

SUDAS Revision Submittal Form

Status Date: As of 5/17/2019 **Topic:** Adjustable casting
Manual: Specifications **Manual Location:** 6010, 2.10, D; 3.01, J; and
 Figures 6010.601 and 602

Requested Revision:

2.10 CASTINGS (Ring, Cover, Grate, and Extensions)

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D. Casting Types:

1. Manholes: The following table lists the manhole casting types.

Table 6010.03: Manhole Casting Types

	Figure No.	Casting Type	Number of Pieces	Ring/Cover	Bolted Frame	Bolted Cover (Floodable)	Gasket
Sanitary Sewer	6010.601	SW-601, A	2	Fixed	Yes	No	Yes ¹
	6010.601	SW-601, B	3	Adjustable	No	No	Yes ¹
	6010.601	SW-601, C	2	Fixed	Yes	Yes	Yes ¹
	6010.601	SW-601, D	3	Adjustable	No	Yes	Yes ¹
Storm Sewer	6010.602	SW-602, E ²	2	Fixed	Yes	No	No
	6010.602	SW-602, F ²	3	Adjustable	No	No	No
	6010.602	SW-602, G ²	2	Fixed	No	No	No

¹ Machine bearing surfaces required.

² Typically used with non-paved or flexible surfaces, including HMA, seal coat, gravel, and brick.

³ Typically used with PCC surfaces, including castings in concrete boxouts.

² Storm sewer casting may include environmental symbols and/or messages such as "DUMP NO WASTE, DRAINS TO RIVER."

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3.01 GENERAL REQUIREMENTS FOR INSTALLATION OF MANHOLES AND INTAKES

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J. Casting: ~~Install the type of casting specified in the contract documents and adjust to proper grade. Where a manhole or intake is to be in a paved area, adjust the casting to match the slope of the finished surface. When specified in the contract documents, attach a casting frame to the structure with four anchor bolts.~~

1. Install the type of casting specified in the contract documents and adjust to proper grade.
2. Where a manhole or intake is to be in a paved area, adjust the casting to match the slope of the finished surface.
3. Three-piece Castings:
 - a. Attach the frame to the structure with four anchor bolts.
 - b. Set initial position of movable portion of the casting in the center of the adjustment range.
 - c. Remove height-adjustment bolts or mechanism after the paving is completed.

Reason for Revision: Revised text and figures to allow for an additional adjustable casting.

Comments: None.

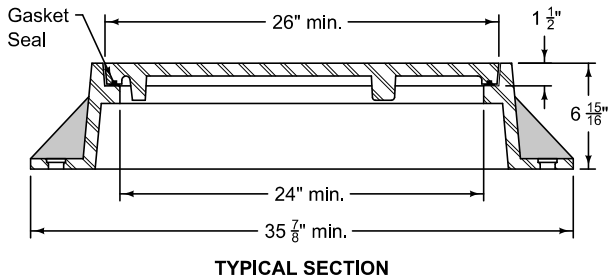
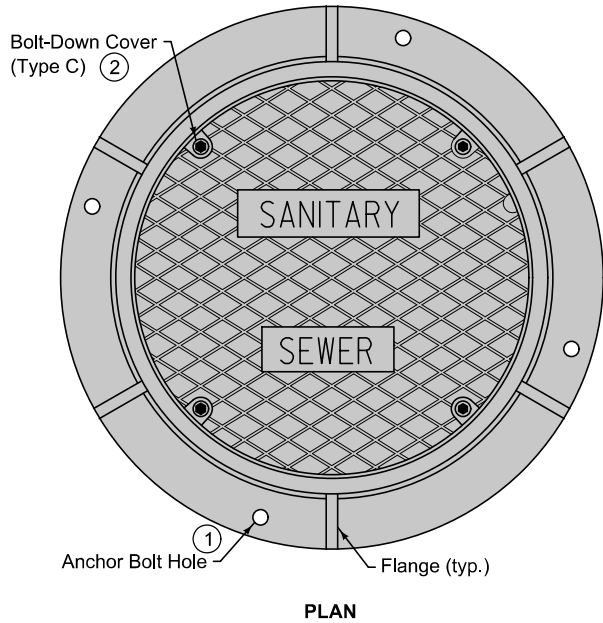
District:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Comments:	Clarify that the HMA casting is used in situations without a concrete boxout. <i>Note - 3.01, J says to specify the type of casting.</i>					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
District:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Comments:	None.					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
District:	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Comments:	None.					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
District:	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
Comments:	SW-601 - Type D says casing instead of casting. <i>Note - fixed.</i>					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
District:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6
Comments:	Do we need to clarify how it needs to be set initially to allow for movement later? Middle of the adjustment range? <i>Note - done.</i>					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	
District:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 6
Comments:	None.					
Action:	<input type="checkbox"/> Deferred		<input type="checkbox"/> Not Approved		<input checked="" type="checkbox"/> Approved	

Final District Action Summary: All 6 districts approved; see comments above.

