

This certifies that the following Special Provisions for Milwaukee Water Works Riverside Pump Station Project R-168: Riverside Pump Station Access Road Replacement and Stormwater Runoff Plan have been prepared by Mead & Hunt, Inc. under my direct supervision.

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Project Manager



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Special Provisions

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SPECIAL PROVISIONS

1. GENERAL

Perform the work under this construction contract for the Riverside Pump Station Access Road Replacement and Stormwater Runoff Plan project, City of Milwaukee, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2015 Edition, as published by the department (Standard Spec.), the Standard Specifications for Sewer & Water Construction in Wisconsin, Sixth Edition, including Addendum No. 1 and Addendum No. 2 (S&W Spec), and the following special provisions. In the event that there is a conflict between the Standard Spec and the S&W Spec, the stricter of the two shall be used. The department considers only standard specifications, supplemental specifications and interim supplemental specifications issued directly from the department as valid for this contract.

2. SCOPE OF WORK

The work under this contract shall consist of clearing and grubbing, demolition of inlets and piping, grading, concrete sidewalk, concrete curb and gutter, asphaltic surface and aggregate base coarse, porous asphaltic surface and open graded base coarse, underdrains, engineered soils and aggregate bedding layer, rip rap, storm sewers and sanitary sewers including catch basins and manholes, temporary and permanent fencing, a security gate, erosion control measures, native seeding, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

3. PROSECUTION AND PROGRESS

Begin work within ten calendar days after the engineer issues a written notice to do so. Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date. To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny the request based on the conditions cited in the request and its effect on the City's scheduled resources. Maintain access to the facility throughout the duration of construction. Complete the entrance area paving prior to beginning the porous pavement placement. Contractor shall maintain a secure site at all times.

4. ENGINEERED SOIL, ITEM SPV.0035.01

A. DESCRIPTION

The work under this item includes furnishing engineered soil at the bioretention areas indicated on the Plans in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

B.1 TECHNICAL SPECIFICATIONS

The soil mixture shall consist of a mixture of silica sand, topsoil, and compost. The mix shall be designed to approximate the following percentages by volume:

Compost for Bioretention: 70

Sand for Bioretention: 30

Compost for Bioretention Basin - the compost shall meet the requirements of the Wisconsin Department of Natural Resources (WDNR) technical standard 1004, Bioretention for Infiltration and WDNR specifications 100, Compost.

Sand for Bioretention Basin – the sand shall be USDA course sand (0.02 to 0.04 inch diameter), pre-washed to remove clay and silt particles, and well-drained or dried prior to mixing. Calcium carbonated, dolomitic sand, and other substitutions are not allowed. Sand shall meet ASTM C-33.

Salvaged Topsoil – Conform to the applicable provisions of Section 625 of the Standard Spec.

B.2 VERIFICATION

Test samples shall be provided if requested to the city and at a rate designated by the engineer. Testing will be in accordance to the methods prescribed in ASTM D 2974 and ASTM D 2976.

C. CONSTRUCTION

Remove and salvage topsoil. Engineered soil shall place at locations, elevations, and thicknesses indicated on Plans. Salvaged topsoil shall be placed on the sideslopes of the bioretention areas as indicated on Plans. The maximum lift thickness of engineered soil shall be 12-inches. No compactions, beyond what is needed to establish a stable planting surface, shall be provided. The use of vibratory plate compactors is prohibited. Care shall be taken to minimize heavy vehicle movement within the bioretention areas.

D. MEASUREMENT
Engineered Soil will be measured as quantity of soil in cubic yards, acceptably completed.

E. PAYMENT
Payment is full compensation for furnishing all excavation work and disposal of material, and removal and stockpiling of topsoil; for furnishing and installing all materials, compost and sand, placement of salvaged topsoil on bioretention area sideslopes, and appurtenances.

5. BEDDING LAYER, ITEM SPV.0035.02

A. DESCRIPTION
The work under this item includes furnishing the bedding layer under the engineered soil at the bioretention areas indicated on the Plans and in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS
Bedding Layer shall be course aggregate #2 and conform to the applicable provisions of Section 501.2.5 of the Standard Spec.

C. CONSTRUCTION
Bedding Layer shall place at locations, elevations and thicknesses indicated on Plans. Bedding Layer shall be placed in lifts no greater than 8-inches. No compaction is required. Care shall be taken to minimized heavy vehicle movement within the bioretention areas.

D. MEASUREMENT
Bedding Layer will measure as quantity of soil in cubic yards, acceptably completed.

E. PAYMENT
Payment is full compensation for furnishing all excavation work and disposal of material; for furnishing and installing all materials, aggregate bedding layer, and appurtenances.

6. 42-INCH STORM MANHOLE, ITEM SPV.0060.01

A. DESCRIPTION
The work under this item includes a 42-inch diameter round storm manhole, complete, at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec) and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

- B. MATERIALS
Furnish precast reinforced concrete manholes in accordance with Chapter 8.39.0 of the S&W Spec. Furnish closed cover in accordance with Chapter 8.48.0 and File No. 14A of the S&W Spec, or field grate conforming to Neenah R-4342, or equal, as applicable.
- C. CONSTRUCTION
Install in accordance with the applicable provisions of Chapter 3.5.0, and File No. 12 of the S&W Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.
- D. MEASUREMENT
The department will measure 42-inch Storm Manholes by each individual manhole, acceptably completed.
- E. PAYMENT
Payment is full compensation for all excavation work, saw cutting of pavements and curbs, dewatering as required, removal of existing structures as applicable, and disposal of material; for furnishing and installing all materials, including casting, adjusting rings, cone or flat top, manhole sections, base, manhole invert, pipe connections, steps, bedding and backfilling, appurtenances; and for backfilling and surface restoration including curb, pavements or turf.

