below all locations where cutting or welding or melting operations are being performed or, if such operations are extensive, a hose from the stand pipe system or fire hydrant will be placed nearby.
- g. All combustible material, including but not limited to, wood, crates, excelsior paper, rags or flammable solvents will not be allowed to accumulate, but shall be removed to a safe location and disposed of immediately after they have served their purpose.
- h. If there is a concentration of gas vapors suspected at the Project site, the Contractor will be responsible for clearing the area and notifying the Engineer and Commissioner and the gas utility company. All operations in the area shall be suspended until the source of such vapors has been located and corrected.
- i. The Contractor shall arrange for the installation of necessary fire protection lines and equipment as required by the Chicago Fire Department and as necessary. Permanent fire protection facilities may be used for this purpose as soon as they are installed, tested, and approved for use by the Commissioner in writing for temporary use.
- j. Salamander heaters or similar forms of uncontrolled heaters shall not be used except with the special written permission of the Commissioner and City fire marshal and then only when each salamander is maintained under constant supervision.

### 3. Environmental Compliance

- a. In performing the Work under the Contract, the Contractor must comply with all Environmental Laws, including but not limited to those relating to preventing pollution of air, water, soil, and groundwater due to its construction and other operations, must eliminate excessive noise, and must otherwise conduct its operations in a manner protective of public health and safety. If the Contractor causes the release or threatened release of Hazardous Materials into the air, soil, water, or groundwater at the airport or exacerbates any existing environmental condition at the Airport, the removal of such Hazardous Materials and the remediation of any contamination must be performed in the manner and time frame determined by the Engineer, the Commissioner, and by applicable Environmental Laws, at the Contractor's sole expense.



#### 4. Clean Up

- a. During the construction, the Contractor must keep the site of the Work and adjacent premises as free from material, debris, and rubbish as is practicable and when directed, shall immediately remove same entirely when, in the opinion of the Engineer or the Commissioner, such material, debris, or rubbish constitutes a nuisance, a safety hazard, or is objectionable in any way to the public. Haul roads, streets, and public areas shall be swept daily, unless otherwise provided in the Contract Documents.
- b. Before Final Completion of the Work, the Contractor must remove from the site of the Work and adjacent premises all machinery, equipment, surplus materials, falsework, rubbish, temporary buildings, barricades and signs and shall restore the site, not otherwise included the construction of the proposed improvements, to the same general conditions that existed prior to the commencement of its operations. The cost of final cleaning up will not be paid for under any specific scheduled item but will be included in the prices bid for the various items or included in the Contract lump sum price, as the case may be.
- c. The Contractor must clean off all cement streaks or drippings, paint smears or drippings, rust stains, oil, grease, dirt and any other foreign materials deposited or accumulated on any portion of its Work, or existing Work, due to its operations.
- d. Whenever any part of a street is obstructed or closed to traffic, the Contractor must provide, erect, and maintain all of the approved barricades, signs, lights and reflectors necessary to provide safe and convenient public travel. The Contractor must also provide any flagmen that may be required for warning and directing traffic.

#### Services and Use of Site

##### 1. Work Area

- a. The Contractor must perform all work within the work areas designated on the contract plans. Equipment and material storage, temporary staging and any other area required by the Contractor for any purpose and in conjunction with the performance of the Work will be limited to the work area as shown on the contract plans.

##### 2. Temporary Services and Utilities

###### a. General

- i. The Contractor is responsible for arranging for and providing all general services and temporary facilities as specified herein and as required for the proper and expeditious prosecution of the Work. The Contractor must pay all costs for such general services and temporary facilities.
- ii. Temporary connections for water, electricity, and heat (including installation, maintenance and removal of such facilities) will be at the Contractor's expense.
- iii. The Contractor must pay the cost of all temporary utilities including, electricity, gas, water, and telephone during the construction period.

- iv. Payment for permanent utilities will be borne by the Contractor until Final Completion or Beneficial Occupancy, whichever comes first.

b. Water

- i. The Contractor must provide temporary water connections as required for drinking and construction purposes.
- ii. The Contractor shall note that the Commissioner reserves the right to regulate the use of water, and may impose restriction on the use in the event water is being used carelessly by the Contractor.
- iii. Water and facilities for obtaining water for sanitary purposes, drinking, mixing concrete and for all other purposes shall be provided by and at the expense of the Contractor. Except with special permission from the Commissioner and the Department of Water, connections for water will not be made to the City's fire hydrants.

c. Light and Power

- i. The Contractor must furnish the electrical energy and must furnish and install all wiring, electrical services, lighting units, insulated supports for wiring and all other electrical equipment together with all other incidental and collateral Work necessary for the furnishing of the temporary power and lighting facilities for the Work to be done under this Contract, all at no additional cost to the Illinois Tollway.

3. Parking Restrictions

- a. The Contractor must, at all times, require its employees to park their personal automobiles in the customer parking lots at the Airport, at non-airport locations, or in designated staging and employee parking areas if depicted on the plans.
- b. The Contractor's and Subcontractor's employees must not at any time park their personal automobiles, no matter how short the duration, in any drive, road, or any other location within the boundaries of the Airport.
- c. The Contractor will not be allowed to park or operate any vehicles or equipment or store materials or equipment on airfield pavement.

