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PUBLIC WORKS
8401 Laguna Palms Way
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Standards Update Transmittal

Reference Number: 2024-13

Standards: Standard Drawings: SD-6.0, SD-6.1, SD-6.2, SD-6.3, ST-1A, ST-5, ST-8

Update:

1. Modification to Standard Drawings:
 - a. SD-6.0, STORM DRAIN TRENCH DETAIL, update detail callouts and notes in “NOTES” section, show Geotextile location to match specification requirements, and removed compaction requirement to avoid confusion with the specifications.
 - b. SD-6.1, STORM DRAIN REINFORCED CONCRETE PIPE BEDDING AND INITIAL BACKFILL this is now a standalone detail for RCP and removed reference to plastic pipe. Updated detail callouts and General Notes, added Geotextile location to match specification requirements, added bedding to option 2, and changed trench width.
 - c. SD-6.2, STORM DRAIN PLASTIC PIPE BEDDING AND INITIAL BACKFILL this is a new detail for plastic pipe. The detail has a standard detail for pipe 12-inches to less than 48-inches. Trench width based on pipe size and type of backfill. Added Geotextile location to match the specification requirements.
 - d. SD-6.3, CUTOFF COLLAR, clarified bottom of trench dimension.
 - e. ST-1A, TRENCH BACKFILLING AND RESURFACING, removed compaction requirement to avoid confusion with the specifications, and updated detail callouts.
 - f. ST-5, TRENCH RESURFACING WHEN FABRIC IS REQUIRED, remove compaction requirement in note 1 to avoid confusion with the specifications.
 - g. ST-8, TYPICAL TRENCH COMPACTION DETAIL, cleaned up graphics to match other detail graphics, updated detail callouts and removed compaction requirement to avoid confusion with the specifications.

Effect of Update:

1. These modifications are as follows:
 - a. Improve the detailed information for clarity and remove conflict with specifications.
 - b. Details are now only for RCP, improved callouts.
 - c. Details are new and is for plastic pipe.
 - d. Clarify bedding dimension to avoid confusion during contract administration.
 - e. Removed compaction conflict with the specification, and improved callouts,
 - f. Remove compaction conflict with the specifications.
 - g. Removed compaction conflict with the specification, and improved callouts.

2023-TBD
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Request for Update Initiated By: Standards Review Committee 09/30/2022

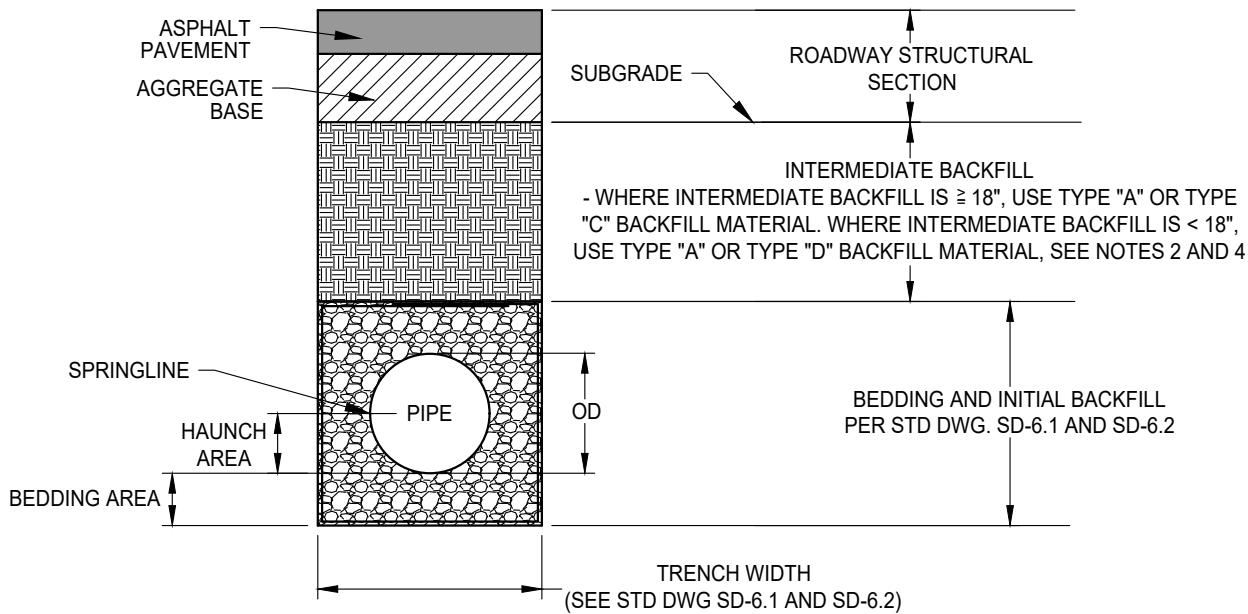
Update Reviewed for Conformity and Consistency to Standards:

Shoaib Ahrary 4/25/2024 | 11:25 AM PDT
Shoaib Ahrary, PE, ESD Manager Date

Update to Standards Approved:

Jeffrey R. Werner 4/29/2024 | 5:53 AM PDT
Jeffrey R. Werner, PE, City Engineer Date

**STORM DRAIN
TRENCH DETAIL**



BACKFILL MATERIALS

TYPE "A" BACKFILL MATERIAL: 3/4" CLASS II AB AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "B" BACKFILL MATERIAL: 3/4" CLEAN CRUSHED ROCK AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "C" BACKFILL MATERIAL: JOB EXCAVATED NATIVE MATERIAL FREE OF ORGANIC OR UNSUITABLE MATERIALS THAT CAN CAUSE VOIDS OR DEPRESSIONS TO DEVELOP DURING OR AFTER PLACEMENT OF THE BACKFILL. ROCKS, STONES, AND SOLID EARTH CHUNKS EXCEEDING 3-INCHES IN GREATEST DIMENSION ARE NOT ALLOWED.

TYPE "D" BACKFILL MATERIAL: CONTROLLED DENSITY FILL AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "E" BACKFILL MATERIAL: CLASS "C" CONCRETE AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

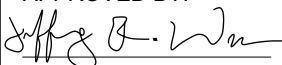
NOTES:

1. GEOTEXTILE SHALL BE INSTALLED AS PER STD DWG SD-6.1, SD-6.2, AND AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
2. INTERMEDIATE BACKFILL TO BE PLACED IN 8" MAXIMUM LOOSE LIFTS AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
3. CUTOFF COLLARS TO BE INSTALLED EVERY MANHOLE RUN AS PER STD DWG SD-6.3 AND AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
4. IF ROADWAY SUBGRADE IS WITHIN 24" OF TOP OF PIPE, RCP PIPE IS REQUIRED & BEDDING AND INITIAL BACKFILL SHALL CONFORM TO SHALLOW PIPE DETAILS AS PER STD DWG SD-6.1.


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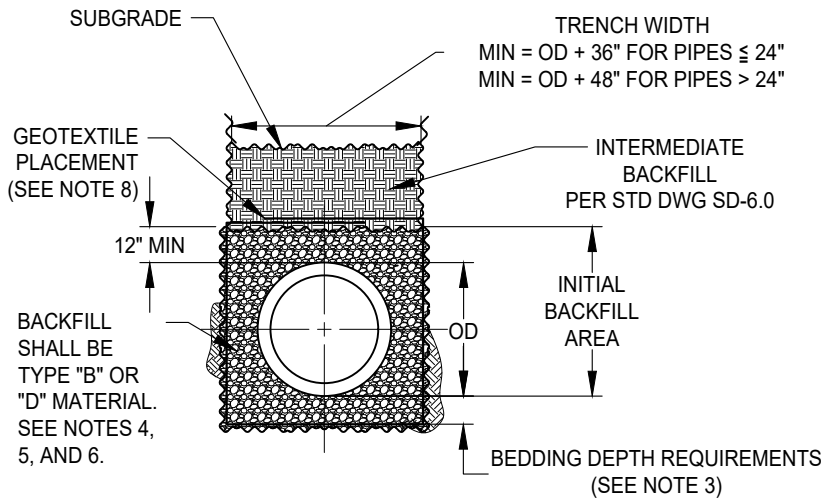
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STORM DRAIN TRENCH DETAIL

