Addendum No. 1

DATE: February 22, 2021

Joliet Junior College
1215 Houbolt Road
Joliet, IL 60431

TO:	Prospective Bidders
SUBJECT:	Parking Lot Improvements
JJC PROJECT NO.:	B20040

This Addendum forms a part of the Bidding and Contract Documents and modifies the original bidding document as posted on the JJC website. Acknowledge receipt of this addendum in the space provided on the Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

The purpose of this addendum is to:

1. Clarify that the pre-bid meeting scheduled for February 25, 2021 at 9:00 am is not mandatory. Attendance is optional.
2. Provide specifications, which are attached to this addendum.

End of Addendum #1

3.5 SHAPING, TRIMMING, AND FINISHING OF AGGREGATE BASE COURSE

A. In accordance with Article 351.09 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.6 MAINTAINING

A. In accordance with Article 351.10 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

END OF SECTION 321123

SECTION 32 12 16 – ASPHALT PAVING

PART 1 GENERAL

1.01 WORK INCLUDES

A. General Trades Contractor to provide:
    1. Furnish, place and compact hot mix asphalt (HMA) binder and surface course on a prepared base according to the details and as shown on the drawings.

1.02 RELATED REQUIREMENTS

A. Section 01 45 29 “Testing Laboratory Services” for testing of asphalt surfaces.

B. Section 02 41 00 “Demolition” for demolition of existing asphalt pavements.

C. Section 31 10 00 “Site Clearing” for the removal of existing materials on site.

D. Section 31 20 00 “Earth Moving” for excavating, backfilling, site grading, and for site utilities.

E. Section 31 23 13 “Subgrade Preparation” for preparation of subgrade prior to placing asphalt.

F. Section 32 11 23 "Aggregate Base Courses" for placement of aggregate base before paving.

1.03 REFERENCE STANDARDS

A. IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition, Section 406, Articles 406.2, 406.3, 406.5, 406.6, 406.7, 406.8 & 406.12.

1.04 SUBMITTALS

A. Bill(s) of Lading for Bituminous Material (Prime Coat)

B. Hot Mix Asphalt weight tickets from an IDOT approved plant indicating material job designation, purchaser and weight.

C. Daily Plant Reports

D. IDOT approved mix designs for each required mixture.

E. Results of Density Testing.

1.05 QUALITY ASSURANCE

A. All Hot Mix Asphalt used on this project shall be produced at an IDOT approved plant.

PART 2 PRODUCTS

2.01 MATERIALS

A. In accordance with Article 406.02 of the IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

PART 3 EXECUTION

3.01 EQUIPMENT

A. In accordance with Article 406.03 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.02 PREPARATION OF BASE

A. In accordance with Article 406.05 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. Prime coat shall be applied to aggregate bases at a uniform rate of 0.40 gal/sq yd prior to placing Hot Mix Asphalt.

C. A tack coat shall be applied on top of the binder course prior to placement of the surface course at a uniform rate of 0.08 gal/sq yd.

   1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
   2. Avoid smearing or staining adjoining surfaces, appurtenances and surroundings. Remove spillages and clean affected surfaces.

3.03 PLACING

A. In accordance with Article 406.06 (b) through (g) of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.04 COMPACTION

A. In accordance with Article 406.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition except as follows:
   1. An intermediate roller will not be required.

3.03 METHOD OF MEASUREMENT

A. Crack Routing and filing will be measured for payment in feet along the routed crack.

END OF SECTION 321220

SECTION 32 13 13 – CONCRETE PAVING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings of the Contract, including General and supplementary Conditions and Division 01 Specifications, apply to this Section.

1. All pavements composed of Portland cement concrete with or without reinforcement, constructed on a prepared subgrade, or subbase with or without forms, according to the details at the locations shown on the plans.

