

LOCATION PLAN

THE MINISTRY OF  
PUBLIC WORKS  
P.O. Box HM525  
Hamilton HMCX Bermuda  
Phone: (441) 295-5151

DEPARTMENT OF  
WORKS AND ENGINEERING  
Fax: (441) 295-5658

ISSUED FOR: TENDER 02/11/24

AMENDMENTS:

NO	REVISION	BY	APP	DATE
-	-	-	-	-

SCALE: AS SHOWN AT ANSI D

SURVEY  
PREPARED BY: . DATE: .

DESIGN  
PREPARED BY: . DATE: .

CHECKED BY: . DATE: .

DRAWING  
PREPARED BY: C FRASER DATE: 02/11/24  
CHECKED BY: A KENNY DATE: 02/11/24

APPROVED BY: A KENNY DATE: 02/11/24

PROJECT NUMBER: .

PROJECT NAME:  
**PEMBROKE CANAL  
MILL CREEK  
SHEET PILING**

**MILL CREEK ROAD  
PEMBROKE**

SHEET TITLE:  
**LOCATION PLAN**

SHEET NUMBER: **S000** REVISION: **A**

**GENERAL**

- ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ANY OTHER WRITTEN INSTRUCTIONS ISSUED.
- WHERE APPROVAL IS REQUIRED, THIS SHALL BE OF THE SUPERINTENDENT OR HIS REPRESENTATIVE.
- ANY AMBIGUITY OR DISCREPANCY SHALL BE REFERRED FOR CLARIFICATION BEFORE WORK PROCEEDS.
- DIMENSIONS ARE IN PRESENTED MILLIMETERS WITH EQUIVALENT INCH VALUE SHOWN IN BRACKETS. EXAMPLE: 1000mm (40")
- FOR SPECIFIC ITEMS AND MEASUREMENTS, DIMENSIONS ARE ALSO PROVIDED IN INCHES TO ASSIST PURCHASING AND CLEARLY LABELED WITH " IDENTIFIER.
- REFER TO THE DRAWING DIMENSIONS FOR SETTING OUT THE WORKS. HOWEVER, ALL EXISTING DIMENSIONS AND LEVELS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE CONTRACTOR ON SITE.
- UNLESS NOTED OTHERWISE, ALL LEVELS ARE TO OD. SET OUT IS TO BNG 2000.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE UNTIL ITS COMPLETION AND SHALL ENSURE THAT NO PART OF THE STRUCTURE IS OVERSTRESSED DURING THE WORKS.
- WHERE STANDARDS ARE REFERRED TO, THEY SHALL BE THE LATEST EDITION.
- PROPRIETARY ITEMS, PROPOSED BY THE CONTRACTOR, ARE TO BE REVIEWED AND APPROVED BY THE DESIGNING ENGINEER PRIOR TO USE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING WORK AREAS.
- ALL DEMOLITION SHALL BE IN AN ACCEPTABLE MANNER UNDER THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS 2009. ALL SURPLUS MATERIAL SHALL BE DISPOSED OF OFF SITE IN A LEGAL MANNER.

**SHEET PILING**

- NZ14 HOT ROLLED SHEET PILES USED WITHIN DESIGN
- SPECIFICATIONS ARE AS FOLLOWS:
 

WEB THICKNESS	= 9.5mm (3/8")
FLANGE THICKNESS	= 9.5mm (3/8")
SECTION DEPTH	= 340mm (13 3/8")
SECTION WIDTH	= 770mm (30")
LENGTH	= 6096mm (20ft)
NOMINAL YIELD STRENGTH	= 390 N/mm <sup>2</sup>
- FULL 20ft HEIGHT SHEET PILES TO BE DRIVEN DOWN UNTIL TOP FLUSH WITH EXISTING MASONRY WALL. IF ROCK IS ENCOUNTERED PREVENTING FULL EMBEDMENT, SHEET PILES ARE TO HAVE A MINIMUM OF 10 ft EMBEDMENT
- TOP 10 ft OF SHEET PILE TO BE PAINTED. COLOR AND SPEC TO MPW ENGINEER'S SPECIFICATION

**CONCRETE**

- CONCRETE SHALL COMPLY WITH THE FOLLOWING SPECIFICATION:
 

