ADDENDUM NO. 2
AUGUST 9, 2019

Solicitation Title: Roadway Improvements Project – NE 125th Street

Solicitation No.: IFB 52-18-19 Opening Date: FRIDAY, AUGUST 16, 2019 BY NO LATER THAN 3:30 PM

Attention all potential bidders:

☑ SHOULD Addendum: Information included in this Addendum is for clarification purposes. This Addendum SHOULD be acknowledged by checking the box indicated on the City’s Contract Form A-5, Acknowledgement of Addendum(s), and submitted as part of your Proposal.

To all prospective bidders, please note the following changes and clarifications:

1. Sheet SP-7 from Attachment A – Plans and Technical Specifications is replaced with the revised Sheet SP-7 included as “Attachment 1” of this addendum.

Request for Information Questions/Clarification:

Q.1 “Are the Permit Fees assessed by the City going to be waived?”
A.1 Yes, permit fees assessed by the City will be waived.

Q.2 “Drawings indicate the thickness and color of pavers; is there a specific type and/or size required for the project? Or do they have to match the existing on sidewalks?”

Q.3 “Drawings call for “W/ 6” CONCRETE PAVEMENT BASE SLAB (INCLUDES REINFORCEMENT, JOINTS, LEVELING SAND, COMPACTED SUBGRADE), does this mean that there is a 6” concrete slab underneath the pavers? Or just 6” compacted subgrade + leveling sand?”
A.3 Existing pavers on the sidewalks are compacted + sand and if replaced, they need to stay the same. For new installation in the bulbouts and street furniture, use concrete base slab.

Q.4 “Please provide design and or specifications for the Steel grate for Concrete Trench Drain.”
A.4 Trench shall be ADA compliant. Can be Duratrench or similar. Please see “Attachment 2” and “Attachment 3” of this addendum for specifications for ADA compliant Trench Drain.

Q.5 “Bid Form calls for concrete pad, electrical, foundation, furniture (benches and trash receptacles) for the bus stops; the drawings call for bus stops shelters; Are the shelters part of this contract to be furnished and installed? If so, please provide suggested manufacturer (or equal).”
A.5 Yes, shelters are to be furnished and installed. Similar to Brasco Design 4040 (see “Attachment 4”).

Q.6 “Drawings call for ‘Electrical’ scope for the bus shelter. Please specify the electrical requirements.”


Q.7 “Please provide Manufacturer’s recommended (or equal) for benches and trash receptacles in order to keep consistency with existing throughout the City.”

A.7 Similar to SCH Enterprises trash receptacle model BHT-PS-36-FS-SS-AD-SD and bench model ORBB-RP-6-SM-SS. Needs to meet Buy America standards.

Q.8 “Is the Irrigation system to be connected to the City water System? If so, will the City do the tap (s)?”

A.8 Irrigation system is to be connected to the City water system. Tapping will be the responsibility of the contractor and shall coordinate closely with the City.

Q.9 “For the street crossing of the Irrigation system, is directional boring required? Can they be installed via in open trenches?”

A.9 Plan is for a directional bore.

Q.10 “Landscape and Drawings call for ‘Small Plants’ and ‘Large Trees’; please provide required sizes.”

A.10 Plant size and details are specified in sheet PL-2 of the Plans and Technical Specifications (Attachment “A” of the IFB).

Q.11 “Bid Item 17, calls for root barrier (63 ea); are these for the large trees? Please provide specifications.”

A.11 Root barrier will be provided only for the large trees. Please see “Attachment 5” of this addendum reference.

Q.12 “Will the City of North Miami qualify a firm to bid on this project based on verifiable documentation of the knowledge and prior experience of its owners and key employees with previous firms? As a form of reference we have attached Miami-Dade Water and Sewer Department’s qualification language:

“In the event a firm is established by executives, supervisors, and other senior field staff (key employees) that would have met these minimum experience requirements with a prior firm, the County reserves the right to qualify the firm based on the County’s sole determination and evaluation of the knowledge and prior experience of these key employees employed by the new firm. The experience of key senior personnel with other firms may be counted towards the experience requirement, if acceptable to the Engineer. Should such evidence not be satisfactory to the Engineer, whose decision shall be final, the bid will be considered not responsible, and the second lowest bidder will be considered for award. The qualifying proof shall be submitted with the bid.”

We are a new Woman-owned General Construction and Engineering firm that is bonded, insured, and licensed. Our “New” firm is established by executives, supervisors, and other senior field staff (key employees) that will meet and exceed your minimum experience requirements.

A.12 The criteria that the City utilizes in determining whether a Bidder has satisfied the minimum criteria is clearly set forth in the Solicitation language. It requires the “Bidder/Respondent” to show that they have met the minimum requisite experience and qualifications. It also allows
for firms to establish joint ventures to satisfy this criteria as long as they submit a joint venture agreement with their response. However, the language does not provide for the City to consider experience/projects completed under prior firms.

For any other questions, clarification can be found in the specifications. All other terms, conditions and specifications remain unchanged for this solicitation.

End of Addendum
“Attachment 1”

Revised Sheet SP-7
(Replaces “Sheet SP-7” previously included in “Attachment A – Plans and Technical Specifications” of the IFB)
NOTES:

1. ALL EXISTING SIGNS TO REMAIN UNLESS NOTED OTHERWISE.
“Attachment 2”

Specification for ADA Compliant Trench Drain
Specification for ADA Compliant Trench Drain

The term ADA compliant trench drain is utilized quite often but few fully understand this term or really know what it means.

ADA is an acronym for "Americans with Disabilities Act". This is a government agency that protects the civil rights of people with disabilities. The agency writes policies and regulations to ensure that people with disabilities have access to businesses and services just like any other person. The ADA has made some requirements that apply to trench drains.

There are two issues that must be considered when designing a trench drain in a public space that must be ADA compliant. The first is the grate opening size and orientation. The second is the slope of the area around the trench drain.

According to the ADA a trench drain grate cannot limit access of a wheelchair into a facility. The ADA has specified that in order for a trench drain grate to be ADA compliant it cannot have openings greater than 1/2" perpendicular to the predominant direction of travel. The 1/2" spacing is to keep wheelchair wheels from getting trapped in the trench drain grate. The orientation allows larger slot openings so that the designer can still achieve the required trench grate inflow while still providing a surface that can be crossed by a wheelchair.

The pavement or ground around an ADA compliant trench drain grate shall not have a slope of greater than 1:48. This is approximately a 2% slope. In other words, do not slope the concrete around a drain greater than 1/4" per foot. We recommend a 3/16" slope per foot to ensure that even with poor construction and finishing practices the area will likely be ADA compliant.

Attached here is the 2010 code compliance manual for ADA compliance and contained within are the requirements for trench drain grating and ADA compliance for slope as it regards to trench drain applications. As always, our engineers are here for any questions you may have with regards to ADA trench drain compliance.
OPENINGS LARGER THAN 13 mm (1/2 in.) MAY CATCH WHEELCHAIR WHEELS OR CANES

13 mm (1/2 in.) GRATE WIDTH

DIRECTION OF TRAVEL

Neither crutch tips nor wheelchair casters can slip between grate ribs.

Predominant direction of traffic ribs

Grate Opening in Pedestrian Travel Direction
“Attachment 3”

Section 02630 – Trench Drains
**NOTE TO SPECIFIER** Eric’sons Inc.; Dura Trench linear Dura Trench linear drains.

This section is based on the products of Eric’sons, which is located at:

574 Industrial Way N  
Dallas, GA 30132, USA  
Tel: (770) 505-6575  
Email: info@eric-sons.com.  
Web: https://www.duratrench.com  
{click Here} for additional information.

Manufacturer of Trench drains, Slot drain, Radius trench drains, Stainless steel trench drains, chemical trench drains, and Utility trenches. Quality Dura Trench drain products are available nationwide with rapid delivery from our extensive inventory. Eric’sons stands behind the products we manufacture with knowledgeable technical support and installation advice.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Trench drain systems.

1.2 RELATED SECTIONS

**NOTE TO SPECIFIER** Delete any sections below not relevant to this project; add others as required.

A. Section 03300 – Concrete: Installation coordination of drain body and frame.

1.3 REFERENCES

**NOTE TO SPECIFIER** Delete references from the list below that are not actually required by the text of the edited section.

A. ASTM International (ASTM):
   ASTM A929 – Standard specification for galvanized steel coils
   ASTM A760 – Standard specification for manufacturing corrugated metal pipe
   ASTM C267 – Standard for chemical resistance
   ASTM C307 – Standard for tensile strength
   ASTM C579 – Standard for compressive strength
   ASTM C580 – Standard for flexural strength
   ASTM D570 – Standard for water absorption

B. AASHTO (American association of state highway and transportation officials)
   AASHTO M306-10 – Standard specification for drainage, sewer, utility, and related castings.
EN (European testing standard – Formerly DIN)
EN1433 – Standard specification for drainage channels for vehicular and pedestrian areas.

DFA (Federal Aviation Administration)
FAA AC150-5320-6 – Standard specification for airport pavement design

1.4 SUBMITTALS
A. Submit under provisions of Section 01300.
B. Product Data: Manufacturer's data sheets on each product to be used, including:
   Preparation instructions and recommendations.
   Storage and handling requirements and recommendations.
   Installation methods.
C. Shop Drawings:
D. Verification Samples: For each finish product specified, two samples, minimum size 6-24 inches (150-600 mm) square representing actual product and finish.

1.5 QUALITY ASSURANCE
A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
B. Installer Qualifications: Minimum 2 year experience installing similar products.

** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

Finish areas designated by Architect.
Do not proceed with remaining work until workmanship is approved by Architect.
Rebuild mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS
A. Convene minimum two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

C. Handle materials to avoid damage.

1.8 PROJECT CONDITIONS
A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer’s recommended limits.

1.9 SEQUENCING
A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
1.10 WARRANTY
   A. Warranty: Provide manufacturer’s standard limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS
   A. Acceptable Manufacturer: Eric'sons Inc., 574 Industrial Way N, Dallas, GA 30132, USA.
      ASD. Tel: (770) 505-6575. Email: info@eric-sons.com. Web: http://www.duratrench.com.

