

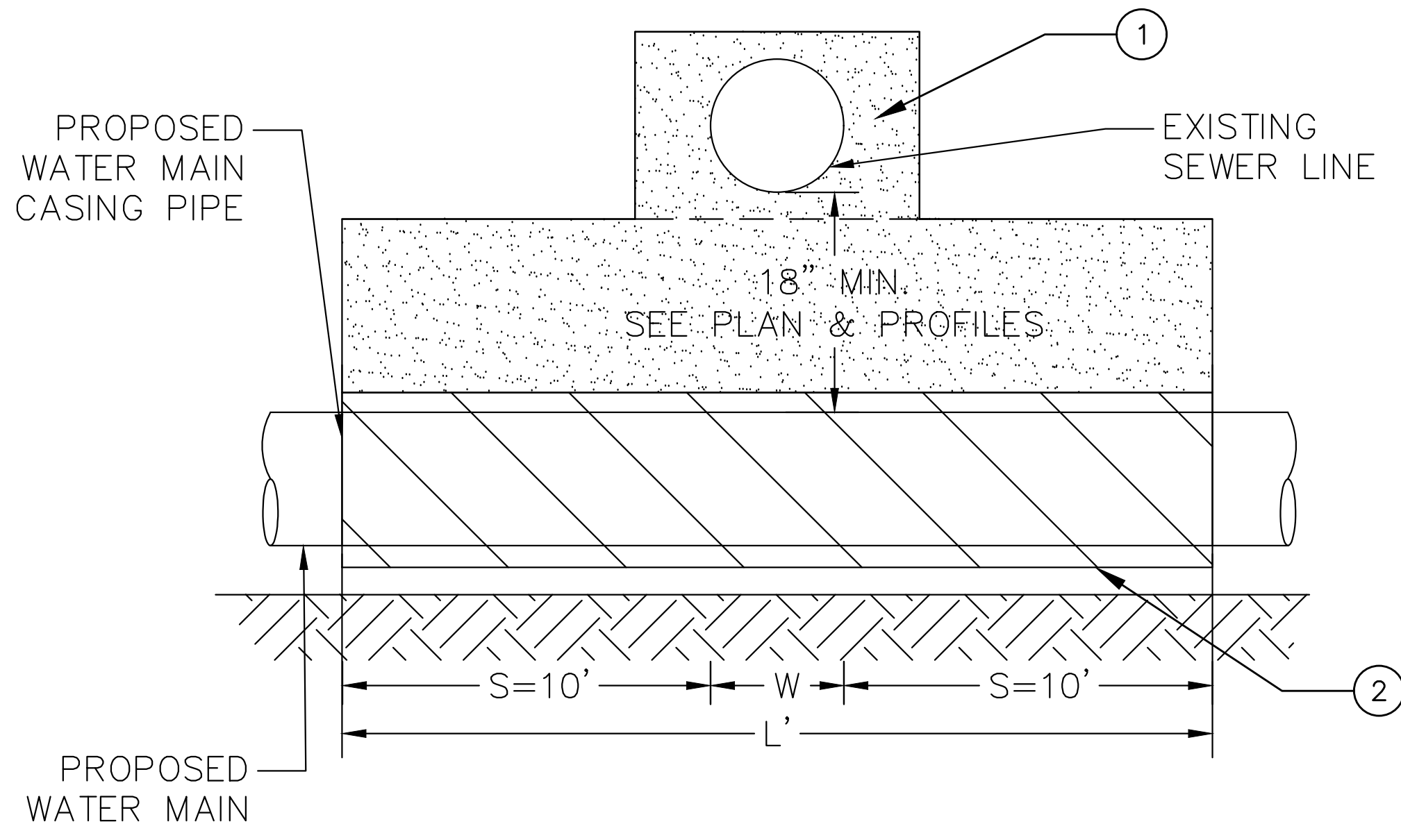
- NOTES:**
- PIPE OPENINGS TO BE CAST INTO WALL.
 - IT IS REQUIRED THAT CONCRETE BASE BE MONOLITHIC WITH THE LOWEST WALL SECTION.
 - PRECAST SECTIONS TO BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH RUBBER GASKET O-RINGS PER ASTM C443.
 - GATE VALVE TO BE RESILIENT-SEATING TYPE.