1.2 SUMMARY

A. This Section includes:

1 Sidewalks

2 Thickened Edge Sidewalks

3 Utility Pads

4 Drives

B. Related Sections include the following:

1. Section 01 45 29 “Testing Laboratory Services” for concrete testing.
2. Section 03 30 00 "Cast-in-Place Concrete" for general building applications of concrete.
3. Section 31 23 13 “Subgrade Preparation” for preparation before placing concrete.
4. Section 31 20 00 “Earth Moving” for grading before placing concrete.
5. Section 32 11 23 “Aggregate Base Course” for placing stone prior to concrete paving.

1.3 REFERENCE STANDARDS

A. IDOT Standard Specifications for Road and Bridge Construction, latest edition – Section 420, Articles 420.02 to 420.07, 420.09, 420.11 to 420.13 and 420.18.

1.4 SUBMITTALS

A. Delivery tickets from an IDOT approved plant indicating material, job designation, purchaser and weight.

B. IDOT approved mix designs for each required mixture.

PART 2 PRODUCTS

2.1 MATERIALS

A. In accordance with Article 420.02 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

PART 3 EQUIPMENT

3.1 In accordance with Article 420.03 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

PART 4 EXECUTION

4.1 SUBGRADE PREPARATION

A. In accordance with Article 420.04 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.2 JOINTS

A. In accordance with Article 420.05 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.3 FORMS

A. In accordance with Article 420.06 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition except as follows:
   1. Slipforming will not be allowed.

4.4 PLACING

A. In accordance with Article 420.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

B. Notify Construction Manager at least 24 hours prior to scheduled placement of all concrete.

C. Prior to placement, the Construction Manager will review all lines, grades, elevations, formwork, reinforcement and accessories.

4.5 FINISHING

A. In accordance with Article 420.09 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.6 REMOVING FORMS

A. In accordance with Article 420.11 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.7 SEALING JOINTS

A. In accordance with Article 420.12 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.8 OPENING TO TRAFFIC

A. In accordance with Article 420.13 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.9 PROTECTIVE COAT

A. In accordance with Article 420.18 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

4.10 FIELD QUALITY CONTROL

A. Correct concrete work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed by the Construction Manager.

B. Concrete mix proportions may be determined by laboratory tests or by field test methods, complying with ACI 2 11.1-8 1. Submit written reports to the Construction Manager of each concrete mix. Information submitted to the Construction Manager shall be current.

C. Concrete testing service: The Construction Manager will employ an approved independent testing laboratory to perform concrete quality evaluation tests.

D. Quality Control Testing During Construction: Concrete shall be sampled and tested for quality control during the placement of concrete, as follows:
   1. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements.
      a. Testing Frequency: Obtain at least 1 composite sample for each 100 cu. Yd. (76 cu. m) or fraction thereof of each concrete mix placed each day.
         (1) When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
         (2) Slump shall be determined according to Article 1020.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.

(3) Air content shall be determined according to Article 1020.08 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, latest edition.
(4) Compression strength tests shall be performed according to Article 1020.09 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Jan 1, latest edition. Take one set of test samples on each day that concrete is placed for the walks.
(5) Compression Test Specimens: ASTM C 31/C31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.

E. Testing laboratory will report test results in writing to the Construction Manager and the General Trades Contractor within 48 hours of testing. Reports of compressive strength tests will contain the project identification name and number, date of concrete placement, name of Contractor, name of concrete supplier and truck number, name of concrete testing service, concrete type and class, location of concrete batch in the structure, design compressive strength at 28 days, concrete mix identification number, compressive breaking strength and type of break for both 7 day tests and 28 day tests.

F. Pavement Tolerances shall comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch (6 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-foot- (3-m-) long, unleveled straightedge not to exceed 1/4 inch (6 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

G. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Construction Manager but will not be used as sole basis for approval or rejection of concrete.

H. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Construction Manager.

I. Remove and replace concrete pavement where test results indicate that it does not comply with specified requirements.

J. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

4.11 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.