   **NOTE TO SPECIFIER** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

   B. Substitutions: Not permitted.
   C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SYSTEM DESCRIPTION
   A. Design: Provide the following type of drain systems.
      **NOTE TO SPECIFIER** Delete type not required.
      Type: Trench drains.
      Type: Slot drains.
      Type: Stainless trench drains.
      Type: Chemical resistant trench drains.
      Type: Radius trench drains.
      Type: Utility trenches.
      Type: Trench drain with membrane clamping collar.

   B. Performance:
   Provide a complete drain system made up of selected components that together shall make a functional trench drain system. The trench drain components provided and installed shall be the trench drain body, load bearing frame, trench drain grate, grate locking mechanism, channel joint sealing, and outlet connection.

      a. The trench drain body shall be sized for the anticipated flow rate, application, chemical resistance, and ease of installation. The trench drain body shall have specified slope without exception to meet design flow requirements.

      b. The load bearing frame shall be sized based on the load rating and bearing area. The frame shall have a minimum of 2 anchors per section to properly secure the frame into the concrete surround. The material and finish shall be selected based on chemical resistance and corrosion resistance anticipated, and the aesthetic design for the Project.

      c. The grates shall be selected based on open area and load rating required. The material and finish shall be selected based on chemical resistance and corrosion resistance anticipated, and the color, and pattern for the Project.

      d. Grates that are small, light, in high speed traffic, or have theft potential shall be locked down to the trench frame. The locking mechanism shall be selected based on the pullout resistance, dynamic loading, and chemical loading anticipated for the system.

      e. Where trench joints are required to be sealed water tight the system selected shall have a 1.5" minimum width large flange for applying sealant or the proper welding.

      f. The outlet pipe shall be sized for the anticipated flow. Pipe material shall mate with other piping, have proper load rating at the given cover depth, and have the proper corrosion resistance.
g. Where the grate design is indicated as a heel proof the openings shall be less than 1/4 inch (6 mm) wide suitable for pedestrian traffic. Where the grate design is indicated as ADA compliant, the grate shall comply with the requirements of the Americans with Disabilities Act handbook section 4.5.4.

**NOTE TO SPECIFIER** Dura-Trench is a versatile system with a large selection of interchangeable components that can be utilized for a wide range of applications. This specification guide will assist you in writing an accurate specification that meets a specific application. Product selection and application is achieved through a series of seven specification slots in which the specifier can select the trench body material, slope, grate, frame, grate locking device, outlet, and joint sealant. When all designations in the specification are properly filled in, the designer can ensure that the correct product is specified for a particular application.

**SAMPLE SPECIFICATION:**

DTPF-1%-05B24DI-HDBP-GLSS-6B-SLUR

SLOTS 1 - TRENCH BODY
SLOT 2 - SLOPE
SLOT 3 - GRATE
SLOT 4 - FRAME
SLOT 5 - GRATE LOCKING
SLOT 6 - OUTLET
SLOT 7 - JOINT SEALANT

2.3 **GRATE COMPONENTS**

**NOTE TO SPECIFIER** SLOT 1 - TRENCH BODY, Delete trench body not required.

A. Trench Body Material:

DTPF = Prefabricated GFRPC glass fiber reinforced polymer body (Polyester resin). The trench drain body shall be composed of polyester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in plan details. The trench body shall be gray in color to closely resemble the color of concrete. The trench body shall have a Manning’s roughness coefficient of 0.009 for improved flow rates and reduced debris build-up. Sections shall be 96” long (typical) and have a 2” receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit plywood top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTCF = Prefabricated chemical resistant GFRPC glass fiber reinforced polymer body (Chemical resistant Vinyl Ester). The trench drain body shall be composed of vinyl ester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in plan details. The trench body shall be gray in color to closely resemble the color of concrete. The trench body shall have a Manning’s roughness coefficient of 0.009 for improved flow rates and reduced debris build-up. Sections shall be 96” long (typical) and have a 2” receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit plywood top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be highly chemical resistant to acids and alkalis per ASTM C267 (refer to published chemical resistance charts for compatibility).
DTFR = Prefabricated Fire Retardant GFRPC-glass fiber reinforced polymer body. The trench drain body shall be composed of fire retardant fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in details. The trench body shall be gray in color to closely resemble the color of concrete and have a smooth interior for improved flow rates and reduced debris build-up. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi, minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTSS = Stainless steel trench body (304 standard, 316 is optional). The trench drain body shall be constructed from 14ga T304 stainless steel and have a minimum clear opening as indicated in the plans. Trench invert shall be V-shaped or flat bottom as indicated in the plans. Sections shall be 96" long (typical), but can be fabricated in longer lengths as required (up to 50' lengths possible) and have a built-in slope as indicated on the plans. The sections shall bolt together via a flange and can be sealed with a gasket or by on site welding. Each of the sections shall be labeled to indicate proper flow and placement. Trench body shall have a mill finish standard. Optional sand blast finish as required on the contract documents.

DTTF = Forming system (body is removed for a concrete cast in place trench). The trench drain body shall be a concrete trench cast on pre-engineered factory fabricated form panels. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in details. Form sections shall be 96" long (typical) and shall be labeled for proper slope and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit plywood top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. Form release is to be used liberally to ensure smooth interior walls and easy for removal. No forming materials shall be left in the trench after construction. Inspection of the underlying concrete shall be performed, and any deficiencies shall be repaired according to standard ACI guidelines.

DTRPF = True radius precast GFRPC-glass fiber reinforced polymer concrete body (Polyester resin). The trench drain body shall be cast in a true radius for a smooth, non-segmented curve. The trench drain body shall be composed of polyester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in details. The trench body shall be gray in color to closely resemble the color of concrete and have a smooth interior for improved flow rates and reduced debris build-up. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi, minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTSP = Prefabricated fiber reinforced slot drain body (grating selected for this option only refers to clean-outs). The slot pipe body shall be composed of polyester fiber reinforced polymer concrete. The slot pipe body shall have a clear internal dimension as indicated on the plans. The slot pipe body shall have a smooth interior for improved flow rates and reduced debris build-up. Sections shall be 120" long (typical), have a variable height riser with a slope as indicated on the plans, and have a 2" receiving flange on the upstream end for receiving the previous slot drain section. Each of the sections shall be labeled to indicate proper flow and placement. The slot pipe body shall mate to the load bearing frame. The slot
DTUTFR = Prefabricated utility trench with fire retardant polyester fiber reinforced polymer concrete body (polyester resin). The utility trench body shall act as secondary containment and be composed of polyester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rectangular bottom as indicated in the plans. The trench body shall be gray in color to closely resemble the color of concrete. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified cover. The body shall be supplied with a factory fit protective top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench shall not have any cross bars that will interfere with later installation of utilities in the trench. The trench shall have 1 5/8" x 1 5/8" channel strut cast into the trench walls for mounting of utilities. The strut shall have 3" x 3/8" dia. concrete anchors locking the strut into the surrounding concrete once cast. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi, minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTUTCF = Prefabricated utility trench with chemical resistant GFRPC-glass fiber reinforced polymer concrete body (Vinyl Ester). The utility trench body shall act as secondary containment and be composed of highly chemical resistant vinyl ester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rectangular bottom as indicated on the plans. The trench body shall be gray in color to closely resemble the color of concrete. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified cover. The body shall be supplied with a factory fit protective top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench shall not have any cross bars that will interfere with later installation of utilities in the trench. The trench shall have 1 5/8" x 1 5/8" channel strut cast into the trench walls for mounting of utilities. The strut shall have 3" x 3/8" dia. concrete anchors locking the strut into the surrounding concrete once cast. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be highly chemical resistant per ASTM C267. (refer to published chemical resistance charts for compatibility)

DTUTPF = Prefabricated utility trench with standard GFRPC-glass fiber reinforced polymer concrete body (polyester resin). The utility trench body shall act as secondary containment and be composed of polyester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rectangular bottom as indicated in the plans. The trench body shall be gray in color to closely resemble the color of concrete. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified cover. The body shall be supplied with a factory fit protective top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench shall not have any cross bars that will interfere with later installation of utilities in the trench. The trench shall have 1 5/8" x 1 5/8" channel strut cast into the trench walls for mounting of utilities. The strut shall have 3" x 3/8" dia. concrete anchors locking the strut into the surrounding concrete once cast. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTGP = Galvanized steel slotted pipe (grating selected for this option only refers to clean-outs). Corrugated metal slot drain body (grating selected for this option only refers to clean-outs). The slot pipe body shall be constructed using 2 2/3" x 1/2" corrugated 16ga galvanized steel conforming to AASHTO M218 or ASTM A929. The slot pipe body shall have a clear internal dimension as indicated on the plans. Sections shall be 240" long (typical), have a throat height as indicated on the plans. The slot pipe sections shall be coupled with modified pipe couplers of minimum 18ga material. Slot pipe ends shall have minimum of 2 re-rolled ends to accept couplers. Each of the sections shall be labeled to indicate proper flow and placement. The slot pipe body shall be factory welded to the load bearing frame.

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accept the specified cover. The body shall be supplied with a factory fit protective top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench shall not have any cross bars that will interfere with later installation of utilities in the trench. The trench shall have 1 5/8” x 1 5/8” channel strut cast into the trench walls for mounting of utilities. The strut shall have 3” x 3/8” dia. concrete anchors locking the strut into the surrounding concrete once cast. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580. less than 0.35% water absorption, shall be fire retardant, frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

DTSH = Stainless steel trench body with flashing collar for membrane applications (T304 standard, 316 is optional). The trench drain body shall be constructed from 16ga (min.) T304 stainless steel and have a minimum clear opening as indicated in the plans. Trench invert shall have a vee bottom and shall have an integral flashing flange for clamping of a waterproofing membrane. Sections shall be up to 96” long (typical), but can be fabricated in longer lengths as required (up to 50’ lengths possible). If multiple sections are required, the sections shall bolt together via a flange and can be sealed with a gasket or by on site welding. Each of the sections shall be labeled to indicate proper flow and placement. Trench body shall have a class 2b finish standard. Optional mill or bead blast finish as required on the contract documents.