7. 42-INCH STORM CATCH BASIN, ITEM SPV.0060.02

- A. DESCRIPTION
The work under this item includes a 42-inch diameter round storm catch basin, complete, at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec) and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).
- B. MATERIALS
Furnish precast reinforced concrete catch basin in accordance with Chapter 8.39.0 of the S&W Spec. Furnish casting in accordance with Chapter 8.48.0, and File No. 34 of the S&W Spec. Salvaged casting may be used if acceptable to Engineer.
- C. CONSTRUCTION
Install in accordance with the applicable provisions of Chapter 3.5.0, Chapter 3.6.0, and File No. 26 of the S&W Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec.

Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Turf restoration, in areas outside of the bioretention areas, shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. MEASUREMENT

The department will measure 42-inch Storm Catch Basin by each individual catch basin, acceptably completed.

E. PAYMENT

Payment is full compensation for all excavation work, saw cutting of pavements and curbs, dewatering as required, removal of existing structures as applicable, and disposal of material; for furnishing and installing all materials, including casting, adjusting rings, cone or flat top, manhole sections, base, pipe connections, steps, bedding and backfilling, appurtenances; and for backfilling and surface restoration including curb, pavements, or turf.

8. 48-INCH SANITARY SEWER MANHOLE, ITEM SPV.0060.03

A. DESCRIPTION

The work under this item includes a 48-inch diameter round sanitary sewer manhole, complete, at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec) and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish precast reinforced concrete sanitary sewer manhole in accordance with Chapter 8.39.0 of the S&W Spec. Furnish casting in accordance with Chapter 8.48.0, and File No. 14B of the S&W Spec.

C. CONSTRUCTION

Install in accordance with the applicable provisions of Chapter 3.5.0, and File No. 12 of the S&W Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. MEASUREMENT

The department will measure 48-inch Sanitary Sewer Manhole by each individual manhole, acceptably completed.

E. PAYMENT

Payment is full compensation for all excavation work, saw cutting of pavements and curbs, dewatering as required, removal of existing structures as applicable and disposal of material; for furnishing and installing all materials, including casting, adjusting rings, cone or flat top, manhole sections, base, pipe connections, steps, bedding and backfilling, appurtenances; and for backfilling and surface restoration including curb, pavements or turf.

9. SEWER BULKHEAD, ITEM SPV.0060.04

A. DESCRIPTION

The work under this item includes the bulkheading on existing sewers, complete, at locations indicated on Plans, in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction.

B. MATERIALS

Furnish required materials in accordance with the applicable provisions of Section 204.

C. CONSTRUCTION

Indicated sewers shall be bulkheaded with an 8inch thick wall using concrete brick and mortar to provide a water-tight seal between the bulkhead and the sewer pipe. Installation of bulkhead shall conform to the applicable provisions of Section 204, Sealing Pipes.

D. MEASUREMENT

The department will measure Sewer Bulkhead by each individual bulkhead acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all excavation work and removal and cutting of existing piping as applicable, and disposal of material; for furnishing and installing all materials, including concrete brick and mortar, appurtenances, and for backfilling.

10. CURB/INLET OPENING, ITEM SPV.0060.05

A. DESCRIPTION

The work under this item includes the modification to the existing inlets and curbs as detailed on Plans complete, at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec), and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish closed cover in accordance with Chapter 8.48.0 and File No. 14A of the S&W Spec. Furnish Light Riprap in accordance with Section 606 of the Standard Spec. Furnish Type R Geotechnical Fabric in accordance with Section 645 of the Standard Spec.

C. CONSTRUCTION

Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Remove and dispose of existing casting. Install new casting and closed cover in accordance with applicable provisions of Chapter 3.5.0 of the S&W Spec. Repair disturbed portions of existing pavement and curb. Install riprap in accordance with the applicable provisions of Section 606 of the Standard Spec. Turf restoration, in areas outside of the bioretention areas, shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec. unless otherwise noted.

D. MEASUREMENT

The department will measure Curb/Inlet Openings by each individual location acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all excavation work, saw cutting of pavements and curbs, removal of existing materials as applicable and disposal of material; for furnishing and installing all materials, including casting and cover, riprap, geotextile fabric, and appurtenances; connection of underdrain to existing catch basin; pavement, curb and turf restoration.

11. CURB OPENING, ITEM SPV.0060.06

A. DESCRIPTION

The work under this item includes the modification to the existing curbs as detailed on Plans complete, at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec), and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish Light Riprap in accordance with Section 606 of the Standard Spec. Furnish Type R Geotechnical Fabric in accordance with Section 645 of the Standard Spec.

C. CONSTRUCTION

Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Repair disturbed portions of existing pavement and curb. Install riprap in accordance with the applicable provisions of Section 606 of the Standard Spec. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. MEASUREMENT

The department will measure Curb Openings by each individual location, acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all excavation work, saw cutting of pavements and curbs, removal of existing materials as applicable and disposal of material; for furnishing and installing all materials, including riprap, geotextile fabric, and appurtenances; pavement, curb, and turf restoration.

12. SALVAGE AND REPLACE LIGHT POLE, ITEM SPV.0060.07

A. DESCRIPTION

The work under this item includes the removal, protection, wiring, and reinstallation of light poles as indicated on Plan.

B. MATERIALS

The concrete base, light pole, and head unit will be salvaged and replaced in a new location. If any part becomes damaged it is to be replaced with an acceptable replacement as determined by the engineer. Wiring and connections must match or be compatible with existing materials. Any changes to the existing wiring must be approved by the engineer.

