

**NOTES**

**CATCH BASIN No. 2-B** This sheet depicts Catch Basin 2-B. See Sheet 157-2 for Catch Basin 2-A.

**GRATE** Furnish a grate assembly for the same and equally as strong as the one shown on the drawings. The grate shall be made of cast iron or steel and shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates.

**FRAMING** The framing shall be of cast iron or steel and shall be of the type known as "cast iron" or "steel" framing. The framing shall be of the type known as "cast iron" or "steel" framing. The framing shall be of the type known as "cast iron" or "steel" framing.

**CONCRETE** The concrete shall be of the type known as "concrete" and shall be of the type known as "concrete". The concrete shall be of the type known as "concrete" and shall be of the type known as "concrete". The concrete shall be of the type known as "concrete" and shall be of the type known as "concrete".

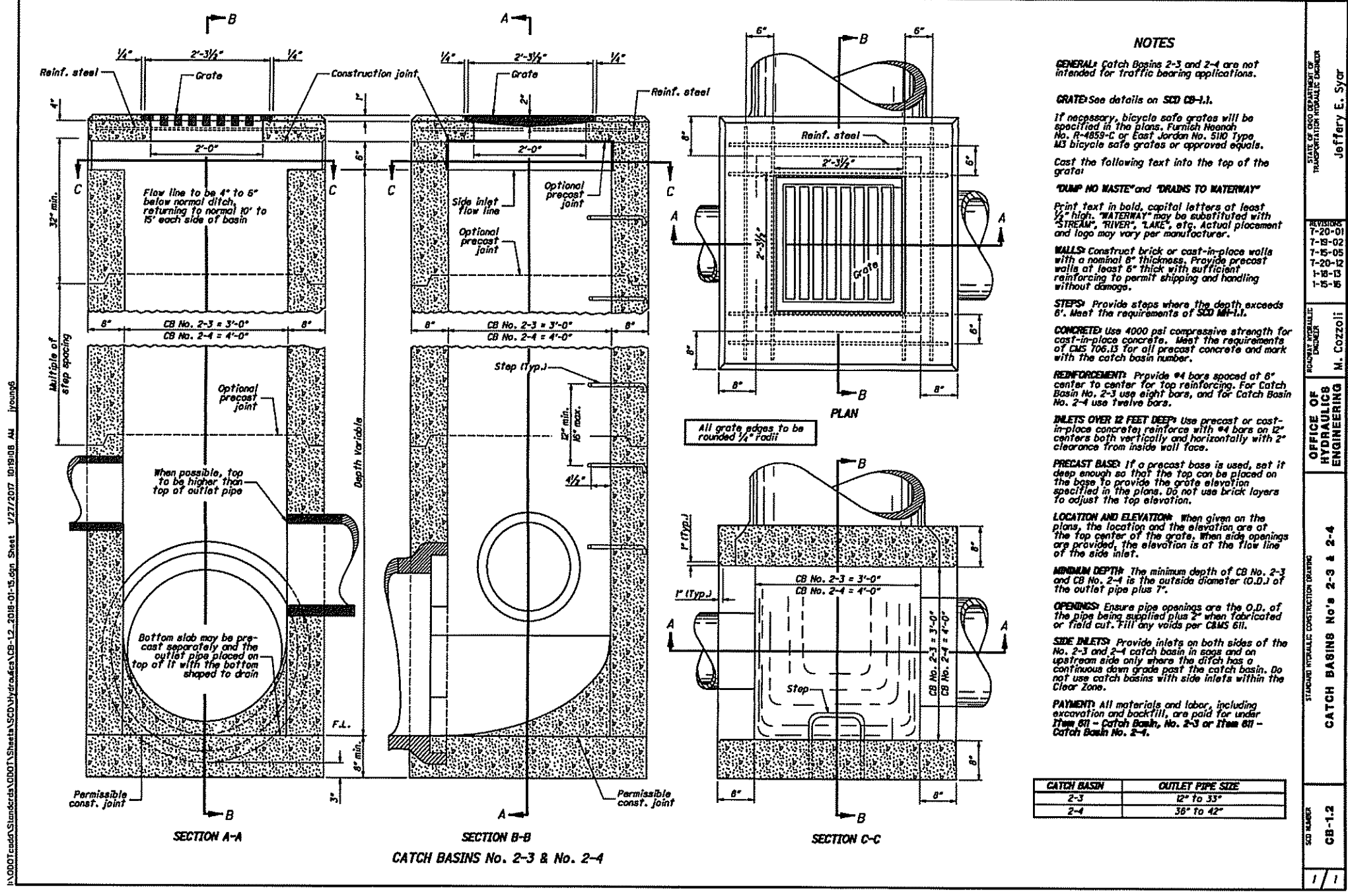
**REINFORCING** The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing". The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing". The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing".

