

## ADDENDUM NO. 1

DATE: September 5, 2014

OWNER: City of Grand Junction

FROM:   
Jered Timothy, Project Manager

PROJECT: **Safe Routes to Schools**

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This addendum shall be a part of the Contract Documents for the above project and is hereby made effective on the date shown above. All other terms and conditions of the contract documents not addressed in this addendum shall remain unchanged.

The bidder shall acknowledge receipt of this addendum in the space provided in the Bid Form. Failure to do so may subject the bidder to disqualification.

1. **Approved Equal - NYLOPLAST 30" Drain Basin & Highway Structure.** Each basin shall be 30" Diameter. Irrigation structures located on B ½ Road (2 EA.) shall be topped with a 2' x 2' Road and Highway Grate (3299CGSQ). Irrigation structures located on Orchard Avenue at Stations 1+90.72, 3+11.39 and 3+58.92 shall be topped with the solid ductile iron lid (2499CGC). The remaining four structures shall be topped with the grated ductile iron lid (2499CGS). Note that these four locations service irrigation pumps that will require the lid to be modified accordingly.

**See Specification Attached.**

-- End Addendum No. 1 --

## Section 2721

### Engineered Surface Drainage Products

#### GENERAL

PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.


#### MATERIALS

The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

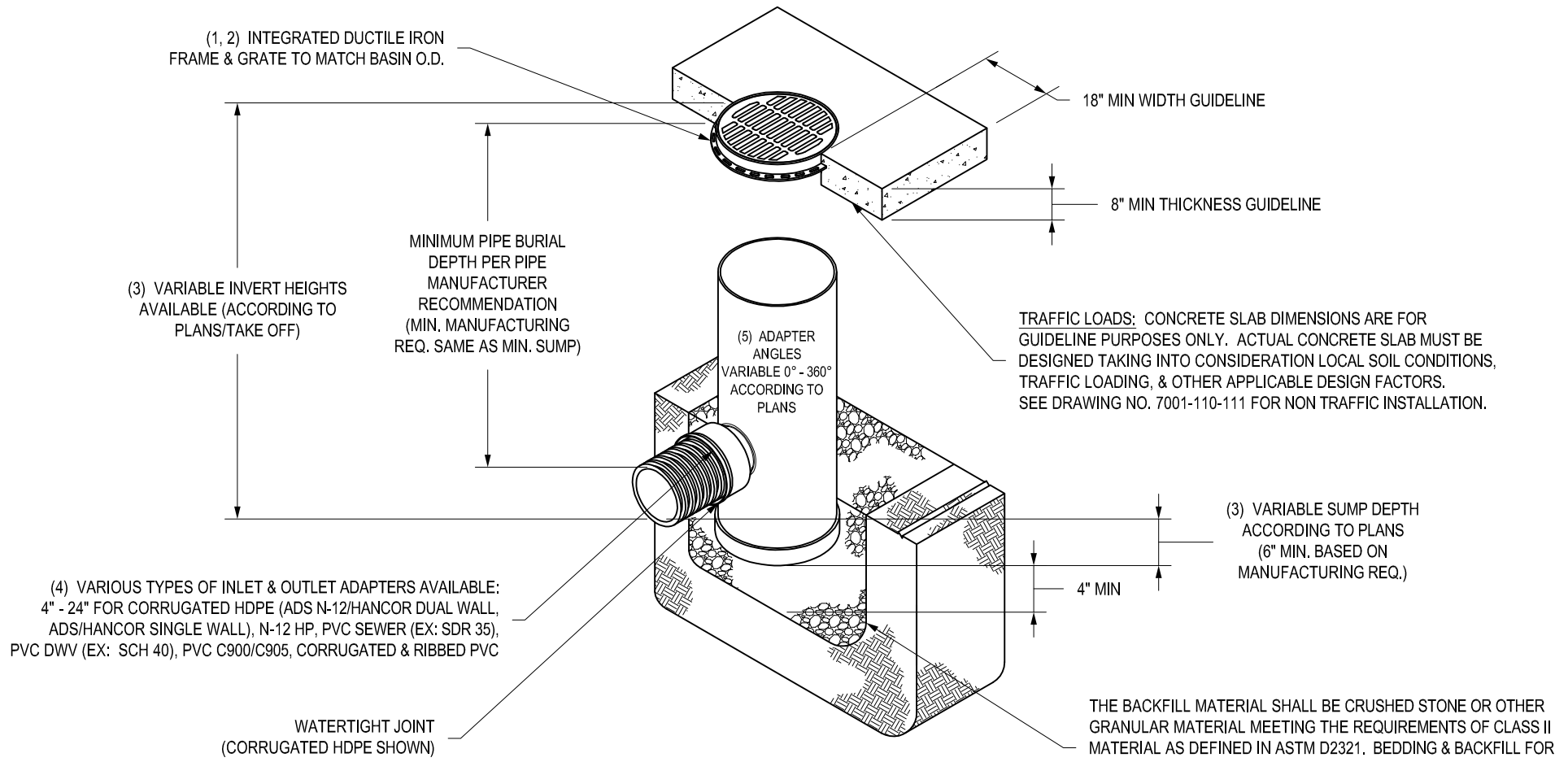
The grates and frames furnished for all surface drainage inlets shall be ductile iron for sizes 8", 10", 12", 15", 18", 24" and 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting H-20 wheel loading for traffic areas or H-10 loading for pedestrian areas. 12" and 15" square grates will be hinged to the frame using pins. Metal used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05 for ductile iron. Grates shall be provided painted black.

