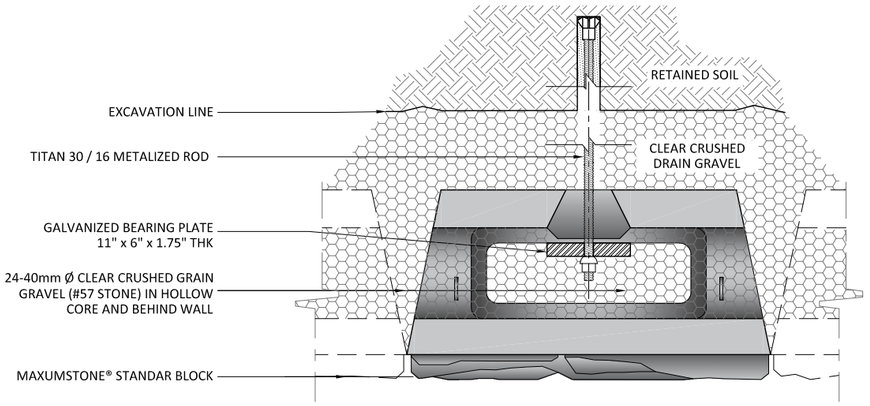
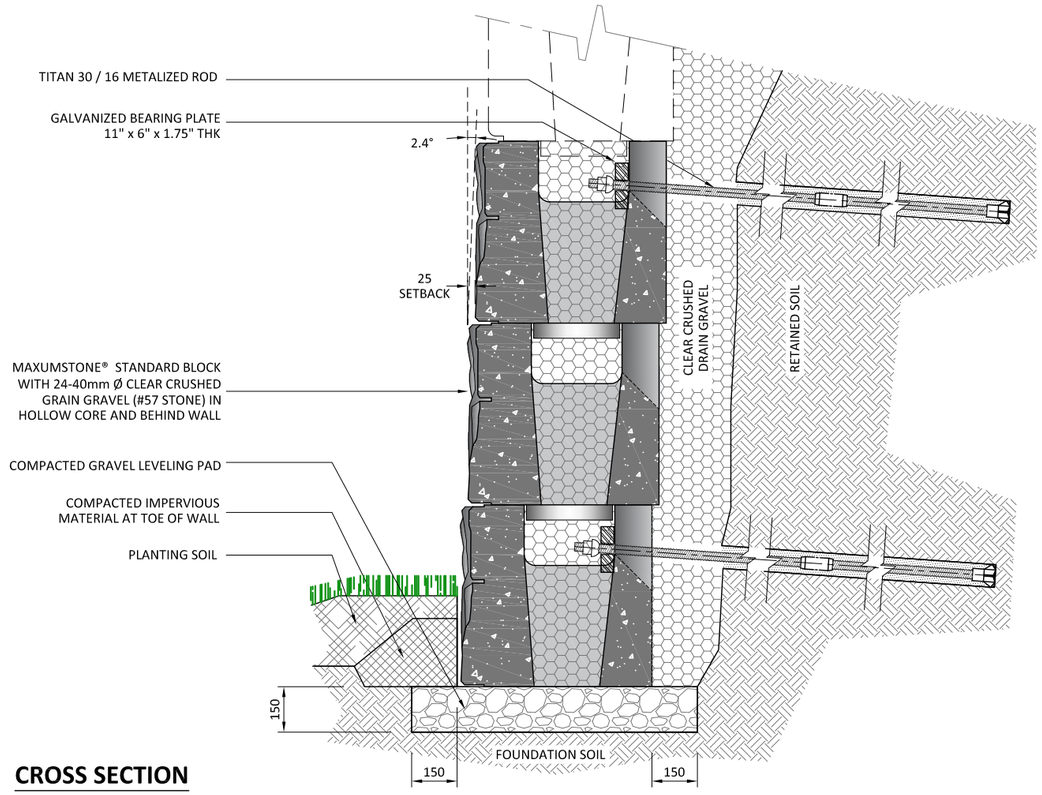