Board of Directors Action: Approved.

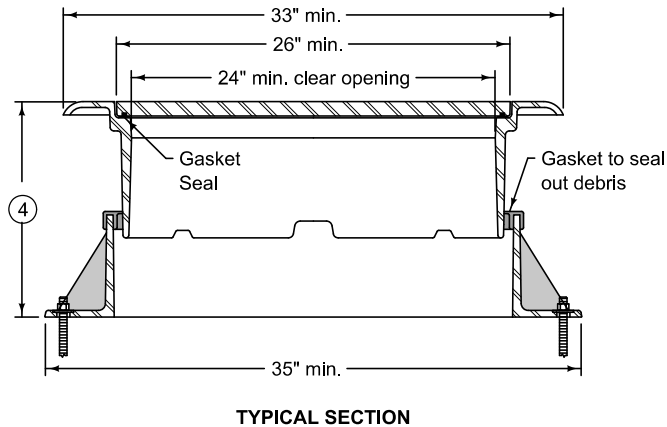
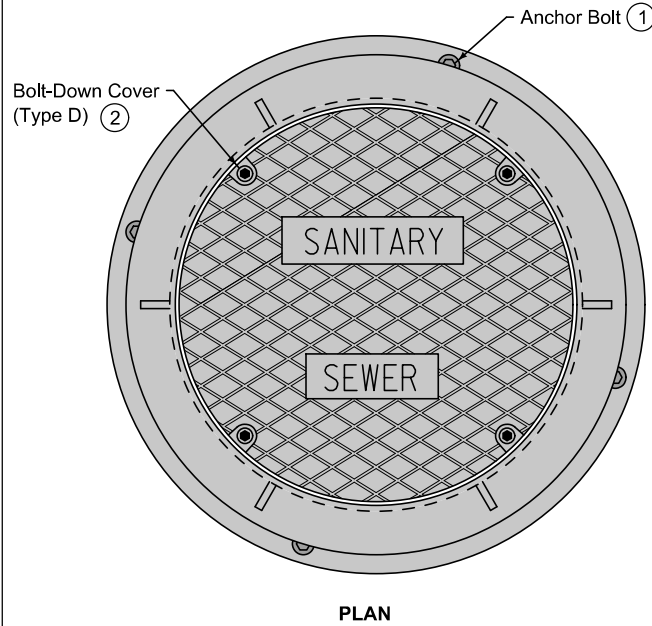
TYPE A
Two-piece fixed casting

TYPE C
Two-piece fixed casting with bolt-down cover (2)



TYPE B: HMA
Three-piece floating casting for use in HMA paving

TYPE D: HMA
Three-piece floating casting with bolt-down cover for use in HMA paving (2)



Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary.
Minimum one concealed pickhole.

- (1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
- (2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.
- (3) Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.
- (4) Casting height varies. Minimum adjustment range of 4 inches.