#### INSTALLATION

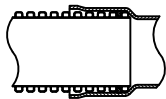
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For H-20 load rated installations, a concrete ring will be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

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|   | DATE       | 3-10-00 | PROJECT NO./NAME                        |       |   |   |              |     |   |
|   | REVISED BY | EBC     | TITLE                                   |       |   |   |              |     |   |
|   | DATE       | 2-9-10  | 8 IN - 30 IN DRAIN BASIN SPECIFICATIONS |       |   |   |              |     |   |
| DWG SIZE  | A          | SCALE   | 1:1                                     | SHEET | 1 OF 1  | DWG NO.   | 7001-110-011 | REV | F |

# NYLOPLAST 24" DRAIN BASIN: 2824AG \_\_X



- 1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
- 4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
- 5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.




| GRATE OPTIONS | LOAD RATING | PART #  | DRAWING #    |
|---------------|-------------|---------|--------------|
| PEDESTRIAN    | MEETS H-10  | 2499CGP | 7001-110-216 |
| STANDARD      | MEETS H-20  | 2499CGS | 7001-110-217 |
| SOLID COVER   | MEETS H-20  | 2499CGC | 7001-110-218 |
| DOME          | N/A         | 2499CGD | 7001-110-219 |
| DROP IN GRATE | LIGHT DUTY  | 2401DI  | 7001-110-075 |

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| DATE       | 4-3-06  |                         |
| REVISED BY | EBC     | PROJECT NO./NAME        |
| DATE       | 3-11-10 |                         |
| DWG SIZE   | A       | SCALE 1:40 SHEET 1 OF 1 |