**Storage**

1. Storage of Materials

- a. If it is necessary to store materials, they must be protected in such a manner as to ensure the preservation of their quality and fitness for the Work. All stored materials will be inspected at the time of use in the Work even though they may have been inspected and approved before being placed in storage. The Contractor must store materials in the work areas as designated on the contract plans. If the areas provided are insufficient, the space required shall be provided by the Contractor at its expense.

- b. Upon completion of the Work, storage sites and working areas must be cleaned and restored unless otherwise modified through performance of the Work.
- c. Only such materials and equipment as are necessary for the construction of the Work, as determined by the Engineer, shall be placed, stored, or allowed to occupy any space at the site of the Work. If gasoline, flammable oils, or other highly combustible materials are to be stored at the site, they shall be stored in approved safety containers and placed where directed by the Engineer. Compressed gas cylinders must also be properly secured and stored.
- d. All materials or plant used in the construction of the Work must be so placed as to allow free access to all fire hydrants, water valves, gas valves, manholes that are part of electric, telephone and telegraph conduit lines and all fire alarm and police call boxes in the vicinity.
- e. Unless otherwise specific or shown on the contract plans, no material or equipment shall be stored or staged on the Aircraft Operations Area without written permission from the Commissioner. If allowed, the material and equipment must be stored and/or staged subject to the directions of the Commissioner.

## **Equipment and Falsework**

### **1. Welding**

- a. No welding, flame cutting, or other operations involving use of flame, arcs, or sparking devices, will be allowed without adequate protection.
- b. All combustible or flammable material must be removed from immediate working area. If removal is impossible, all flammable or combustible materials shall be protected with a fire blanket or suitable non-combustible shield to prevent sparks, flames or hot metal from reaching flammable or combustible materials.
- c. The Contractor must provide necessary personnel and equipment to control incipient fires resulting from welding, flame cutting, or other sources involving use of flame, arcs, or sparking devices.
- d. All welders must be certified within the last eighteen (18) months.
- e. A Hot Work Permit, as listed in the Safety Manual must be displayed for all welding work.
- f. All suspended scaffolding and staging must be lowered to ground level at the end of each workday.

**Method of Measurement.** The work will not be measured for payment.

**Basis of Payment.** Airport Safety and Environment will not be paid for separately but shall be considered as included in the prices bid for the various pay items of the Contract and no additional compensation will be allowed.



## Create Notice to Airport Users Form

| Copy from Existing Form |

<b>Please enter the form information (All fields are required)</b>			
Originator :			
Contractor :		Phone :	
Contact :			
24 Hour Phone :			
Project Type :			
Project Title :			
Location : Please pick your location from the map <span>Architectural Map</span> <span>Civil Map</span> ?			
Emergency Work <input type="checkbox"/> Reference Emergency Guidelines			
<b>Select Work Type :</b> <input type="radio"/> Airside <input type="radio"/> Landside <input type="radio"/> Terminal			
Pre-Construction / Pre-Activity Meeting Date : <input type="text" value="11/25/20"/>			
FAA 7460 required ? <input type="radio"/> Yes <input checked="" type="radio"/> No			
Is a barricade being installed for this scope of work ? <input type="radio"/> Yes <input checked="" type="radio"/> No			
Is work being done by ORD badged personnel ? <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> NA - Non Secure			
If not , Company/Person escorting :		Reference Escort Guidelines	
Effective Start Date :		Completion Date :	
Hours Affected From :		To :	
00 <input type="text"/> : 00 <input type="text"/> PM <input type="text"/>		00 <input type="text"/> : 00 <input type="text"/> PM <input type="text"/>	
Work Description and Exact Location :			
<b>Select Affected Users (Please select all parties potentially impacted by scope of work) :</b>			
<input type="checkbox"/> Air Canada	<input type="checkbox"/> American Airlines	<input type="checkbox"/> Alaska Airlines	<input type="checkbox"/> American Eagle
<input type="checkbox"/> Delta Air Lines	<input type="checkbox"/> Frontier Airlines	<input type="checkbox"/> Jet Blue	<input type="checkbox"/> Lufthansa
<input type="checkbox"/> Spirit Airlines	<input type="checkbox"/> United Airlines	<input type="checkbox"/> Virgin America	
<input type="checkbox"/> T5 Management	<input type="checkbox"/> CICALTEC	<input type="checkbox"/> T5 Concessions	
<input type="checkbox"/> ATS	<input type="checkbox"/> Chicago Fire Dept	<input type="checkbox"/> Concessions	<input type="checkbox"/> FAA
<input type="checkbox"/> ASIG	<input type="checkbox"/> Hilton Hotel	<input type="checkbox"/> Parking Management	<input type="checkbox"/> Fedex
<input type="checkbox"/> TSA	<input type="checkbox"/> Other ?	<input type="checkbox"/> No Affected Users	
<a href="#">See Email Distribution list</a> ?			