B. Drill test cores, where directed by Construction Manager, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

SECTION 32 16 15 – CAST-IN-PLACE CONCRETE CURB

PART 1 GENERAL

1.01 WORK INCLUDES

A. General Trades Contractor to provide:
    1. Construction of cast-in-place concrete curb and curb & gutter at locations shown on the drawings.

1.02 RELATED REQUIREMENTS

A. Section 01 45 29 “Testing Laboratory Services” for testing of concrete.

B. Section 31 23 13 “Subgrade Preparation” for the preparation of the subgrade prior to placing concrete curbs.

C. Section 32 11 23 “Aggregate Base Courses” for the placement and preparation of stone before placing concrete curbs.

D. Section 32 13 13 “Concrete Paving” for related standards of concrete curb construction.

1.03 REFERENCE STANDARDS

A. IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition, Articles 606.02 to 606.08, 606.11, 606.12 and 606.13.

B. IDOT Highway Standard 606001, Concrete Curb Type B and Combination Concrete Curb and Gutter.

1.04 SUBMITTALS

A. Delivery tickets from an IDOT approved plant indicating material, job designation, purchaser and weight.

B. IDOT approved mix designs for each required mixture.

PART 2 PRODUCTS

2.01 MATERIALS

A. Provide all materials in accordance with Article 606.02 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

PART 3 EQUIPMENT

3.01 FORMS

A. Provide all materials in accordance with Article 606.03 (a) of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

PART 4 EXECUTION

4.01 EXCAVATION

A. In accordance with Article 606.04 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

4.02 FORMS

A. In accordance with Article 606.05 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

4.03 CONCRETE PLACEMENT

A. In accordance with Article 606.06 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. Notify Construction Manager at least 24 hours prior to scheduled placement of all concrete.

C. Prior to placement, the Construction Manager will review all lines, grades, elevations, formwork, reinforcement and accessories.

4.04 JOINTS

A. In accordance with Article 606.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

4.05 FINISHING

A. In accordance with Article 606.11 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

4.06 PROTECTIVE COAT

A. Protective coat will be required if when the curb is constructed after November 15 and the adjacent pavement will be opened to traffic prior to the following April 15 or when directed by the Construction Manager. When required, protective coat shall be in accordance with Article 606.12 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

4.07 FIELD QUALITY CONTROL

A. Correct concrete work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed by the Construction Manager.

B. Concrete mix proportions may be determined by laboratory tests or by field test methods, complying with ACI 2 11.1-8 1. Submit written reports to the Construction Manager of each concrete mix. Information submitted to the Construction Manager shall be current.

C. Concrete testing service: The Construction Manager will employ an approved independent testing laboratory to perform concrete quality evaluation tests.

D. Quality Control Testing During Construction: Concrete shall be sampled and tested for quality control during the placement of concrete, as follows:

1. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements.
    a. Testing Frequency: Obtain at least 1 composite sample for each 100 cu. Yd. (76 cu. m) or fraction thereof of each concrete mix placed each day.
        (1) When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
        (2) Slump shall be determined according to Article 1020.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, January 1, 2015.
        (3) Air content shall be determined according to Article 1020.08 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.
        (4) Compression strength tests shall be performed according to Article 1020.09 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition. Take one set of test samples on each day that concrete is placed for the walks.
        (5) Compression Test Specimens: ASTM C 31/C31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.

E. Testing laboratory will report test results in writing to the Construction Manager and the General Trades Contractor within 48 hours of testing. Reports of compressive strength tests will contain the project identification name and number, date of concrete placement, name of Contractor, name of concrete supplier and truck number, name of concrete testing service, concrete type and class, location of concrete batch in the structure, design compressive strength at 28 days, concrete mix identification number, compressive breaking strength and type of break for both 7 day tests and 28 day tests.