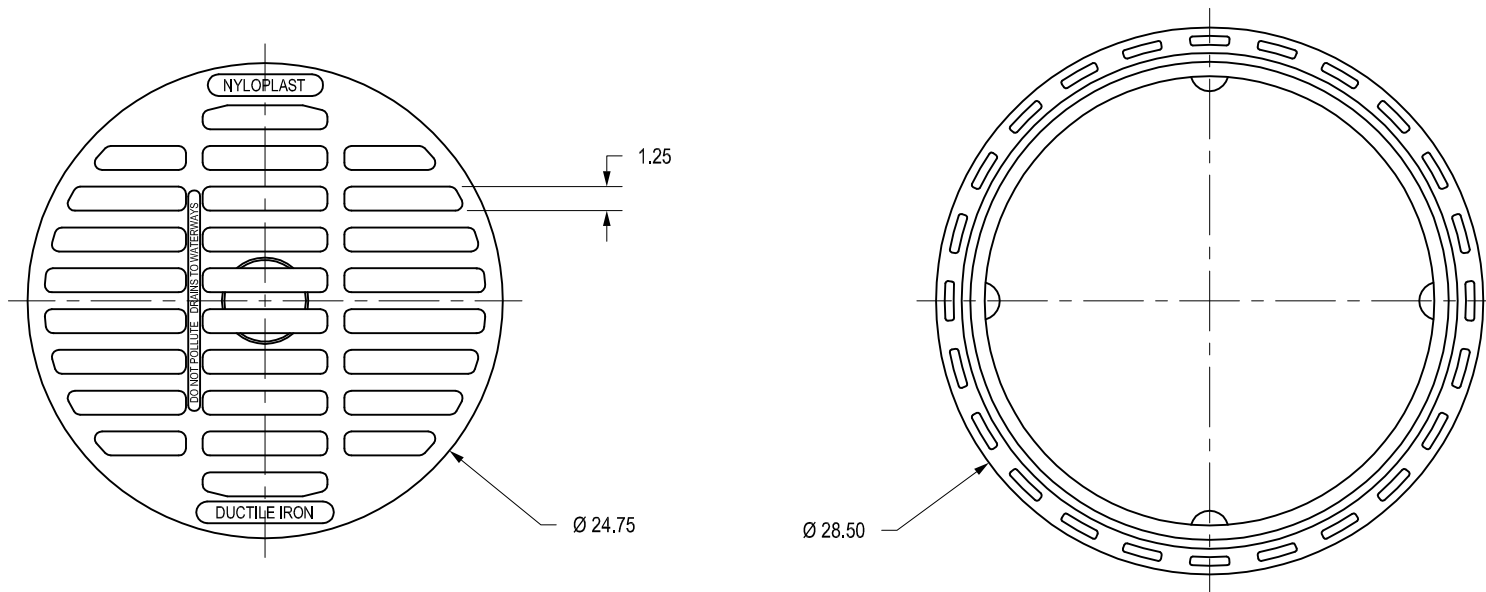
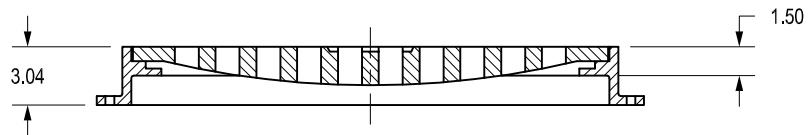
**Nyloplast**

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|  |              |
|--|--------------|
| TITLE  |              |
| 24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL |              |
| DWG NO.  | 7001-110-192 |
| REV  | C            |

# 2499CGS


APPROX. DRAIN AREA = 194.60 SQ IN  
 APPROX. WEIGHT WITH FRAME = 124.00 LBS



DIMENSIONS ARE FOR REFERENCE ONLY  
 ACTUAL DIMENSIONS MAY VARY  
 DIMENSIONS ARE IN INCHES  
 GRATE MEETS H-20 LOAD RATING  
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05  
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT  
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO.  
 7001-110-024