- MINIMUM CONCRETE STRENGTH AT SERVICE F'c	= 25 MPa
- MINIMUM CEMENT CONTENT	= 440 Kg/m <sup>3</sup> (28 lb/ft <sup>3</sup> )
- MAXIMUM WATER/CEMENT RATIO	= 0.5
- CONCRETE MIX DESIGNS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- NO ADDITIVES TO BE USED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- CAST IN ITEMS WITH LESS THAN 25mm (1") COVER TO ATMOSPHERE SHALL BE HOT DIPPED GALVANISED IN ACCORDANCE WITH ASTM A153.
- ALL FORMWORK, SHORING AND RESHORING SHALL BE THE RESPONSIBILITY OF AND DESIGNED BY THE CONTRACTOR
- CONCRETE SHALL BE TESTED FOR SLUMP ON SITE. THE TEST CYLINDERS SHALL BE TAKEN FOR 3, 7 AND 28 DAY STRENGTHS.
- CONCRETE STRENGTH AND SLUMP TO BE AS FOLLOWS

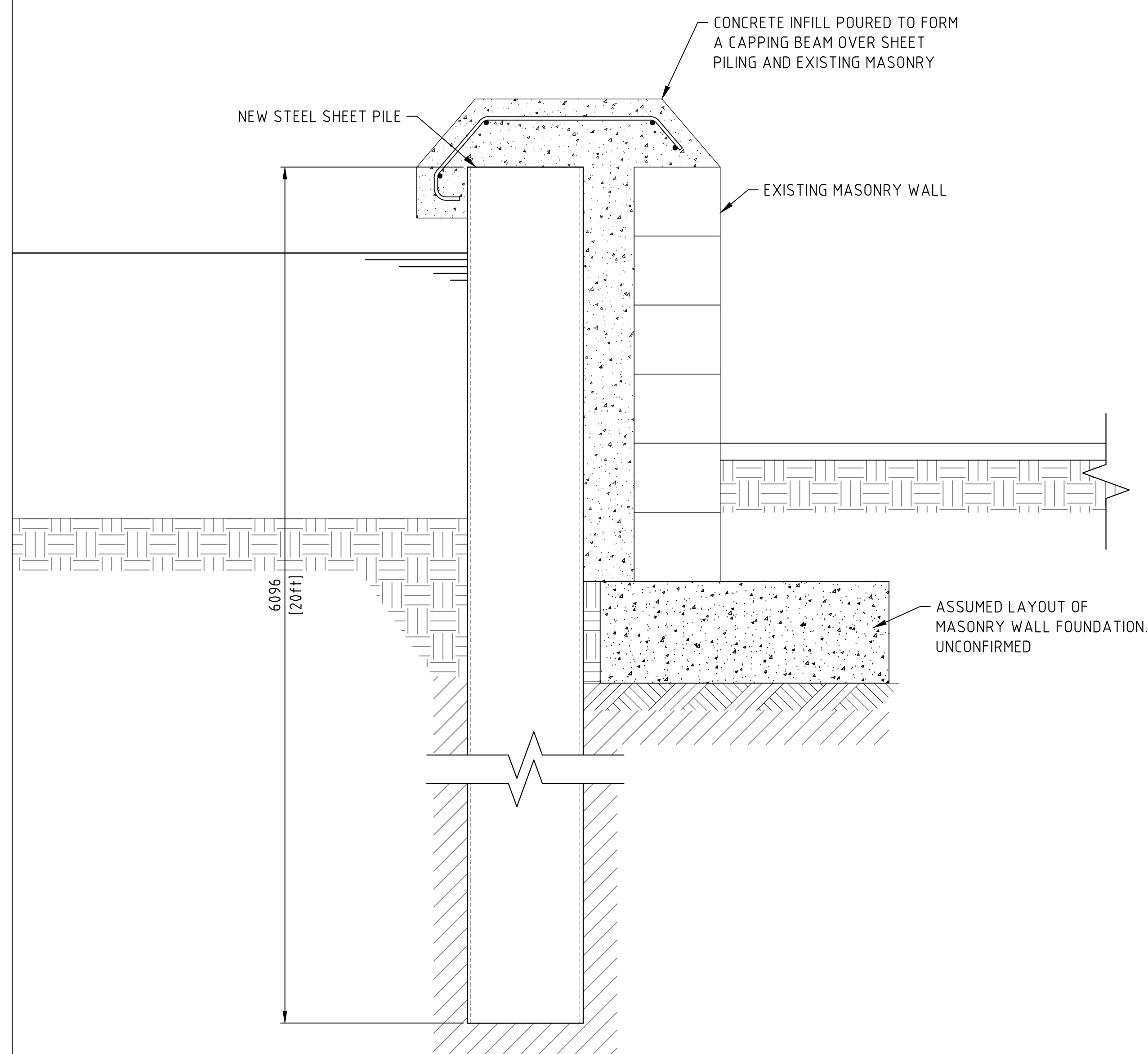
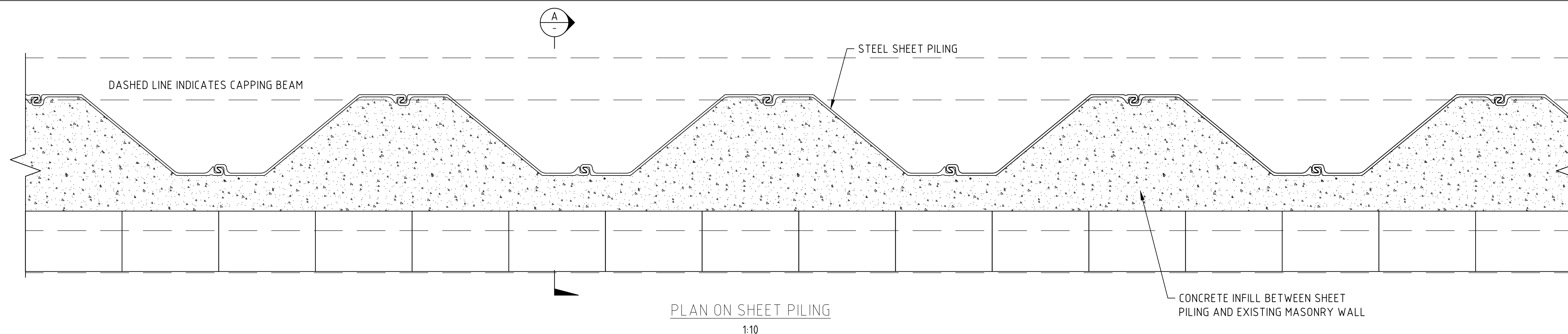
MIN. SPECIFIED 28 DAY STRENGTH	SLUMP
25 MPa	75mm ± 25mm