**CONSTRUCTION INFORMATION**

CATCH BASIN	OUTLET PIPE SIZE
2-A	12" to 24"
2-B	12" to 24"

**AS PER PLAN NOTES:**

- ALL REAR YARD BASINS SHALL BE MANUFACTURED WITH A SEPARATE 6" SLAB TOP SECTION AND ALLOWING FOR THE USE OF A 6" ADJUSTING COLLAR.
- NO SIDE INLETS EXCEPT WHERE INDICATED ON THE PROFILES.



**NOTES**

**CATCH BASIN No. 2-3 & 2-4** This sheet depicts Catch Basin 2-3 and 2-4. See Sheet 157-2 for Catch Basin 2-A.

**GRATE** Furnish a grate assembly for the same and equally as strong as the one shown on the drawings. The grate shall be made of cast iron or steel and shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates.

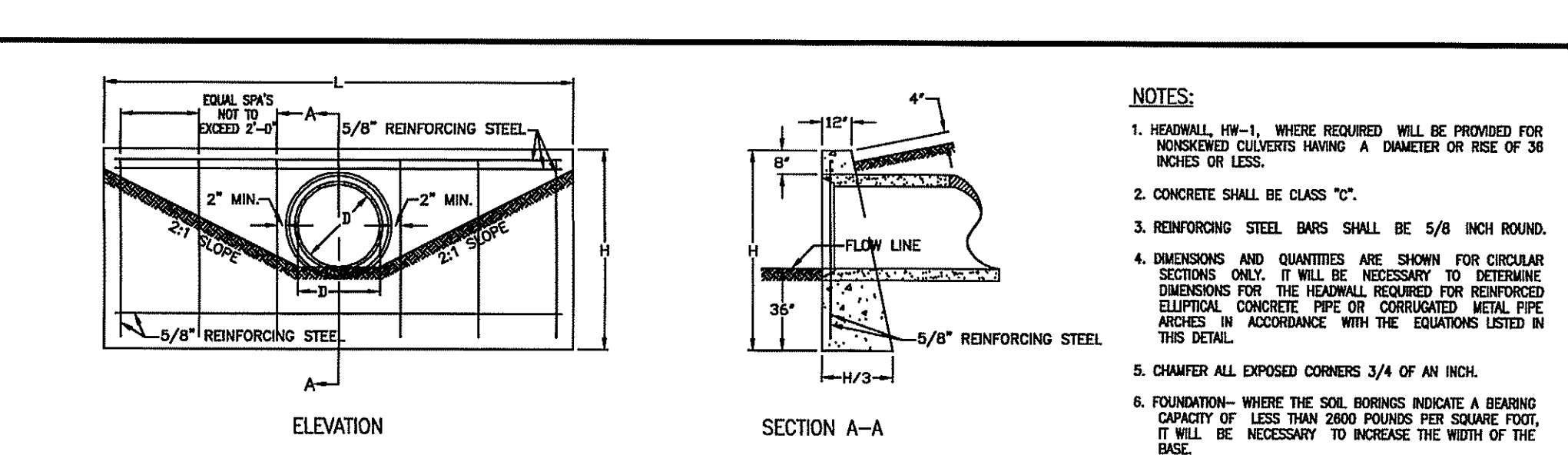
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**CONSTRUCTION INFORMATION**

CATCH BASIN	OUTLET PIPE SIZE
2-3	12" to 24"
2-4	12" to 24"



**NOTES**

- HEADWALL, HW-1, WHERE REQUIRED WILL BE PROVIDED FOR NON-REINFORCED CONCRETE HAVING A DIAMETER OR RISE OF 36 INCHES OR LESS.
- CONCRETE SHALL BE CLASS "C".
- REINFORCING STEEL BARS SHALL BE 5/8 INCH ROUND.
- DIMENSIONS AND QUANTITIES ARE SHOWN FOR CIRCULAR SECTIONS ONLY. IT WILL BE NECESSARY TO DETERMINE DIMENSIONS FOR THE HEADWALL REQUIRED FOR REINFORCED ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL PIPE RISES IN ACCORDANCE WITH THE EQUATIONS LISTED IN THIS DETAIL.
- CHAMFER ALL EXPOSED CORNERS 3/4" OF AN INCH.
- FOUNDATION: WHERE THE SOIL BORINGS INDICATE A BEARING CAPACITY OF LESS THAN 2000 POUNDS PER SQUARE FOOT, IT WILL BE NECESSARY TO INCREASE THE WIDTH OF THE BASE.