**O'HARE INTERNATIONAL AIRPORT  
UNDERGROUND CONSTRUCTION NOTIFICATION**

<b>I.</b>	<b>PROJECT INFORMATION</b>
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**A. Project Name** \_\_\_\_\_ Date \_\_\_\_\_

1. Project no. \_\_\_\_\_

2. Resident Engineer / PM \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

**B. Work Location** \_\_\_\_\_

**C. Description of Work** \_\_\_\_\_  
\_\_\_\_\_

**D. General Contractor** \_\_\_\_\_

1. Name of Superintendent / Foreman \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

2. Name of Superintendent / Foreman \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

**E. Subcontractor** \_\_\_\_\_ / \_\_\_\_\_

1. Name of Superintendent / Foreman \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

2. Name of Superintendent / Foreman \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

**F. Anticipated Dates of Work** \_\_\_\_\_

**G. Anticipated Hours of Work**  \_\_\_\_\_  \_\_\_\_\_  
Days Nights

Remarks / Clarifications (as necessary): \_\_\_\_\_  
\_\_\_\_\_

**H. Scheduled Pre-Activity Meeting**

1. Pre-Activity meeting scheduled: Time: \_\_\_\_\_  
Date: \_\_\_\_\_  
Location: \_\_\_\_\_

Optional: Field Meeting

Time: \_\_\_\_\_  
Date: \_\_\_\_\_  
Location: \_\_\_\_\_

2. Has the Pre-Activity meeting notification email been sent?  Yes  No

\* Attach email for documentation

**II. DOCUMENTATION**

**A. Pre-Activity Meeting Minutes**

1. Meeting Location: Office \_\_\_\_\_  
     Meeting Date and Time \_\_\_\_\_
2. Meeting Location: Field Meeting (if req.) \_\_\_\_\_  
     Meeting Date and Time \_\_\_\_\_
3. Organizations in Attendance: \_\_\_\_\_ Primary Representative at Meeting (SIGNATURE)
 

a. Construction Manager	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	
b. General Contractor	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
c. Subcontractor	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
d. FAA Facilities	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
e. DOA Operations	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
f. DOA Facilities	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
g. Other .....	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____
h. Other .....	<input type="checkbox"/>	Yes	<input type="checkbox"/>	N/A	_____

Define why N/A was selected
4. Key Discussion points:  
     \_\_\_\_\_  
     \_\_\_\_\_
5. Meeting Minutes Available:       Yes     No

**B. FAA Cable Locate Forms**

1. Have FAA cable locate forms been submitted ?       Yes     No     Copies in binder  
     Note: FAA cable locate forms must be submitted three (3) days prior to the cable locate being performed in the field (The 3 Day Notice excludes Holidays, Saturdays and Sundays)
2. Did you receive an approved copy?       Yes     No     Copies in binder

**C. FAA Assistance Forms**

1. Have FAA assistance forms been submitted ?       Yes     No     Copies in binder  
     Note: FAA assistance forms must be submitted five (5) days prior to the cable locate being performed in the field (The 5 Day Notice excludes Holidays, Saturdays and Sundays).
2. Did you receive an approved copy?       Yes     No     Copies in binder

**D. DOA User Form (If applicable)**

1. Has the DOA User Form been submitted ?       Yes     No     Copies in binder
2. Was the DOA User Form approved?       Yes     No     Copies in binder

**II. DOCUMENTATION (Continued)**

**E. Airspace Case Study**

- 1. Has the Airspace Case Study been approved ?     Yes     No     Copies in binder
- 2. Approved Airspace Case No. \_\_\_\_\_
- 3. Was a post Air Case Space Study review conducted with the FAA ?  
 Yes     No     Copies in binder

**F. Applicable Installation Documentation**

- 1. Shop drawings     Yes     No     Copies in binder
- 2. Submittals     Yes     No     Copies in binder
- 3. Field Orders     Yes     No     Copies in binder
- 4. RFI's     Yes     No     Copies in binder
- 5. Work Related Drawings and Specifications     Yes     No     Copies in binder
- 6. Field Sketches     Yes     No     Copies in binder
- 7. Composite Utility Drawings     Yes     No     Copies in binder

**III. UTILITY / FACILITY IMPACTS**

**A. Anticipated / Potential Impacts**

- 1. Facilities Affected or Nearby \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B. Additional Power Sources**

- 1. Does the Facility currently have backup power ?     Yes     No     N/A
- 2. List items on backup power
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
- 3. Remarks (if necessary)  
\_\_\_\_\_  
\_\_\_\_\_

**III. UTILITY / FACILITY IMPACTS (Continued)**

4. Generator Power

a. Is a Generator necessary to provide temporary power to Facilities before work starts ?

Yes Who \_\_\_\_\_  
 No Date / Time \_\_\_\_\_  
 Standby Only How \_\_\_\_\_

b. What Facilities require Generator Power ?

i. \_\_\_\_\_  
 ii. \_\_\_\_\_  
 iii. \_\_\_\_\_

**IV. DELINEATION OF CRITICAL AREA / SAFETY AREA**

**A. Safety Areas**

1. Have the Safety Areas (RSA/TSA) been identified? Runway (RSA) = 250' From Centerline  
Runway (RSA) = 1,000' From RW End  
Taxiway (TSA) = 131' From Centerline  
 Yes  No  N/A
2. Have the Object Free Areas been (ROFA/TOFA) been identified? Runway (OFA) = 400' From Centerline  
Runway (OFA) = 1,000' From RW End  
Taxiway (OFA) = 160' From Centerline  
 Yes  No  N/A
3. Have the governing agencies reviewed the proposed delineation plan?  
 DOA  FAA