C. CONSTRUCTION

Excavation for setting of the base will be required. Upon setting of the proper elevation, compaction of the adjacent soil will be required as directed by the engineer. If it is determined that the pose and base is not adequately set, additional concrete may be required upon direction of the engineer. Lights shall be plumb, stable, and in working condition before being accepted.

D. MEASUREMENT

The department will measure salvage and replace light poles by each acceptably completed.

E. PAYMENT

Payment is full compensation for salvaging light pole, replacement of any damaged items, excavation at new location, additional concrete for bases, wiring and connections.

13. 12-INCH PVC SANITARY SEWER PIPING, ITEM SPV.0090.01 AND 8-INCH PVC SANITARY SEWER PIPING, ITEM SPV.0090.02

A. DESCRIPTION

The work under this item includes PVC sanitary sewer piping, complete, in size, and at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec) and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish SDR-35 PVC sanitary sewer pipe in accordance with Chapter 8.10.0 of the S&W Spec. Furnish bedding material in accordance with Chapter 8.43.2(a) of the S&W Spec and cover material in accordance with Chapter 8.43.3 of the S&W Spec. Provide granular backfill in accordance with Chapter 2.6.2 of the S&W Specifications under and within 10 feet of curbs or pavements. Connections to existing pipes shall be made with an applicable FERCO coupling with stainless steel bands, or approved equal.

C. CONSTRUCTION

Install in accordance with the applicable provisions of Chapter 3.2.0, and File No. 4 of the S&W Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. Measurement

The department will measure PVC Sanitary Sewer per foot for each size from manhole centerline to manhole centerline or connection point as applicable, acceptably completed.

E. Payment

Payment is full compensation for all excavation work, saw cutting of pavements and curbs, dewatering as required, removal of existing structures as applicable and disposal of material; for furnishing and installing all materials, including casting, adjusting rings, cone or flat top, manhole sections, base, manhole invert, pipe connections, steps, bedding and backfilling, appurtenances; and for testing, backfilling and surface restoration including curb, pavements or turf.

14. BIORETENTION UNDERDRAIN SYSTEM, ITEM SPV.0090.03

A. DESCRIPTION

The work under this item includes furnishing an underdrain system within the storage layer associated with the bioretention areas indicated on the Plans and in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec), and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Cleanouts and overflows shall consist of schedule 40 PVC pipe and conform to Wisconsin SPS 382.35(3)(a), including all tees, bends, connections, and plugs. Underdrain pipes shall conform to Section 612 of the Standard Spec. Overflow frame and grates shall be Neenah R-6450-AG, or approved equal. Cleanout cover shall be Neenah R-6462-BH, with neoprene gasket, or approved equal. Cleanout shall be provided with a frost sleeve. Geotechnical fabric shall be Type DF, conforming to Section 645 of the Standard Spec.

C. CONSTRUCTION

Underdrain system shall be placed at locations and elevations and in accordance with details indicated on Plans. Install in accordance with Section 612.3 of the Standard Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Repair disturbed portions of existing pavement and curb.

D. MEASUREMENT

Underdrain system will measure as quantity of material placed in linear feet, acceptably completed. Measurement shall be from cleanout, along the pipe centerline to the discharge point of connection.

E. PAYMENT

Payment is full compensation for furnishing all excavation work, saw cutting of pavements and curbs, removal of existing materials as applicable and disposal of material; for furnishing and installing all materials, cleanouts, overflows, piping, fittings, frames, grates, covers, mechanical couplings, frost sleeve, geotechnical fabric, connections to existing structures, and appurtenances; and restoration of pavements and curbs; and backfill.

15. 12-INCH RCP STORM SEWER PIPING, ITEM SPV.0090.04, 15-INCH RCP STORM SEWER PIPING, ITEM SPV.0090.05, AND 18-INCH RCP STORM SEWER PIPING, ITEM SPV.0090.06

A. DESCRIPTION

The work under this item includes RCP storm sewer piping, complete, in size, class, and at locations indicated on Plans, in accordance with the Standard Specifications for Sewer & Water Construction in Wisconsin (S&W Spec) and State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish Reinforced Concrete Pipe (RCP) storm sewer pipe in accordance with Section 608 of the Standard Spec. Provide rubber gasketed joints conforming to Chapter 607.2 of S&W Spec.

C. CONSTRUCTION

Install in accordance with the applicable provisions of Chapter 608 of the Standard Spec. Saw cutting of pavement shall be done in accordance with applicable provisions of Section 690 of the Standard Spec. Pavement and curb restoration shall match the existing type and thickness and shall be done in accordance with the applicable provisions of Chapter 2.7.0 of the S&W Spec. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. MEASUREMENT

The department will measure RCP Storm Sewer per foot for each size from manhole centerline to manhole centerline or connection point as applicable, acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all excavation work, saw cutting of pavements and curbs, dewatering as required, removal of existing structures as applicable and disposal of material; for furnishing and installing all materials, including pipe, connections to existing pipe or manholes, bedding, cover and backfill material, and appurtenances; and for backfilling and surface restoration including curb, pavements or turf.

16. CONCRETE CURB & GUTTER 24-INCH TYPE D, ITEM SPV.0090.07

A. DESCRIPTION

The work under this item include the construction of concrete curb and gutter without reinforcement, at locations indicated on Plans and in accordance with Section 601 of the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Furnish materials in accordance with section 601.2 of the Standard Spec.

C. CONSTRUCTION

Install in accordance with section 601.3 of the Standard Spec and also with the detail found in Plan. Turf restoration, in areas outside of the bioretention areas shall be done in accordance with applicable provisions of Section 625, Section 630, and Section 627 of the Standard Spec, unless otherwise noted.