DIMENSIONS		QUANTITIES ONE HEADWALL	
DIAMETER	H	CONCRETE CU. YDS.	REINFORCING STEEL LBS.
15"	5'-2"	7'-0"	1.7
18"	5'-5"	8'-4"	2.2
21"	5'-8"	9'-8"	2.8
24"	5'-11"	11'-0"	3.3
30"	6'-5"	13'-8"	4.7
36"	7'-0"	16'-4"	6.5

**LEGEND:**

- L CIRCULAR SECTIONS = 5D+4T
- L ELLIPTICAL OR DOME-ARCH = 4R+4T+S
- H CIRCULAR SECTIONS = D+4H+4
- H ELLIPTICAL OR PIPE-ARCH = R+4H+4

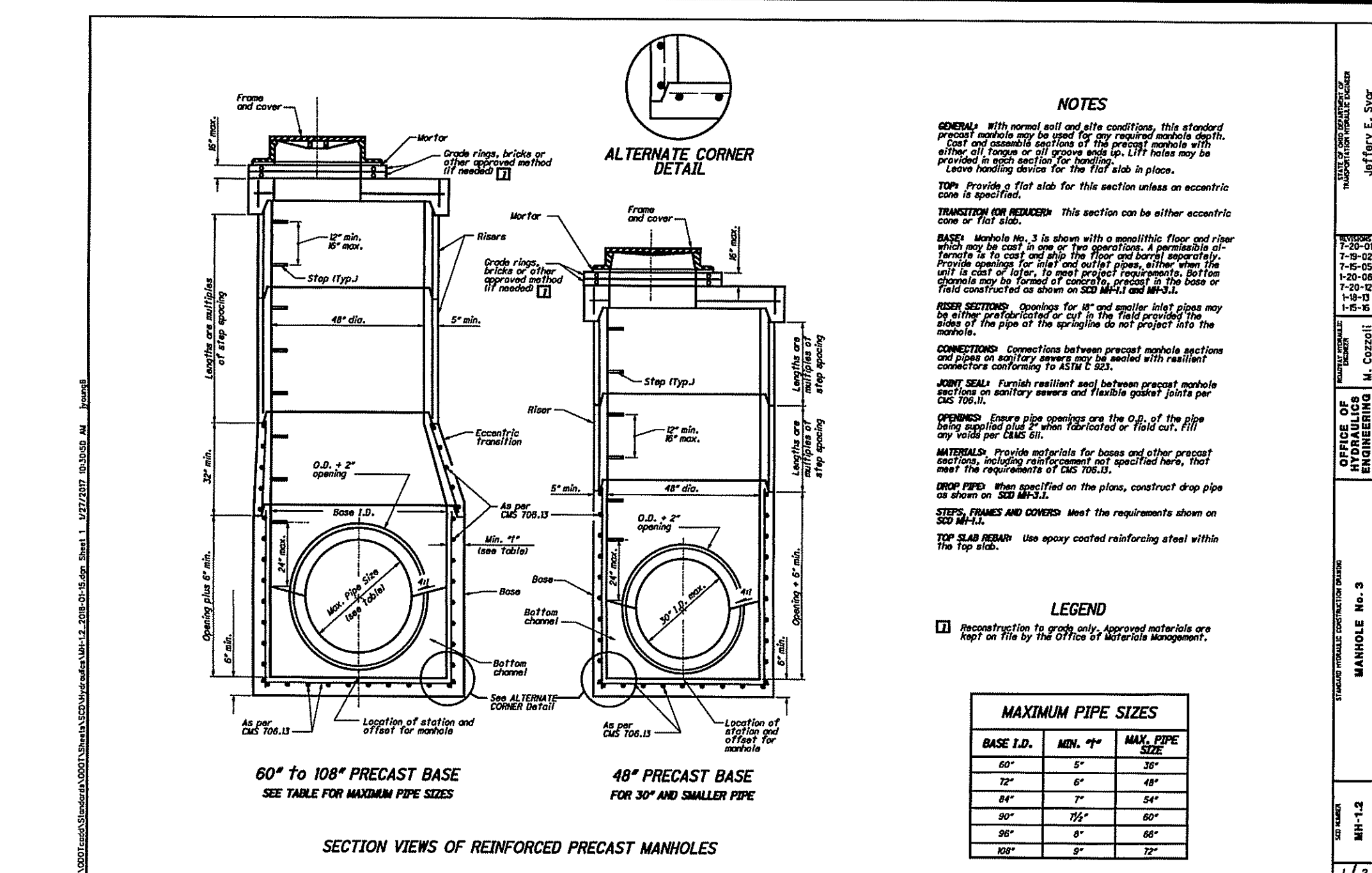
**DEFINITIONS:**

- D = DIAMETER OF PIPE
- R = RISE OF PIPE
- S = SPAN OF PIPE
- L = LENGTH OF HEADWALL
- H = HEIGHT OF HEADWALL

**INLET END TREATMENT AT HEADWALL:**

- RIGID PIPE: INLET END GROOVE OR BELL UPSTREAM, OUTLET END TONGUE OR SPOOT DOWNSTREAM.
- CORRUGATED PIPE: INLET END 2-1/4" RIGID PIPE, OUTLET END 4" RIGID PIPE.

**FULL HEADWALL, HW-1 NOT TO SCALE**



**NOTES**

**GENERAL** When used with this condition, this standard precast manhole may be used for the required manhole depth, and any concrete sections of the precast manhole shall be placed in the same manner as the pipe and bedding. The manhole shall be placed in the same manner as the pipe and bedding. The manhole shall be placed in the same manner as the pipe and bedding.

**TRANSITION OR REDUCER** This section can be either eccentric or concentric. The transition shall be of the type known as "transition" and shall be of the type known as "transition". The transition shall be of the type known as "transition" and shall be of the type known as "transition".