A VALVE VAULT DETAIL (VALVES 8" OR LARGER)

NOT TO SCALE

B DETAIL NOT USED

NOT TO SCALE



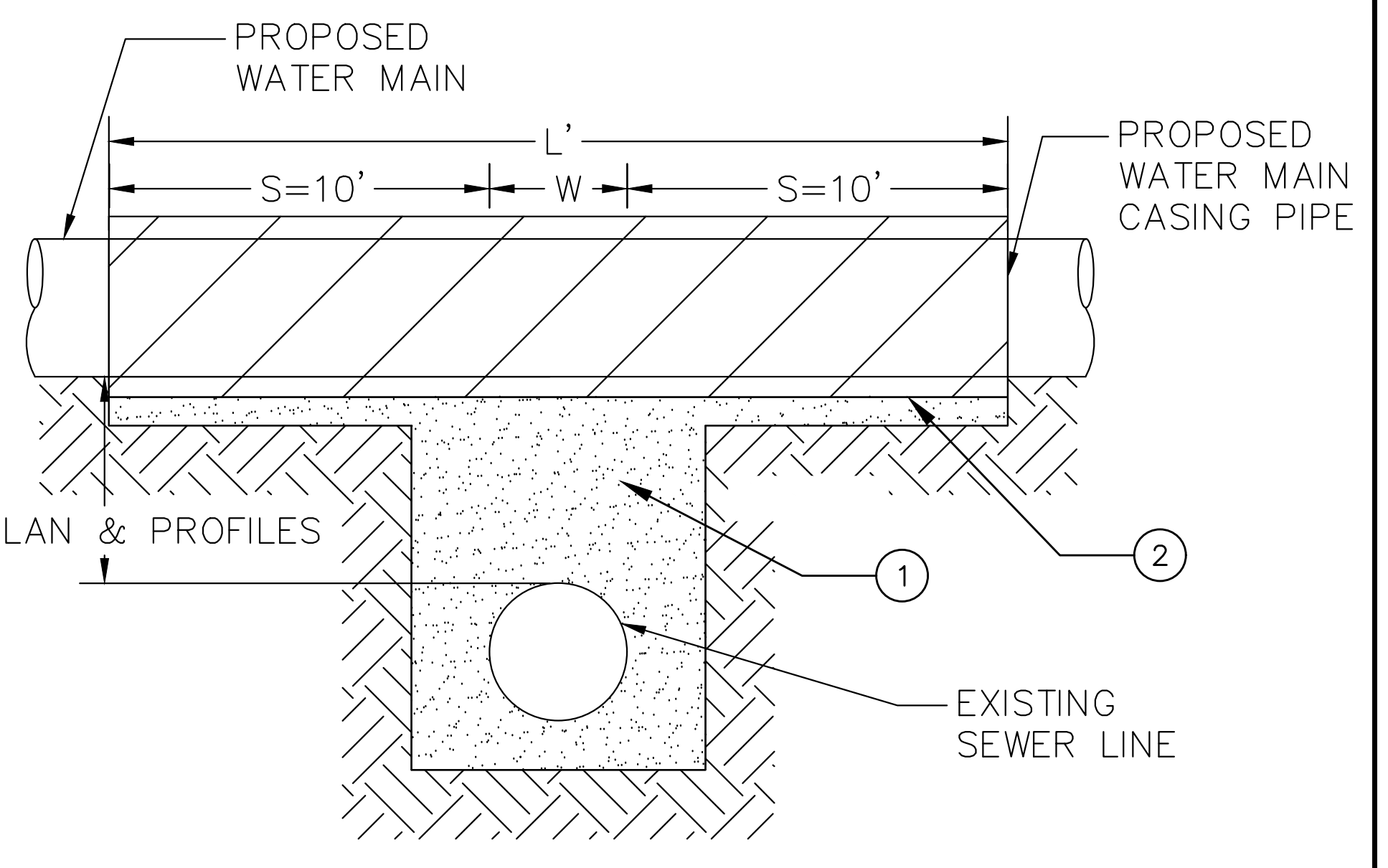
- NOTES:**
- "S" SHALL BE MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.
 - "W" IS THE WIDTH OF THE EXISTING SEWER LINE IN FEET.
 - "L" IS THE LENGTH OF THE CASING PIPE.
 - POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING PIPE AND SEWER.