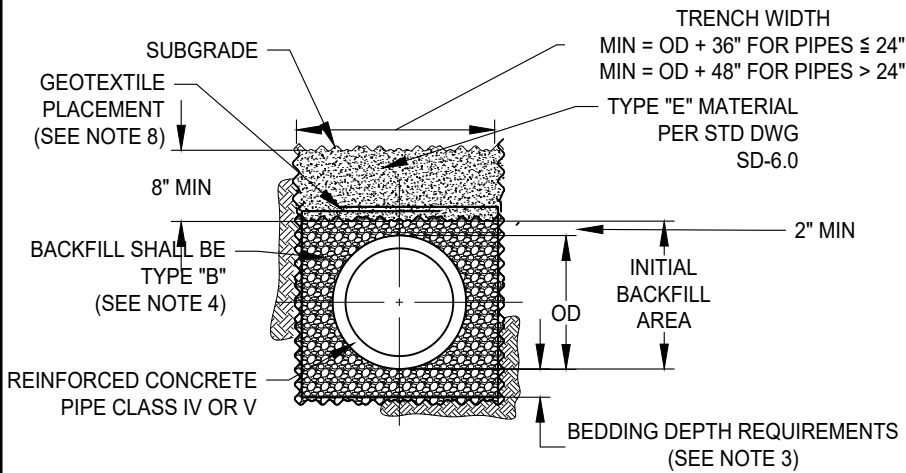
APPROVED BY:

 CITY ENGINEER DATE: 04-29-2024

DRAWING NUMBER
SD - 6.0

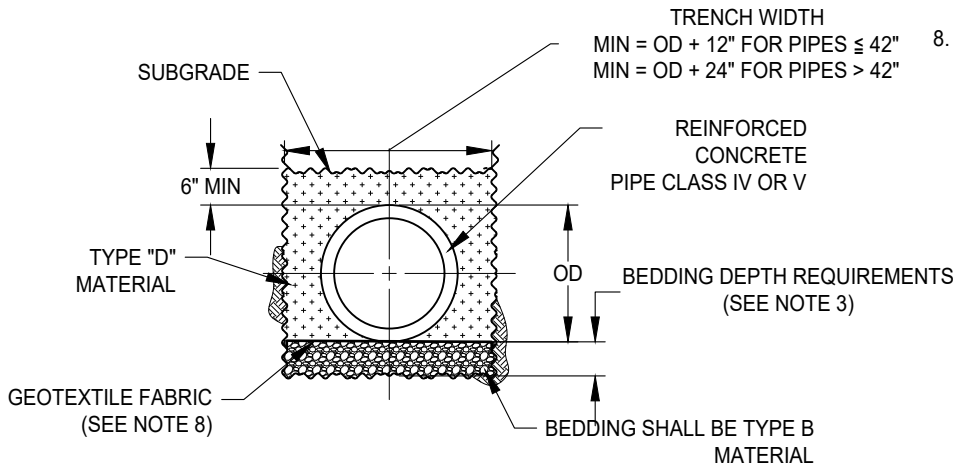




BACKFILL REQUIREMENTS



**BACKFILL REQUIREMENTS FOR SHALLOW PIPE -
OPTION 1**



**BACKFILL REQUIREMENTS FOR SHALLOW PIPE -
OPTION 2**

NOTES:

1. INITIAL BACKFILL MATERIAL SHALL BE THOROUGHLY COMPACTED AROUND PIPE AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
2. "TRENCH EXCAVATION, BEDDING AND BACKFILL" AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
3. MINIMUM DEPTH OF BEDDING SHALL BE THE GREATER OF:
4" MIN FOR PIPES WITH ID ≤ 48"
6" MIN FOR PIPES WITH ID > 48"
OR
THE DIFFERENCE BETWEEN THE OD OF THE PIPE BARREL AND THE BELL PLUS 1.5".

FOR ROCKY OR UNSUITABLE BEDDING CONDITIONS, SEE SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS FOR TYP. BEDDING REQUIREMENTS.

4. IF MINIMUM TRENCH WIDTH CANNOT BE ACHIEVED, TYPE "D" MATERIAL SHALL BE USED IN LIEU OF TYPE "B" MATERIAL AT NO EXTRA COST.
5. IF BOTTOM OF ROADWAY STRUCTURAL SECTION (SUBGRADE) IS WITHIN 12" OF TOP OF PIPE, BEDDING AND INITIAL BACKFILL SHALL BE PER ONE OF THE TWO SHALLOW PIPE DETAILS ON THIS SHEET.
6. FOR ADDITIONAL INITIAL BACKFILL MATERIAL OPTIONS FOR 48" AND LARGER RCP, SEE SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
7. SEE STD DWG SD-6.0 AND SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS FOR BACKFILL MATERIAL DEFINITIONS AND ADDITIONAL REQUIREMENTS.
8. GEOTEXTILE FABRIC SHALL BE INSTALLED AS FOLLOWS FOR RCP & PLASTIC PIPE:

- PER SECTION 19 OF CITY STANDARD CONSTRUCTION SPECIFICATIONS.
- FOR DRY TRENCH CONDITIONS - PLACE ON TOP OF INITIAL BACKFILL MATERIAL OR BETWEEN THE BEDDING AND THE TYPE D MATERIAL. EXTENDING A 2" EDGE FACING DOWN ON THE TRENCH SIDES.
- FOR SATURATED TRENCH CONDITIONS - WRAP TYPE B MATERIALS WITH GEOTEXTILE FABRIC. OVERLAP THE FABRIC EDGES AT LEAST TWO FEET (2') ON TOP OF INITIAL BACKFILL MATERIAL OR BEDDING MATERIAL.