PLAN

OPTION 1 - SOIL NAIL WITH BEARING PLATE			
DESIGN LOAD (KIPS)	fc (28 DAYS) (PSI)	BEARING PLATE SIZE (inch)	BEARING PLATE THICKNESS (inch)
29.7	4,000	10 x 5.5	1.5
25.0	4,000	9.5 x 5.25	1.5
20.0	4,000	9.25 x 4.75	1.5
15.0	4,000	9.0 x 4.25	1.25
10.0	4,000	8.75 x 3.5	1.25
5.0	4,000	8.0 x 3.0	1.0

GENERAL NOTES:

1. TITAN 30/16 ROD TO BE METALIZED
2. BEARING PLATE GRADE, 50 KSI, GALVANIZED AFTER FABRICATION
3. VERTICAL/HORIZONTAL NAILS SPACING BASED ON REQUIRED CAPACITY.



CROSS SECTION

01 **SOIL NAIL WITH BEARING PLATE**
OPTION 1 SCALE 1:20

GENERAL NOTES:

These drawings are intended solely to act as an aid when designing a wall. This drawing should not be used for final design or construction.

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Rev	DESCRIPTION	DATE
01	**ADDENDUM INFORMATION**	**08-10-2023**
00	INTERNAL APPROVAL	07-01-2023

REMARKS:

PURPOSE OF ISSUE:

- ☐ INFORMATION
- ☐ REVIEW / APPROVAL
- ☐ PRODUCTION

SHEET CONTENT

MAXUMSTONE®
SOIL ANCHOR WALL

OPTION - 1

SOIL NAIL WITH BEARING PLATE

SHEET REFERENCE

101

1104-MX-ETC

DRAWING INFORMATION

SCALE :	1 : 20
PAPER SIZE:	431.8mm x 297.5mm
PREPARED BY:	RM

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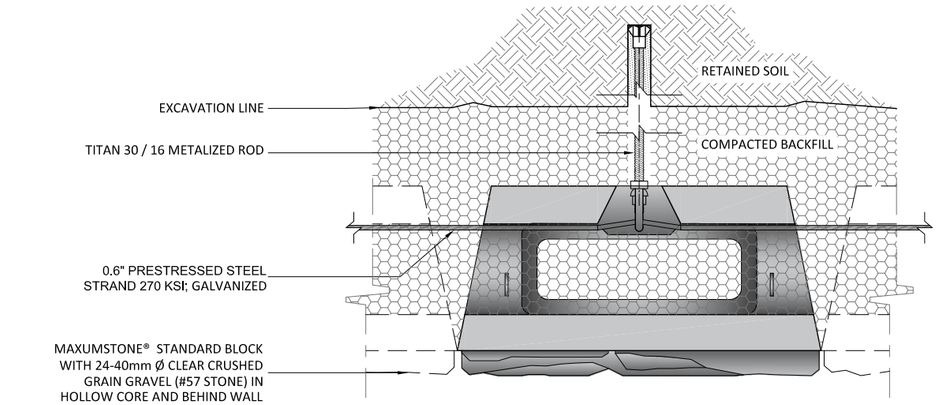
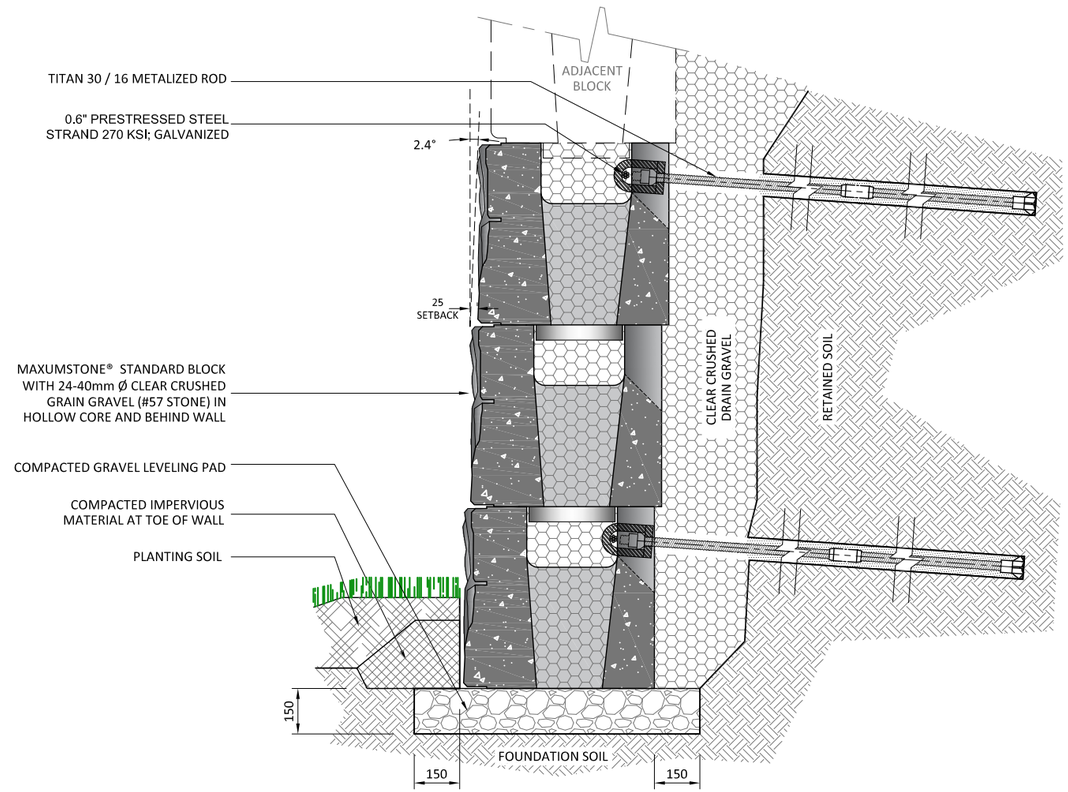