**CONNECTIONS** Connections between precast manhole sections shall be made in accordance with the details shown on this sheet. The connections shall be made in accordance with the details shown on this sheet. The connections shall be made in accordance with the details shown on this sheet.

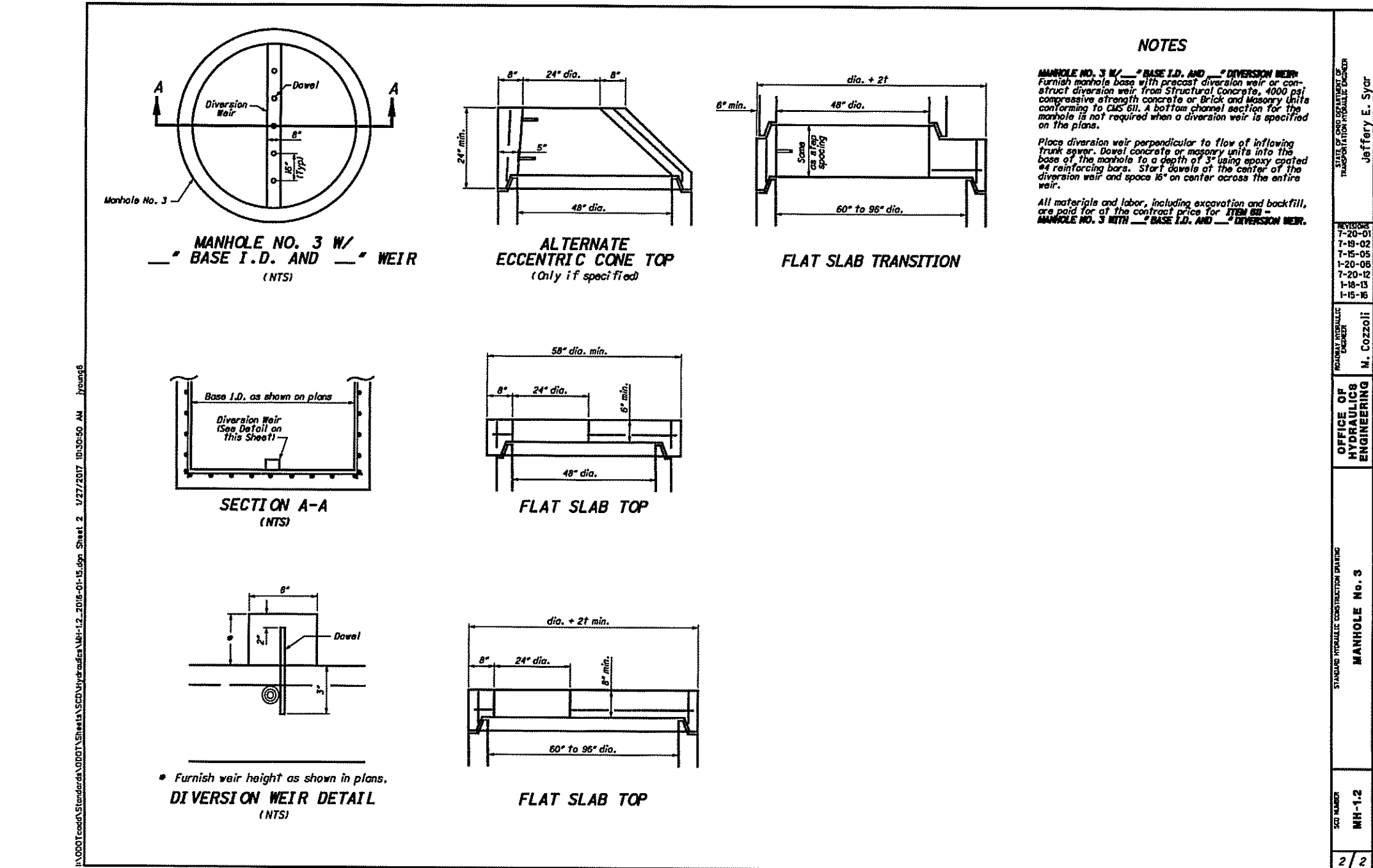
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**REINFORCING** The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing". The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing". The reinforcing shall be of the type known as "reinforcing" and shall be of the type known as "reinforcing".

**CONSTRUCTION INFORMATION**

BASE I.D.	MIN. #	MAX. PIPE
60"	4	36"
72"	6	48"
84"	8	60"
96"	10	72"
108"	12	84"

**ECCENTRIC CONE TOP IS SPECIFIED FOR THIS PROJECT. FLAT SLAB TOP TO BE UTILIZED FOR SHALLOW MANHOLES AND INLET MANHOLES WITH CURB GRATE ONLY.**



**NOTES**

**MANHOLE NO. 3 W/ BASE I.D. AND WEIR** This sheet depicts Manhole No. 3 with a base I.D. and weir. See Sheet 157-2 for Catch Basin 2-A.