**B. Critical Areas**

1. Have all NAVAID critical areas in close proximity to the construction activities been identified?  
 Yes  No  N/A
2. Have the governing agencies reviewed the proposed delineation plan?  
 DOA  FAA

**C. Snow / Silt Fence Installation**

1. Have the NAVAID critical areas, safety areas and object free areas been identified with snow / silt fence to ensure adequate delineation of the area?  
 Yes  No  N/A

**V. UTILITY LOCATES**

**A. Layout of Proposed or New Work**

1. Has the Contractor clearly identified the line of the proposed excavation ?  Yes  No

**B. Utility Locate Organizations**

1. Identify organizations that have completed utility locates.

FAA \_\_\_\_\_ (date) \_\_\_\_\_

DOA \_\_\_\_\_ (date) \_\_\_\_\_

DIGGER no. \_\_\_\_\_ (active date) \_\_\_\_\_

JULIE no. \_\_\_\_\_ ( active date) \_\_\_\_\_

OTHER explain: \_\_\_\_\_ (date) \_\_\_\_\_

OTHER explain: \_\_\_\_\_ (date) \_\_\_\_\_



**V. UTILITY LOCATES (Continued)**

**2. Identified Utilities**

Have all known Utilities around the Facility (FAA, DOA, Com Ed, SBC, AGI, Other) been physically located on the ground by the FAA, and others as applicable ? (Identify point of origin and point of termination for each line.)

- a. **Power**             N/A     Yes     No     Origin     Termination
- b. **Control**             N/A     Yes     No     Origin     Termination
- c. **Grounding**             N/A     Yes     No     Origin     Termination
- d. **Comm / Data**             N/A     Yes     No     Origin     Termination
- e. **Water**                 N/A     Yes     No     Origin     Termination
- f. **Sewer**                 N/A     Yes     No     Origin     Termination
- g. **Other**                 N/A     Yes     No     Origin     Termination

**3. Locate Existing Direct Buried Cables**

Special emphasis must be given to locate and mark all existing direct buried cables.

- a. **FAA**                 Yes     No
- b. **DOA**                 Yes     No

Place visible PVC pipe with utility identifier tag/markings as a constant reminder that operating airport cables are below.

**C. Contractor's Proposed Method of Identifying Known Utilities**

- 1. Vacuum Excavating             Yes     No
- 2. Ground Penetrating Radar             Yes     No
- 3. Hand Excavation                 Yes     No

4. Other            Explain: \_\_\_\_\_

5. Were all known utilities identified ?             Yes     No

If no, which known utilities were not identified and why?

\_\_\_\_\_

\_\_\_\_\_

6. Were utilities encountered that weren't previously identified ?     Yes     No

If yes, in the space below, describe the nature of the situation and the actions taken.

\_\_\_\_\_

\_\_\_\_\_

**D. Utility Delineation**

1. Has the ten foot (10') utility channel "five feet (5') on either side of the known utilities" been marked or delineated with Snow Fence, Orange Silt Fence or PVC Indicators where the new work crosses the utility?

Yes     No

**V. UTILITY LOCATES (Continued)**

2. Runways

Are utility locates required within the Runway Safety Area (RSA)?  Yes  No

Identify the method the utility locates have been identified.  Paint  Flags

**No Utility Locates Shall Be Performed Within the Runway Safety Area While the Runway is Open to Air Traffic. All runway safety area locates must be performed between the hours 2230 to 0600 (10:30 PM - 6:00 AM).**

3. Taxiway

Are utility locates required within the Taxiway Safety Area (TSA)?  Yes  No

Identify the method the utility locates have been identified.  Paint  Flags

**The scheduling of utility locates within a Taxi Safety Area (TSA) shall be coordinated with DOA Operations.**

**E. Protection and Delineation of Existing Facilities**

1. Have Snow Fence, Silt Fence, Barricades or other protective devices been installed around nearby existing Facilities, i.e., Buildings, Antenna, Transformers, Markers, RVRs, LLWAS, etc., to ensure adequate recognition ?

- Yes \_\_\_\_\_  
(facility)
- Yes \_\_\_\_\_  
(facility)
- Yes \_\_\_\_\_  
(facility)
- Yes \_\_\_\_\_  
(facility)
- Yes \_\_\_\_\_  
(facility)

**F. Deviation from Approved Procedure -- Request for Waiver**

1. If approved procedural means of excavating have been determined to be ineffective, have you sought approval for an alternative approach to the work ?  Yes  No

2. If yes, describe the approach that is not effective, and then describe the proposed alternative method of approach.

- a. Ineffective method: \_\_\_\_\_  
\_\_\_\_\_
- b. Proposed method: \_\_\_\_\_  
\_\_\_\_\_

3. Was a "Waiver" from the planned approach sought and approved ?

- Yes Who \_\_\_\_\_
- No Date / Time \_\_\_\_\_
- How \_\_\_\_\_

**VI. Acknowledgment of Notification**

General Contractor \_\_\_\_\_  
Signature Required Date

Construction Manager \_\_\_\_\_  
Signature Required Date

Federal Aviation Administration \_\_\_\_\_  
Signature Required of FAA Manager Date