4.08 BACKFILL

A. In accordance with Article 606.13 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

END OF SECTION 321615

SECTION 32 92 00 – TURFS AND GRASSES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. Items of this Section shall comply with the specifications below, the Illinois Urban Manual (latest edition), and the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction (latest edition). Where discrepancies exist between specification references, the most stringent shall apply.

1.02 SUMMARY

A. Section Includes:

1. Seeding.
2. Erosion-control material(s).
3. Topsoil.

B. Related Sections:

1. 31 10 00 "Site Clearing" for topsoil stripping and stockpiling.
2. 31 20 00 "Earth Moving" for excavation, filling and backfilling, and rough grading.

1.03 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1. Certification of each seed mixture for turfgrass and sod, identifying source, including name and telephone number of supplier.

C. Qualification Data: For qualified landscape Installer.

D. Product Certificates: For soil amendments and fertilizers, from manufacturer.

E. Material Test Reports: For existing surface soil and imported topsoil.

F. Planting Schedule: Indicating anticipated planting dates for each type of planting.

G. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of lawns during a calendar year. Submit before expiration of required initial maintenance periods.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.
2. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.

1. Report suitability of topsoil for lawn growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

D. Preinstallation Conference: Conduct conference at Project site.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

B. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

1.07 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

1. Spring Planting: Mid April through the end of the year.
2. Fall Planting: Mid August through the end of September.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

1.08 MAINTENANCE SERVICE

A. Initial Lawn Maintenance Service: Provide full maintenance including mowing, water, fertilizers and weeding by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Seeded Lawns: 60 days from date of Substantial Completion.

a. When initial maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

PART 2 - PRODUCTS

2.01 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species: State-certified seed of grass species, as follows:

C. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:

1. Full Sun: Kentucky bluegrass (Poa pratensis), a minimum of three cultivars.
2. Sun and Partial Shade: Proportioned by weight as follows:

    a. 50 percent Kentucky bluegrass (Poa pratensis).
    b. 30 percent chewings red fescue (Festuca rubra variety).
    c. 10 percent perennial ryegrass (Lolium perenne).
    d. 10 percent redtop (Agrostis alba).

3. Shade: Proportioned by weight as follows:

    a. 50 percent chewings red fescue (Festuca rubra variety).
    b. 35 percent rough bluegrass (Poa trivialis).
    c. 15 percent redtop (Agrostis alba).

2.02 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth. All to be pulverized. 195% of shall pass ¼ sieve.

1. Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from recent agricultural land, bogs or marshes.

    a. Qualities - Fertile, friable, loamy, any surface soil, free of stones, stumps, root, trash, debris and other deleterious matter.

    b. PH range 6.5 to 8.4. Topsoil not meeting this range will be amended.

    c. Organic content 3-10% degradation (per above).

2.03 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural limestone containing a minimum of 80 percent calcium carbonate equivalent and as follows:

1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
2. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.
3. Provide lime in form of dolomitic limestone.

B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Aluminum Sulfate: Commercial grade, unadulterated.

E. Perlite: Horticultural perlite, soil amendment grade.

F. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

G. Sand: Clean, washed, natural or manufactured, free of toxic materials.

H. Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.

I. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

2.04 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through ½-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.

B. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

C. Peat: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

D. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with ammonium nitrate at a minimum rate of 0.15 lb/cu.ft. of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of 0.25 lb/cu. ft of loose sawdust or ground bark.

E. Manure: Well-rotted, unbleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.05 PLANTING ACCESSORIES

A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.06 FERTILIZER

A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 20 percent phosphoric acid.

B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.

C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight, or in amounts recommended in soil reports form a qualified soil-testing agency.

D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight or in amounts recommended in soil reports from a qualified soil-testing agency.

2.07 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

B. Peat Mulch: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

C. Peat Mulch: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

D. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.

E. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

F. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

G. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

2.08 EROSION-CONTROL MATERIALS

A. Erosion-Control Blankets: Excelsior Green Blanket. Include manufacturer's recommended steel wire staples, 6 inches long.