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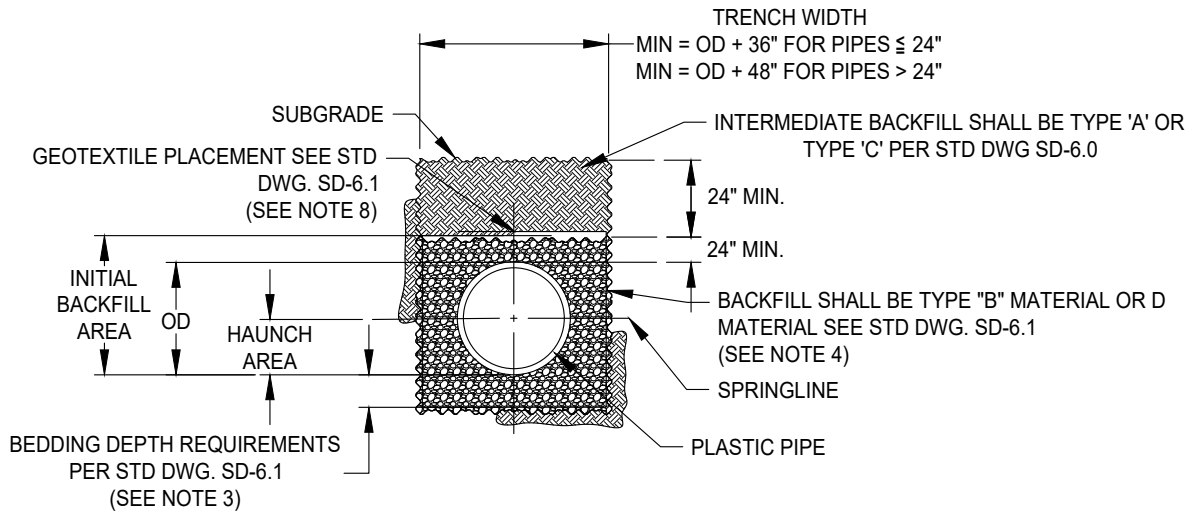
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**STORM DRAIN REINFORCED
CONCRETE PIPE BEDDING AND
INITIAL BACKFILL**

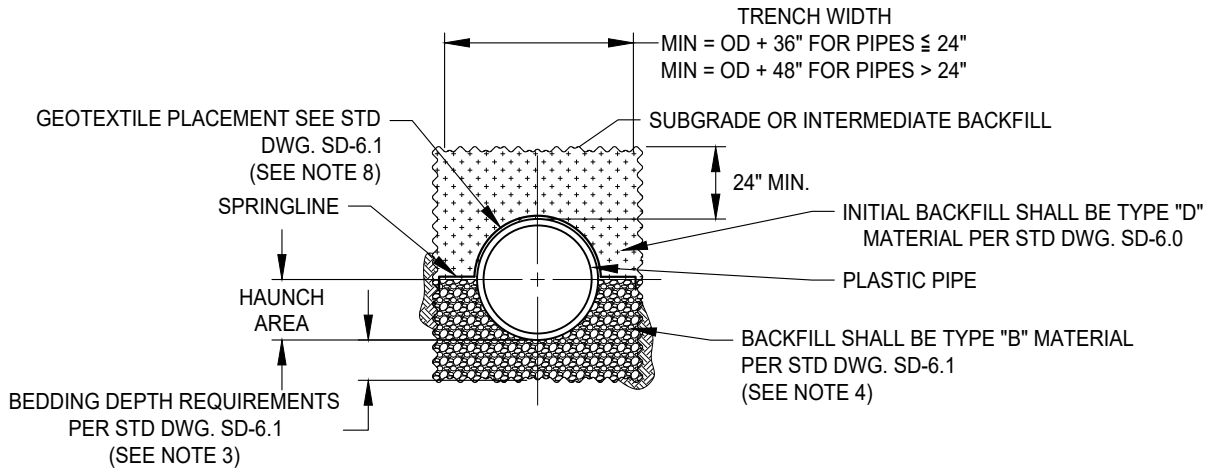
APPROVED BY:
Jeffrey B. Wan 04-29-2024
CITY ENGINEER DATE