Department of Aviation \_\_\_\_\_  
Signature Required Date

Other \_\_\_\_\_  
Signature Required Date

**VII. Authorization to Commence Work**

\_\_\_\_\_  
Signature Required Date

Utility Notification

**INSPECTOR DAILY CHECKLIST**

**A. Underground Construction Notification**

1. Is the "Underground Construction Notification" on site?  Yes  No  
If no, why not? \_\_\_\_\_

---

2. Has a tool box safety meeting been held?  Yes  No  
(See attached Toolbox sign in sheets) If no, why not? \_\_\_\_\_

---

3. Did all personnel get briefed about any utilities in the area including direct buried cables and all critical areas.  Yes  No

**B. Hand Digging / Approved Alternative**

1. Have you identified areas where the new excavation is within five feet (5') of an existing utility ?  Yes  No
  2. If Yes, have you ensured that the Contractor is, in fact, digging by hand, or has an alternative excavation method been approved?  Yes  No
- Please specify approved alternative method. \_\_\_\_\_

**C. Unidentified Cable / Conduit / Ductbank Strike**

1. **After being authorized to proceed with the work and doing so, if any unmarked utilities are encountered, you must STOP WORK, ALL equipment and personnel remain on site, notify the proper authorities, wait for further field visits, and obtain approval to continue on with the work.**
  - a. DOA Operations: 773-686-2255
  - b. Emergency Contact: 773-894-9111
2. If an unknown utility was encountered, make the following recordings:
  - a. Date \_\_\_\_\_
  - b. Approx. Time of Event \_\_\_\_\_
  - c. Who was immediately notified ? \_\_\_\_\_
  - d. Record Manpower and Equipment on Standby (separate record)

**D. Removal of Equipment and Materials**

Have all excess materials, equipment and spoils been removed from the OFA at the end of the shift ? (i.e. FOD, dirt, stone, pumps, hoses, machines, etc.)  Yes  No

**E. Safety Devices In Place**

1. Have the proper safety measures, i.e., barricades and delineators, been provided and located appropriately to safely identify open trenches, and to route traffic accordingly ?  Yes  No
2. Have you or someone on the team verified that barricades are adequately illuminated during night time hours ?  Yes Date: \_\_\_\_\_

**F. Notification to DOA OPS**

Have you notified the DOA Operations prior to leaving the jobsite for the shift, and obtained their approval to do so ?

- Yes Who \_\_\_\_\_
- No Date / Time \_\_\_\_\_
- N/A How \_\_\_\_\_

**G. Additional Notes and Remarks**

\_\_\_\_\_  
\_\_\_\_\_

OMP CM Inspector: \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

## SP M-103.5: FAA PROVISIONS

**Description.** This work shall consist of conducting contract work operations in accordance with the FAA provisions. **The work for this contract will occur within, adjacent to, or in the vicinity of an existing Navigational Aid (NAVAID) owned, operated, or maintained by the FAA and thus subject to these additional requirements.** FAA provisions will include furnishing all materials, labor, equipment and incidentals necessary to perform the work described herein.

### General Requirements

The Contractor shall carry out his operations in a manner that must minimize interference with air traffic, and must cooperate with the FAA, the Chicago Department of Aviation Commissioner (hereinafter referred to as "Commissioner"), the airlines, the City of Chicago (hereinafter referred to as "City") and other contractors working in the area.

### Submittals

The Contractor shall submit the following to the Engineer within 30 days of the issuance of the Notice to Proceed:

1. The Contractor is responsible to obtain from the Engineer a copy of the Federal Aviation Administration's determination of the filing of FAA Form **7460-1 Notice of Proposed Construction or Alteration** and **Construction Safety Phasing Plan (CSPP)** submitted for the Contract by the Illinois Tollway.
  - a. The Illinois Tollway has submitted a preliminary Federal Aviation Administration Form 7460-1 and Construction Safety Phasing Plan (CSPP) based upon the contract plans and anticipated contract operations.
  - b. The initial permit submittal made by the Illinois Tollway included a temporary estimated working clearance height of 110 feet above the ground elevation installation. This elevation should serve as the basis of the contractor's bid. The Contractor's bid proposal shall have been submitted with the assumption that temporary estimated working heights in excess of 110 feet will not be required..
  - c. If the heights and locations of equipment to be used for the construction are proposed to be different than depicted in contract bid plans, the Contractor must cooperate with the Illinois Tollway in the preparation and filing of an amended Federal Aviation Administration FAA Form 7460-1. The Contractor shall assume the FAA review of requested changes is a minimum 45 days in duration.
  - d. Any required changes to FAA Form 7460- 1, need to be approved prior to the start of construction operations that use such equipment heights.
2. The Contractor must follow the construction phasing as presented in the contract documents and CSPP to ensure safe airfield operations and construction safety. Construction activities must be performed in a manner that is consistent with the planned construction activity and in a manner that maintains airfield operational safety within and adjacent to the active airfield. The Contractor must submit a Safety Plan Compliance Document (SPCD) which confirms that the Contractor will comply with the CSPP submittal. The Contractor's bid proposal shall have been submitted with the assumption

that all work shall be performed in accordance with the CSPP. The SCPD will be submitted by the Engineer to the CDA and FAA for review and approval. The Contractor shall assume the CDA and FAA review is a minimum 45 days in duration.