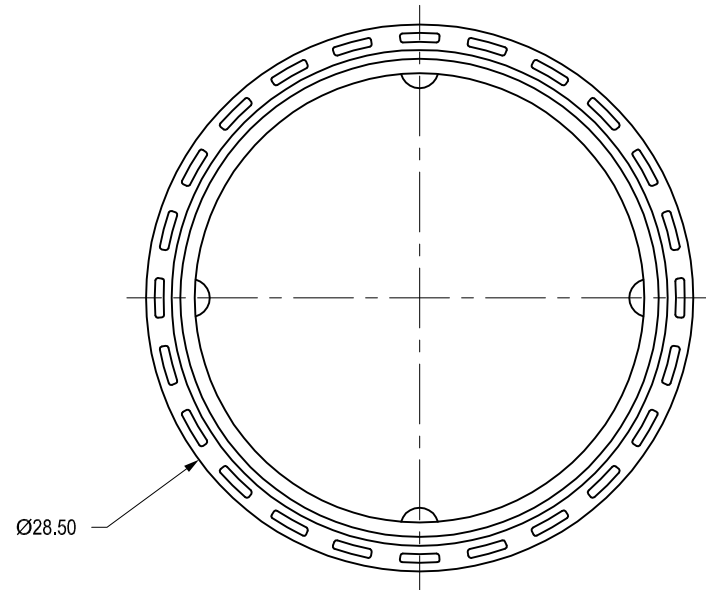
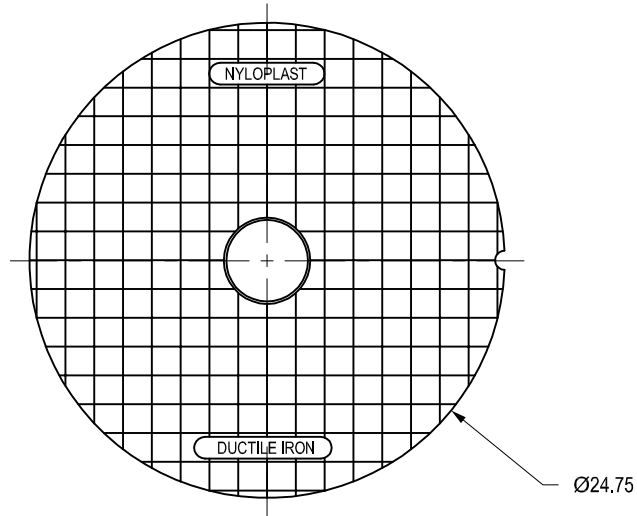
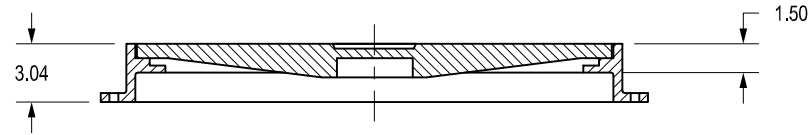
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|            |         |                         |
|------------|---------|-------------------------|
| DRAWN BY   | EBC     | MATERIAL                |
| DATE       | 3-8-06  | DUCTILE IRON            |
| REVISED BY | EBC     | PROJECT NO./NAME        |
| DATE       | 3-13-10 |                         |
| DWG SIZE   | A       | SCALE 1:10 SHEET 1 OF 1 |

|   |   |       |
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|   | TITLE<br>24 IN STANDARD GRATE ASSEMBLY - TYPE B   |       |
| DWG NO.   | 7001-110-217  | REV C |

# 2499CGC

APPROX. WEIGHT WITH FRAME = 138.00 LBS




DIMENSIONS ARE FOR REFERENCE ONLY  
 ACTUAL DIMENSIONS MAY VARY  
 DIMENSIONS ARE IN INCHES  
 GRATE MEETS H-20 LOAD RATING  
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05  
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT  
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO.  
 7001-110-025

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| DATE       | 3-13-10 |                         |
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|   | TITLE<br>24 IN SOLID COVER ASSEMBLY - TYPE B  |       |
| DWG NO.   | 7001-110-218  | REV C |

## Section 2724

### Engineered Surface Drainage Products

#### GENERAL

PVC surface drainage inlets shall be of the road and highway structure type as indicated on the contract drawings and referenced within the contract specifications. The **ductile iron frame and grate** for each of these structures is to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The road and highway structure shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc. or prior approved equal.


#### MATERIALS

The road and highway structure required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the structure. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