**GRATE** Furnish a grate assembly for the same and equally as strong as the one shown on the drawings. The grate shall be made of cast iron or steel and shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates. The grate shall be of the type known as "cast iron" or "steel" grates.

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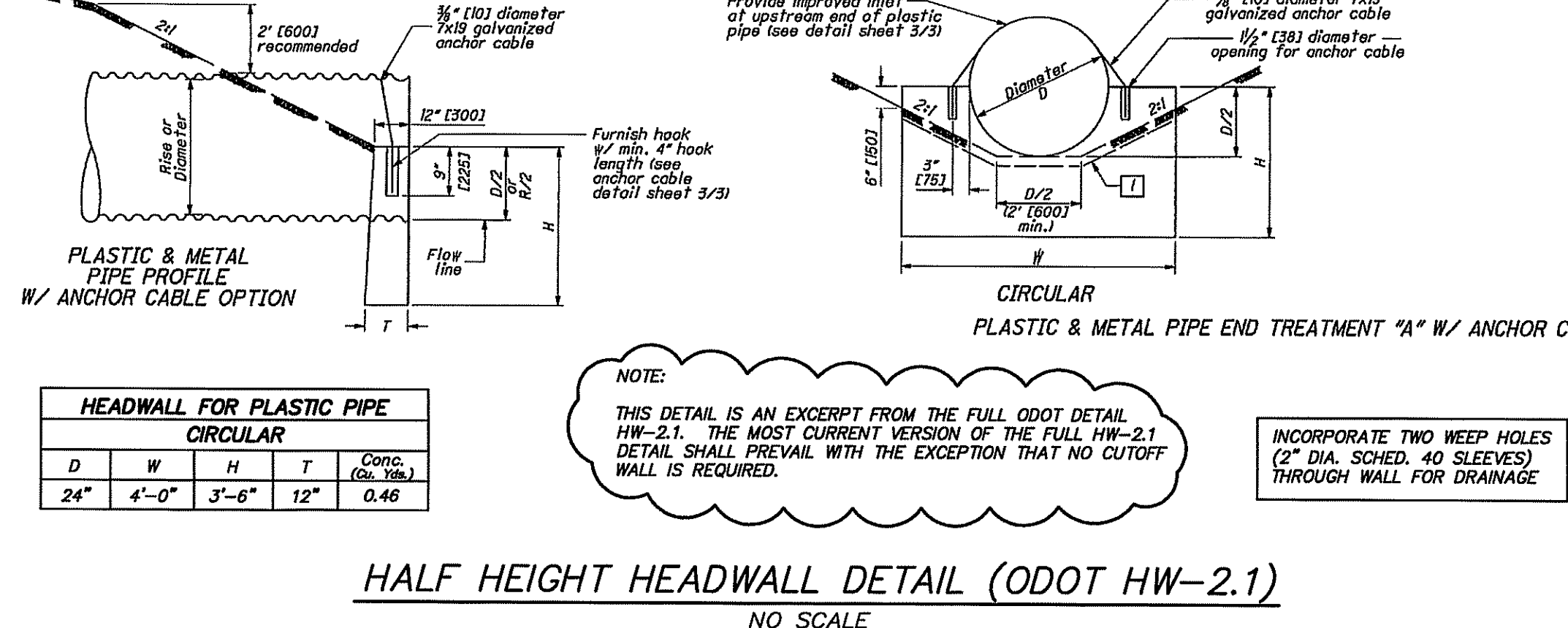
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**CONSTRUCTION INFORMATION**

CATCH BASIN	OUTLET PIPE SIZE
2-A	12" to 24"
2-B	12" to 24"

**ALL SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS (OEP A 3MA0001\*AM) OF THE DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.).**