The Contractor is not allowed to deviate from the phasing documents unless a revised plan is developed by the Contractor and reviewed and accepted by the CDA and FAA. If the Contractor elects to deviate from the phasing plan provided in the contract documents, the Contractor will provide the alternate construction phasing plan to the Engineer. Proposed modifications to the CSPP need to be reflected in the SPCD and shall include but not be limited to all safety plan details (including contractor's points of contact, construction equipment heights, or specific hazard equipment and lighting). The Contractor must define such details by preparing an SPCD that CDA and Federal Aviation Administration review for approval

- a. The Construction Safety Plan Compliance Document needs to be approved prior to the start of construction operations.
3. The Illinois Tollway will file advance notice with the Federal Aviation Administration advising of the projected dates of any FAA outages if required by the contract. The Contractor's Detailed Baseline Schedule shall include any outages required to perform the work. The Contractor shall review the aforementioned projected dates and notify the Engineer of any changes to projected start and end dates of FAA outages based upon the sequence of work described in the Contractor's detailed baseline schedule. The maximum allowable FAA facility outage shall not exceed that submitted by the Illinois Tollway to the FAA. See Requirements, Item 5 for more details.

The Contractor shall submit the following construction notices to the Federal Aviation Administration on an as needed basis:

4. FAA Field Cable Locate Request Form. See Requirements, Item 5 for more details.
5. Request for FAA Assistance Form. See Requirements, Item 6 for more details.

The Contractor shall assume that the FAA Field Locate Form and Request for Assistance Form will be responded to by the FAA no earlier than 10 days following receipt of completed information.

## **Requirements**

1. Any and all notification and coordination of work must be made by the Engineer with the local FAA Technical Operations Office, with the FAA National Airspace System Plans and Programs Manager (NPPM), at 773-601-7635.

If any interference with NAVAIDs is reported due to construction equipment, the equipment must be lowered until the interference can be mitigated or an outage can be scheduled through coordination with the NPPM at 773-601-7635.

2. The Engineer will file with the Federal Aviation Administration a notice advising of the exact date of commencement of Work. Throughout the contract, the Contractor must notify the Engineer of the schedule for planned work activities in the vicinity of FAA cables and equipment a minimum of two weeks in advance of performing associated work. Whenever

work is within 50' of a Navigational Aid (NAVAID), the associated NAVAID critical area or a defined FAA lease area, this notice must be made.

3. The Contractor's operations such as trenching, jacking of pipe or installation of casing, excavation for pavements or structures, site grading and vehicular traffic may occur over, around and under FAA facilities, such as equipment houses, direct buried cables and duct banks. These facilities are critical to the operation of the air traffic control functions at the Airport and all possible steps must be taken to identify, protect and prevent damage to such utilities and to ensure their integrity throughout the period of construction activity.
4. The Illinois Tollway has submitted FAA Form 7460-1, Notice of Proposed Construction, for review of proposed locations and heights of permanent elements to be constructed as part of the contract and for heights and locations of temporary construction equipment that will be utilized during the construction of the contract. The maximum construction working height needs to pertain to all aspects of the work, including but not limited to, installation of temporary and permanent utilities, installation and demolition of temporary and permanent drainage features, excavation and embankment construction, and any other work activities. The FAA has issued a Notice of Airspace Determination for each location evaluated. The Contractor is required to comply with each Notice of Airspace Determination for completion of the proposed work, including any requirements that are made by the FAA as part of the 7460 Determination.
  - a. Within 30 days of the Notice to Proceed, the Contractor is required to submit locations of proposed temporary construction equipment and maximum construction equipment working heights to the Engineer for forwarding to the Illinois Tollway. This information will be used so permit compliance can be verified or any necessary permit modifications can be made.
  - b. A proposed hazard determination may be issued for work at heights above those per the airspace determinations. Any proposed work height that results in a hazard determination for flight procedures at O'Hare International Airport would be required to be constructed at night or other times when the associated impacted runway is closed.
  - c. Any coordination required by the Contractor to work during runway closures will need to be made at the City of Chicago Department of Aviation's weekly Short Term Operational Phasing (STOP) meeting. Runway closures when the Contractor wants them are not guaranteed and will not be the basis of claims for additional time.
  - d. The Contractor will be required to comply with FAA Advisory Circular AC 70/7460-1K Obstruction Marking and Lighting when proposed work activities will occur at certain locations. As a condition to the determinations, the construction equipment may need to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, flag marker - Chapters 3(Marked) & 12.
  - e. The Contractor will be required to comply with notification to the FAA and/or airport when proposed work activities will occur at certain locations. As part of the 7460 Determination, Notice to Airmen (NOTAMs) may need to be issued for impacts to Instrument Flight Procedures. All required NOTAMs must be coordinated through the Engineer who will notify the Chicago Department of Aviation (CDA) who makes the appropriate request on behalf of the airport sponsor to the FAA if and when needed.

The Contractor must notify the Engineer in writing, at least seven (7) days in advance, so appropriate notification to CDA regarding the Contractor's intentions for construction activities are made. Details must include the proposed time, date, and area construction is to occur, and associated heights so the appropriate NOTAMs can be issued.