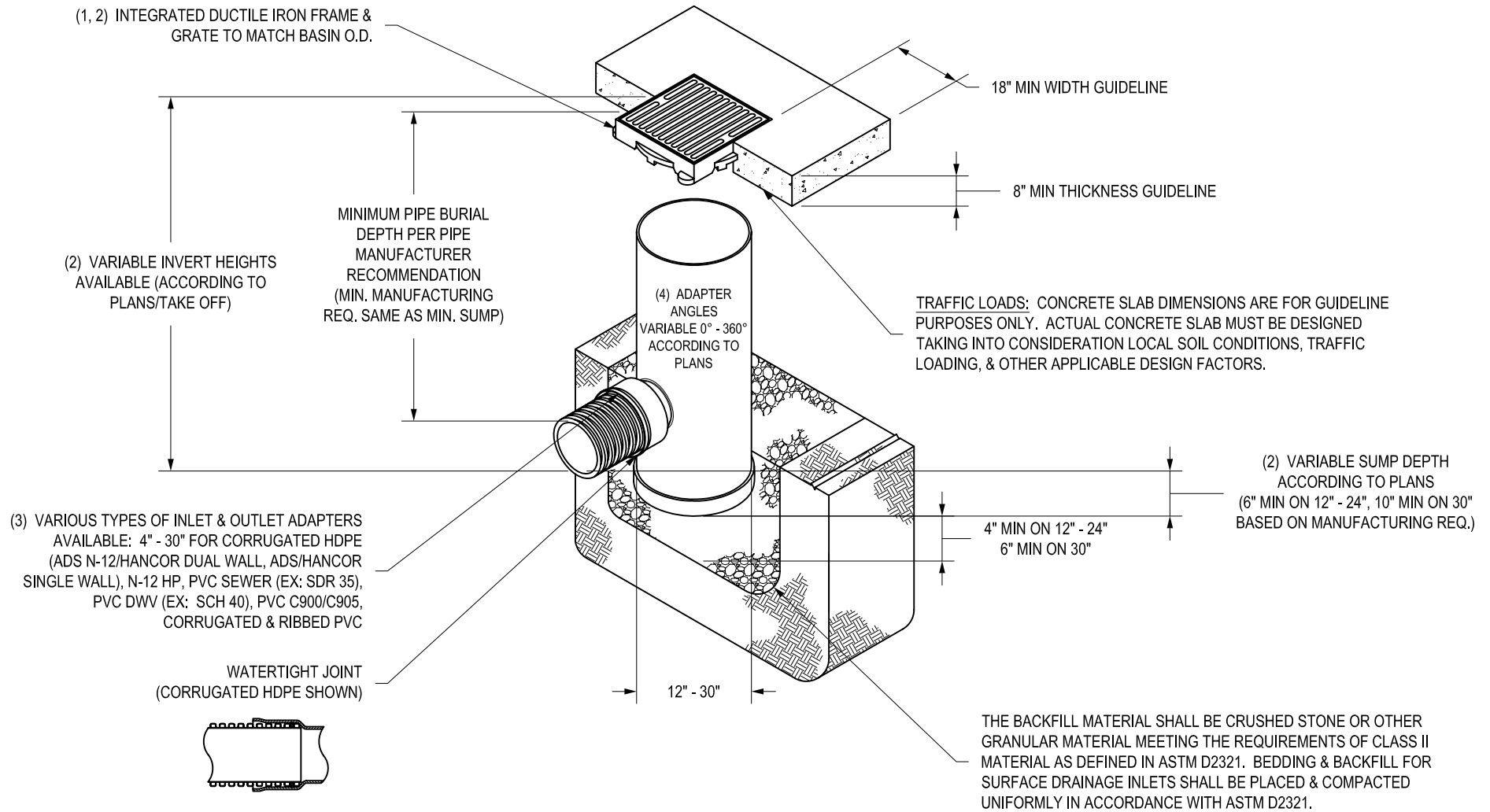
The grate and frame for all road and highway structures shall be ductile iron and shall be made specifically for each so as to provide a round bottom flange that closely matches the diameter of the PVC basin body. The grate and frame shall be capable of supporting H-20 wheel loading for traffic areas. The metal used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05 for ductile iron.

#### INSTALLATION

The specified PVC road and highway structure shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 2 material as defined in ASTM D2321. Bedding and backfill for the road and highway structure shall be placed and compacted uniformly in accordance with ASTM D2321. The road and highway structure body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For H-20 load rated installations, a concrete ring will be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

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|   | DATE       | 12-18-01 |                  |       |   |   |              |     |   |
|   | REVISED BY | EBC      | PROJECT NO./NAME |       | TITLE   |   |              |     |   |
|   | DATE       | 2-22-10  |                  |       | 2 FT X 2 FT & 2 FT X 3 FT ROAD & HIGHWAY<br>STRUCTURE SPECIFICATIONS                  |   |              |     |   |
| DWG SIZE  | A          | SCALE    | 1:1              | SHEET | 1 OF 1  | DWG NO.   | 7001-110-077 | REV | D |

# NYLOPLAST 2 FT X 2FT ROAD & HIGHWAY STRUCTURE: 32 \_\_ AGS \_\_ X




- 1 - 12" - 30" FRAMES & GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- 2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
- 3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
- 4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
- 5 - ROAD & HIGHWAY GRATE SHALL MEET H-20 LOAD RATING.