- KEYED NOTES:**
- REMOVE THE EXISTING BACKFILL MATERIAL FROM THE FULL WIDTH OF THE EXISTING SEWER LINE TRENCH AND REPLACE TO ONE (1) FOOT OVER TOP OF THE WATER MAIN WITH BEDDING AND HAUNCHING MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. REPLACE REMAINING TRENCH WITH FINAL BACKFILL MATERIAL. COMPACT EACH MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - CASING PIPE LENGTH (L) SHALL BE EQUAL TO $L = 2XS + W$ AND SHALL BE SEALED AT BOTH ENDS OF THE CASING.

ALL WATER MAIN INSTALLED BENEATH GRAVITY SEWERS SHALL BE INSTALLED IN A CASING PIPE OR THE GRAVITY SEWER SHALL BE REPLACED WITH PRESSURE RATED PIPING EQUIVALENT TO WATER MAIN STANDARDS.

C VERTICAL WATER AND SEWER SEPARATION DETAIL - SEWER ABOVE - CASE WATER MAIN (TYPICALLY APPLICABLE TO SHALLOW EXISTING SEWERS)

NOT TO SCALE



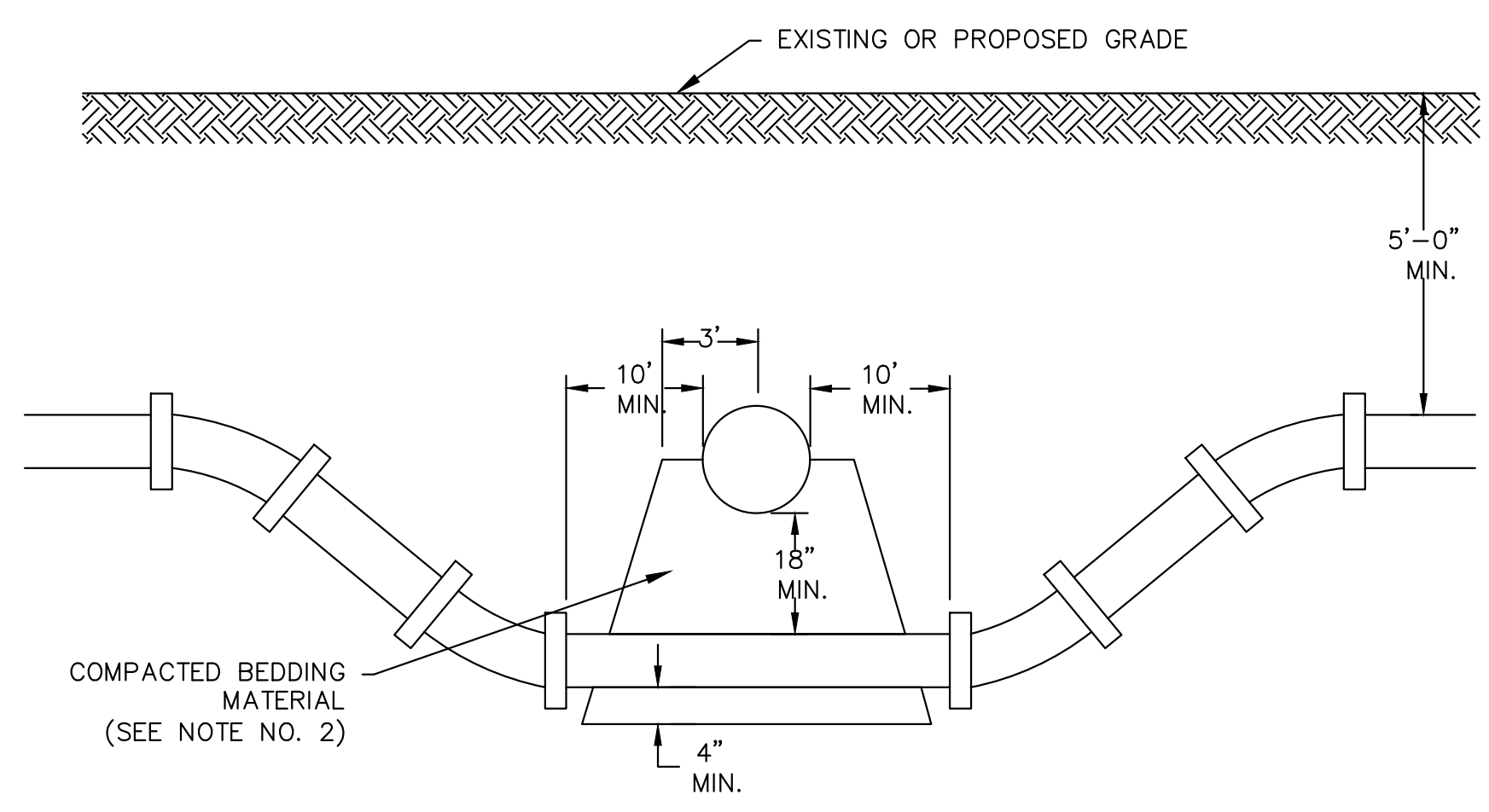
- NOTES:**
- "S" SHALL BE MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.
 - "W" IS THE WIDTH OF THE EXISTING SEWER LINE IN FEET.
 - "L" IS THE LENGTH OF THE CASING PIPE.
 - POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING PIPE AND SEWER.