** NOTE TO SPECIFIER ** SLOT 2 - SLOPE

B. Slope:

** NOTE TO SPECIFIER ** Typical slopes are 0.5% and 1.0%. If this slot is left blank, the inverts shown on the plans will be utilized (note that any slope can be specified using this method). If nothing is shown on the plans typically a 0.5% slope will be utilized.

0.5 percent.
1.0 percent.
As indicated on the Drawings.

** NOTE TO SPECIFIER ** SLOT 3 – GRATE. Utilize the part numbers of the desired grate in this slot. Grate specifications are included in this section organized by width. Note that when a grate is selected it will by default determine the size of the trench. Example: If a 12 inches (305 mm) wide grate is selected, a 10 inches (254 mm) wide trench body will be paired with the grate for a complete system.

C. Grate:

Model ______.

** NOTE TO SPECIFIER ** SLOT 4 – FRAME. For slot drain frames add SP in middle (EX: MDSPAL)

D. Frame:

LDTP - Light duty thermal plastic frame.
MDAL - Medium duty aluminum frame.
MDGS - Medium duty galvanized steel frame.
MDSS - Medium duty stainless steel frame.
HDBP - Heavy duty black powder painted steel.
EXBP - Extreme duty black powder painted frame.
HDGS - Heavy duty galvanized steel.
EXGS - Extreme duty galvanized steel frame.
HDSS - Heavy duty stainless steel.
EXDI - Extreme duty ductile iron frame.
HDFG - Heavy duty fiberglass frame.

** NOTE TO SPECIFIER ** SLOT 5 - GRATE LOCKING. Delete grate locking not required.

E. Grate Locking:

GLNR - Grate locks not required
GLVP - Vandal resistant grate locks
GLZN - Steel grate locks
GL4B - Four corner bolt down of grates (where applicable)
GLSS - Stainless steel grate locks
GLWCB - Welded and threaded cross bar.

** NOTE TO SPECIFIER ** SLOT 6 - OUTLET

F. Outlet:

** NOTE TO SPECIFIER ** List pipe size (1 inch through 24 inches (25 mm through 610 mm), pipe type (sch40 pvc, SDR 35, HDPE, iron, or stainless steel) then location (S=side, B=bottom, E=end).

Pipe Size: ___.
Pipe Type: ___.
Location: ___.

** NOTE TO SPECIFIER ** SLOT 7 - JOINT SEALANT. Delete sealant not required.

G. Joint Sealant:

NSR - No joint sealant is required for this application. Joints will self-seal with proper consolidation of the concrete. No sealant required.

SLUR - Joints shall be fully sealed with urethane joint sealant. The joint sealant shall be applied to a clean bell and spigot joint. The sealant shall be applied as a continuous 3/8" diameter bead from the top of the joint through the bottom and back to the top on the other side to ensure a proper seal. Additional sealant can be applied to the exterior of the joint as required to provide a positive seal.

SLCF-SLPF - Joints shall be fully sealed with glass fiber reinforced polyester joint sealant. The joint sealant shall be applied to a lightly sanded and cleaned bell and spigot joint. The sealant shall be applied to the bell 3/8" thick minimum and be continuous from the top of the joint through the bottom and back to the top on the other side forming a water tight seal. The exterior of the joint should also be sanded, cleaned, and sealed using glass fiber reinforcing and sealant to ensure a water tight seal.

SLUR-SLCF - Joints shall be fully sealed with chemical resistant glass fiber reinforced vinyl ester joint sealant. The joint sealant shall be applied to a lightly sanded and cleaned bell and spigot joint. The sealant shall be applied to the bell 3/8" thick minimum and be continuous from the top of the joint through the bottom and back to the top on the other side forming a water tight seal. The exterior of the joint should also be sanded, cleaned, and sealed using glass fiber reinforcing and sealant to ensure a water tight seal.

SLWD - Joints shall be fully welded shut to provide a continuous water tight seal from top of joint through the bottom and back to the top on the other side. The joint should be cleaned with a stainless-steel bristle wire brush or acid pickling agent to return the corrosion resistance of the base metal upon completion of the welding process. Weld joints water tight.

2 INCHES (51 MM) GRATE

H. Size: 3 inches (76 mm) wide x 24 inches (305 mm) long x 0.5 inch (13 mm) thick unless noted.

I. Model 03BF24BPB: Slotted black powder coated steel grate.
Grating shall be 03BF24BPB slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be powder coated black.
The grate shall have a minimum load rating of DIN Class B.

J. Model 03BF24BPD: Slotted black powder coated steel grate.
Grating shall be 03BF24BPD slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be powder coated black.
The grate shall have a minimum load rating of DIN Class D.

K. Model 03BF24GSB: Slotted galvanized steel grate.
Grating shall be 03BF24GSB slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be hot dip galvanized after fabrication per ASTM A-123.
The grate shall have a minimum load rating of DIN Class B.

L. Model 03BF24GSD: Slotted galvanized steel grate.
Grating shall be 03BF24GSD slotted grate. The grate shall be fabricated using A-36 steel. The grate shall
be hot dip galvanized after fabrication per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D.

M. Model 03BF24SSB: Slotted T304 stainless steel grate.
Grating shall be 03BF24SSB slotted grate. The grate shall be fabricated using T304 stainless steel. The grate shall have a brushed finish.
The grate shall have a minimum load rating of DIN Class B.

N. Model 03BF24SSD: Slotted T304 stainless steel grate.
Grating shall be 03BF24SSD slotted grate. The grate shall be fabricated using T304 stainless steel. The grate shall have a brushed finish.
The grate shall have a minimum load rating of DIN Class D.

O. Model 03BW48SSA: ADA compliant and heel proof basket weave grate - 3 inches (76 mm) wide x 48 inches (1219 mm) long x 0.5 inch (13 mm) thick
Grating shall be 03BW48SSA basket weave grate. The grate shall be ADA compliant and heel proof and is fabricated using T304 stainless steel.
The grate shall have a minimum load rating of DIN Class A.

P. Model 03CF24BPB: ADA compliant and heel proof black powder coated steel grate.
Grating shall be 03CF24BPB ADA compliant longitudinally slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be powder coated black.
The grate shall have a minimum load rating of DIN Class B.

Q. Model 03CF24BPD: ADA compliant and heel proof black powder coated steel grate.
Grating shall be 03CF24BPD ADA compliant longitudinally slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be powder coated black.
The grate shall have a minimum load rating of DIN Class D.

R. Model 03CF24GSB: ADA compliant and heel proof galvanized steel grate.
Grating shall be 03CF24GSB ADA compliant longitudinally slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be hot dip galvanized after fabrication per ASTM A-123.
The grate shall have a minimum load rating of DIN Class B.

S. Model 03CF24GSD: ADA compliant and heel proof galvanized steel grate.
Grating shall be 03CF24GSD ADA compliant longitudinally slotted grate. The grate shall be fabricated using A-36 steel. The grate shall be hot dip galvanized after fabrication per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D.

T. Model 03CS48SSA: ADA compliant and heel proof staggered longitudinal slot grate - 3 inches (76 mm) wide x 48 inches (1219 mm) long x 0.5 inch (13 mm) thick.
Grating shall be 03CS48SSA longitudinally slotted grate. The grate shall be ADA compliant and heel proof and is fabricated using T304 stainless steel.
The grate shall have a minimum load rating of DIN Class A.

U. Model 03CF24SSB: ADA compliant and heel proof T304 stainless steel grate.
Grating shall be 03CF24SSB ADA compliant longitudinally slotted grate. The grate shall be fabricated using T304 stainless steel. The grate shall have a brushed finish.
The grate shall have a minimum load rating of DIN Class B.

V. Model 03CF24SSD: ADA compliant and heel proof T304 stainless steel grate.
Grating shall be 03CF24SSD ADA compliant longitudinally slotted grate. The grate shall be fabricated using T304 stainless steel. The grate shall have a brushed finish.
The grate shall have a minimum load rating of DIN Class D.

W. Model 03C24TP: Plastic ADA compliant and heel proof grate (gray standard, other colors available).
Grating shall be 03C24TP plastic grate. The grate shall be made of gray thermal plastic with UV inhibitors.
The grate shall have a minimum load rating of DIN Class B.

X. Model 03F48SSA: ADA compliant and heel proof diagonal slotted grate - 3 inches (76 mm) wide x 48 inches (1219 mm) long x 0.5 inch (13 mm) thick. Grating shall be 03F48SSA diagonally slotted grate. The grate shall be ADA compliant and heel proof and is fabricated using T304 stainless steel. The grate shall have a minimum load rating of DIN Class A.

Y. Model 03E24GS: Perforated ADA Compliant and heel proof galvanized steel grate. Grating shall be 03E24GSB heel proof and ADA compliant galvanized steel perforated grate. The grate shall be made of 12 ga, A-36 steel. The grate shall have a minimum load rating of DIN Class B.

Z. Model 03E24SS: Perforated ADA Compliant and heel proof T304 stainless steel grate. Grating shall be 03E24SSB heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of 12 ga, T304 stainless steel. The grate shall have a minimum load rating of DIN Class B.

AA. Model 03TI48SSA: T304 stainless steel solid tile inlay grate. Grating shall be 03TI48SSA tile inlay cover. The cover shall be solid to receive tile by others and shall have a perimeter opening that is ADA compliant and heel proof. The cover is fabricated using T304 stainless steel. The cover shall have a minimum load rating of DIN Class A.