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| DATE       | 1-23-06 |                         |
| REVISED BY | EBC     | PROJECT NO./NAME        |
| DATE       | 3-3-10  |                         |
| DWG SIZE   | A       | SCALE 1:40 SHEET 1 OF 1 |



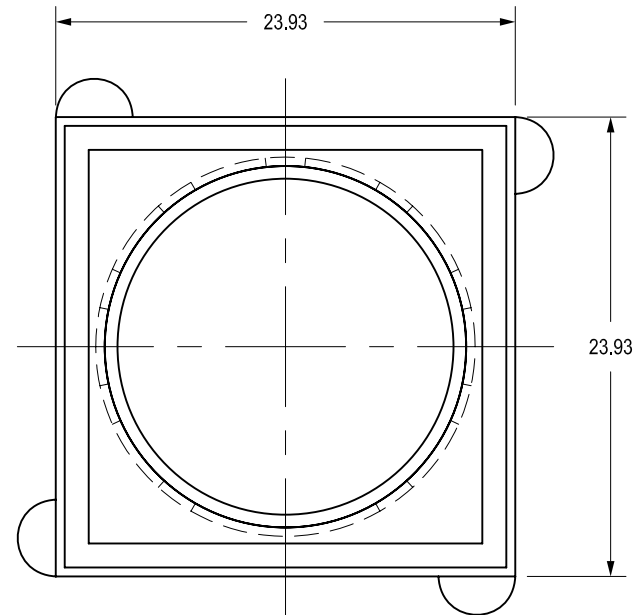
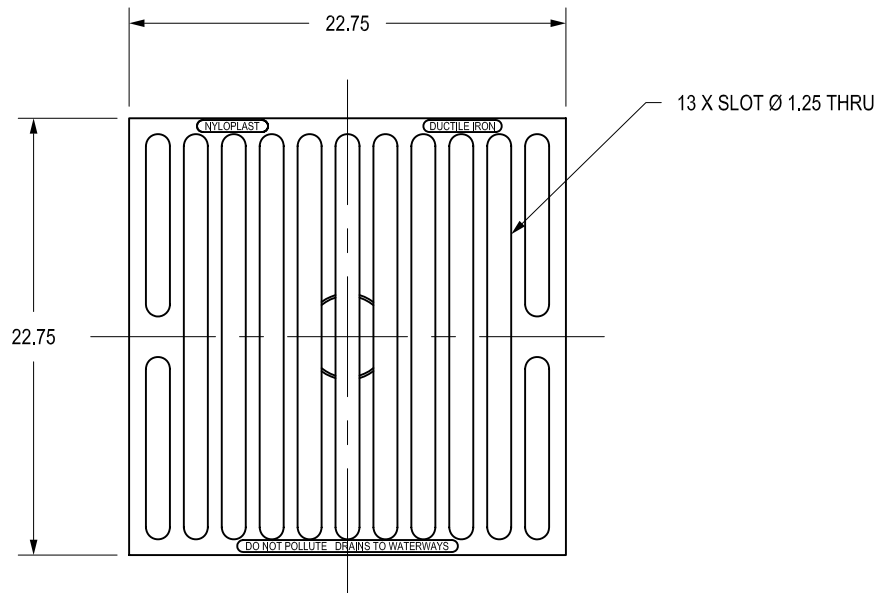
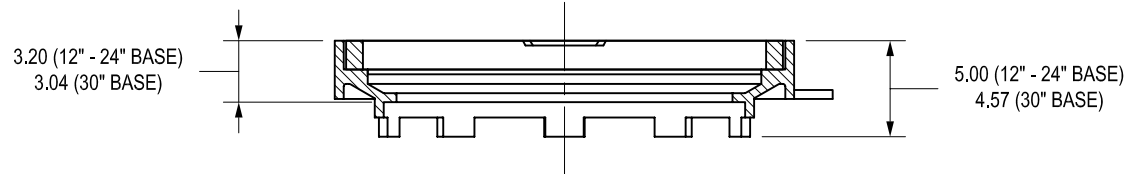
**Nyloplast**