- KEYED NOTES:**
- REMOVE THE EXISTING BACKFILL MATERIAL FROM THE FULL WIDTH OF THE EXISTING SEWER LINE TRENCH AND REPLACE TO ONE (1) FOOT OVER TOP OF THE WATER MAIN WITH BEDDING AND HAUNCHING MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. REPLACE REMAINING TRENCH WITH FINAL BACKFILL MATERIAL. COMPACT EACH MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - CASING PIPE LENGTH (L) SHALL BE EQUAL TO $L = 2XS + W$ AND SHALL BE SEALED AT BOTH ENDS OF THE CASING.

ALL WATER MAIN INSTALLED ABOVE GRAVITY SEWERS SHALL BE INSTALLED WITH 18' OF VERTICAL SEPARATION. IF 18' OF VERTICAL SEPARATION CANNOT BE MAINTAINED WATER MAIN SHALL BE INSTALLED IN A CASING PIPE OR THE GRAVITY SEWER SHALL BE REPLACED WITH PRESSURE RATED PIPING EQUIVALENT TO WATER MAIN STANDARDS.

D VERTICAL WATER AND SEWER SEPARATION DETAIL - SEWER BELOW (TYPICALLY APPLICABLE TO EXISTING DEEP SEWERS)

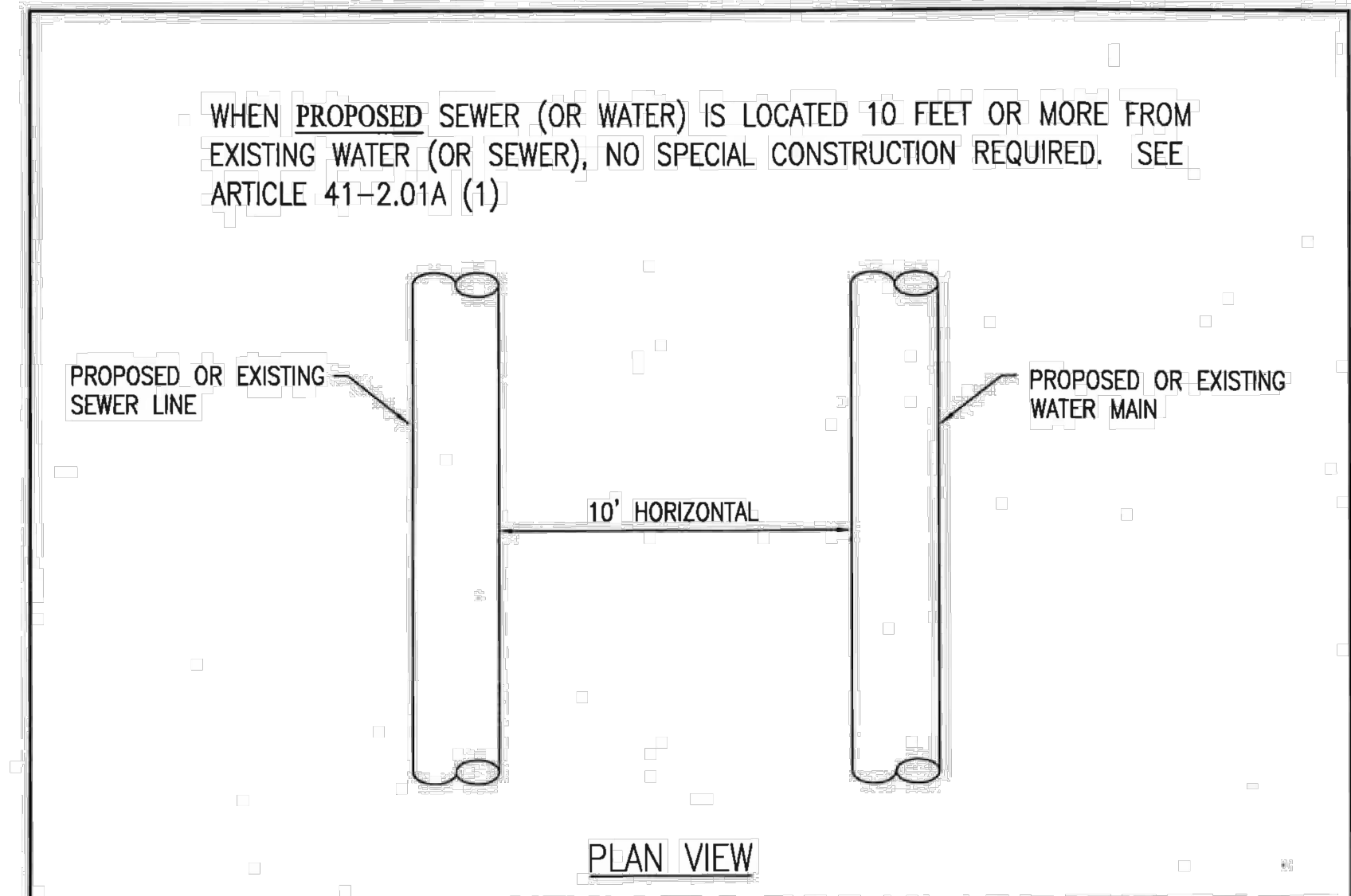
NOT TO SCALE



- NOTES:**
- IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATER MAIN DEPTH ARE REQUIRED OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW NO. F-1058, OR APPROVED EQUAL. REFER TO STRAPPING WATER MAIN 6" THRU 16" DETAIL ON SHEET PH2 CU401.
 - COMPACTED MATERIAL BELOW SEWER SHALL CONFORM TO STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS.
 - HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWERS SHALL COMPLY WITH SECTION 41-2.01 OF THE STANDARD SPECIFICATIONS FOR SEWERS AND WATER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.