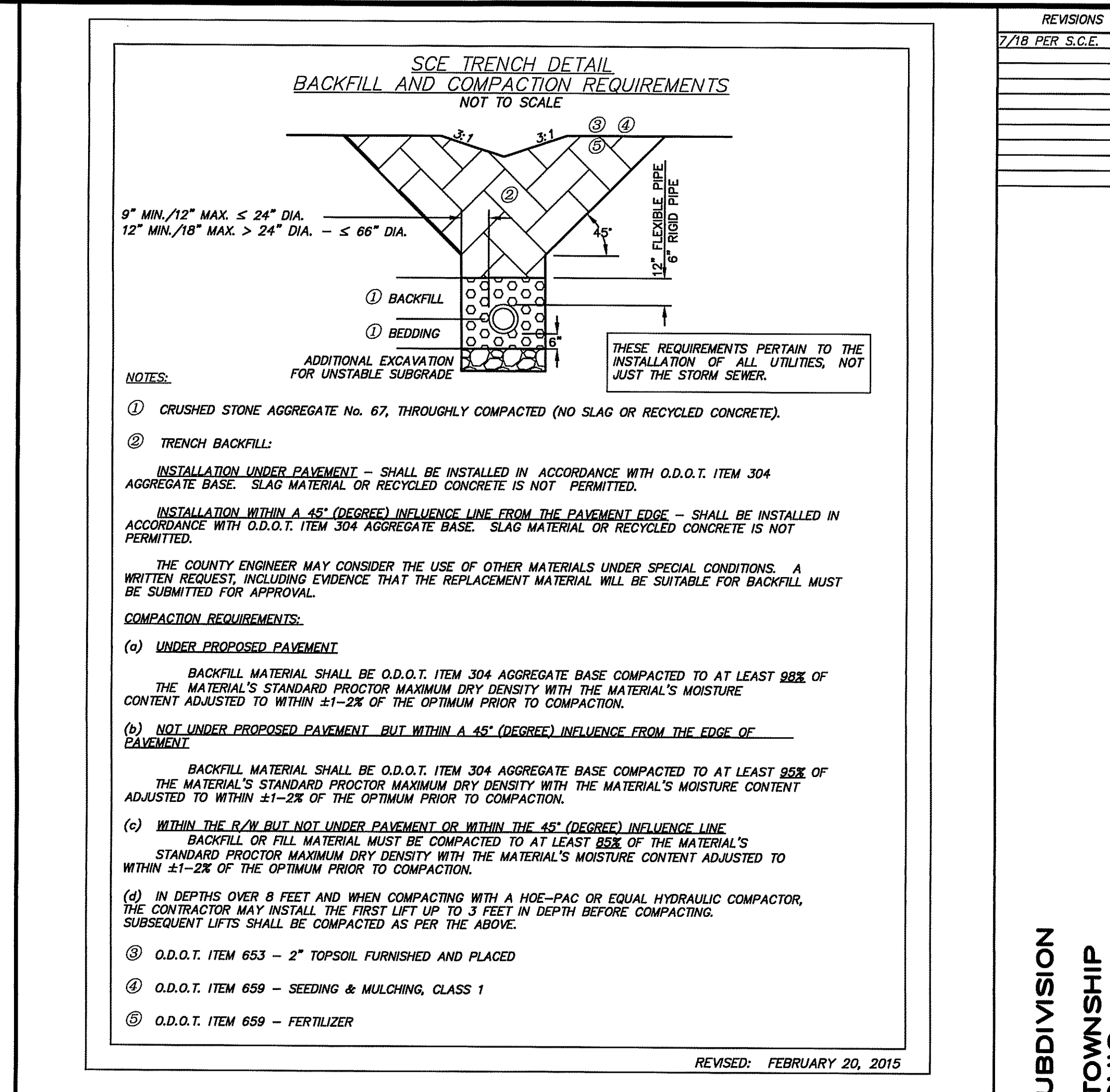
**CONTRACTOR SHALL CONTACT D.S.S.S. FOR COPY OF MOST CURRENT STANDARDS AND DETAILS PRIOR TO CONSTRUCTION.**



**NOTE:** THIS DETAIL IS AN EXCERPT FROM THE FULL ODOT DETAIL HW-2.1. THE MOST CURRENT VERSION OF THE FULL HW-2.1 DETAIL SHALL PREVAIL WITH THE EXCEPTION THAT NO CUTOFF WALL IS REQUIRED.

**INCORPORATE TWO WEEP HOLES (2" DIA. SCHED. 40 SLEEVES) THROUGH WALL FOR DRAINAGE.**

HEADWALL FOR PLASTIC PIPE		CIRCULAR	
D	H	W	T
24"	4'-0"	3'-6"	12"