D. MEASUREMENT

The department will measure all curb & gutter bid items by linear foot. This measurement will be completed along the flow line of the curb and gutter or the face of curb.

E. PAYMENT

Payment is full compensation for providing all materials, including concrete, expansion joints; for placing, finishing, protecting, and curing; for sawing joints; and for disposing of surplus excavation material, and restoring the work site including finished grading, sidewalk restoration, and turf restoration behind the curb and gutter.

17. SIX-FOOT SECURITY FENCE, ITEM SPV.0090.08

A. DESCRIPTION

The work under this item includes installation of chain link fencing. Fencing shall be provided as shown in Plan

B. MATERIALS

Materials for this items shall conform to the following descriptions.

Fabric	9 gage thick, 2 inch mesh. Galvanized per ASTM A392, Class 1.
Fabric Finish	Knuckled both edges for fabric widths of 60 inches or less. Knuckled one edge and twisted one edge for fabric widths of 72 inches or more.
Posts, Frames, and Rails	SS 40 or Schedule 40 Steel pipe, ASTM F1043, Group IC, with ASTM F1043, Type B exterior protective coating.
Line Posts	2-3/8 inch OD pipe.
Terminal Posts (End, Corner and Pull	2-5/8 inch OD pipe.
Top Rails	1-5/8 inch OD pipe.
Rail Couplings	Sleeve type, 6 inches long, ASTM F626.
Post Tops (with barbed wire)	Pressed steel, malleable iron with pressed steel extension arm, or one- piece aluminum casting, ASTM F626.
Barbed Wire	Each strand shall consist of three 12.5 gage steel wires with four-point barbs; galvanized per ASTM A121, Class 3, or aluminum coated per ASTM A121.
45 degree extension arms	Three strands of barbed wire mounted on extension arms, upper strand of barbed wire approximately 24 inches out from the fence and 24 inches above the top of the fabric.

Stretcher Bars	Steel, ASTM F626, 3/16 by 3/4 inch, or equivalent area.
Fabric Ties	Aluminum bands or wire, ASTM F626, #9 wire or thicker
Tension Wire	ASTM A824, galvanized or aluminum coated coil spring wire, 7 gage.
Hog rings	9 gauge steel wire

C. CONSTRUCTION

The installed fence shall conform to the alignment and finished grade indicated. All posts shall be plumb. Unless otherwise indicated on the drawings, posts shall be spaced approximately 10 feet. Where necessary, the fence grade shall be adjusted to fit the ground contour by slipping the fence fabric links. Ground surface irregularities shall be graded to maintain not more than 2 inch clearance below the bottom of the fence fabric.

Where posts are set in earth, concrete foundations 36 inches deep shall be provided. If bedrock is encountered, post excavation shall be continued to the 36 inch depth or 18 inches into the rock, whichever is less. Concrete foundations shall be circular in horizontal section, not less than 10 inches in diameter for line posts, and with a diameter not less than the post OD plus 9 inches for terminal and gate posts, except that foundations in bedrock shall be at least 6 inches larger than the outside dimension of the post. Foundations shall extend above the ground surface and shall be crowned approximately 1-inch. Concrete for foundations shall conform to the Cast-in-Place Concrete section using at least a 3000 psi concrete mix. Each foundation shall be cured for at least 72 hours before further work is done on the post.

Top rails and bottom tension wires shall be installed before the fabric. Top rails shall be furnished in at least 18 foot lengths and shall be securely connected to gate and terminal posts. Tension wires shall be installed approximately 6 inches above grade and shall be attached to each post and securely anchored at terminal and gate posts. Straight runs between braced posts shall not exceed 1,500 feet. A terminal post shall be provided at each change in slope or each change in direction greater than 10 degrees.

Fabric shall be attached to the top rail at 24 inch centers. Fabric shall be attached to the bottom tension wire at 12 inch centers with 9 gauge hog rings. Fabric shall be attached to the line posts at 15 inch centers. Barbed wire shall be fastened to each extension arm by internal clips or external fabric ties. Stretcher bars shall be provided at each gate post and terminal post. Each stretcher bar shall be threaded through the fabric and anchored to the post at 15 inch centers by positive mechanical means.

When necessary, each gate post and terminal post shall be braced by a horizontal pipe brace and an adjustable truss extending to an adjacent line post. Corner posts shall be braced in both directions.

Fabric shall be stretched taut and anchored so that a pull of 150 pounds at the middle of a panel will not lift the bottom of the fabric more than 6 inches.

Where the security fence crosses the proposed drainage ditch #8 rebar will be placed every 6-inches on center starting at any location with a greater than 3 inch gap between the bottom of fence and proposed grade. The bar will be driven to a depth of 2 feet below grade and will extend 2 feet above the bottom of fence. They will be attached to the fence fabric using no less than 3 hog wire connections per bar.

D. MEASUREMENT

The department will measure replace 6-foot security fence by the linear foot, acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all materials, excavation of post locations, pouring concrete encasements, erection of fence, spillway crossing reinforcement bars, and restoring work site.

18. TEMPORARY SECURITY FENCE, ITEM SPV.0090.09

A. DESCRIPTION

The work under this item includes installation of temporary security fencing. Temporary security fencing will be required at any point where the existing fence has been removed and the new fence has been erected, except in areas where the temporary fence would interfere with ongoing construction activities.

B. MATERIALS

Materials for this items shall conform to the following descriptions.