BB. Model 03W48SSA: T304 stainless steel ADA compliant and heel proof wave pattern - 3 inches (76 mm) wide x 48 inches (1219 mm) long x 0.5 inch (13 mm) thick. Grating shall be 03W48SSA wave pattern slotted grate. The grate shall be ADA compliant and heel proof and is fabricated using T304 stainless steel. The grate shall have a minimum load rating of DIN Class A.

CC. Model 03M24SS: T304 stainless steel mesh grate with ADA compliant & heel proof openings. Grating shall be 03M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123. The grate shall have a minimum load rating of DIN Class A.

DD. Model 03B24BR: Marine Grade Brass slotted grate. Grating shall be 03B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

EE. Model 03C24BR: Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate. Grating shall be 03C24BR heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

FF. Model 03W24BR: Marine Grade Brass ornamental pattern grate. Grating shall be 03W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

GG. Model 03B24BZ: Bronze slotted grate. Grating shall be 03B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

HH. Model 03C24BZ: Bronze ADA compliant and heel proof longitudinally slotted grate. Grating shall be 03C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be
made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

II. Model 03W24BZ: Bronze ornamental pattern grate. Grating shall be 03W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

2.4 5 INCHES (127 MM) GRATE

**NOTE TO SPECIFIER** **3/4 inch (19 mm) thick grates.**

A. Size: 5 inches (127 mm) wide x 24 inches (305 mm) long x 0.75 inch (19 mm) thick unless noted.

B. Model 05AF24BPB solid cover plate. Grating shall be 05A24BPB solid cover. The cover shall be fabricated of grade A-36 steel and have a black powder coated finish.

**NOTE TO SPECIFIER** **Delete cover plate not required.**

a. Provide smooth cover plate.
b. Provide checkered cover plate.

The cover shall have a minimum load rating of DIN Class B.

C. Model 05AF24BPE: solid cover plate. Grating shall be 05A24BPE solid cover. The cover shall be fabricated of grade A-36 steel and have a black powder coated finish.

**NOTE TO SPECIFIER** **Delete cover plate not required.**

a. Provide smooth cover plate.
b. Provide checkered cover plate.

The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

D. Model 05AF24GSB solid cover plate (galvanized). Grating shall be 05A24GSB solid cover. The cover shall be fabricated of grade A-36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** **Delete cover plate not required.**

a. Provide smooth cover plate.
b. Provide checkered cover plate.

The cover shall have a minimum load rating of DIN Class B.

E. Model 05AF24GSE solid cover plate (galvanized). Grating shall be 05A24GSE solid cover. The cover shall be fabricated of grade A-36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** **Delete cover plate not required.**

a. Provide smooth cover plate.
b. Provide checkered cover plate.

The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

F. Model 05B24DI ductile iron slotted grate – E coated black. Grating shall be 05B24DI heavy duty slotted grate. The grate shall be made from grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be epoxy coated black. The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

G. Model 05B24DG Galvanized iron slotted grate. Grating shall be 05B24DG heavy duty slotted grate. The grate shall be made from grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

H. Model 05B24DIF ductile iron slotted grate - E coated black - 5 inches (127 mm) wide x 24
Grating shall be 05B24DIF extreme duty slotted grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be epoxy coated black. The grate shall have a minimum load rating of DIN Class F (exceeds H-20/HS-25).

I. Model 05T24DI ductile iron non-removable slotted grate - uncoated - 5 inches (127 mm) wide x 24 inches (305 mm) long x 1.25 inches (32 mm) thick, 1.6 inches (41 mm) slot opening.

Grating shall be 05T24DI non-removable slotted highway grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall have a natural - as cast finish. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

J. Model 05C24DI ADA compliant and heel proof ductile iron longitudinally slotted grate - E coated black.

Grating shall be 05C24DI heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be epoxy coated black. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

K. Model 05C24DG ADA compliant and heel proof galvanized iron longitudinally slotted grate.

Grating shall be 05C24DG heavy duty heel proof and ADA compliant diagonally slotted grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

L. Model 05F24DI ductile iron ornamental grate with diagonal pattern.

Grating shall be 05F24DI heavy duty heel proof and ADA compliant diagonally slotted grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

M. Model 05F24DG ductile iron ornamental grate with diagonal pattern - hot dip galvanize finish.

Grating shall be 05F24DG heavy duty heel proof and ADA compliant diagonally slotted grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

N. Model 05W24DI ductile Iron Wave Pattern Grate - painted black.

Grating shall be 05W24DI heavy duty ADA compliant ornamental wave pattern grate. The grate shall be made of grade 60-45-12 cast ductile iron per ASTM A 536-84. The grate shall be epoxy coated black. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

O. Model 05AF24SS T304 stainless steel solid cover.

Grating shall be 05A24SS heavy duty solid cover. The cover shall be made of grade T304 stainless steel per ASTM A-123. The cover surface shall have a sandblast finish. The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

P. Model 05B24SSC T304 stainless steel slotted grate.

Grating shall be 05B24SSC heavy duty slotted grate. The grate shall be made of grade T304 stainless steel per ASTM A-123. The grate surface shall have a sandblast finish. The grate surface shall have a brushed finish. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).
Q. Model 05B24SSE T304 stainless steel slotted grate. Grating shall be 05B24SSE heavy duty slotted grate. The grate shall be made of grade T304 stainless steel per ASTM A-123.

** NOTE TO SPECIFIER ** Delete grate finish not required.

a. The grate surface shall have a sandblast finish.
b. The grate surface shall have a brushed finish.

The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

R. Model 05CF24SSC T304 stainless steel ADA compliant / Heel proof grate. Grating shall be 05C24SSC heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade T304 stainless steel per ASTM A-123. The grate surface shall have a sandblast finish.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

S. Model 05CF24SSE T304 stainless steel ADA compliant / Heel proof grate. Grating shall be 05C24SSE heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade T304 stainless steel per ASTM A-123. The grate surface shall have a sandblast finish.

The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

T. Model 05D24SSB 12ga T304 stainless steel stamped slot grate. Grating shall be 05D24SSB stainless steel slotted grate. The grate shall be made of 12ga, T304 stainless steel per ASTM A-123.

** NOTE TO SPECIFIER ** Delete length not required.

a. The grate shall be 24 inches (305 mm) long.
b. The grate shall be 39.19 inches (995 mm) long.

The grate shall have a minimum load rating of DIN Class B.

U. Model 05D24SSC 12ga T304 stainless steel reinforced stamped slot grate. Grating shall be 05D24SSC medium duty reinforced stainless steel slotted grate. The grate shall be made of 12ga, T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

V. Model 05E24SSA 12ga T304 stainless steel stamped perforated grate. Grating shall be 05E24SSA heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of 12 ga, T304 stainless steel per ASTM A-123.

The grate shall have a minimum load rating of DIN Class A.

W. Model 05E24SSC 12ga T304 stainless steel reinforced stamped perforated grate. Grating shall be 05E24SSC medium duty reinforced heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of 12 ga T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

X. Model 05F24SSC stainless steel ornamental grate with diagonal pattern. Grating shall be 05F24SSC heavy duty heel proof and ADA compliant diagonally slotted grate. The grate shall be made of T304 stainless steel. The grate shall have a light brushed finish.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Y. Model 05C24TP plastic ADA compliant and heel proof grate (gray standard, other colors available). Grating shall be 05C24TP plastic grate. The grate shall be made of gray thermal plastic with UV inhibitors.

The grate shall have a minimum load rating of DIN Class A.

Z. Model 05H48FG fiberglass grate with anti-slip grit (light gray color) with 1-1/2 inches x 1-1/2 inches (38 mm x 38 mm) mesh spacing.
Grating shall be 05H48FG medium duty fiberglass grating. Grate shall have anti slip grit.

**NOTE TO SPECIFIER** Confirm color and resin composition required.

a. The grate supplied in gray color unless otherwise specified on the Drawings.

b. The grate shall be general purpose resin unless specified otherwise in the Drawings.

The grate shall have a minimum load rating of DIN Class B.

AA. Model 06H48FG heavy duty fiberglass grate with anti-slip grit – 6 inches wide x 48 inches long x 1.5 inches (152 mm x 610 mm x 32 mm) thick with 1-1/2 inches x 1-1/2 inches (32 mm x 32 mm) mesh spacing.

Grating shall be 06H48FG heavy duty fiberglass grating. Grate shall have anti slip grit.

**NOTE TO SPECIFIER** Confirm color and resin composition required.

a. The grate supplied in gray color unless otherwise specified on the Drawings.

b. The grate shall be general purpose resin unless specified otherwise in the Drawings.

The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

BB. Model 05D24GSB 12ga galvanized steel stamped slot grate.

Grating shall be 05D24GSB light duty galvanized steel slotted grate. The grate shall be made of 12ga galvanized steel per ASTM A-123.

The grate shall have a minimum load rating of DIN Class B.

CC. Model 05D24GSC 12ga galvanized steel reinforced stamped slot grate.

Grating shall be 05D24GSC medium duty reinforced galvanized steel slotted grate. The grate shall be made of 12ga galvanized steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

DD. Model 05E24GSA 12ga galvanized steel stamped perforated grate.

Grating shall be 05E24GSA light duty heel proof and ADA compliant galvanized steel perforated grate. The grate shall be made of 12 ga galvanized steel per ASTM A-123.

The grate shall have a minimum load rating of DIN Class A.

EE. Model 05E24GSC 12ga galvanized steel reinforced stamped perforated grate.

Grating shall be 05E24GSC medium duty heel proof and ADA compliant galvanized steel perforated grate. The grate shall be made of 12 ga galvanized steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

FF. Model 05G24AL aluminum bar grating.

Grating shall be 05G24AL light duty aluminum bar grate. The load bearing bars shall be 3/4 inch x 3/16 inch thick spaced at 1-3/16 inches o.c (19 mm x 4.8 mm at 30 mm). swag locked with cross bars at 4 inches (102 mm) o.c. Aluminum bars shall be type 6063-T6.

The grate shall have a minimum load rating of DIN Class A.