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BUFORD, GA 30518  
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|         |  |
|---------|--|
| TITLE   | DRAIN BASIN WITH 2 FT X 2 FT ROAD & HIGHWAY GRATE QUICK SPEC INSTALLATION DETAIL |
| DWG NO. | 7001-110-162 REV E   |

# 3299CGSQ

APPROX. DRAIN AREA = 277.53 SQ IN  
 \*APPROX. WEIGHT OF GRATE = 66.50 LBS




DIMENSIONS ARE FOR REFERENCE ONLY  
 ACTUAL DIMENSIONS MAY VARY  
 DIMENSIONS ARE IN INCHES  
 GRATE MEETS H-20 LOAD RATING  
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05  
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT  
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-238

\*WEIGHT DOES NOT INCLUDE FRAME  
 FRAME WITH 12" BASE : APPROX. 92.00 LBS  
 FRAME WITH 15" BASE: APPROX. 89.00 LBS  
 FRAME WITH 18" BASE: APPROX. 86.50 LBS  
 FRAME WITH 24" BASE: APPROX. 98.50 LBS  
 FRAME WITH 30" BASE: APPROX. 110.00 LBS

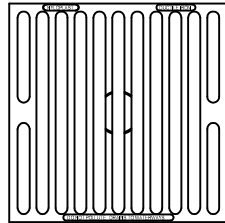
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|------------|---------|-------------------------|
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| DATE       | 3-9-06  | DUCTILE IRON            |
| REVISED BY | EBC     | PROJECT NO./NAME        |
| DATE       | 3-14-10 |                         |
| DWG SIZE   | A       | SCALE 1:10 SHEET 1 OF 1 |

|   |   |
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|   | TITLE<br>2 FT X 2 FT ROAD & HIGHWAY<br>2 PIECE GRATE ASSEMBLY   |
| DWG NO.   | 7001-110-224 REV C  |