**NOTES**

**9" MIN./12" MAX. < 24" DIA.**

**12" MIN./18" MAX. > 24" DIA. - < 66" DIA.**

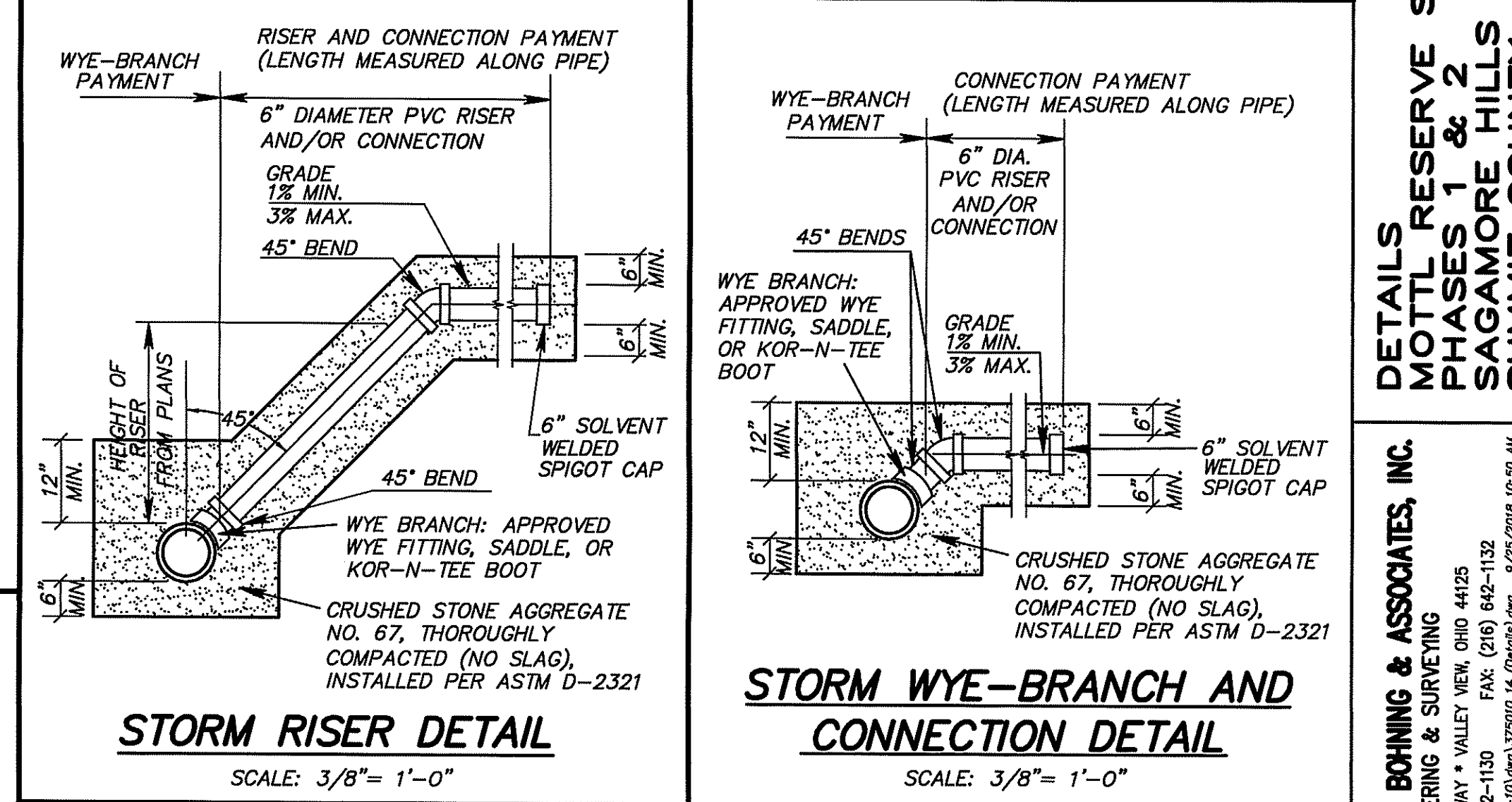
**1" FLEXIBLE PIPE**

**6" RIGID PIPE**

**THESE REQUIREMENTS PERTAIN TO THE INSTALLATION OF ALL UTILITIES, NOT JUST THE STORM SEWER.**

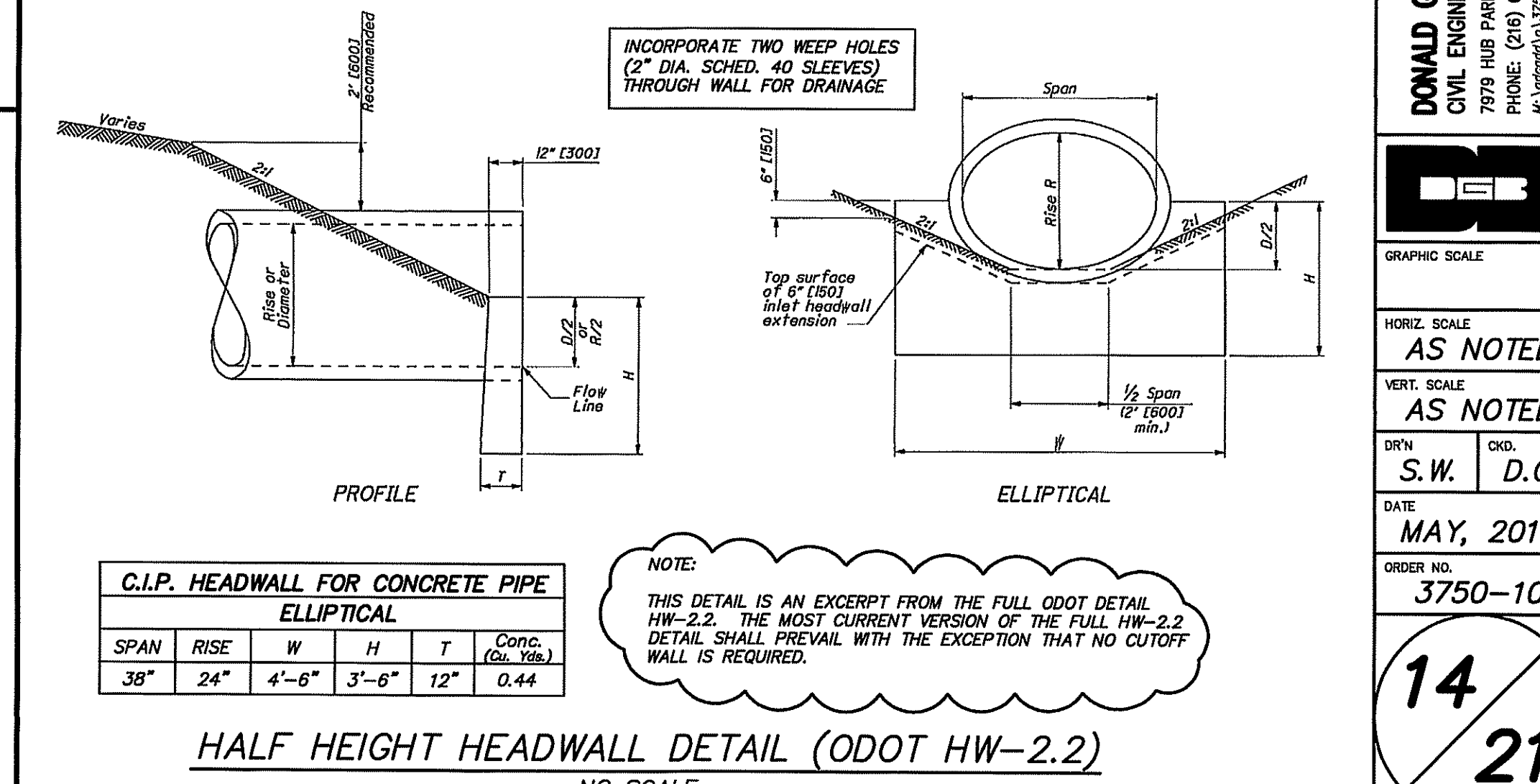
**CONSTRUCTION INFORMATION**

ITEM	DESCRIPTION
1	CRUSHED STONE AGGREGATE No. 67, THOROUGHLY COMPACTED (NO SLAG OR RECYCLED CONCRETE).
2	TRENCH BACKFILL:
3	INSTALLATION UNDER PAVEMENT - SHALL BE INSTALLED IN ACCORDANCE WITH O.D.O.T. ITEM 304 AGGREGATE BASE. SLAG MATERIAL OR RECYCLED CONCRETE IS NOT PERMITTED.
4	INSTALLATION WITHIN A 45° (DEGREE) INFLUENCE LINE FROM THE PAVEMENT EDGE - SHALL BE INSTALLED IN ACCORDANCE WITH O.D.O.T. ITEM 304 AGGREGATE BASE. SLAG MATERIAL OR RECYCLED CONCRETE IS NOT PERMITTED.
5	THE COUNTY ENGINEER MAY CONSIDER THE USE OF OTHER MATERIALS UNDER SPECIAL CONDITIONS. A WRITTEN REQUEST, INCLUDING EVIDENCE THAT THE REPLACEMENT MATERIAL WILL BE SUITABLE FOR BACKFILL MUST BE SUBMITTED FOR APPROVAL.
6	COMPACTON REQUIREMENTS:
7	(a) UNDER PROPOSED PAVEMENT:
8	BACKFILL MATERIAL SHALL BE O.D.O.T. ITEM 304 AGGREGATE BASE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.