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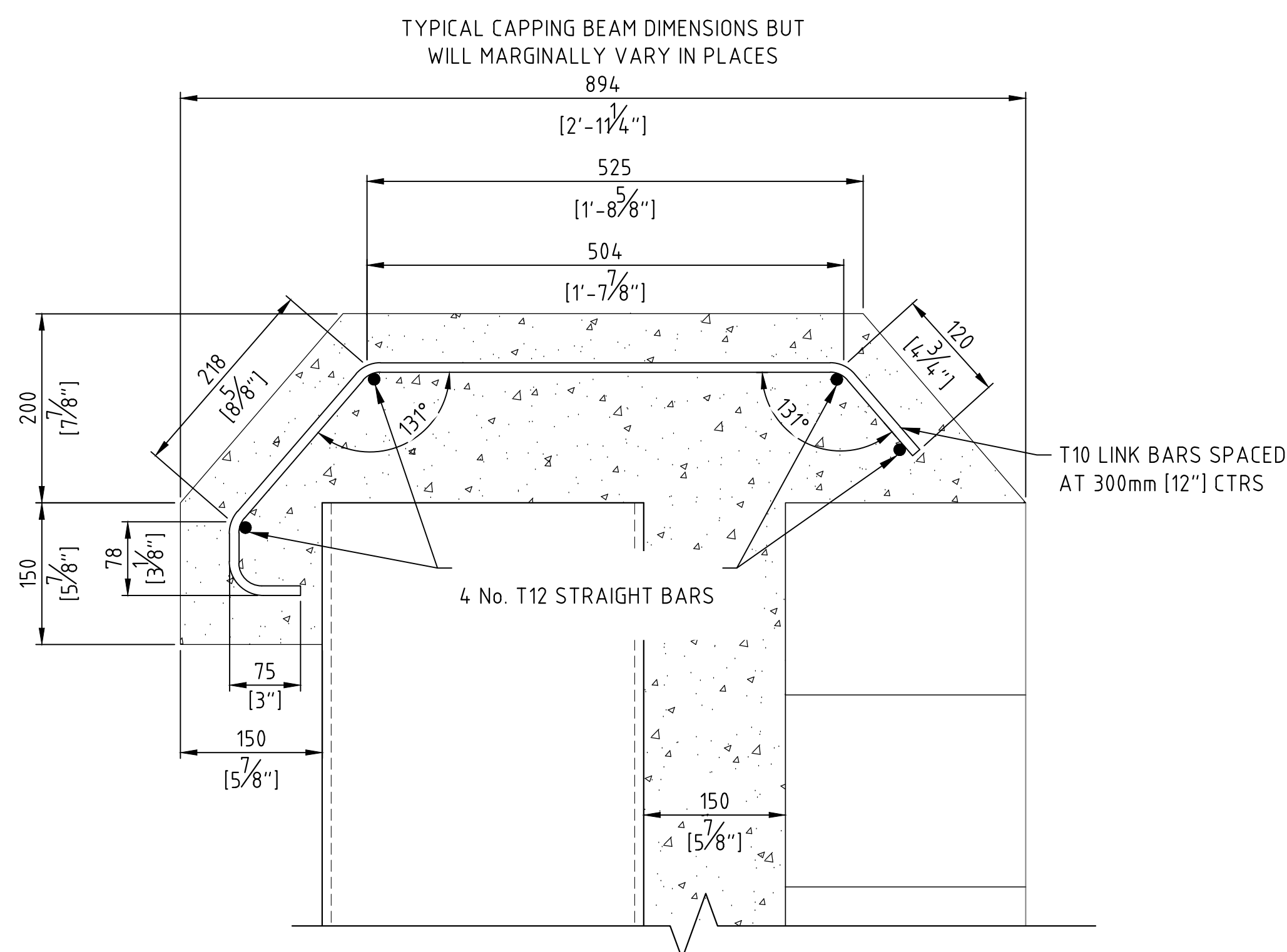
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SECTION A-A  
VIEW THROUGH SHEET PILING  
1:10