Fabric	9 gage thick, 2 inch mesh. Galvanized per ASTM A392, Class 1.
Posts, Frames, and Rails	SS 40 or Schedule 40 Steel pipe, ASTM F1043, Group IC, with ASTM F1043, Type B exterior protective coating.
Posts	2-3/8 inch OD pipe.
Top Rails	1-5/8 inch OD pipe.
Rail Couplings	Sleeve type, 6 inches long, ASTM F626.
Post Tops (with barbed wire)	Pressed steel, malleable iron with pressed steel extension arm, or one-piece aluminum casting, ASTM F626.

Barbed Wire	Each strand shall consist of three 12.5 gage steel wires with four-point barbs; galvanized per ASTM A121, Class 3, or aluminum coated per ASTM A121.
45 degree extension arms	Three strands of barbed wire mounted on extension arms, upper strand of barbed wire approximately 24 inches out from the fence and 24 inches above the top of the fabric.
Stretcher Bars	Steel, ASTM F626, 3/16 by 3/4 inch, or equivalent area.
Fabric Ties	Aluminum bands or wire, ASTM F626, #9 wire or thicker.
Tension Wire	ASTM A824, galvanized or aluminum coated coil spring wire, 7 gage.
Hog rings	9 gauge steel wire

C. CONSTRUCTION

The installed fence shall conform to the alignment and finished grade indicated. All posts shall be plumb. Unless otherwise indicated on the drawings, posts shall be spaced approximately 10 feet. Where necessary, the fence grade shall be adjusted to fit the ground contour by slipping the fence fabric links. Ground surface irregularities shall be graded to maintain not more than 2 inch clearance below the bottom of the fence fabric.

Posts may be surface mounted or driven to an appropriate depth to ensure a stable base for the length of the temporary fence. Temporary fence must be placed to bridge any gaps between the existing security fence and the newly installed security fencing at all times when construction activities are not taking place.

Top rails and bottom tension wires shall be installed before the fabric. Top rails shall be furnished in at least 18 foot lengths and shall be securely connected to gate and terminal posts. Tension wires shall be installed approximately 6 inches above grade and shall be attached to each post and securely anchored at terminal and gate posts. Straight runs between braced posts shall not exceed 1,500 feet. A terminal post shall be provided at each change in slope or each change in direction greater than 10 degrees.

Fabric shall be attached to the top rail at 24 inch centers. Fabric shall be attached to the bottom tension wire at 12 inch centers with 9 gauge hog rings. Fabric shall be attached to the line posts at 15 inch centers. Barbed wire shall be fastened to each extension arm by internal clips or external fabric ties. Stretcher bars shall be provided at each gate post and terminal post. Each stretcher bar shall be threaded through the fabric and anchored to the post at 15 inch centers by positive mechanical means.

When necessary, each gate post and terminal post shall be braced by a horizontal pipe brace and an adjustable truss extending to an adjacent line post. Corner posts shall be braced in both directions.

Fabric shall be stretched taut and anchored so that a pull of 150 pounds at the middle of a panel will not lift the bottom of the fabric more than 6 inches.

D. MEASUREMENT

The department will measure temporary security fence by the linear foot, acceptably completed.

E. PAYMENT

Payment is full compensation for all furnished materials, erection of fence, bracing materials, maintenance, and removal of temporary fence.

19. REMOVING SECURITY FENCE, ITEM SPV.0090.10

A. DESCRIPTION

The work under this item include the removal of all fencing materials, below grade concrete encasement and backfill of encasement voids. It is also to include the disposal of all removed items.

B. MATERIALS

Furnish backfill materials as approved by Engineer.

C. CONSTRUCTION

Backfill voids with approved material to match proposed elevations.

D. MEASUREMENT

The department will measure fence removal by the linear foot acceptably removed.

E. PAYMENT

Payment is full compensation for removing and disposing of all fencing materials, gates, controls and concrete bases; backfill of resulting voids, seed and mulch, maintaining a secure site, and restoring work site.

20. SECURITY GATE AND HARDWARE, ITEM SPV.0105.01

A. DESCRIPTION

The work under this item includes a vertical pivot gate consisting of a fully welded gate frame, gate operator of a vertical lift type for opening and closing the gate, receiving yolk, and foundations.

A.1 COORDINATION

All equipment specified in this section shall be furnished through a single supplier who shall be responsible for the design, manufacture, coordination, and proper installation and operation of the entire system.

Contractor shall verify that each component of the system is compatible with all other parts of the system; that all piping, materials, and motor sizes are appropriate; and that all devices necessary for properly functioning system have been provided.

Contractor shall provide field services specified to assist in commissioning, testing and placing the unit in operation in full conformity with equipment manufacturer's specifications.

A.2 SUBMITTALS

A.2.1 DRAWINGS AND DATA

Complete assembly and installation drawings, together with detailed specifications and data covering materials, drive unit, parts, devices and accessories forming a part of the equipment furnished, shall be submitted in accordance with the Submittals section. The data and specifications for each unit shall include, but shall not be limited to, the following:

Complete detail drawings that indicate plan layout, grid, spacing of components, accessories, fittings and post anchorage.

Specifications for the vertical pivot gates, fence panels and accessories.

A.2.2 OPERATION AND MAINTENANCE DATA AND MANUALS

Operation and maintenance information shall be supplied as required in the Contract Closeout and Submittals section. The operation and maintenance manuals shall be in addition to any instructions or parts lists packed with or attached to the equipment when delivered.

A.3 INSTALLER QUALIFICATIONS

The vertical pivot lift gates shall be installed by an experienced installer who has completed fences and gates similar in material, design, and extent to those specified herein which have a record of successful in-service performance.