- f. See each Notice of Airspace Determination for more information on particular requirements.
5. The Contractor must notify the Engineer at least five (5) business days prior to any excavation in the vicinity of FAA cables or ducts. The Contractor must request that the FAA locate and mark cables within the perimeter of the construction area through arranging a joint walking tour with FAA cable location equipment to precisely identify such cables and locations in order to assure the preservation of their vital functions during construction. A request for cable/duct locates shall be made through the use of the attached FAA Field Cable Locate Request form. Forms shall be filled out in their entirety and submitted via the email address as provided on the form.

In requesting and scheduling cable/duct locates, the Contractor shall act as the Point of Contact (POC) for their company as well as for their sub-contractors. All cable locates will require a minimum 72-hour advanced notification and the submission of all required documents. The minimum 72-hour notification does not include weekends and holidays.

6. If access to FAA facilities or their critical areas is required, if the Contractor must enter into a manhole/handhole containing live FAA cables, and/or if other specialty FAA assistance is required to perform or investigate contract work as shown on the contract plans, the Contractor must notify the Engineer at least five (5) business days prior to the date requested for FAA Assistance or access. A request for access to a FAA facility or other FAA Assistance, shall be made through the use of the attached Request for FAA Assistance form. Forms shall be filled out in their entirety and submitted via the email address as provided on the form. The FAA Assistance Form must be submitted and an FAA Resident Engineer must be onsite during any construction activities within the structure, including those containing live FAA cables.

In requesting FAA assistance, the Contractor shall act as the Point of Contact (POC) for their company as well as for their sub-contractors. All requests will require a minimum 72-hour advanced notification and the submission of all required documents. The minimum 72-hour notification does not include weekends and holidays.

7. If a FAA facility, or associated critical area, requires a shutdown to accommodate the proposed work, written notification is required prior to the start of work. A minimum 30-day advance written notification, is required. Any outage that is greater than 24 hours in duration or 8 hours per day for 3 consecutive days also requires a 30-day notice prior to the outage. That notification shall provide details regarding the date and time the system shutdown will occur and when it will be restored to service. Restoration includes completion of all work and completion of associated flight check, if warranted.

An estimated date is acceptable and may be changed at a later time. The Illinois Tollway has included projected FAA outage dates in contract schedule and associated Construction Safety Phasing Plan for advanced coordination and submittal to the FAA. Any required changes to planned dates are to be coordinated during construction by the



Engineer and Contractor.

8. The Contractor shall install temporary construction fences located five feet away from and on both sides of all FAA ducts and cables within the construction footprint. The Contractor shall hand dig when within five feet of FAA infrastructure and when in these designated areas where FAA duct banks and cables are located. Any cable or facility damaged during construction will require all work to stop in the area impacted until cable damage is corrected and the repairs are to the satisfaction of the FAA. All necessary temporary construction fence will be paid for as TEMPORARY CONSTRUCTION FENCE (JT900202).

PAY ITEM NUMBER	DESIGNATION	UNIT OF MEASURE
JT900202	TEMPORARY CONSTRUCTION FENCE	FOOT

9. The Contractor shall be responsible for locating utility lines and hand digging to locate FAA cabling and shall provide adequate provisions to protect all FAA cables exposed during the proposed work. This work will be paid under EXPLORATION TRENCH, UTILITIES (HAND EXCAVATION) (JI213004) and EXPLORATION TRENCH, UTILITIES (VACUUM EXCAVATION) (JI213006) as specified in the special provision: Exploration Trench, Utilities (Illinois Tollway).

PAY ITEM NUMBER	DESIGNATION	UNIT OF MEASURE
JS213004	EXPLORATION TRENCH, UTILITIES (HAND EXCAVATION)	FOOT
JS213006	EXPLORATION TRENCH, UTILITIES (VACUUM EXCAVATION)	FOOT

10. Once the FAA duct banks/cables have been exposed, the Contractor shall provide, install and maintain 2" diameter schedule 40 white PVC posts located at 25' intervals on center over the utility, to delineate for the length of the entire work area. Refer to OMP Detail 1-10/B2 located at the end of this specification, M-103.5.
11. All FAA duct banks/cables that are being crossed by access roads, sewer lines, Common Wealth Edison (ComEd) ducts, drainage lines or haul routes shall be protected by the Contractor as shown in the plans. Drawings showing how these ducts/cables are being protected are included, along with separate measurement and payment.

PAY ITEM NUMBER	DESIGNATION	UNIT OF MEASURE
JI704000	TEMPORARY CONCRETE BARRIER	FOOT
42000540	PORTLAND CEMENT CONCRETE PAVEMENT 12"	SQ YD