GG. Model 05M24SS T304 stainless steel mesh grate with ADA compliant & heel proof openings.

Grating shall be 05M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123.

The grate shall have a minimum load rating of DIN Class B.

HH. Model 05P96GS galvanized steel paver grate with 1/2 inch (13 mm) wide ADA compliant slot x 96 inches (2438 mm) long. 5 inches wide x 24 inches long x 4 inches (127 mm x 305 mm x 102 mm).

Grating shall be 05P96GS heel proof and ADA compliant galvanized steel paver grate. The grate shall be made of 14 ga galvanized steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

II. Model 05P96SS T304 stainless steel paver grate with 1/2 inch (13 mm) wide ADA compliant slot x 96 inches (2438 mm) long. 5 inches wide x 24 inches long x 4 inches (127 mm x 305 mm x 102 mm)
Grating shall be 05P96SS heel proof and ADA compliant stainless steel paver grate. The grate shall be made of 14 ga T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

JJ. Model 05B24BR Marine Grade Brass slotted grate.
Grating shall be 05B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

KK. Model 05C24BR Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 05C24BR heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

LL. Model 05W24BR Marine Grade Brass ornamental pattern grate.
Grating shall be 05W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

MM. Model 05B24BZ Bronze slotted grate.
Grating shall be 05B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

NN. Model 05C24BZ Bronze ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 05C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

OO. Model 05W24BZ Bronze ornamental pattern grate.
Grating shall be 05W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

2.5 8 INCHES (203 MM) GRATE

A. Size: 8 inches (203 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick unless noted.

B. Model 08AF24BPB Solid cover plate.
Grating shall be 08A24BPB solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

** NOTE TO SPECIFIER ** Delete tread plate not required.

a. Tread plate shall be checkered.
b. Tread plate shall be smooth.
The cover shall have a minimum load rating of DIN Class B.

C. Model 08AF24BPD Solid cover plate.
Grating shall be 08A24BPD heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

** NOTE TO SPECIFIER ** Delete tread plate not required.

a. Tread plate shall be checkered.
b. Tread plate shall be smooth.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

D. Model 08AF24GSB Galvanized solid cover plate.
Grating shall be 08A24GSB solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

** NOTE TO SPECIFIER ** Delete tread plate not required.

a. Tread plate shall be checkered.
b. Tread plate shall be smooth.
The cover shall have a minimum load rating of DIN Class B.

E. Model 08AF24GSD Galvanized solid cover plate.
Grating shall be 08A24GSD heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

** NOTE TO SPECIFIER ** Delete tread plate not required.

a. Tread plate shall be checkered.
b. Tread plate shall be smooth.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

F. Model 08B24DI Ductile Iron Slotted Grate - coated black.
Grating shall be 08B24DI heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A536-84. The grate shall be painted black.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

G. Model 08B24DG Galvanized Iron Slotted Grate
Grating shall be 08B24DG heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

H. Model 08B24CI Cast Iron Slotted Grate - Uncoated.
Grating shall be 08B24CI heavy duty slotted grate. The material shall be gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

I. Model 08C24DI Pedestrian ADA / heel proof ductile iron longitudinally slotted grate - black.
Grating shall be 08C24DI heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade 60-45-18 cast ductile iron per ASTM A 536-84. The grate shall be painted black.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

J. Model 08C24DG Pedestrian ADA / heel proof galvanized iron longitudinally slotted grate
Grating shall be 08C24DG heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade 60-45-18 cast ductile iron per ASTM A 536-84. The grate shall be hot dip galvanized after fabrication per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

K. Model 08C24CI Pedestrian ADA cast Iron slotted grate - uncoated.
Grating shall be 08C24CI heavy duty heel guard and ADA compliant slotted grate. The material is gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating DIN Class D (exceeds H-20/HS-25).

L. Model 08AF24SSD T304 Stainless steel solid cover.
Grating shall be 08A24SS heavy duty solid cover. The cover shall be fabricated from T304 stainless steel.

** NOTE TO SPECIFIER ** Delete cover not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

M. Model 08BF24SSC T304 Stainless steel slotted grate.
Grating shall be 08B24SSC heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel.

**NOTE TO SPECIFIER** Delete cover not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.

The grates shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

N. Model 08BF24SSE T304 Stainless steel slotted grate.
Grating shall be 08B24SSE heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel.

**NOTE TO SPECIFIER** Delete cover not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.

The grates shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

O. Model 08CF24SSC T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 08C24SSC heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.

**NOTE TO SPECIFIER** Delete cover not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.

The grates shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

P. Model 08CF24SSE T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 08C24SSE heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.

**NOTE TO SPECIFIER** Delete cover not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.

The grates shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

Q. Model 08E24SS T304 Stainless steel perforated grate.
Grating shall be 08E24SS reinforced heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

R. Model 08M24SS T304 stainless steel mesh grate with ADA compliant & heel proof openings.
Grating shall be 08M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123.
The grate shall have a minimum load rating of DIN Class B.

S. Model 08G36SSC T304 Stainless steel bar grate – 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.
Grating shall be 08G36SSC bar grating. Grates shall be load banded. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable unless passivation or sandblast finish is noted on the Drawings).
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

T. Model 08G36SSD T304 Stainless steel bar grate - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.
Grating shall be 08G36SSD bar grating. Grates shall be load banded. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable unless passivation or
sandblast finish is noted on the Drawings). The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

U. Model 08G36SSE T304 Stainless steel bar grate - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.

Grating shall be 08G36SSE bar grating. Grates shall be load banded. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable unless passivation or sandblast finish is noted on the Drawings).

The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

V. Model 08G48FG Pultruded fiberglass I-bar grating with anti-slip grit (gray color) - 8 inches (203 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.

Grating shall be 08G48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit with pultruded load bars. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

W. Model 08GC48FG Pultruded fiberglass ADA compliant I-bar grating with anti-slip grit (gray color) - 8 inches (203 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.

Grating shall be 08GC48FG heavy duty ADA compliant pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit with pultruded load bars. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

X. Model 08HC48FG Fiberglass grate with anti-slip grit (gray color) - 8 inches (203 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/2 inch x 1/2 inch (13 mm x 13 mm) mesh spacing.

Grating shall be 08HC48FG medium duty ADA compliant fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Y. Model 08H48FG Fiberglass grate with anti-slip grit (gray color) - 8 inches (203 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1-1/2 inch x 1-1/2 inches (38 mm x 38 mm) mesh spacing.

Grating shall be 08H48FG medium duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti-slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Z. Model 08G36GSC Galvanized steel bar grate - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars.

Grating shall be 08G36GSC medium duty bar grating. Grates shall be load banded. Grate shall be post fabricated hot dipped bars galvanized per ASTM A-123.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

AA. Model 08G36GSD Galvanized steel bar grate - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 08G36GSD heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.

The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

BB. Model 08G36GSE Galvanized steel bar grate - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 08G36GSE heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized...
per ASTM A-123. The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

CC. Model 08G24AL Aluminum Bar grating - 8 inches (203 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c. and 4 inches (102 mm) o.c. cross bars.
Grating shall be 08G24AL bar grating. Grates shall be fabricated from 6063-T6 aluminum with a mill finish.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

DD. Model 08E24GS Galvanized steel perforated grate.
Grating shall be 08E24GS reinforced heel proof and ADA compliant galvanized steel perforated grate. The grate shall be made of A-36 steel and shall have reinforcing ribs affixed to the underside of the grate for added strength. The grate shall have a zinc plated finish.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

EE. Model 08B24BR Marine Grade Brass slotted grate.
Grating shall be 08B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

FF. Model 08C24BR Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 08C24BR heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

GG. Model 08W24BR Marine Grade Brass ornamental pattern grate.
Grating shall be 08W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

HH. Model 08B24BZ Bronze slotted grate.
Grating shall be 08B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

II. Model 08C24BZ Bronze ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 08C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

JJ. Model 08W24BZ Bronze ornamental pattern grate.
Grating shall be 08W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

2.6 10 INCHES (254 MM) GRATE

A. Size: 10 inches (254 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick unless noted.

B. Model 10AF24BPB: Solid cover plate.
Grating shall be 10A24BPB heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class B.

C. Model 10AF24BPD: Solid cover plate.
Grating shall be 10A24BPD heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.

b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

D. Model 10AF24GSB: Galvanized solid cover plate - specify smooth or checkered.
Grating shall be 10A24GSB heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered plate.

b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class B.

E. Model 10AF24GSD Galvanized solid cover plate.
Grating shall be 10A24GSD heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered plate.

b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class B.

F. Model 10B24DI Ductile Iron Slotted Grate - black.
Grating shall be 10B24DI heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A536-84. The grate shall be painted black.

The grate shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO HS-25 rated.

G. Model 10B24DG Galvanized Iron Slotted Grate
Grating shall be 10B24DG heavy duty slotted grate. The material is gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.

The grate shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO HS-25 rated.
K. Model 10C24DI Pedestrian ADA / heel proof ductile iron longitudinally slotted grate - black.
Grating shall be 10C24DI heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade 60-45-18 cast ductile iron per ASTM A536-84. The grate shall be painted black. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

L. Model 10C24DG Pedestrian ADA / heel proof galvanized iron longitudinally slotted grate.
Grating shall be 10C24DG heavy duty heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of grade 60-45-18 cast ductile iron per ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

M. Model 10C24CI Pedestrian ADA cast Iron slotted grate - uncoated.
Grating shall be 10C24CI heavy duty heel guard and ADA compliant slotted grate. The material shall be gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

N. Model 10C24AL Aluminum ADA compliant / Heel proof grate.
Grating shall be 10C24AL true radius medium duty ADA compliant and heel guard longitudinal slotted grate. The grate shall be fabricated using T6061 Aluminum. The grate have a minimum load rating of DIN Class B.