DRAWING NUMBER
SD - 6.1

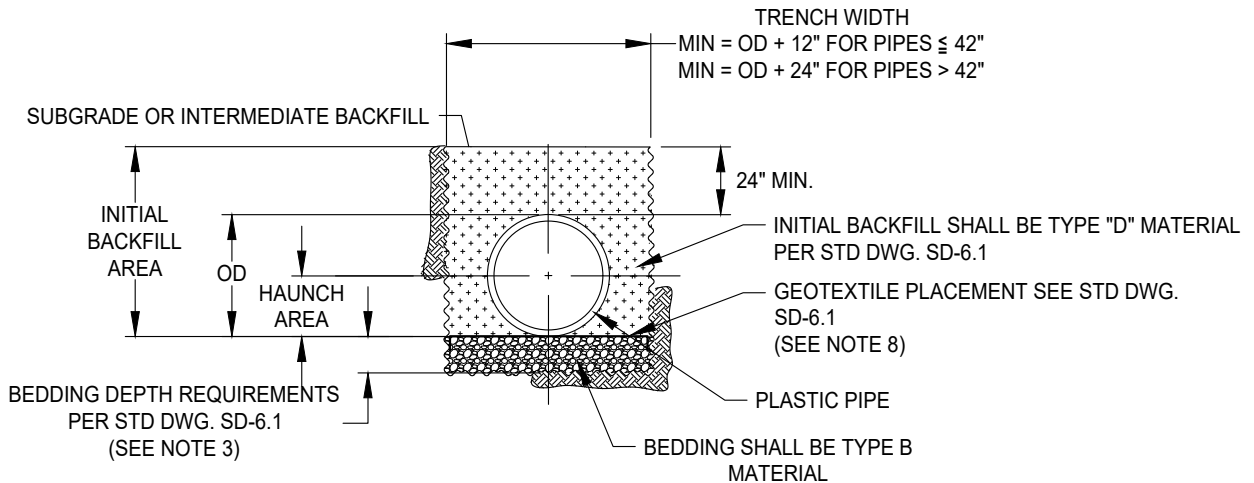




BACKFILL REQUIREMENTS FOR PLASTIC PIPE 12" TO 42" DIAMETER ONLY



INITIAL BACKFILL REQUIREMENTS FOR PLASTIC PIPE (12" TO 60" DIAMETER) - OPTION 1



INITIAL BACKFILL REQUIREMENTS FOR PLASTIC PIPE (12" TO 60" DIAMETER) - OPTION 2


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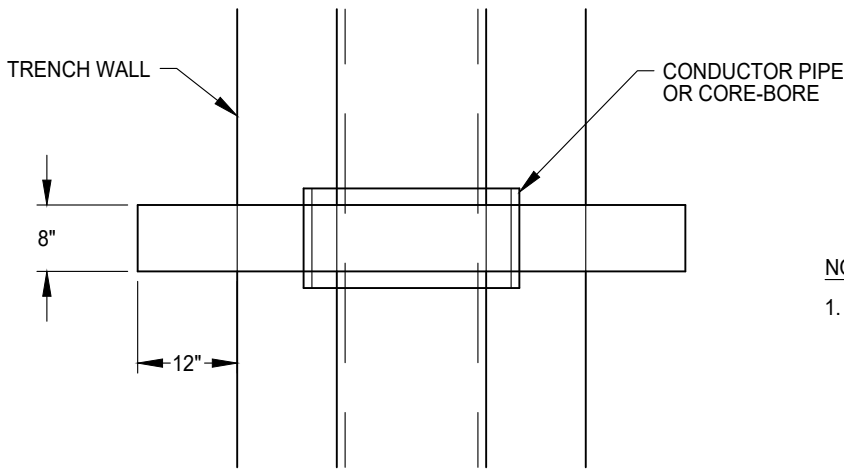
**STORM DRAIN PLASTIC PIPE
BEDDING AND INITIAL BACKFILL**