CAPPING BEAM DETAIL  
1:5

REINFORCEMENT

1. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS. IF SHOWN/PERMITTED, WELDS SHALL DEVELOP THE FULL STRENGTH OF THE REINFORCING ELEMENT.
2. ALL REINFORCING STEEL TO HAVE A MINIMUM YIELD STRENGTH OF 410 MPa AND SHALL BE TYPE 2 DEFORMED BARS
3. ALL REINFORCING STEEL SHALL BE CLASS II GALVANISED IN ACCORDANCE WITH ASTM A767. TIE WIRE SHALL ALSO BE GALVANISED.
4. REINFORCEMENT SPACING NOT SHOWN SHALL BE TAKEN AS EQUAL.
5. REINFORCING CHAIRS ARE TO BE CONCRETE AND AS SMALL AS PRACTICABLE. PROPRIETARY PLASTIC COVER SUPPORTS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
6. REINFORCING BARS SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC ONLY.
7. BARS SHOWN MAY REPRESENT MORE THAN ONE LENGTH AND/OR PROFILE.
8. BARS MAY NOT BE SHOWN IN TRUE POSITION FOR CLARITY. ALL HOOKS, BENDS AND COGS ARE STANDARD AND SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE.
9. LAP SPLICES TO ALTERNATE AND NO MORE THAN 50% OF SPLICES SHALL BE IN ANY ONE SECTION.
10. BARS SHALL NOT BE CUT NOR BENT ON SITE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
11. BARS SHALL BE BENT COLD BY MACHINE OR OTHER APPROVED MEANS PRODUCING A GRADUAL AND EVEN MOTION. BARS INCORRECTLY BENT SHALL NOT BE RE-BENT AND INCORPORATED IN THE WORKS AND NO REINFORCEMENT SHALL BE BENT WHEN IN POSITION IN THE WORKS, WHETHER OR NOT IT IS PARTIALLY EMBEDDED IN HARDENED CONCRETE.
12. CONTRACTOR TO PROVIDE 24 HOURS NOTICE FOR THE INSPECTION OF ALL REINFORCING PRIOR TO POURING CONCRETE.
10. LAP LENGTHS SHALL BE AS TABULATED (SHOWN RIGHT) UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

BAR DIAMETER	MIN LAP LENGTH
12	24"
16	30"
20	36"
25	60"

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PROJECT NAME:

PEMBROKE CANAL  
MILL CREEK  
SHEET PILING

MILL CREEK ROAD  
PEMBROKE

SHEET TITLE:  
GENERAL DETAILS

SHEET NUMBER:

S001

REVISION

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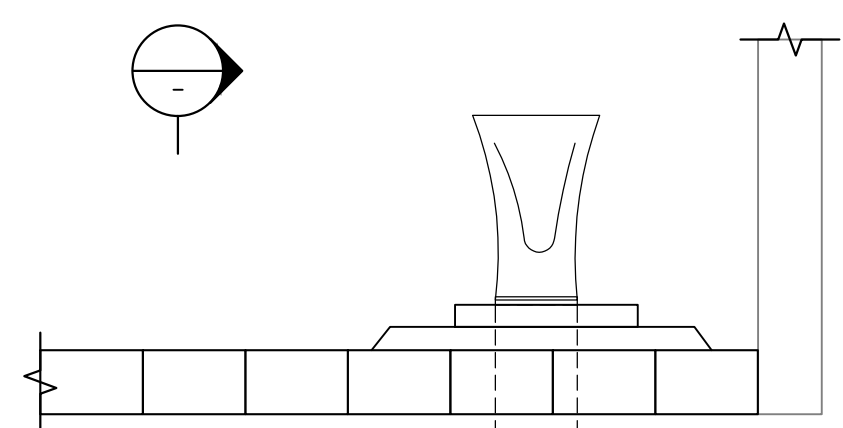
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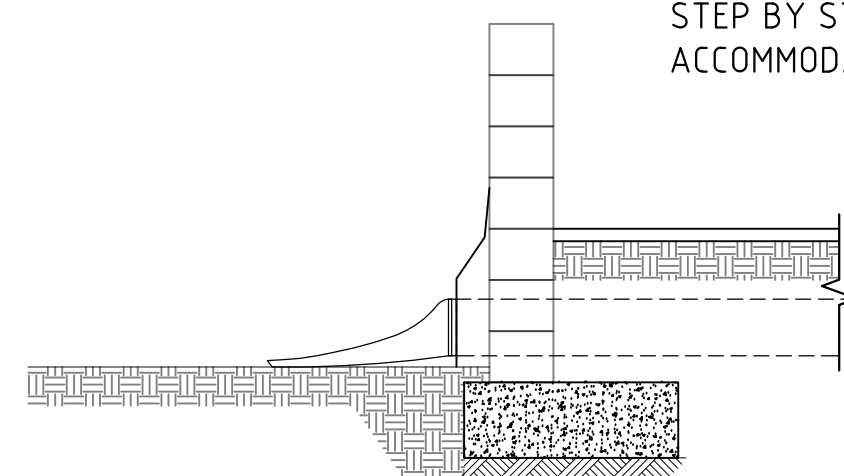
SHEET TITLE:  
PIPE PENETRATION  
DETAILS

SHEET NUMBER: REVISION  
S002 A



PLAN VIEW

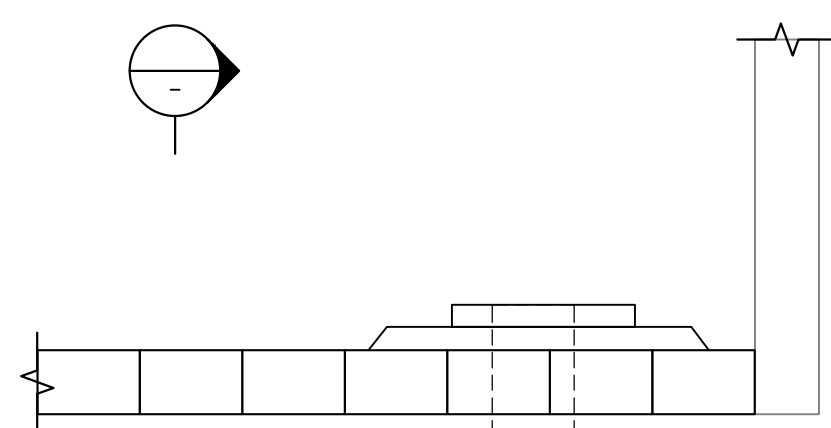
THE EXISTING WALL INCLUDES A DRAIN PIPE THAT RUNS UNDER THE ROADWAY. THE PROPOSED SHEET PILING WILL CLASH WITH THE EXIT OF THE PIPE. THE CONTRACTOR IS TO FOLLOW THIS STEP BY STEP METHODOLOGY TO ACCOMMODATE THE DRAIN LINE