O. Model 10W24DI Ductile iron wave pattern grate - black.
Grating shall be 10W24DI heavy duty ADA compliant wave pattern grate. The grate shall be made of grade 60-45-18 cast ductile iron per ASTM A 536-84. The grate shall be painted black. The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

P. Model 10AF24SS T304 Stainless steel solid cover.
Grating shall be 10A24SS heavy duty solid cover. The cover shall be fabricated from T304 stainless steel.

** NOTE TO SPECIFIER ** Delete cover finish not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.
The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

Q. Model 10BF24SSC T304 Stainless steel slotted grate.
Grating shall be 10B24SSC heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel.

** NOTE TO SPECIFIER ** Delete cover finish not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.
The grates shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

R. Model 10BF24SSE T304 Stainless steel slotted grate.
Grating shall be 10B24SSE heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish. The grates shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

S. Model 10CF24SSC T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 10C24SSB heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.

** NOTE TO SPECIFIER ** Delete cover finish not required.

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.
The grates shall be 10 inches (254 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick and have a minimum load rating of DIN Class B.

T. Model 10CF24SSD T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 10C24SSD heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.
**NOTE TO SPECIFIER** ** Delete cover finish not required.**

a. The covers shall have a sandblast finish.
b. The covers shall have a brushed finish.

The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

U. Model 10E24SS T304 Stainless steel perforated grate.
Grating shall be 10E24SS reinforced heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the underside of the grate for added strength.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

V. Model 10M24SS T304 stainless steel mesh grate with ADA compliant & heel proof openings.
Grating shall be 10M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123.
The grate shall have a minimum load rating of DIN Class B.

W. Model 10G36SSC T304 Stainless steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm), with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) O.C., sandblast finish.
Grating shall be 10G36SSC medium duty bar grating. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable - passivation or sandblast finish shall be required when noted on the Drawings).
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

X. Model 10G36SSD T304 Stainless steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm), with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) O.C., sandblast finish.
Grating shall be 10G36SSD heavy duty bar grating. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable - passivation or sandblast finish shall be required when noted on the Drawings).
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Y. Model 10G36SSE T304 Stainless steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm), with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) O.C., sandblast finish.
Grating shall be 10G36SSE extreme duty bar grating. Grate shall be T304 stainless steel with mill finish (some burn marks from fabrication will be present and are acceptable - passivation or sandblast finish shall be required when noted on the Drawings).
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

Z. Model 10B24FG Cast Fiberglass slotted grate - gray color (special order only).
Grating shall be 10B24FG heavy duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have traction nubs on the surface. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class D.

AA. Model 10G48FG Pultruded fiberglass I-bar grating with anti-slip grit - 10 inches (254 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.
Grating shall be 10G48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti-slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

BB. Model 10GC48FG Pultruded fiberglass ADA compliant I-bar grating with anti-slip grit - 10 inches (254 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.
Grating shall be 10GC48FG heavy duty ADA compliant pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

CC. Model 10HC48FG Fiberglass grate with anti-slip grit - 10 inches (254 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/2 inch x 1/2 inch (13 mm x 13 mm) mesh spacing.

Grating shall be 10HC48FG medium duty ADA compliant fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti-slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class B.

DD. Model 10H48FG Fiberglass grate with anti-slip grit - 10 inches (254 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1-1/2 inches x 1-1/2 inches (38 mm x 38 mm) mesh spacing.

Grating shall be 10H48FG medium duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti-slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class B.

EE. Model 10G36GSC Galvanized steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 10G36GSC medium duty bar grating. Grates shall be load banded. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

FF. Model 10G36GSD Galvanized steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 10G36GSD heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

GG. Model 10G36GSE Galvanized steel bar grate - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C., load banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 10G36GSE extreme duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

HH. Model 10G24AL Aluminum Bar grating - 10 inches (254 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) O.C. and 4 inches (102 mm) O.C. cross bars.

Grating shall be 10G24AL bar grating. Grates shall be fabricated from 6063-T6 aluminum with a mill finish.
The grate shall have a minimum load rating of DIN Class A.

II. Model 10E24GS Galvanized steel perforated grate.
Grating shall be 10E24GS reinforced heel proof and ADA compliant galvanized steel perforated grate. The grate shall be made of A-36 steel and shall have reinforcing ribs affixed to the underside of the grate for added strength. The grate shall be galvanized post fabrication.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

JJ. Model 10B24BR Marine Grade Brass slotted grate.
Grating shall be 10B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).
KK. Model 10C24BR Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 10C24BR heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of cast brass per ASTM B146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

LL. Model 10W24BR Marine Grade Brass ornamental pattern grate.
Grating shall be 10W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

MM. Model 10B24BZ Bronze slotted grate.
Grating shall be 10B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

NN. Model 10C24BZ Bronze ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 10C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

OO. Model 10W24BZ Bronze ornamental pattern grate.
Grating shall be 10W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

2.7 12 INCHES (305 MM) GRATE
A. Size: 12 inches (305 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick unless noted.

B. 12AF24BPB: Solid cover plate.
Grating shall be 12A24BPB heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

** NOTE TO SPECIFIER ** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

C. Model 12AF24BPD: Solid cover plate.
Grating shall be 12A24BPD heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

** NOTE TO SPECIFIER ** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

D. Model 12AF24GSB: Galvanized solid cover plate.
Grating shall be 12A24GSB heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.
The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

E. Model 12AF24GSD: Galvanized solid cover plate.
Grating shall be 12A24GSD heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

** NOTE TO SPECIFIER ** Checkered plate is standard – smooth plate optional. Delete plate not required.
required.

a. Provide checkered tread plate.

b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

F. Model 12B24DI: Ductile Iron Slotted Grate - painted black - 1.125 inches (29 mm) slot width.
Grating shall be 12B24DI heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

Grating shall be 12B24DG heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

Grating shall be 12B24CI heavy duty slotted grate. The material is gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

I. Model 12B24DIF: Ductile iron slotted grate - uncoated - 12 inches (305 mm) wide x 24 inches (610 mm) long x 2-1/2 inches (64 mm) thick Aircraft loading.
Grating shall be 12B24DIF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be as cast natural finish. The grate shall be and shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO H-25 rated.

J. Model 12B24DGF: Galvanized ductile iron slotted grate - Aircraft loading.
Grating shall be 12B24DGF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO H-25 rated.

K. Model 12C24DI Pedestrian ADA / Heel proof Ductile Iron Longitudinally Slotted Grate - Painted black.
Grating shall be 12C24DI Pedestrian ADA / Heel proof Ductile Iron Longitudinally Slotted Grate. The grate shall be made of grade 60-45-18 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black.
Grates shall have a minimum load rating of DIN class D (exceeds H-20/HS-25).

L. Model 12C24DG: Pedestrian ADA / Heel proof galvanized Iron Longitudinally Slotted Grate.
Grating shall be 12C24DG Pedestrian ADA / Heel proof Ductile Iron Longitudinally Slotted Grate. The grate shall be made of grade 60-45-18 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123. Grates shall have a minimum load rating of DIN class D (exceeds H-20/HS-25).

M. Model 12C24CI: Pedestrian ADA cast Iron slotted grate – uncoated - 0.375 inch (9.5 mm) slot opening.
Grating shall be 12C24CI heavy duty heel guard and ADA compliant slotted grate. The material is gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

N. Model 12C24AL: Aluminum ADA compliant / Heel proof grate.
Grating shall be 12C24AL medium duty ADA compliant and heel guard longitudinal slotted grate. The grate shall be fabricated using T6061 Aluminum.
The grate shall have a minimum load rating of DIN Class B.

O. Model 12W24DI: Ductile Iron Wave Pattern Grate - painted black
Grating shall be 12W24DI ADA compliant ornamental wave pattern ductile iron grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black. The grate shall have a minimum load rating of DIN class C (exceeds H-20/HS-25).

P. 12F24DI Ductile Iron Ornamental Pattern Grate - painted black.
Grating shall be 12F24DI heavy duty ornamental diagonal slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be as cast natural finish (black painted finish optional).
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Q. Model 12AF24SS: T304 Stainless steel solid cover.
Grating shall be 12A24SS heavy duty solid cover. The cover shall be fabricated from T304 stainless steel. The covers shall have a sandblast or brushed finish.
The cover shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

R. Model 12BF24SSB T304 Stainless steel slotted grate.
Grating shall be 12B24SSB heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

S. Model 12BF24SSD: T304 Stainless steel slotted grate.
Grating shall be 12B24SSSD heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

T. Model 12CF24SSB T304 Stainless steel ADA compliant / Heel proof grate
Grating shall be 12C24SSB heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

U. Model 12CF24SSD T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 12C24SSSD heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

V. Model 12E24SS: T304 Stainless steel perforated grate
Grating shall be 12E24SS reinforced heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the under side of the grate for added strength.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

W. Model 12M24SS: T304 stainless steel mesh grate with ADA compliant & heel proof openings
Grating shall be 12M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123.
The grate shall have a minimum load rating of DIN Class A.

X. Model 12G36SSC: T304 Stainless steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.
Grating shall be 12G36SSC heavy duty bar grating. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Y. Model 12G36SSD: T304 Stainless steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.
Grating shall be 12G36SSD heavy duty bar grating. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).
finish (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Z. Model 12G36SSE: T304 Stainless steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.

Grating shall be 12G36SSE heavy duty bar grating. Grate shall be T304 stainless steel with a sandblast finish – (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

AA. Model 12G48FG: Pultruded fiberglass I-bar grating with anti-slip grit - 12 inches (305 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.

Grating shall be 12G48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the plans.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

BB. Model 12GC48FG: Pultruded fiberglass ADA compliant I-bar grating with anti-slip grit - 12 inches (305 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/2 inch x 1/2 inch (13 mm x 13 mm) mesh spacing.

Grating shall be 12GC48FG medium duty ADA compliant fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the plans.
The grate shall have a minimum load rating of DIN Class B (exceeds H-20).

DD. Model 12H48FG: Fiberglass grate with anti-slip grit - 12 inches (305 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/12 inch x 1/12 inch (38 mm x 38 mm) mesh spacing.