9	(b) NOT UNDER PROPOSED PAVEMENT BUT WITHIN A 45° (DEGREE) INFLUENCE FROM THE EDGE OF PAVEMENT:
10	BACKFILL MATERIAL SHALL BE O.D.O.T. ITEM 304 AGGREGATE BASE COMPACTED TO AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.
11	(c) WITHIN THE R/W BUT NOT UNDER PAVEMENT OR WITHIN THE 45° (DEGREE) INFLUENCE LINE:
12	BACKFILL OR FILL MATERIAL MUST BE COMPACTED TO AT LEAST 85% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.
13	(d) IN DEPTHS OVER 8 FEET AND WHEN COMPACTING WITH A HOE-PAC OR EQUAL HYDRAULIC COMPACTOR, THE CONTRACTOR MAY INSTALL THE FIRST LIFT UP TO 3 FEET IN DEPTH BEFORE COMPACTING. SUBSEQUENT LIFTS SHALL BE COMPACTED AS PER THE ABOVE.
14	③ O.D.O.T. ITEM 653 - 2" TOPSOIL FURNISHED AND PLACED
15	④ O.D.O.T. ITEM 659 - SEEDING & MULCHING, CLASS 1
16	⑤ O.D.O.T. ITEM 659 - FERTILIZER



**SCALE: 3/8" = 1'-0"**

**SCALE: 3/8" = 1'-0"**



**NOTE:** THIS DETAIL IS AN EXCERPT FROM THE FULL ODOT DETAIL HW-2.2. THE MOST CURRENT VERSION OF THE FULL HW-2.2 DETAIL SHALL PREVAIL WITH THE EXCEPTION THAT NO CUTOFF WALL IS REQUIRED.

**INCORPORATE TWO WEEP HOLES (2" DIA. SCHED. 40 SLEEVES) THROUGH WALL FOR DRAINAGE.**

C.I.P. HEADWALL FOR CONCRETE PIPE		ELLIPTICAL	
SPAN	RISE	W	H
38"	24"	4'-6"	3'-6"