SECTION VIEW

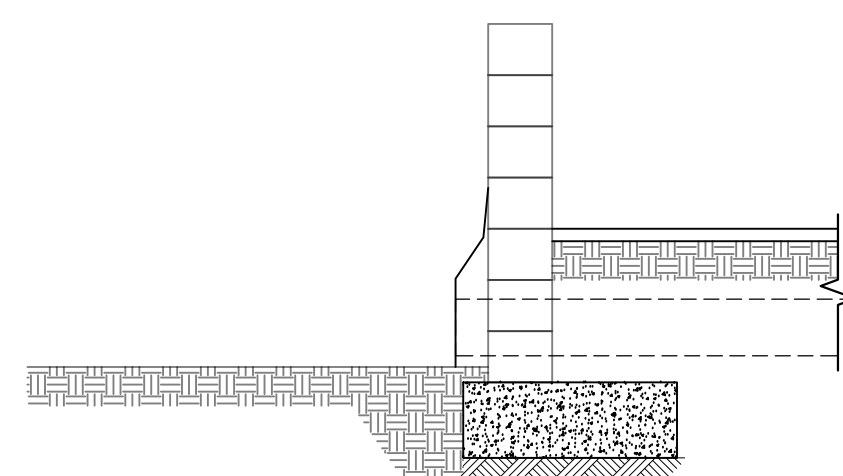
EXISTING LAYOUT

1:30



PLAN VIEW

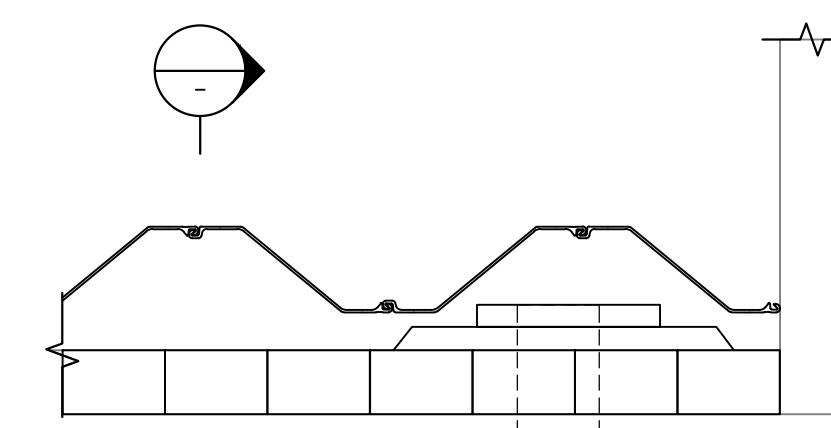
BEGIN BY REMOVING THE EXIT SLEEVE OF THE PIPE. HELD ON BY SIMPLE BRACKETRY



SECTION VIEW

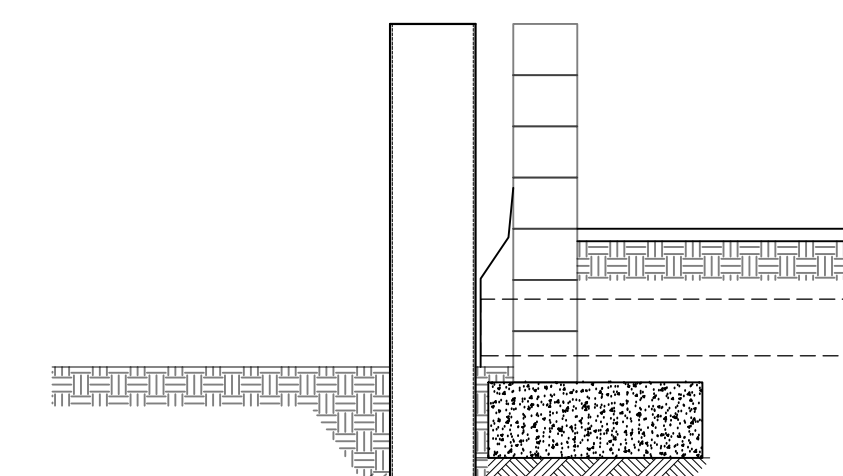
STEP 1

1:30



PLAN VIEW

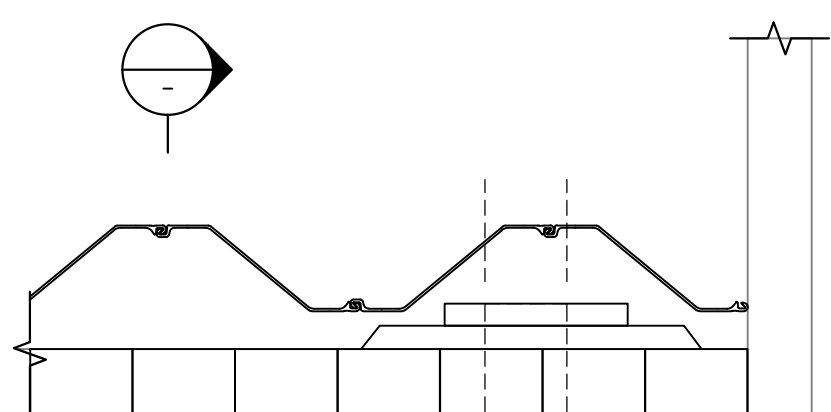