Grating shall be 12H48FG medium duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the plans.
The grate shall have a minimum load rating of DIN Class B (exceeds H-20).

EE. Model 12G36GSC: Galvanized steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm), banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 12G36GSC medium duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.
Grates shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

FF. Model 12G36GSD: Galvanized steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c, banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 12G36GSD heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.
Grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

GG. Model 12G36GSE: Galvanized steel bar grate - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 12G36GSE extreme duty bar grating. Grate shall be post fabricated hot dipped
galvanized per ASTM A-123.
Grates shall have a minimum load rating of DIN Class E (exceeds H-20/HS-25).

HH. Model12G24AL: Aluminum Bar grating - 12 inches (305 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c. and 4 inches (102 mm) o.c. cross bars.
Grating shall be 12G24AL bar grating. Grates shall be fabricated from 6063-T6 aluminum with a mill finish.
Grates shall have a minimum load rating of DIN Class A.

II. Model 12B24BR: Marine Grade Brass slotted grate.
Grating shall be 12B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

JJ. Model 12C24BR: Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate.
Grating shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

KK. Model 12W24BR: Marine Grade Brass ornamental pattern grate.
Grating shall be 12W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

LL. Model 12B24BZ: Bronze slotted grate.
Grating shall be 12B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

MM. Model 12C24BZ: Bronze ADA compliant and heel proof longitudinally slotted grate.
Grating shall be 12C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

NN. Model 12W24BZ: Bronze ornamental pattern grate.
Grating shall be 12W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

2.8 14 INCHES (356 MM) GRATE
A. Size: 14 inches (356 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick unless noted.

B. Model 14AF24BPB: Solid cover plate.
Grating shall be 14A24BPB heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.
**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.
   a. Provide checkered tread plate.
   b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class B.

C. Model 14AF24BPD: Solid cover plate.
Grating shall be 14A24BPD heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.
**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.
a. Provide checkered tread plate.
b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

D. Model 14AF24GSB: Galvanized solid cover plate.
Grating shall be 14A24GSB heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

** NOTE TO SPECIFIER ** Checkered plate is standard – smooth plate optional. Delete plate not required.

  a. Provide checkered tread plate.
  b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class B.

E. Model 14AF24GSD: Galvanized solid cover plate.
Grating shall be 14A24GSD heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

** NOTE TO SPECIFIER ** Checkered plate is standard – smooth plate optional. Delete plate not required.

  a. Provide checkered tread plate.
  b. Provide smooth plate.

The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Model 14AVCT48AL: Aluminum cover plate rated for heavy traffic with recessed center to accept 1/8 inch (3 mm) VCT tile - 14 inches (356 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm).
Grating shall be 14AVCT48AL heavy duty solid cover. The 3/8 inch (9.5 mm) thick cover shall have a 1/8 inch (3 mm) recess with outer band for locking bolts and shall be fabricated from aluminum with reinforcing ribs. The covers shall have a mill finish.
The cover shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

F. Model 14B24DI Ductile Iron Slotted Grate - Black powder painted - 1.125 inches (29 mm) slot width.
Grating shall be 14B24DI heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

G. Model 14B24DG: Galvanized Iron Slotted Grate - 1.125 inches (29 mm) slot width.
Grating shall be 14B24DG heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Grating shall be 14B24CI heavy duty cast iron slotted grate. The grate shall be made of gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Grating shall be 14B24DIF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be as cast natural finish.
The grate shall exceed FAA AC150/5 320-6D appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO H-25 rated.

Grating shall be 14B24DGF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall exceed FAA AC150/5 320-6D appendix 3 load, AASHTO M306-9 grate/manhole proof
test, and be AASHTO H-25 rated.

Grating shall be 14C24DI Pedestrian ADA / Heel proof Ductile Iron Longitudinally Slotted Grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black.
Grates shall have a minimum load rating of DIN class D (exceeds H-20/HS-25).

L. Model 14C24DG: Pedestrian ADA / Heel proof galvanized iron longitudinally slotted grate.
Grating shall be 14C24DG Pedestrian ADA / Heel proof Ductile Iron Longitudinally Slotted Grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
Grates shall have a minimum load rating of DIN class D (exceeds H-20/HS-25).

M. Model 14C24CI: Pedestrian ADA cast Iron slotted grate - uncoated - 0.375 inch (9.5 mm) slot opening.
Grating shall be 14C24CI heavy duty heel guard and ADA compliant slotted grate. The material shall be gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

N. Model 14AF24SS: T304 Stainless steel solid cover.
Grating shall be 14A24SS heavy duty solid cover. The cover shall be fabricated from T304 stainless steel. The covers shall have a sandblast or brushed finish.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Grating shall be 14B24SSB heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

Grating shall be 14B24SSD heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

Q. Model 14CF24SSB: T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 14C24SSB heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

Grating shall be 14C24SSD heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel. The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

S. Model 14E24SS: T304 Stainless steel perforated grate.
Grating shall be 14E24SS reinforced heel proof and ADA compliant stainless steel perforated grate. The grate shall be made of T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the under side of the grate for added strength.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

T. Model 14M24SS: T304 stainless steel mesh grate with ADA compliant & heel proof openings.
Grating shall be 14M24SS heel proof and ADA compliant stainless steel mesh grate. The grate shall be made of T304 stainless steel per ASTM A-123.
The grate shall have a minimum load rating of DIN Class A.

U. 14G36SSB T304 Stainless steel bar grate - 14 inches (356 mm) wide x 36 inches (914 mm)
Grating shall be 14G36SSB medium duty bar grating. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the Drawings).
The grate shall have a minimum load rating of DIN Class B.

V. Model 14G36SSC: T304 Stainless steel bar grate - 14 inches (356 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish
Grating shall be 14G36SSC heavy duty bar grating. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

W. Model 14G36SSD: T304 Stainless steel bar grate - 14 inches (356 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish
Grating shall be 14G36SSD heavy duty bar grating. Grate shall be T304 stainless steel with a sandblast finish (passivation is required if noted on the Drawings).
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

X. Model 14G48FG: Pultruded fiberglass I-bar grating with anti-slip grit - 14 inches (356 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.
Grating shall be 14G48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Y. Model 14GC48FG Pultruded fiberglass ADA compliant I-bar grating with anti-slip grit - 14 inches (356 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.
Grating shall be 14GC48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Z. Model 14HC48FG Fiberglass grate with anti-slip grit - 14 inches (356 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/2 inch x 1/2 inch (13 mm x 13 mm) mesh spacing.
Grating shall be 14HC48FG medium duty ADA compliant fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class B.

AA. Model 14H48FG: Fiberglass grate with anti-slip grit - 14 inches (356 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1-1/2 inches x 1-1/2 inches (38 mm x 38 mm) mesh spacing.
Grating shall be 14H48FG medium duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti-slip grit. Supplied in gray color unless otherwise specified on the plans.
The grate shall have a minimum load rating of DIN Class B.

BB. Model 14B24FG: Cast Fiberglass slotted grate.
Grating shall be 14B24FG heavy duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have traction nubs on the surface. Supplied in gray color unless otherwise specified on the Drawings.
The grate shall have a minimum load rating of DIN Class D.

CC. Model 14G36GSB: Galvanized steel bar grate - 14 inches (356 mm) wide x 36 inches (914}
mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c. Grating shall be 14G36GSB medium duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class B.

DD. Model 14G36GSC: Galvanized steel bar grate - 14 inches (356 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c. Grating shall be 14G36GSC heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

EE. Model 14G36GSD: Galvanized steel bar grate - 14 inches (356 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c. Grating shall be 14G36GSD heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123. Grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

FF. Model 14G24AL: Aluminum Bar grating – 14 inches (356 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick with 3/16 inch (4.8 mm) thick. bearing bars at 1-3/16 inches (30 mm) o.c. and 4 inches (102 mm) o.c. cross bars. Grating shall be 14G24AL bar grating. Grates shall be fabricated from 6063-T6 aluminum with a mill finish. Grates shall have a minimum load rating of DIN Class A.

GG. Model 14B24BR: Marine Grade Brass slotted grate. Grating shall be 14B24BR slotted grate. The grate shall be made from cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

HH. Model 14C24BR: Marine Grade Brass ADA compliant and heel proof longitudinally slotted grate. Grating shall be 14C24BR heel proof and ADA compliant longitudinally slotted grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

II. Model 14W24BR: Marine Grade Brass ornamental pattern grate. Grating shall be 14W24BR ornamental pattern grate. The grate shall be made of cast brass per ASTM B-146-852. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

JJ. Model 14B24BZ: Bronze slotted grate. Grating shall be 14B24BZ slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

KK. Model 14C24BZ: Bronze ADA compliant and heel proof longitudinally slotted grate. Grating shall be 14C24BZ heel proof and ADA compliant longitudinally slotted grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

LL. Model 14W24BZ: Bronze ornamental pattern grate. Grating shall be 14W24BZ ornamental pattern grate. The grate shall be made from cast nickel bronze per C99700. The grate shall have a natural finish and patina. The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).
A. Size: 20 inches (508 mm) wide x 24 inches (610 mm) long x 1.5 inches (38 mm) thick unless noted.

B. Model 20AF24BPB: Solid cover plate.
Grating shall be 20A24BPB heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class B (exceeds H-20/HS-25).

Model 20AF24BPD: Solid cover plate
Grating shall be 20A24BPD heavy duty solid cover. The grate shall be fabricated from A36 steel. The covers shall be painted black.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

C. Model 20AF24GSB: Galvanized solid cover plate.
Grating shall be 20A24GSB heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class B (exceeds H-20/HS-25).

Model 20AF24GSD: Galvanized solid cover plate
Grating shall be 20A24GSD heavy duty solid cover. The grate shall be fabricated from A36 steel. The cover shall be hot dip galvanized per ASTM A-123.