B. Erosion-Control Fiber Mesh: Biodegradable burlap or spun-coir mesh, a minimum of 0.92 lb/sq. yd., with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, 6 inches long.

C. Erosion-Control Rip-Rap: IDOT Specification Section 281.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
2. Protect grade stakes set by others until directed to remove them.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.03 LAWN PREPARATION

A. Limit lawn subgrade preparation to areas to be planted.

B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1½ inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply recommended fertilizer directly to subgrade before loosening.
2. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

    a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
    b. Mix lime if necessary, with dry soil before mixing fertilizer.

3. Spread planting soil mix to a minimum depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

    a. Spread approximately 1/2 the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.
    b. Reduce elevation of planting soil to allow for soil thickness of sod, if sodding.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.04 PREPARATION FOR EROSION-CONTROL MATERIALS

A. Prepare area as specified in "Lawn Preparation" Article.

B. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.

C. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.05 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

   1. Do not use wet seed or seed that is moldy or otherwise damaged.
   2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Sow seed at a total rate of 4-5 lb/1,000 sq. ft.

C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

D. Protect all seeded areas with excelsior – green blanket installed and anchored according to manufacturer's written instructions.

E. Protect seeded areas from hot, dry weather or drying winds by applying mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a depth of 3/16 inch, and roll surface smooth.

3.06 LAWN MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

   1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

B. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches.

   1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
   2. Water lawn with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

   1. Mow grass to a height of 1-1/2 to 2 inches.

D. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1,000 sq. ft. to lawn area.

3.07 SATISFACTORY LAWNS

A. Lawn installations shall meet the following criteria as determined by Construction Manager, Civil Engineer and Owner:

1. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.08 CLEANUP AND PROTECTION

A. Promptly remove soil and debris, created by lawn work, from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after lawn is established.

C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 329200

SECTION 33 05 13 – MANHOLE AND STRUCTURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings of the Contract, including General and supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1. Shown on the drawings.

1.2 SUMMARY

A. This Section includes:

1. Manholes
2. Inlets
3. Catch Basins

B. Related Sections include the following:

1. Section 01 74 13 – “Construction Cleaning” for measured to keep the construction site clear of dirt and debris during construction.
2. Section 01 74 23 – “Final Cleaning” for cleaning the job site after construction.
3. Section 33 49 13 – “Storm Drainage Inlets and Manholes, Frames and Covers” for related storm sewer appurtenances.

1.3 REFERENCE STANDARDS

A. Conform to IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition, Section 602, Articles 602.02 to 603.15.

1.4 SUBMITTALS

A. Manufacturer's written certification indicating compliance with applicable codes and specifications. Data shall indicate joint materials for joining of precast sections. Submit data on: adjusting rings and other associated structures.

PART 2 PRODUCTS

2.1 MATERIALS

A. In accordance with Article 602.02 IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

PART 3 EXECUTION

3.1 ADJUSTMENT

A. In accordance with Article 602.03(a) of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. Method of adjustment shall be accordance with applicable portions of Section 602 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.2 EXCAVATION AND BACKFILLING

A. In accordance with Article 602.12 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.3 CLEANING

A. In accordance with Article 602.15 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

END OF SECTION 330513

SECTION 33 41 00 – STORM UTILITY DRAINAGE PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings of the Contract, including General and supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1. General Contractor to perform:

a. Furnish and install storm sewer as shown on the drawings.

1.2 SUMMARY

A. This Section includes:

1 Concrete Storm Sewer

2 PVC Storm Service Collection Stubs

B. Related Sections include the following:

1. Section 01 33 23 – “Shop Drawings, Product Data & Samples Schedule” for submittal requirements of materials to be used.
2. Section 31 20 00 – “Earth Moving” for trenching and backfilling requirements.
3. Section 33 49 13 – “Storm Drainage Inlets and Manholes, Frames and Covers” for related appurtenances.