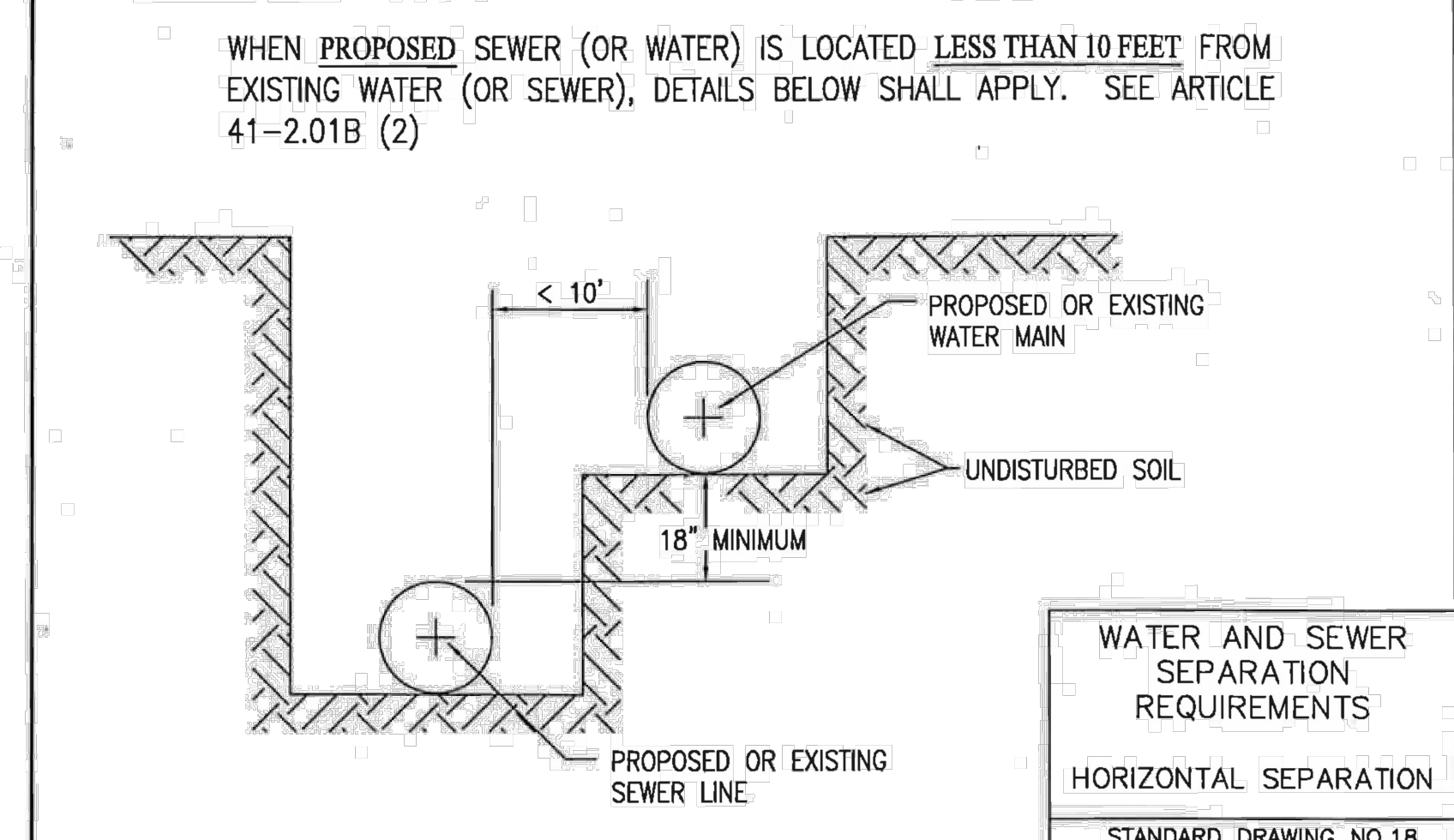
E WATER MAIN CROSSING DETAIL

NOT TO SCALE



WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER), NO SPECIAL CONSTRUCTION REQUIRED. SEE ARTICLE 41-2.01A (1)

PLAN VIEW



WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10 FEET FROM EXISTING WATER (OR SEWER), DETAILS BELOW SHALL APPLY. SEE ARTICLE 41-2.01B (2)

WATER AND SEWER SEPARATION REQUIREMENTS
HORIZONTAL SEPARATION
STANDARD DRAWING NO.18

F WATER AND SEWER SEPARATION DETAIL (HORIZONTAL SEPARATION)