# 32 \_\_ AGS \_\_ X



2' X 2' ROAD & HIGHWAY GRATE



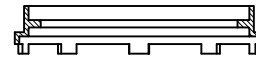
12" FRAME



15" FRAME



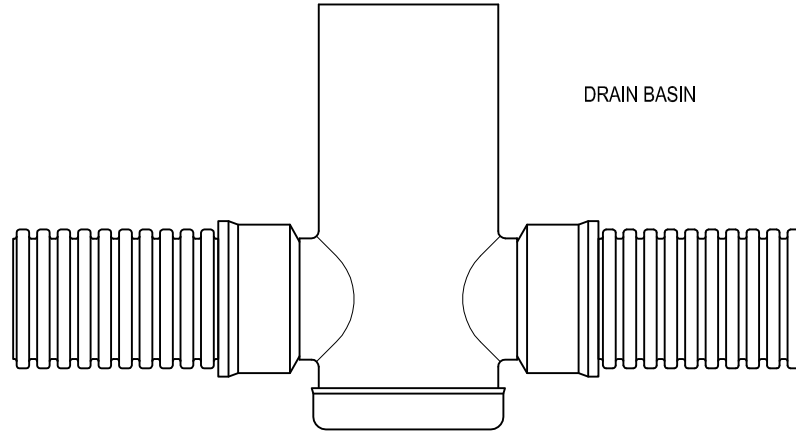
18" FRAME



24" FRAME



30" FRAME



DRAIN BASIN

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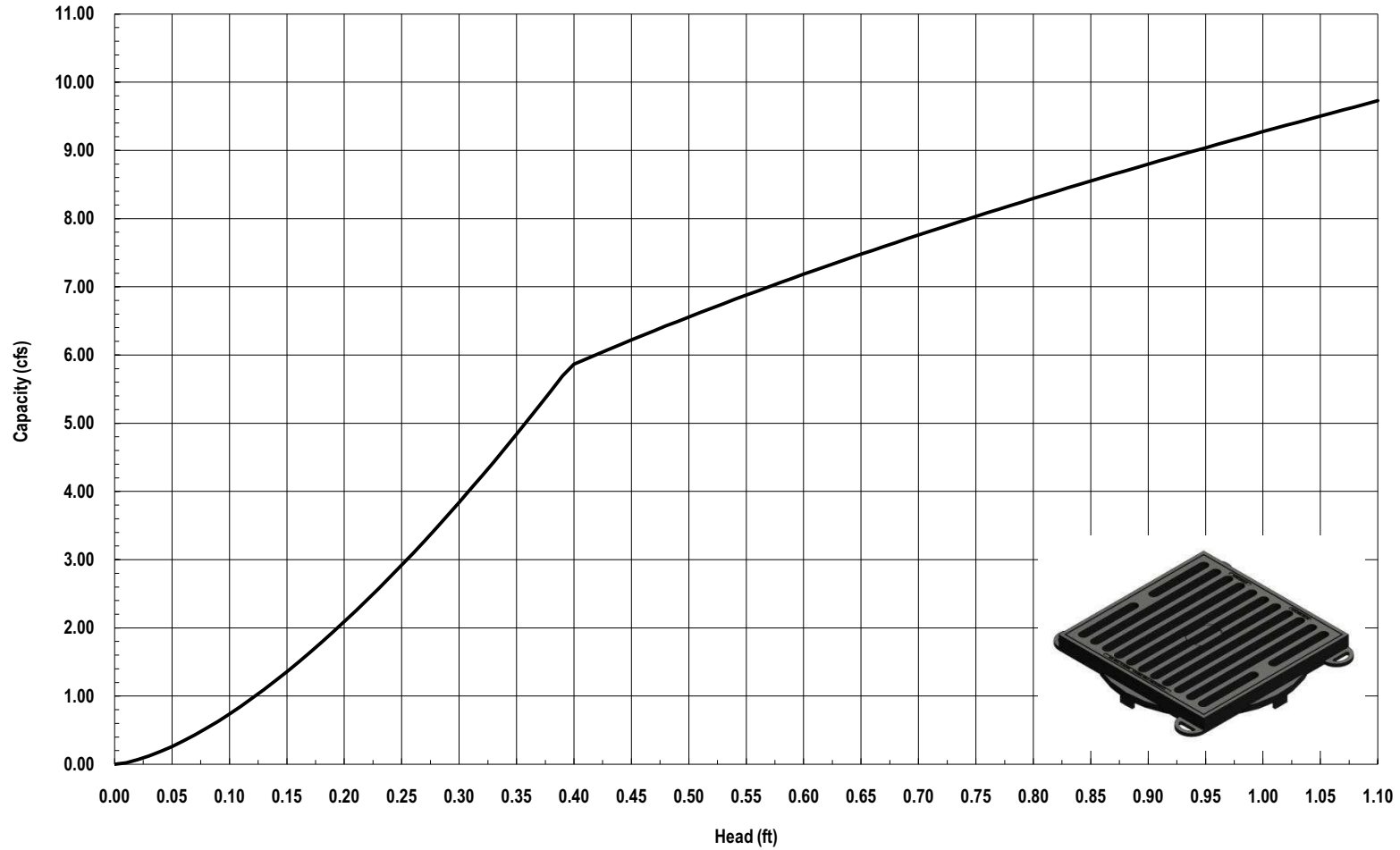
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|----------|---------|-------------------------|
| DRAWN BY | CJA     | MATERIAL                |
| DATE     | 6-21-01 |                         |
| APPD BY  | CJA     | PROJECT NO./NAME        |
| DATE     | 6-21-01 |                         |
| DWG SIZE | A       | SCALE 1:20 SHEET 1 OF 1 |



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|         |                    |     |   |
|---------|--------------------|-----|---|
| TITLE   | 2 FT X 2 FT FAMILY |     |   |
| DWG NO. | 7001-110-069       | REV | E |

### Nyloplast 2' x 2' Road & Highway Grate Inlet Capacity Chart



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