**NOTE TO SPECIFIER** Checkered plate is standard – smooth plate optional. Delete plate not required.

a. Provide checkered tread plate.
b. Provide smooth plate.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

D. Model 20B24DI: Ductile Iron Slotted Grate - painted black - 1.125 inch (29 mm) slot width.
Grating shall be 20B24DI heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

E. Model 20B24DG: Galvanized Iron Slotted Grate - 1.125 inch (29 mm) slot width.
Grating shall be 20B24DG heavy duty slotted grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

F. Model 20B24CI: Cast Iron Slotted Grate – Uncoated.
Grating shall be 20B24CI heavy duty cast iron slotted grate. The grate shall be made of gray iron per AASHTO M105 class 35B. The grate shall be natural uncoated finish.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Grating shall be 20B24DIF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be as cast natural finish.
The grate shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof.
test, and be AASHTO H-25 rated.

H. Model 20B24DGF: Galvanized ductile iron slotted grate.
Grating shall be 20B24DGF extreme duty slotted grate with four corner lock down. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be hot dip galvanized per ASTM A-123.
The grate shall exceed FAA AC150/5 320-6E appendix 3 load, AASHTO M306-9 grate/manhole proof test, and be AASHTO H-25 rated.

I. Model 20CF24BP: Black powder painted steel ADA compliant / Heel proof grate.
Grating shall be 20C24BP heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from A36 steel. The grates shall have a black powder coated finish.
The grates have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Grating shall be 20W24DI ADA compliant ornamental wave pattern ductile iron grate. The grate shall be made of grade 65-45-12 cast ductile iron conforming to ASTM A 536-84. The grate shall be painted black.
Grates shall have a minimum load rating of DIN class C (exceeds H-20/HS-25).

K. Model 20AF24SS: T304 Stainless steel solid cover.
Grating shall be 20A24SS heavy duty solid cover. The cover shall be fabricated from T304 stainless steel.
The covers shall have a sandblast or brushed finish.
The cover shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

L. Model 20BF24SSB: T304 Stainless steel slotted grate.
Grating shall be 20B24SSB heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel.
The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

M. Model 20BF24SSD: T304 Stainless steel slotted grate.
Grating shall be 20B24SSD heavy duty slotted grate. The grate shall be fabricated from T304 stainless steel.
The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

N. Model 20CF24SSB: T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 20C24SSB heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.
The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class B.

O. Model 20CF24SSC: T304 Stainless steel ADA compliant / Heel proof grate.
Grating shall be 20C24SSC heavy duty heel guard and ADA compliant slotted grate. The grate shall be fabricated from T304 stainless steel.
The grates shall have a sandblast or brushed finish.
The grates shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Grating shall be 20E24SS reinforced heel proof and ADA compliant stainless steel perforated grate.
The grate shall be made of T304 stainless steel per ASTM A-123 and shall have reinforcing ribs affixed to the under side of the grate for added strength.
The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

Q. Model 20G36SSB: T304 Stainless steel bar grate – 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.
Grating shall be 20G36SSB medium duty bar grating. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the plans).
The grate shall have a minimum load rating of DIN Class B.

R. Model 20G36SSC: T304 Stainless steel bar grate - 20 inches (508 mm) wide x 36 inches
(914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.

Grating shall be 20G36SSC heavy duty bar grating. Grates shall be banded. Grate shall be T304 stainless steel with sandblast finish (passivation is required if noted on the Drawings).

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

S. Model 20G36SSD T304 Stainless steel bar grate - 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c., sandblast finish.

Grating shall be 20G36SSD heavy duty bar grating. Grate shall be T304 stainless steel with a sandblast finish - passivation is required if noted on the Drawings).

The grate shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

T. Model 20G48FG Pultruded fiberglass I-bar grating with anti-slip grit - 20 inches (508 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.

Grating shall be 20G48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

U. Model 20GC48FG Pultruded fiberglass ADA compliant I-bar grating with anti-slip grit - 20 inches (508 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick.

Grating shall be 20GC48FG heavy duty pultruded fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).

V. Model 20HC48FG: Fiberglass grate with anti-slip grit - 20 inches (508 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1/2 inch x 1/2 inch (13 mm x 13 mm) mesh spacing.

Grating shall be 20HC48FG medium duty ADA compliant fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class A.

W. Model 20H48FG: Fiberglass grate with anti-slip grit - 20 inches (508 mm) wide x 48 inches (1219 mm) long x 1.5 inches (38 mm) thick with 1-1/2 inches x 1-1/2 inches (38 mm x 38 mm) mesh spacing.

Grating shall be 20H48FG medium duty fiberglass grating. Grate shall be fabricated from general purpose polyester resin and have anti slip grit. Supplied in gray color unless otherwise specified on the Drawings.

The grate shall have a minimum load rating of DIN Class A.

X. Model 20G36GSB: Galvanized steel bar grate - 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm), with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 20G36GSB medium duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.

Grates shall have a minimum load rating of DIN Class B.

Y. Model 20G36GSC: Galvanized steel bar grate - 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 1/4 inch (6 mm) thick bearing bars at 1-3/16 inches o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c.

Grating shall be 20G36GSC heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123.

The grate shall have a minimum load rating of DIN Class C (exceeds H-20/HS-25).
Z. Model 20G36GSD: Galvanized steel bar grate - 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick, with 3/8 inch (9.5 mm) thick bearing bars at 1-3/16 inches o.c., load banded edges, and cross bars at 4 inches (102 mm) o.c. Grating shall be 20G36GSD heavy duty bar grating. Grate shall be post fabricated hot dipped galvanized per ASTM A-123. Grates shall have a minimum load rating of DIN Class D (exceeds H-20/HS-25).

AA. Model 20G24AL: Aluminum Bar grating
Grating shall be 20G24AL bar grating. Grates shall be fabricated from 6063-T6 aluminum with a mill finish. The grate shall be 20 inches (508 mm) wide x 36 inches (914 mm) long x 1.5 inches (38 mm) thick with 3/16 inch (4.8 mm) thick bearing bars at 1-3/16 inches (30 mm) o.c. and 4 inches (102 mm) o.c. cross bars. Grates shall have a minimum load rating of DIN Class A.

**NOTE TO SPECIFIER** 26, 38 and 50 inches (660 mm, 962 mm, 1270 mm) wide trench drain grates are engineered and manufactured by Eric'sons Inc. Consult manufacturer literature for large width trench grate.

2.10 GRATE

A. Provide engineered grate for the application indicated on the Drawings with the following requirements:

Trench Body:
Slope:
Grate:
Frame:
Grate Locking:
Outlet:
Joint Sealant:

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation. Ensure ground conditions are compacted and suitable for construction. Poor soil bearing conditions or other site conditions will require engineering advise. Ensure excavation will allow for proper thickness of concrete surround before proceeding.

B. Ensure any reinforcement is placed and firmly held in place prior to linear drain installation. All reinforcement steel shall follow concrete reinforcing steel institute standards.

B-C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Linear drains by ensuring they are clean and properly oriented and sequenced.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

B. Construct expansion and control joints as indicated in construction documents. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship
with adjacent construction. The linear drain products are not to be used as a construction or control joint in the lengthwise direction. Any construction, expansion, or control joints placed traverse to the system shall be made at linear drain joints in the frame.

C. Place concrete to completely encapsulate linear drain as shown in contract documents. The drain shall be finished 1/8" below finish grade while ensuring proper slope of adjacent areas toward the drain creating positive flow to the drain.

a. **NOTE TO SPECIFIER** ** The tolerance should be specified to appropriately match with the site tolerances. Typical tolerance is ¼" but 1/8" tolerances are sometimes used for special applications.**

A–D. All linear drains shall be installed to within ¼" tolerance. Install in accordance with manufacturer’s instructions, approved submittals, and in proper relationship with adjacent construction.

3.4 PROTECTION

A. Protect installed products until completion of project. Protective wood trench covers shall remain in place until such time that grating can be installed with no future damage to grating finishes.

B. Clean and remove any debris from linear drains prior to Owner’s acceptance.

B–C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION
“Attachment 4”

Bus Shelter Design
(Brasco 4040)
ALUMINUM LOW DOME ROOF TRANSIT SHELTER WITH CANTILEVER BL-513-OF REGULAR STYLE SHELTER

QUANTITY (1) SHELTER THUS

SPECIFICATIONS:
- RAL7001 SILVER GREY POWDER COAT ALUMINUM STRUCTURE
- 3/8" CLEAR TEMPERED SAFETY GLASS
- 6' PERFORATED ALUMINUM BENCH WITH BACKREST & ARMREST
- 23" x 33" SCHEDULE HOLDER (SHIPS LOOSE)
- RAL5017 TRAFFIC BLUE POWDER COAT ALUMINUM LOW DOME ROOF WITH FASCIA/GUTTER SYSTEM & ROOF MOUNTED SOLAR LIGHTING SYSTEM
- 32 GALLON PERFORATED TRASH RECEPTACLE (LOCATE AS NEEDED)

BRASCO INTERNATIONAL, INC.
32400 INDUSTRIAL DRIVE
MADISON HEIGHTS, MICHIGAN 48071
1–800–893–3665 WWW.BRASCO.COM

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SIGNED: ________________________ DATE: ______________
“Attachment 5”

Root Barrier Detail
**DETAIL 1**

**CURB & GUTTER ROOT PROTECTION DETAIL**

(N.T.S.)

NOTE:
- Use wood or plastic rings to protect curb roots.
- No cutting of pruning of the root system without the design and consent of certified arborists.

**ROOT BARRIER DETAIL**

(N.T.S.)

ROOT BARRIER SHALL BE INSTALLED 10 FT FROM CENTER OF TREE ON EACH DIRECTION ALONG THE PROPOSED CURB AND GUTTER ON BULB-OUTS AND ALONG THE PROPOSED CONCRETE TRENCH DRAIN LOCATED BETWEEN BULB-OUT AND EXISTING SIDEWALK.

**ROOT PROTECTION/ROOT BARRIER DETAIL**

(N.T.S.)