APPROVED BY:
Jeffrey B. Wan 04-29-2024
CITY ENGINEER DATE

DRAWING NUMBER
SD - 6.2

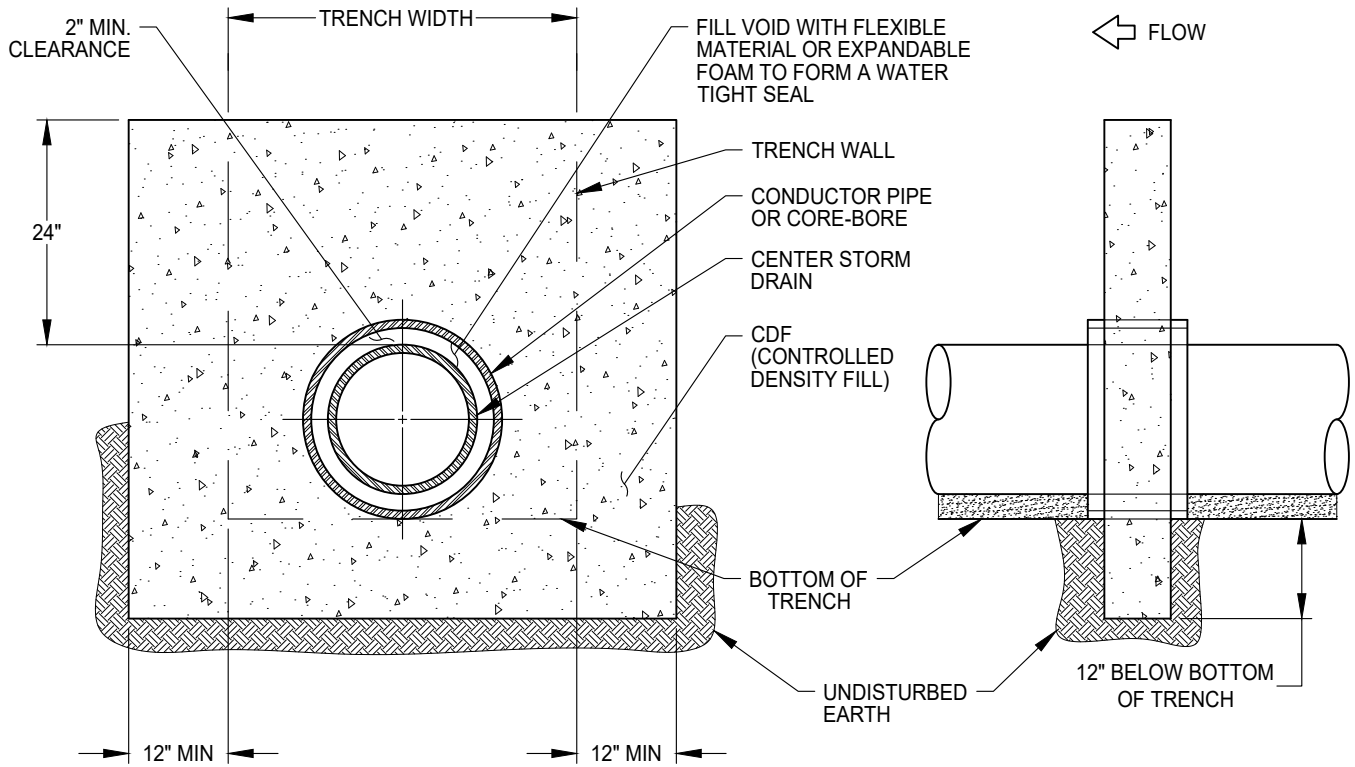


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NOTES:

1. TOP OF COLLAR TO EXTEND INTO INTERMEDIATE BACKFILL 12" MINIMUM OR TOP OF GROUND WATER HGL.



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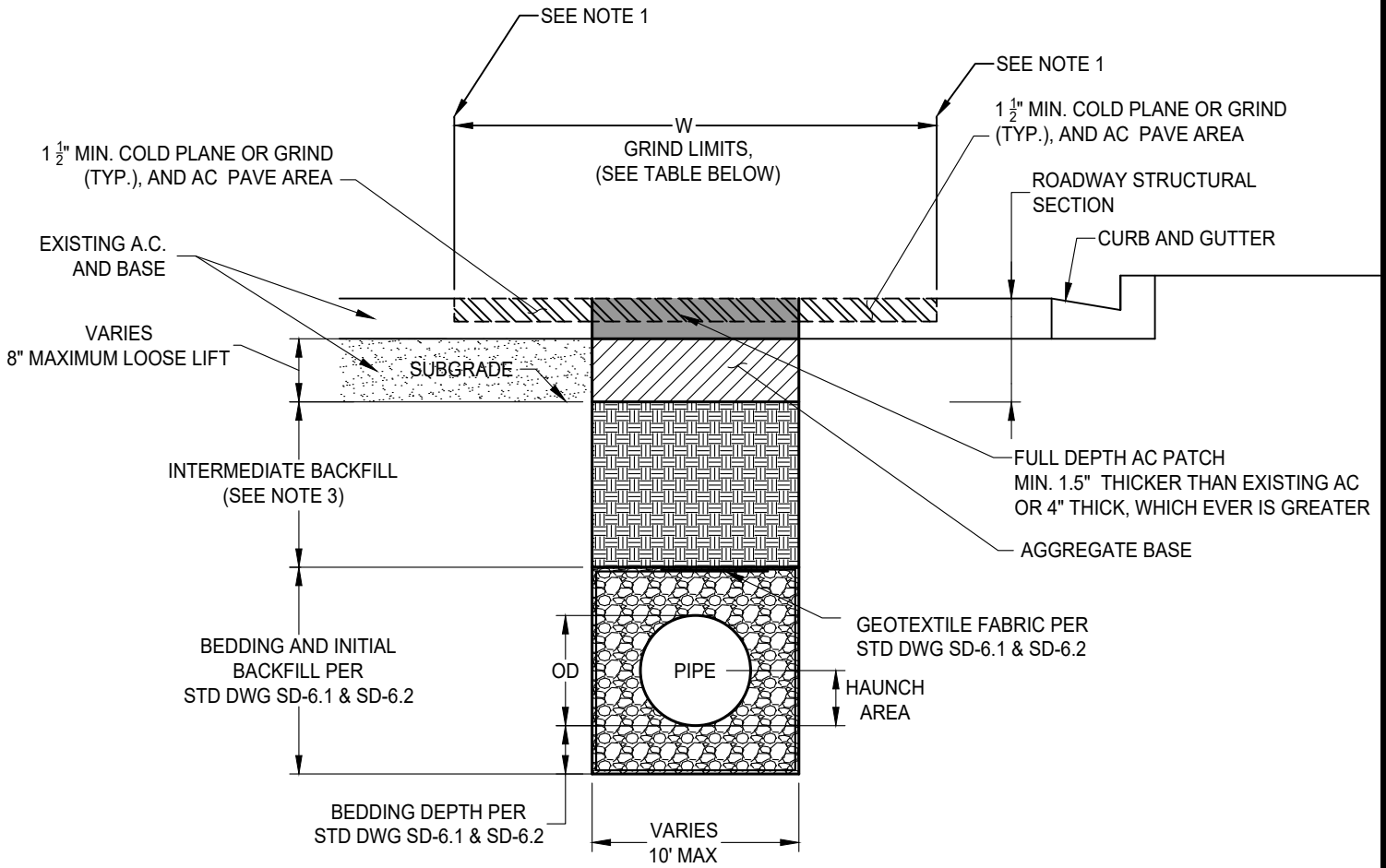
APPROVED BY:
Jeffrey B. Wan 04-29-2024
CITY ENGINEER DATE

CUTOFF COLLAR



DRAWING NUMBER

SD - 6.3



GRIND LIMITS DETAILS		
PAVEMENT CONDITION PCI	W	
	ACROSS TRAFFIC (PERPENDICULAR)	ALONG TRAFFIC (LONGITUDINAL)
85-100	TRENCH + 2' EACH SIDE (10' MIN)	TRENCH + 2' EACH SIDE
70<85	TRENCH + 2' EACH SIDE (5' MIN)	TRENCH + 2' EACH SIDE (8' MIN)
50<70	TRENCH + 2' EACH SIDE (5' MIN)	TRENCH + 2' EACH SIDE (5' MIN)
<50	TRENCH + 1' EACH SIDE (5' MIN)	TRENCH + 1' EACH SIDE (4' MIN)

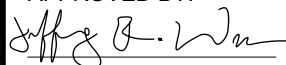
NOTES:

1. GRINDING/PAVEMENT JOINT SHALL BE LOCATED ALONG GUTTER LINES, LANE LINES, OR CENTER OF LANES AND SHALL NOT BE PLACED IN WHEEL LINES.
2. ENTIRE BIKE LANE SHALL BE REPAVED WHEN TRENCHING OCCURS IN BIKE LANE AREA.
3. INTERMEDIATE BACKFILL MATERIALS SHALL BE PER STD DWG SD-6.0.