A.4 PROJECT CONDITIONS

The Contractor shall submit drawings based on field measurements showing specific location of gate and gate operator (with concrete pad) with regard to existing roadways, proposed road locations, curb and gutter locations, elevations, and proposed site improvements.

B. MATERIALS

Under this item all materials specified by the chosen manufacture will be supplied. This includes all structural mechanical, electrical and controls. The following manufacturers and associated models have been approved.

AutoGate – Buckeye Model

International Security Products – Ornamental Style 2002 / Madrid

Style B&B Armour (VP Model, Ornamental Style)

TY Metal (Ornamental Model)

C. CONSTRUCTION

Install materials in accordance with all manufacturer recommendations. Site preparation for controller and base pad must be completed prior to beginning installation process and should consist of a level compacted material. Upon erection of gate and components adjust as necessary and lubricate operation components for smooth accurate operation, free of binding and racking.

C.1 INSTALLATION CHECK

An experienced, competent, and authorized representative of the manufacturer shall visit the site of the Work and inspect, check, adjust if necessary, and approve the equipment installation. The representative shall be present when the equipment is placed in operation in accordance with the Startup Requirements section, and shall revisit the job site as often as necessary until all trouble is corrected and the equipment installation and operation are satisfactory in the opinion of the City.

The manufacturer's representative shall furnish a written report certifying the following: That the equipment has been properly installed and lubricated; is in accurate alignment; is free from any undue stress imposed by connecting piping or anchor bolts; and has been operated under full load conditions and that it operated satisfactorily.

That they are familiar with these specifications and the other contract documents and that the final installation and operation of the equipment are in compliance with all requirements thereof.

That, to the best of their knowledge and belief, no defect exists which could be considered a basis for voiding the guarantee required by the contract documents.

The report shall include Manufacturer's Certificates of Proper Installation for equipment and motors.

All costs for these services shall be included in the contract price.

C.2 DEMONSTRATION AND TRAINING

Provide a minimum of 2 hours of manufacturer's representative's time for start-up and initial operation. Make a final check of each gate operation, with the City's personnel present, immediately before date of substantial completion. Determine that control systems and operating devices are functioning properly.

Instruct Owner's personnel in proper use, operations, and daily maintenance of gate. Review emergency provisions, included procedures to be followed of gate does not close or open. Train Owner's personnel in normal procedures to be followed in checking for sources of damage, operational failures, or malfunctions. Training shall be in conformance with the requirements of the Manufacturers' Services section and as specified herein.

D. MEASUREMENT

The department will measure security gate and hardware by lump sum upon acceptable completion.

E. PAYMENT

Payment is full compensation for furnishing and installing vertical pivot gate materials and operation system including all excavation work, site preparation and clearing, foundations, concrete, procurement of materials, protective bollards, and disposal of all material.

21. CHAIN GATE RELOCATION, ITEM SPV.0105.02

A. DESCRIPTION

The work under this item includes the removal of the existing chain gate located within the East Chambers Street right-of-way and the installation of the salvaged posts and chain at location indicated on Plans and in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

- B. MATERIALS
Reinstall salvaged posts and chain. Concrete for foundations shall conform to the applicable provisions of Section 501 of the Standard Spec. Paint shall match existing.
- C. CONSTRUCTION
Install materials to match existing installation. Minimum concrete foundation encasement depth shall be 4'-0". Restore all areas disturbed by removal and reinstallation. Repaint gate posts after reinstallation.
- D. MEASUREMENT
The department will measure chain gate relocation by lump sum upon acceptable completion.
- E. PAYMENT
Payment is full compensation for furnishing and installing all materials needed for the removal and reinstallation of the chain gate including all excavation work, site preparation and clearing, foundations, concrete, procurement of materials, and disposal of all excess material, surface restoration and painting.

22. NATIVE SEEDING, ITEM SPV.0180.01

- A. DESCRIPTION
The work under this item includes furnishing and placing native seeding, a granular form of fungal inoculant, and erosion control fabric over the constructed bioretention areas indicated on the Plans in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).
- B. MATERIALS
Planting materials shall consist of the following seed mixtures supplied in the designated species and amounts. All seed shall be current year crop and conform to the most current applicable standards of the Wisconsin Crop Improvement Association for purity and germination. Native seed shall have a biological point of origin within 250 miles of Milwaukee.

All seed shall be delivered in separate species bags for inspection and approval by the Engineer prior to any seeding. Each bag shall be labeled with year crop, origin and the results of applicable purity and germination tests.