12. Drawings showing the protection are provided to the FAA Technical Operations prior to construction start as part of the Construction Safety Phasing Plan. All duct and manholes/handholes shall also be delineated and protected.
13. The Contractor must keep all FAA service roads to NAVAID facilities graded at all times. Crushed pavement and potholes created by construction traffic shall not be overlooked. Immediate corrective action will be necessary to restore service roads to a serviceable condition level as accepted by local FAA Technical Operations.
14. The construction dust from construction, staging area and haul routes shall be proactively controlled and kept from impacting airport operations. Construction dust and flying debris can have a negative impact on the navigational aids located in the area of the proposed construction.
15. Drainage ditches/covers shall be periodically cleaned of any debris by the Contractor as directed by the Engineer to mitigate flooding in the construction area. Any manhole/handhole covered by dirt or any other debris must be cleared immediately.
16. Contractors shall ensure that access to FAA facilities is maintained 24 hours a day, 7 days per week in the area of construction.
17. Any damage to FAA cables, access roads, or to FAA facilities during construction will require the Contractor to replace the damaged cables, access road, or FAA facilities to the FAA requirements, and at the Contractors' expense. If any FAA cables are damaged, the Contractor shall replace the cables in their entirety. The splicing of cables is not an acceptable form of repair.
18. Any significant change in the terrain in the critical area of NAVAIDs may require a Flight Inspection prior to returning the equipment to operation such as the Instrument Landing System (ILS). Contractor is required to coordinate work activity with scheduled flight check as indicated in the contract plans or a previously unidentified flight check as periodically required or deemed necessary by FAA. Any required changes to planned flight check dates must be coordinated during construction by the Contractor through the Engineer with the FAA. The Contractor's Detailed Baseline Schedule shall include flight check of the work performed. The Contractor shall review the aforementioned projected dates and notify the Engineer of any changes to projected start and end dates of FAA flight checks based upon the sequence of work described in the Contractor's detailed baseline schedule.

**Method of Measurement.** The work will not be measured for payment.

**Basis of Payment.** The work will not be paid for separately but shall be considered as included in the prices bid for the various pay items of the Contract and no additional compensation will be allowed.

**FAA Field Cable Locate Request** FCLR # \_\_\_\_\_

Date Received: \_\_\_\_\_

**Primary Contractor Information**

**Sub-Contractor Information**

Company Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Point of Contact: \_\_\_\_\_

Point of Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Email: \_\_\_\_\_

Email: \_\_\_\_\_

Phone Number: Office \_\_\_\_\_

Phone Number: Office \_\_\_\_\_

Cell \_\_\_\_\_

Cell \_\_\_\_\_

Related Project: \_\_\_\_\_

Date Locate is needed: \_\_\_\_\_ Latitude and Longitude of requested locates. Attached separate sheet if needed. **LAT/Long IS IN GPS DMS FORMAT ONLY!**

Was or is there a Pre-construction Meeting? Yes  No

Latitude: \_\_\_\_\_

If yes, Date: \_\_\_\_\_ Time: \_\_\_\_\_

Longitude: \_\_\_\_\_

Location: \_\_\_\_\_

Is there an Airspace Case Filed? Yes  No  If yes, Case Number: \_\_\_\_\_

Is there a Dig Book Submitted? Yes  No  If yes, Project Name: \_\_\_\_\_

Is there a Construction Safety Phasing Plan (CSPP) Submitted? Yes  No  If yes, Project Number: \_\_\_\_\_

Additional Comments: Use separate sheets if necessary.

**DO NOT SIGN THIS DOCUMENT UNTIL WORK HAS BEEN COMPLETED.**

Completed By FAA Rep. \_\_\_\_\_ Date : \_\_\_\_\_

Contractor Rep. Signature \_\_\_\_\_ Date : \_\_\_\_\_

Fill out form and email to [9-AGL-CHI-SMO-ORD-AF@faa.gov](mailto:9-AGL-CHI-SMO-ORD-AF@faa.gov) Revised August 2019  
Questions? Help? Contact CHI/GNAS/NPPM at 773-601-7635 Previous editions not usable

# Request for FAA Assistance

RFAA # \_\_\_\_\_

Date Received: \_\_\_\_\_

## Primary Contractor Information

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Point of Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Email: \_\_\_\_\_

Phone Number: Office \_\_\_\_\_

Cell \_\_\_\_\_

## Sub-Contractor Information

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Point of Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Email: \_\_\_\_\_

Phone Number: Office \_\_\_\_\_

Cell \_\_\_\_\_

Related Project: \_\_\_\_\_

Type of assistance needed, e.g. site access: \_\_\_\_\_

Date and time assistance is needed: \_\_\_\_\_

Was or is there a Pre-construction Meeting? Yes  No

If yes, Date: \_\_\_\_\_ Time: \_\_\_\_\_

Is there an Airspace Case Filed? Yes  No  If yes, Case Number: \_\_\_\_\_

Is there a Dig Book Submitted? Yes  No  If yes, Project Name: \_\_\_\_\_

Is there a Construction Safety Phasing Plan (CSPP) Submitted? Yes  No  If yes, Project Number: \_\_\_\_\_

Additional Comments: Use separate sheets if necessary.

**DO NOT SIGN THIS DOCUMENT UNTIL WORK HAS BEEN COMPLETED.**

Completed By FAA Rep. \_\_\_\_\_ Date : \_\_\_\_\_

Contractor Rep. Signature \_\_\_\_\_ Date : \_\_\_\_\_

Fill out form and email to [9-AGL-CHI-SMO-ORD-AF@faa.gov](mailto:9-AGL-CHI-SMO-ORD-AF@faa.gov)  
Questions? Help? Contact CHI/GNAS/NPPM at 773-601-7635

Revised August 2019  
Previous editions not usable