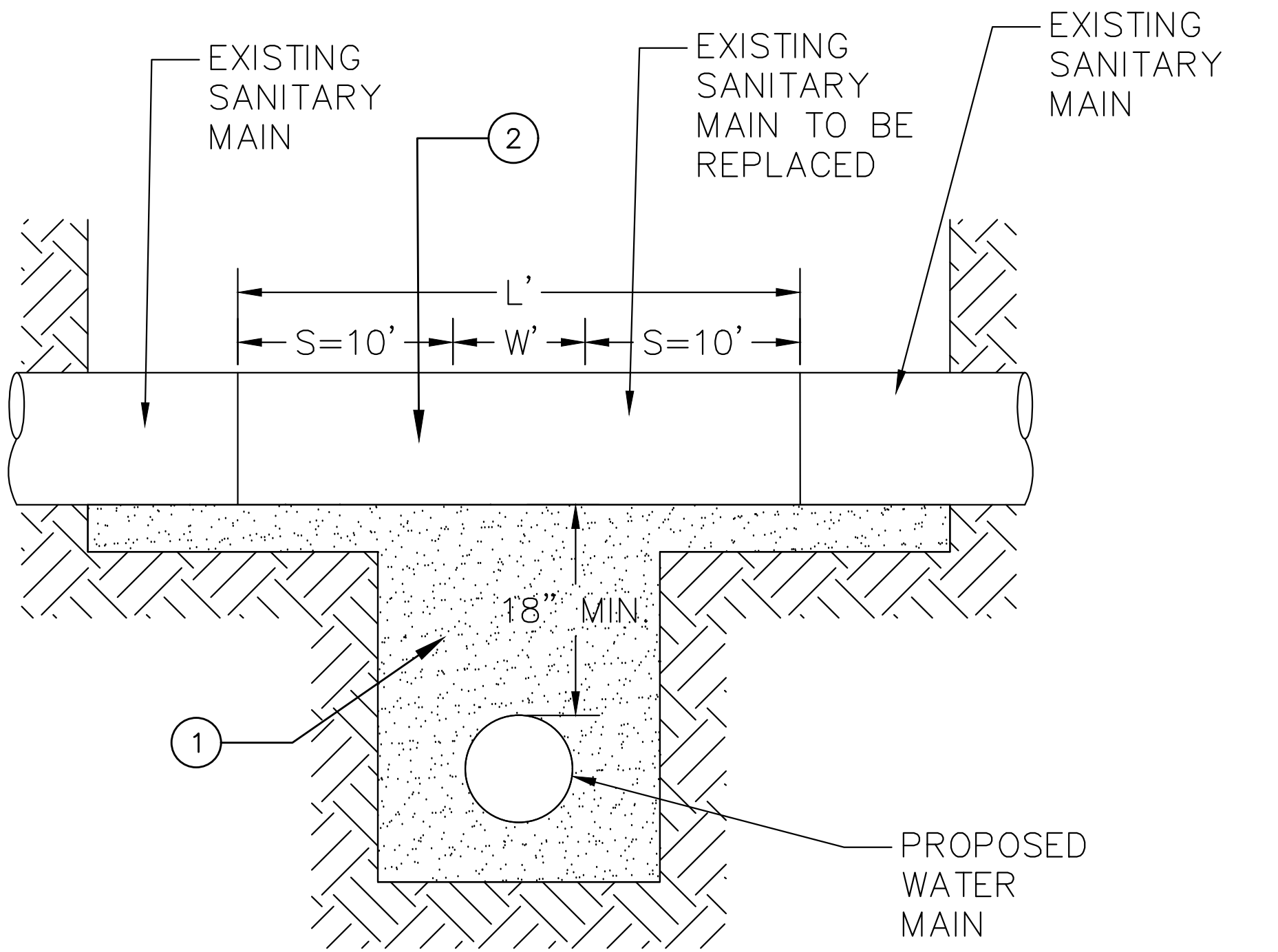
NOT TO SCALE

- NOTES:**
- "S" SHALL BE MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.
 - "W" IS THE WIDTH OF WATER MAIN IN FEET.
 - "L" IS THE LENGTH OF THE SEWER TO REPLACE.
 - POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN AND SEWER.
 - REFER TO DETAIL C ON SHEET CU400 FOR CASING PIPE REQUIREMENTS.

- KEYED NOTES:**
- REMOVE THE EXISTING BACKFILL MATERIAL FROM THE FULL WIDTH OF THE EXISTING SEWER LINE TRENCH AND REPLACE TO ONE (1) FOOT OVER TOP OF THE WATER MAIN WITH BEDDING AND HAUNCHING MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. REPLACE REMAINING TRENCH WITH FINAL BACKFILL MATERIAL. COMPACT EACH MATERIAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - SEWER REPLACEMENT LENGTH (L) SHALL BE EQUAL TO $L = 2XS + W$. GRAVITY SEWER TO BE REPLACED WITH PRESSURE RATED PIPING EQUIVALENT TO WATER MAIN STANDARDS.

G VERTICAL WATER AND SEWER SEPARATION DETAIL - SEWER ABOVE REPLACE SEWER

NOT TO SCALE



Revisions	Date

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PHASE 3A - 100% CONSTRUCTION DOCUMENTS: JULY 29, 2016

PHASE 3A WATER MAIN DETAILS

Approved: Division Chief

Approved: Service Director

VA HINES MEDICAL CENTER REPLACE EXISTING WATER MAINS PROJECT

Building Number

Checked: JBL

Drawn: TPM

Location: HINES, ILLINOIS

Date: JULY 29, 2016

Project No. VA#578-15-032
HGA#3931-001-00

DRAWING NO. CU400

Dwg. ___ Of ___

Office of Facilities Management

Department of Veterans Affairs