Bioretention Basin Native Seed Mixture

Permanent Grasses:	<u>Oz/10,000 sq. ft</u>	<u>%(by weight)</u>
Big Bluestem (<i>Andropogon gerardii</i>)	10.00	26.19
Canada Wild Rye (<i>Elymus Canadensis</i>)	11.82	30.95
Switch Grass (<i>Panicum virgatum</i>)	0.91	2.38
Little Bluestem (<i>Schizachyrium scoparium</i>)	7.27	19.05
Indian Grass (<i>Sorghastrum nutans</i>)	<u>8.18</u>	<u>21.43</u>
Permanent Grasses Total:	38.18	100.00
Temporary Cover:	<u>Oz/10,000 sq. ft</u>	<u>%(by weight)</u>
Common Oat (<i>Avena sativa</i>)	100.00	100.00
Forbs:	<u>Oz/10,000 sq. ft</u>	<u>%(by weight)</u>
Butterfly Weed (<i>Asclepias tuberosa</i>)	4.55	9.71
Whorled Milkweed (<i>Asclepias verticillata</i>)	0.91	1.94
New England Aster (<i>Aster novae-angliae</i>)	0.45	0.97
Wild White Indigo (<i>Baptisia alba</i>)	7.27	15.53
Partridge Pea (<i>Chamaecrista fasciculata</i>)	3.64	7.77
Sand Coreopsis (<i>Coreopsis lanceolata</i>)	0.45	0.97
Purple Prairie Clover (<i>Dalea purpurea</i>)	0.68	1.46
Illinois Sensitive Plant (<i>Desmanthus illinoensis</i>)	2.50	5.34
Broad-Leaved Purple Coneflower (<i>Echinacea purpurea</i>)	3.18	6.80
Rattlesnake Master (<i>Eryngium yuccifolium</i>)	1.36	2.91
False Sunflower (<i>Heliopsis helianthoides</i>)	3.18	6.80
Round-Headed Bush Clover (<i>Lespedeza capitata</i>)	2.50	5.34
Rough Blazing Star (<i>Liatris aspera</i>)	1.36	2.91
Wild Bergamot (<i>Monarda fistulosa</i>)	0.45	0.97
Prairie Cinquefoil (<i>Potentilla arguta</i>)	0.11	0.24
Wild Quinine (<i>Parthenium integrifolium</i>)	2.73	5.83
Common Mountain Mint (<i>Pycnanthemum virginianum</i>)	0.11	0.24
Yellow Coneflower (<i>Ratibida pinnata</i>)	0.68	1.46
Black-Eyed Susan (<i>Rudbeckia hirta</i>)	0.23	0.49
Prairie Dock (<i>Silphium terebinthinaceum</i>)	10.00	21.36
Old-Field Goldenrod (<i>Solidago nemoralis</i>)	0.11	0.24
Stiff Goldenrod (<i>Solidago rigida</i>)	0.23	0.49
Culver's Root (<i>Veronicastrum virginicum</i>)	<u>0.11</u>	<u>0.24</u>
Forbs Total:	46.82	100.00
Total All Seeds:	185.00	

The mycorrhizal inoculant shall be a domestically-produced dry granular substance containing endomycorrhizal fungi (*Glomus intraradices* or similar species) at the rate of 60,000 propagules per pound. The material provided shall be suitable for application to a prepared seed bed using standard seeding equipment. The source and exact composition of the mycorrhizal inoculant shall be provided to the Engineer for review and approval prior to any seeding operations. This specification conforms to Reforestation Technologies International endomycorrhizal inoculant or equivalent.

Erosion Mat shall meet the requirements of WisDOT Class II-Type C erosion mat. The Class II-Type C Erosion Mat shall consist of a long term duration (3 years or greater), organic, "Erosion Control Revegetative Mat" (ERCM) and be made of coconut-jute fiber only.

C. CONSTRUCTION

Seeding shall be placed and maintained in accordance with Section 630 of the Standard Spec. Seeding shall occur during the spring season between May 1 and June 15 or during the dormant season between October 15 and November 30. All native and cover crop seed shall be thoroughly intermixed prior to seeding, which mixture may include an inert and weed-free bulking agent approved by the Engineer. Seed shall be broadcast on the finished areas of the bioretention areas as indicated on the plans or as directed by the Engineer. Broadcasting method shall be approved by the Engineer prior to any seeding.

The inoculant shall be applied at a rate of approximately 24 ounces per 1,000 square feet to all areas to be seeded with Native Seeding during the seeding operations. The inoculant shall be used as a bulking agent for the native seed mixture, unless an alternative application method is approved by the Engineer.

Erosion mat shall be placed after seeding placement in accordance with Section 628 of the Standard Spec. Contractor shall maintain seeded areas for a minimum of one year after completion of work. Maintenance shall include watering, cutting, and reseeding as required to achieve an acceptable stand. An acceptable stand is defined as 85% surface coverage of native seed crop. Maintenance shall be extended, at no cost to owner, if acceptable stand is not achieved after one year. Cutting shall be done with hand operated machinery, no riding mowers allowed, to minimize compaction.

D. MEASUREMENT

Native seeding will measure as quantity of material placed and maintained in square yards, acceptably completed.

E. PAYMENT

Payment is full compensation for furnishing all excavation work and disposal of material; for furnishing and installing all materials, native seed, cover crop, inoculant, erosion mat, and appurtenances; and maintenance and watering as required to achieve an acceptable stand.

23. CONCRETE TOPPING, ITEM SPV.0180.02

A. DESCRIPTION

The work under this item include the installation of a concrete topping over rip rap in locations indicated on the Plans in accordance with the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec).

B. MATERIALS

Concrete shall conform to the applicable provisions of Section 501 of the Standard Spec.

C. CONSTRUCTION

Backfill voids within the top 6-inches of the rip rap area indicated with concrete to achieve a walking surface. Broom finish surface. Place and cure concrete in accordance with the applicable provision of Section 602 of the Standard Spec.

D. MEASUREMENT

The department will measure concrete topping by the square yard acceptably completed.

E. PAYMENT

Payment is full compensation for preparing the surface of the rip rap; all materials and installations including concrete, additives, curing compound, and appurtenances; finishing and curing; and surface restoration.

24. POROUS ASPHALT PAVEMENT, ITEM SPV.0195.01

A. PAYMENT

The work under this item includes furnishing, placing and compacting a minimum 6-inch porous asphalt paving mix in locations indicated on the Plans.

B. MATERIALS

B.1 TECHNICAL SPECIFICATIONS

Mixture shall be composed of polymer modified asphalt, fine aggregates and coarse aggregates.

Use fine and coarse aggregates which conform to the mixture requirements presented below. Recycled materials are acceptable. The final blend shall be in accordance with the Contractor supplied, and Engineer approved job mix formula.