FIGURE 6010.601 SHEET 1 OF 2

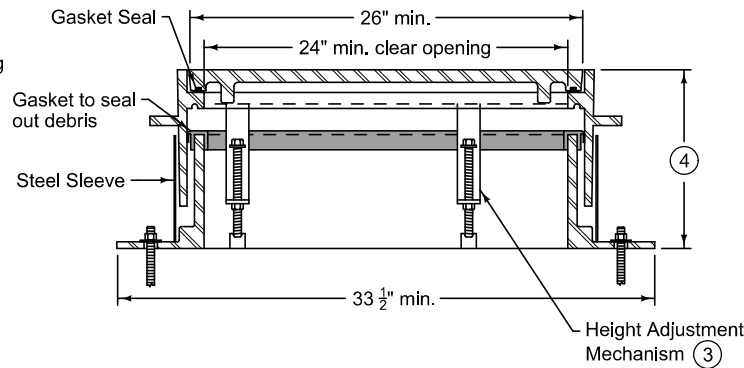
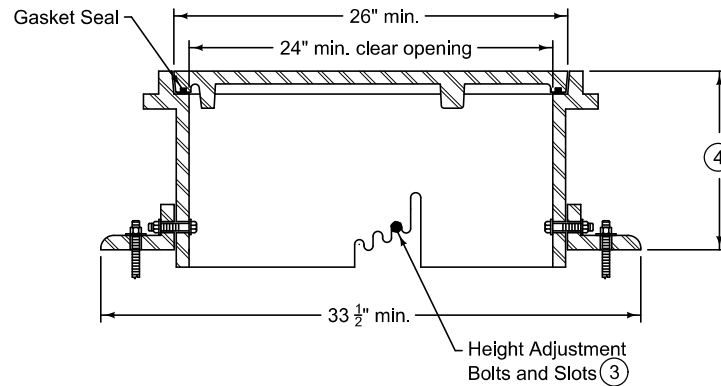
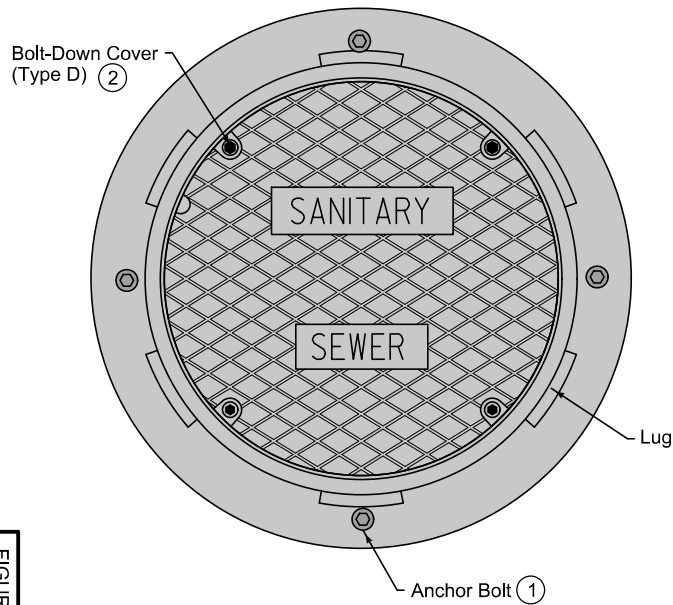
		REVISION
		4
FIGURE 6010.601 STANDARD ROAD PLAN		SW-601
DRAFT		SHEET 1 of 2
		METHODS ENGINEER
CASTINGS FOR SANITARY SEWER MANHOLES		

TYPE B: PCC

Three-piece floating casting for use in PCC paving and PCC boxouts

TYPE D: PCC

Three-piece floating casting with bolt-down cover for use in PCC paving and PCC boxouts



TYPICAL SECTION (5)

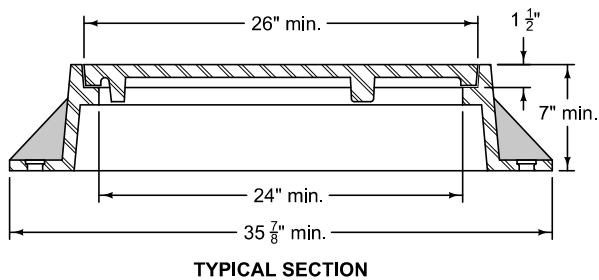
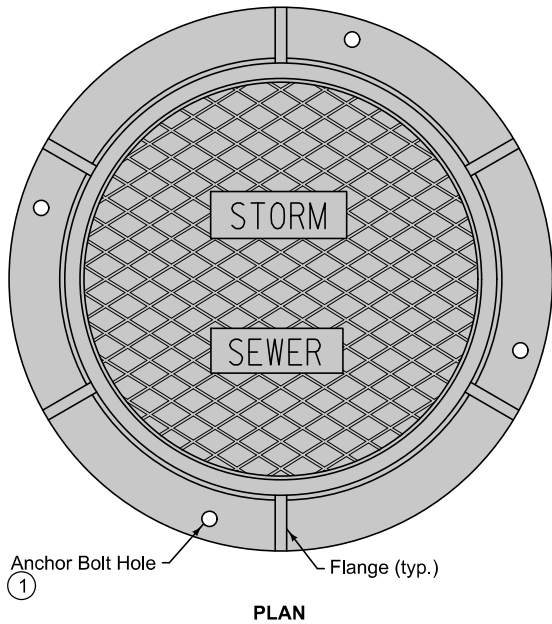
Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary.
Minimum one concealed pickhole.