1.3 REFERENCE STANDARDS

A. Conform to IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition, Section 550, Articles 550.02 to 550.04 and 550.06 to 550.07.

1.4 SUBMITTALS

A. Manufacturer/Supplier’s written certification indicating compliance with Section 1.03.

B. Trench backfill weight tickets from an approved source indicating material or aggregate gradation, job designation, purchaser and weight.

PART 2 PRODUCTS

2.1 MATERIALS

A. Trench Backfill
1. In accordance with Article 208.02 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. Storm Sewer
   1. In accordance with Article 550.02 and 550.03 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

C. Storm Sewer, Rubber Gasket
   1. Precast Reinforced Concrete Pipe of the diameter with rubber gasket joints which conform to ASTM Specification C-361.
   2. The joint shall be approved by the Illinois Environmental Protection Agency for storm sewer lines crossing above water mains.

PART 3 EXECUTION

3.1 SEQUENCE

A. All storm sewers shall be installed prior to the construction of the HMA pavement.

3.2 EXCAVATION AND FOUNDATION

A. In accordance with Article 550.04 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.3 LAYING OF STORM SEWER PIPE

A. In accordance with Article 550.06 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. In accordance with IDOT Highway Standard 280001, Temporary Erosion Control Systems.

3.4 BACKFILLING

A. In accordance with Article 550.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

B. Method 1 backfilling shall be required.

C. This work also includes the disposal of the surplus excavated material which is replaced by trench backfill. Such disposal shall be made according to Article 202.03 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

END OF SECTION 334100

SECTION 33 49 13 – STORM DRAINAGE INLETS & MANHOLES, FRAMES & COVERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings of the Contract, including General and supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1. Furnish and install storm drainage structures, frames and covers as shown on the drawings.

1.2 SUMMARY

A. This Section includes:

1 Frame and Grates, Lids

2 Grates

B. Related Sections include the following:

1. Section 01 33 23 – “Shop Drawings, Product Data & Samples” for submittal requirements of materials to be used.
2. Section 31 23 13 – “Subgrade Preparation” for the preparation of soils prior to paving.
3. Section 31 20 00 – “Earth Moving” for excavation and embankment.
4. Section 33 05 13 – “Manhole Grade Adjustment” for the requirements of existing structures.
5. Section 33 41 00 – “Storm Utility Drainage Piping” for construction requirements related to storm sewers.

1.3 REGULATORY REQUIREMENTS

A. Conform to IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition, Section 602, Articles 602.02, 602.07, 602.10. 602.11 to 602.13 and 602.15 and Article 604.03.

B. IDOT Highway Standards:
1. Standard 602601 – Precast Reinforced Concrete Flat Slab Top.

1.4 SUBMITTALS

A. Manufacturer's written certification indicating compliance with applicable codes and specifications. Data shall indicate joint materials for joining of precast sections. Submit data on: storm sewer inlets, Precast reinforced concrete flat slab tops, frames, grates, lids and other associated structures.

PART 2 PRODUCTS

2.1 MATERIALS

A. Storm Drainage Inlets and Manholes
   1. In accordance with Article 602.02, 604.02 IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.
   2. Inlets shall be precast reinforced concrete.

B. Frames, Grates and Lids
   1. In accordance with Article 602.02, 604.03 IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

PART 3 EXECUTION

3.1 PRECAST REINFORCED CONCRETE SECTIONS

A. In accordance with Article 602.07 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.2 FURNISHING AND PLACING CASTINGS

A. In accordance with Article 602.121 and 604.04 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.3 EXCAVATION AND BACKFILLING

A. In accordance with Article 602.12 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.4 INLET AND OUTLET PIPES

A. In accordance with Article 602.13 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

3.5 CLEANING

A. In accordance with Article 602.15 of IDOT Standard Specifications for Road and Bridge Construction, including all supplements, Latest edition.

END OF SECTION 334913