Lower Layer: NMAS 12.5 mm

Upper Layer: NMAS 9.5 mm

Asphalt cement shall be polymer modified PG-70-28 and shall conform to the requirements of Section 455 of the State of Wisconsin Standard Specifications for Highway and Structure Construction (Standard Spec). The polymer modifiers are to be either styrene butadiene rubber, or styrene butadiene styrene.

Mixture Requirements

LA Wear (AASHTO T96)	
100 revolutions (max % loss)	13
100 revolutions (max % loss)	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12
Freeze/Thaw (AASHTO T103) (max % loss)	18
Fractured Faces (ASTM 5821) (one face/two face, % by count)	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	20 (3:1 ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	45
Sand Equivalency (AASHTO T176, min)	50
Air Voids (% V(a) @50 gyrations)	18-20
Dust to Binder Ratio	1.2
Voids in Mineral Aggregate (VMA, % min)	25
Draindown at Production Temperature (ASTM D6390) (%)	0.30
Hydraulic Conductivity (in/hr, min)	100
Asphalt Content (% min)	5.8
Tensile Strength Ratio (TSR) (ASTM D7064)	0.80

C. CONSTRUCTION

C.1 PROPORTIONING AND MIX DESIGN

Submit the name and location of the intended sources of supply for all bituminous pavement products. Asphalt concrete will be accepted only from an approved automated plant equipped with interlocks and printouts meeting the requirements of ASTM D995, and SS405.

Formulate and submit to engineer, a Job Mix Formula (JMF) that satisfies the Mixture Requirements under this specification. State in the submittal the mineral aggregate sources and types, the grade and source of bituminous material used in the mixture, and the type and source of all asphalt modifiers (if used). Plant produced mix must be tested and approved prior to paving. Porous pavement contractor must present documentation of two similar successful porous projects completed in past two years.

Submit a complete HMA Mix Design for the proposed mixture to the engineer conforming to this specification. If for any reason a change in production plant, aggregate, asphalt or asphalt modifier occurs or is contemplated, submit a separate JMF for the review of the engineer.

After the review of the Job Mix Formula (JMF), the engineer will authorize initial mix placement. Once production begins, provide the engineer with daily certification that all in place asphalt concrete materials are in substantial conformation with the submitted JMF, the project specifications in the contract and contain the materials as stated in the JMF.

The engineer may at any time, notwithstanding previous sampling and certification, notify and stop the contractor, reject and require the contractor to dispose of any batch of bituminous mix which is rendered unfit for use due to temperature, oxidation, contamination, segregation or incomplete coating of aggregate. Such rejection may be based on visual inspection alone.

C.2 PLACEMENT

The Porous Asphalt should be placed in two lifts at 3 inches. Contractor shall take care to insure that the porous asphalt layers join completely by keeping the time between layer placements minimal; keeping the first layer clear from dust and moisture, and minimizing traffic on the first layer. Contractor shall also allow sufficient time for the asphalt placement to set, when the surface temperature of the first lift cools to 38°C (100°F). No work or traffic will be allowed on the initial surface prior to the placement of the second layer. The Contractor shall protect all exposed surfaces that are not to be treated from damage during all phases of the pavement operation.

The asphalt mixture shall be spread and finished with the appropriate equipment. The mixture shall be struck off in a uniform layer to the full width required and of such depth that each course, when compacted, has the required thickness and conforms to the grade and elevation specified. Pavers shall be used to distribute the mixture over the entire width or over such partial width as practical. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture shall be spread and raked by hand tools.

No material shall be produced so late in the day as to prohibit the completion of spreading and compaction of the mixture during daylight hours, unless night paving has been approved and established for the project.

No traffic will be permitted on material placed until the material has been thoroughly compacted and has been permitted to cool to below 38°C (100°F). The use of water to cool the pavement is not permitted. The Engineer reserves the right to require that all work adjacent to the pavement, such as guardrail, cleanup, fencing, and turf establishment, is completed prior to placing the surface course when this work could cause damage to the pavement.

C.3 COMPACTION

Immediately after the asphalt mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling. The compaction objective is 18% - 20% in place void content.

To prevent adhesion of the mixture to the rollers, rollers shall be kept moist with water or water mixed with very small quantities of detergent or other approved material. Excess liquid will not be permitted.

The speed of the roller shall be slow and uniform to avoid displacement of the mixture, and the roller should be kept in as continuous operation as practical. Finish rolling shall continue below the threshold temperature until all roller marks and ridges have been eliminated. Rollers shall not be stopped or parked on the freshly placed porous asphalt.

It shall be the responsibility of the Contractor to conduct whatever process control the Contractor deems necessary. The Contractor shall complete a final acceptance test in the presence of the Engineer to document the in-place hydraulic conductivity of the completed installation. The test procedure proposed by the Contractor must be approved by the Engineer prior to the completion of the test.

Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture. The mixture shall be compacted to conform to the surrounding area. Any area showing an excess or deficiency of binder shall be removed and replaced. These replacements shall be at the Contractor's expense. Any existing pavement on or adjacent to the site that has been damaged as a result of construction work shall be repaired to the satisfaction of the Engineer without additional cost to the Owner.

Porous asphalt surface shall be protected from runoff, dirt, debris, and traffic until surface has been covered with a second lift or has fully cured.

D. MEASUREMENT

Porous asphalt will measure as quantity of tons, acceptably completed.

E. PAYMENT

Payment is full compensation for providing asphaltic mixture design; furnishing, preparing, hauling, mixing and placing all materials, including asphaltic materials and polymer modifier materials; for preparation of foundation, compacting mixture, protecting finished surfaces, and other appurtenant work.