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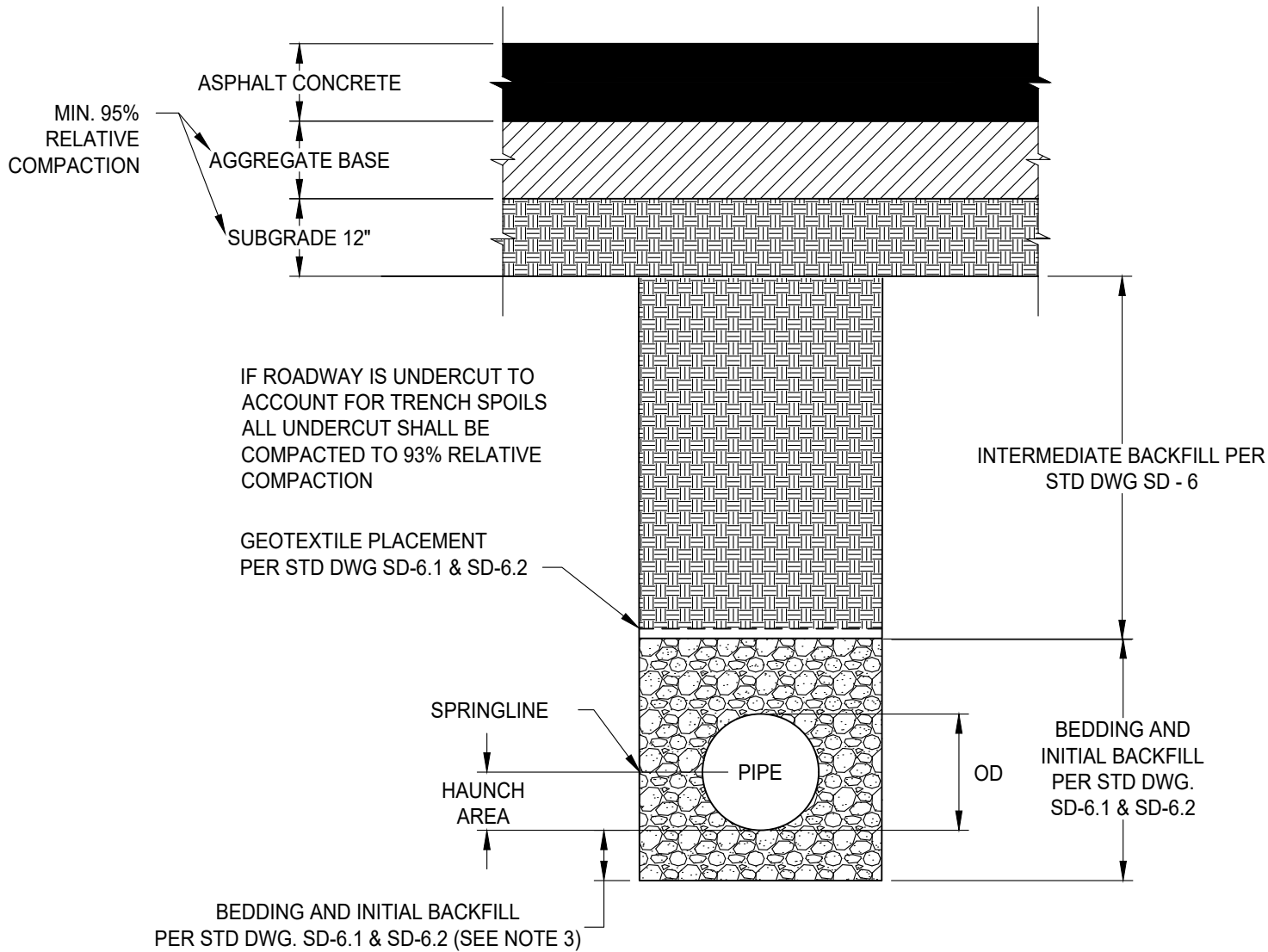
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TRENCH BACKFILLING AND RESURFACING

APPROVED BY:

 CITY ENGINEER DATE 04-29-2024

DRAWING NUMBER
ST - 1A

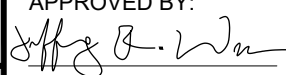




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**TYPICAL TRENCH COMPACTION
DETAIL**

APPROVED BY:

 CITY ENGINEER 04-29-2024
 DATE

DRAWING NUMBER
ST - 8