INSTALL STEEL SHEET PILING KEEPING CLEAR OF THE EXISTING STRUCTURE



SECTION VIEW

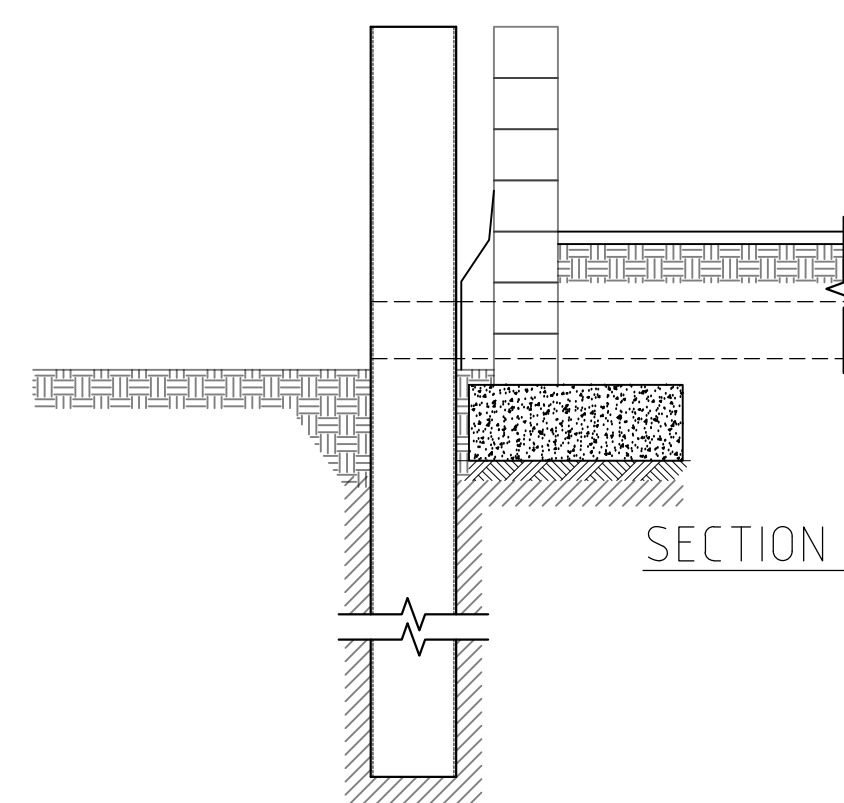
STEP 2

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PLAN VIEW

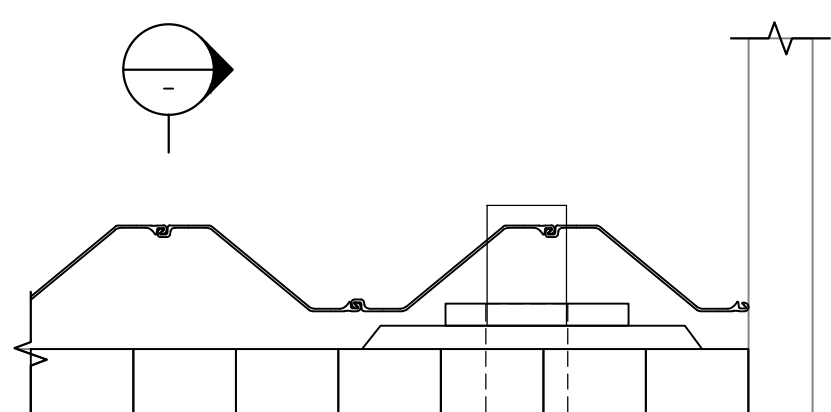
AN OPENING WITHIN THE SHEET PILE SHOULD BE CUT IN LINE WITH THE EXISTING PIPE LINE