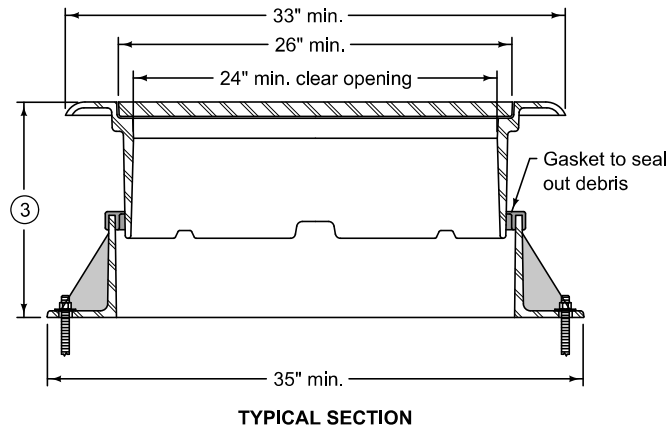
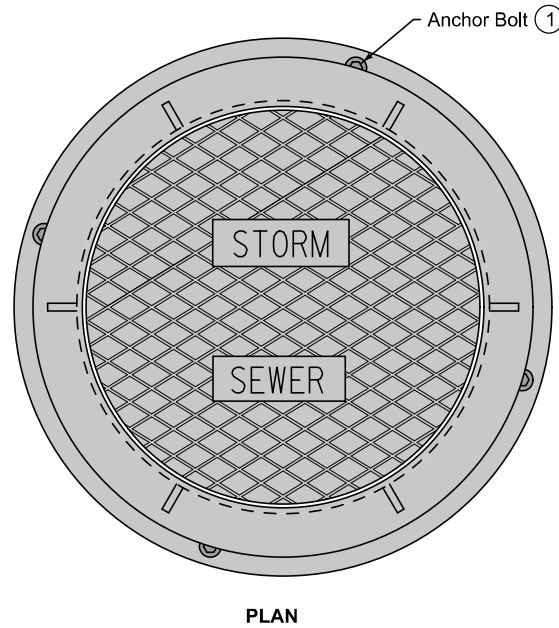
- (1) Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
- (2) If specified, furnish bolt down frame and cover with four 1/2 inch minimum diameter stainless steel, hex nut, recessed cap screws. Secure cover with screws, washers, and rubber gasket seals.
- (3) Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.
- (4) Casting height varies. Minimum adjustment range of 4 inches.
- (5) Height adjustment method may vary; two options are shown.

		REVISION
		4
FIGURE 6010.601 STANDARD ROAD PLAN		SW-601
DRAFT		SHEET 2 of 2
<i>David D. Weigand</i> <small>SENIOR PROJECT ENGINEER</small>		<i>Scott Miller</i> <small>PROJECT METHODS ENGINEER</small>
CASTINGS FOR SANITARY SEWER MANHOLES		

TYPE E
Two-piece fixed casting



TYPE F: HMA
Three-piece floating casting for use in HMA paving



Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

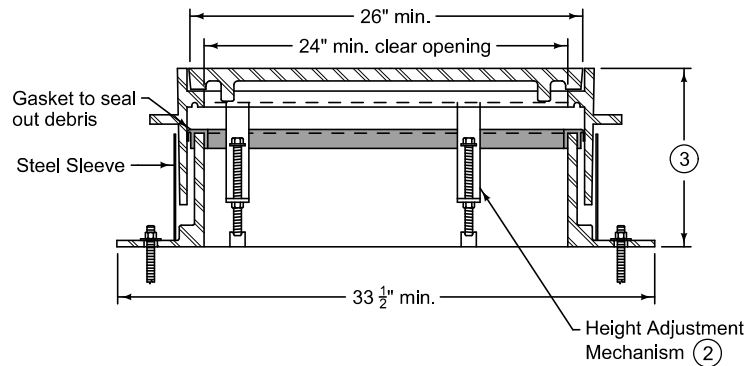
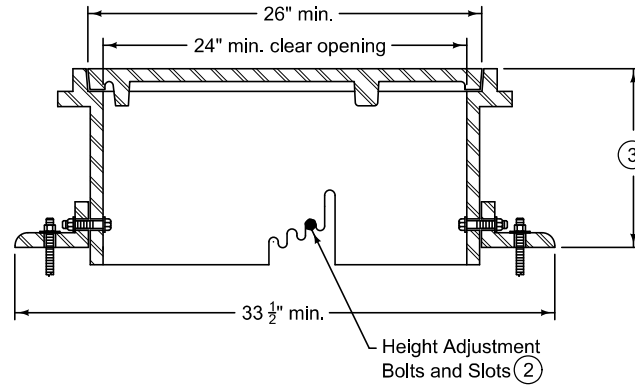
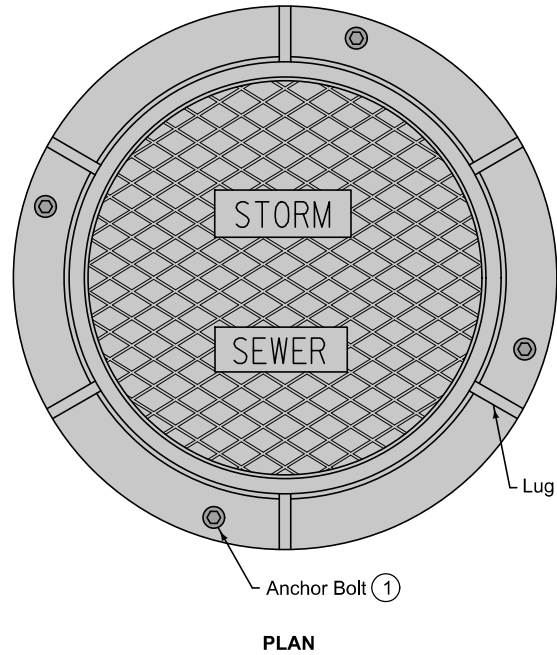
Cover Notes:
Roughness pattern and text style may vary.
Minimum one concealed pickhole.

- ① Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
- ② Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.
- ③ Casting height varies. Minimum adjustment range of 4 inches.

		REVISION
		4
FIGURE 6010.602 STANDARD ROAD PLAN		SW-602
DRAFT		SHEET 1 of 3
<i>David D. Wegand</i> <small>SENIOR PROJECT ENGINEER</small>		<i>Shirley Miller</i> <small>PROJECT METHODS ENGINEER</small>
CASTINGS FOR STORM SEWER MANHOLES		

TYPE F: PCC

Three-piece floating casting for use in PCC paving and PCC boxouts



TYPICAL SECTION ④

Frame Notes:
Size, spacing, and number of lugs and flanges may vary.

Cover Notes:
Roughness pattern and text style may vary.
Minimum one pickhole.

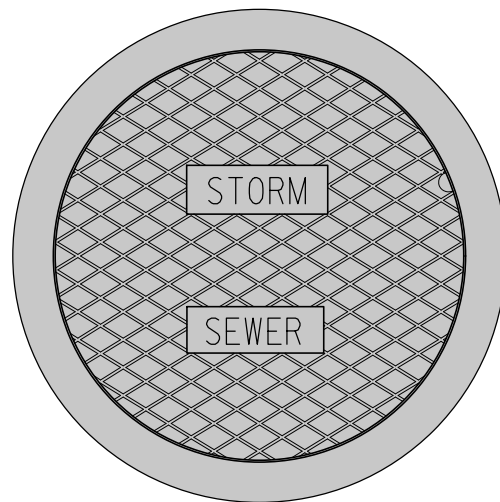
- ① Anchor the lower frame of all three-piece castings to the manhole structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
- ② Set casting at proper grade using the adjustment slots or adjustment mechanism. Remove bolts or mechanism upon completion of paving.
- ③ Casting height varies. Minimum adjustment range of 4 inches.
- ④ Height adjustment method may vary; two options are shown.

FIGURE 6010.602 SHEET 2 OF 3

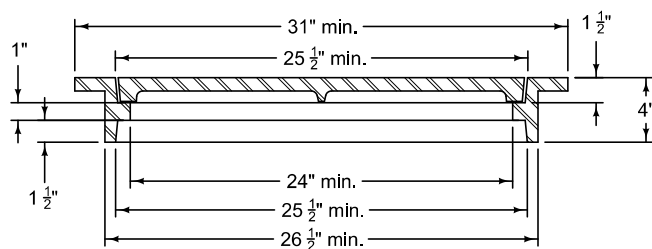
		REVISION
		4
FIGURE 6010.602 STANDARD ROAD PLAN		SW-602
DRAFT		SHEET 2 of 3
		DESIGN METHODS ENGINEER
CASTINGS FOR STORM SEWER MANHOLES		

TYPE G
Two piece fixed casting

Cover Notes:
Roughness pattern and text style may vary.
Minimum one pickhole.



PLAN



TYPICAL SECTION

FIGURE 6010.602 SHEET 3 OF 3

SUDAS	IOWADOT	REVISION
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FIGURE 6010.602 STANDARD ROAD PLAN		SW-602
DRAFT		SHEET 3 of 3
<i>David D. Weigand</i> SUDAS DIRECTOR		<i>John Miller</i> DESIGN METHODS ENGINEER
CASTINGS FOR STORM SEWER MANHOLES		