SECTION VIEW

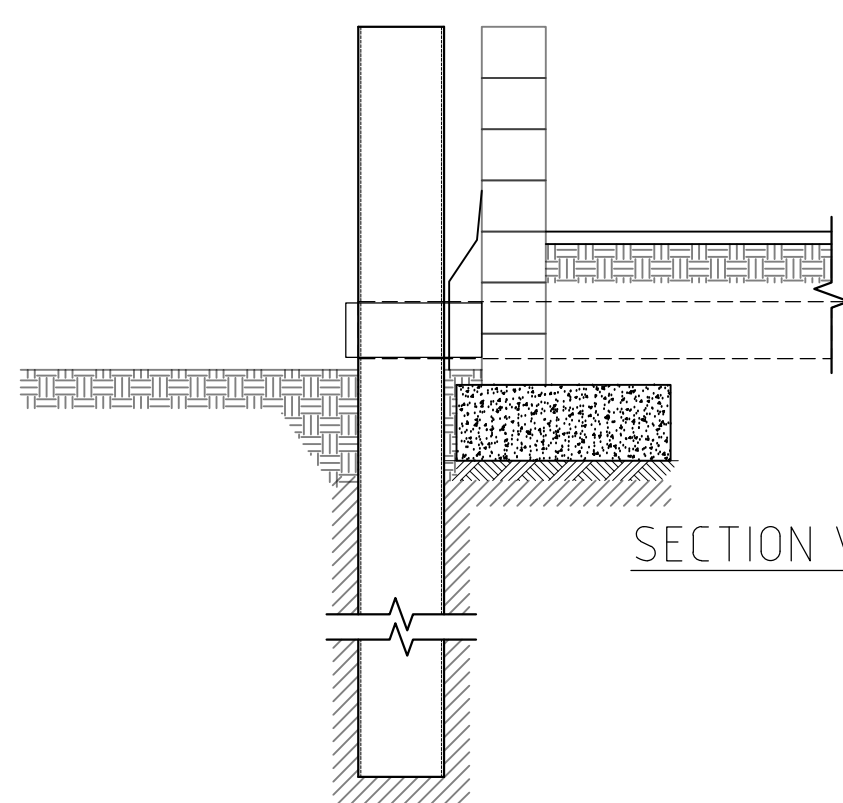
STEP 3

1:30



PLAN VIEW

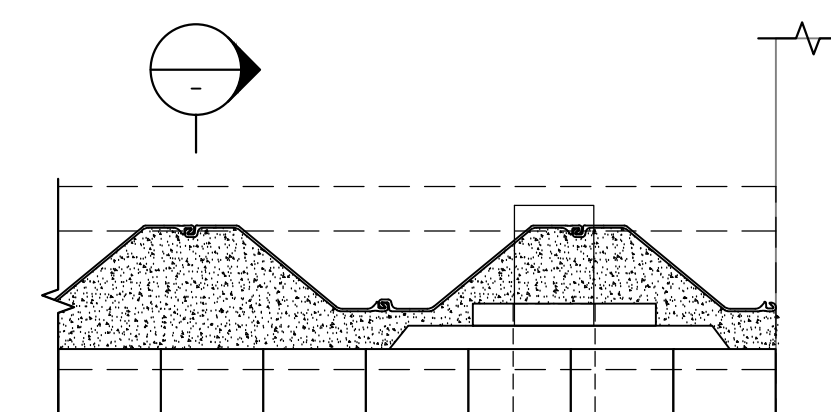
INSERT A NEW HDPE PIPE THROUGH THE SHEET PILING AND INTO THE EXISTING DRAIN LINE



SECTION VIEW

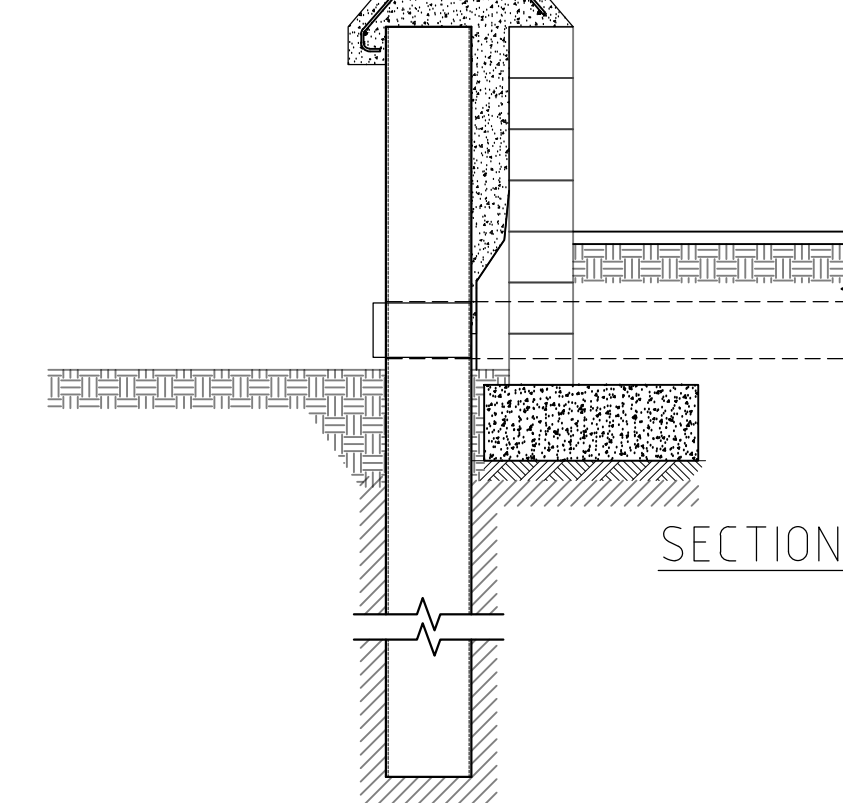
STEP 4

1:30



PLAN VIEW

MASS FILL CONCRETE BETWEEN THE EXISTING STRUCTURE AND NEW SHEET PILING



SECTION VIEW

STEP 5

1:30