PLAN



CROSS SECTION

02 **SOIL NAIL WITH 0.6" PRESTRESSED STEEL STRAND**
OPTION 2 SCALE 1:20

GENERAL NOTES:
1. TITAN 30/16 ROD TO BE METALIZED
2. 0.6" PRESTRESSED STEEL STRAND, 270 KSI, TO BE GALVANIZED.
3. EYE TO BE METALIZED
4. VERTICAL/HORIZONTAL NAILS SPACING BASED ON REQUIRED CAPACITY.

GENERAL NOTES:

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Rev	DESCRIPTION	DATE
01	**ADDENDUM INFORMATION**	**08-10-2023**
00	INTERNAL APPROVAL	07-01-2023

REMARKS:

PURPOSE OF ISSUE:
- ☐ INFORMATION
- ☐ REVIEW / APPROVAL
- ☐ PRODUCTION

SHEET CONTENT

MAXUMSTONE®
SOIL ANCHOR WALL

OPTION - 2

SOIL NAIL WITH 0.6" PRESTRESSED STEEL STRAND

SHEET REFERENCE

102

1104-MX-ETC

DRAWING INFORMATION

SCALE :	1 : 20
PAPER SIZE:	431.8mm x 297.5mm
PREPARED BY:	RM

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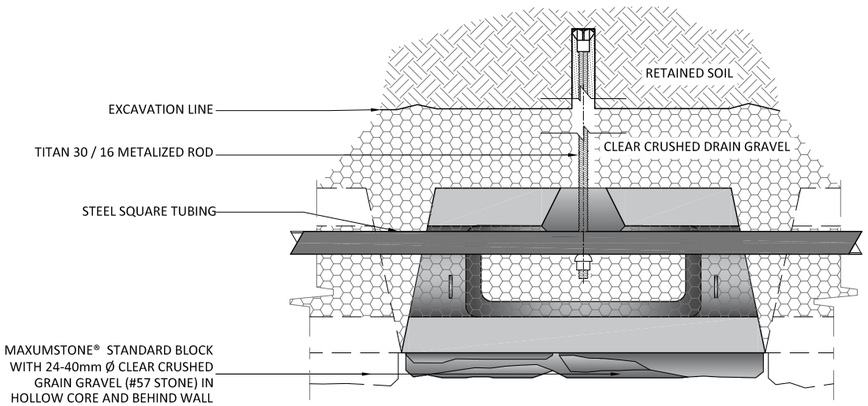
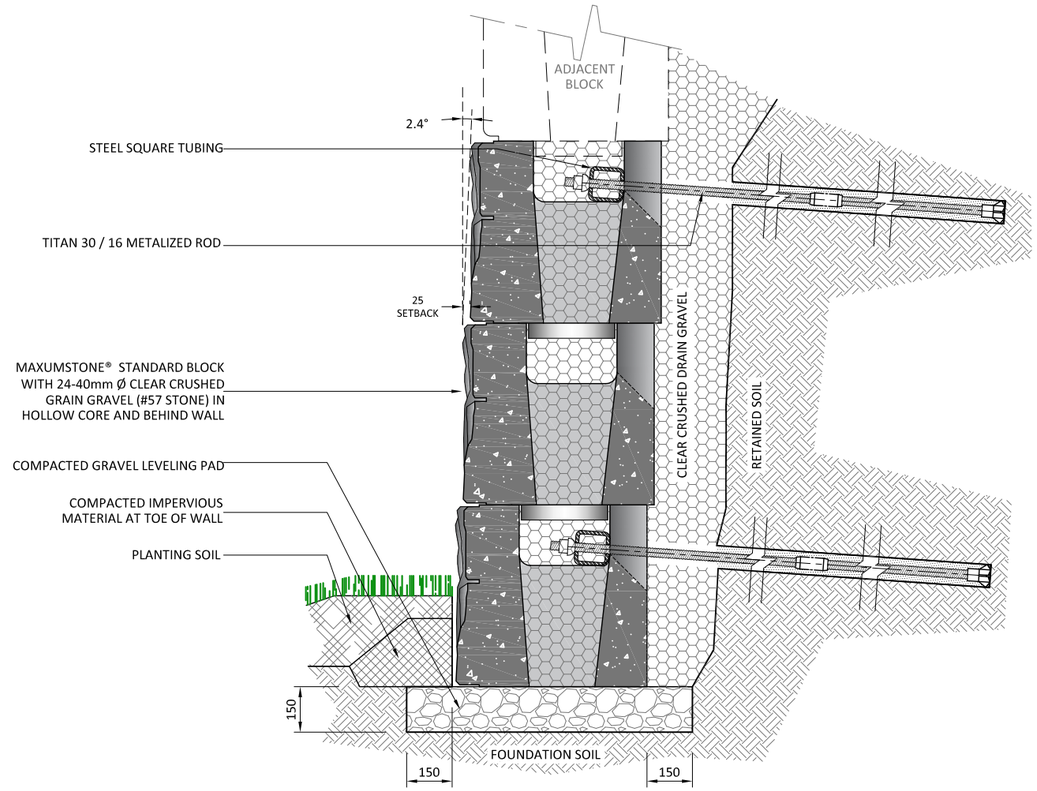


PLAN

OPTION 3 - SOIL NAIL WITH STEEL SQUARE TUBING				
DESIGN LOAD (KIPS)	fc (28 DAYS) (PSI)	min. SECTION MODULUS (inch^3)	STEEL SQUARE TUBING SIZE (inch)	STEEL PIPE (inch)
29.7	4,000	1.258	3 x 3 x 0.25	3.5" SCH 40
25.0	4,000	1.058	2.75 x 2.75 x 0.25	3.5" SCH 40
20.0	4,000	0.847	2.63 x 2.63 x 0.25	3" SCH 40
15.0	4,000	0.635	2.38 x 2.38 x 0.20	3" SCH 40
10.0	4,000	0.423	2.25 x 2.25 x 0.188	2.5" SCH 40
5.0	4,000	0.212	2.0 X 2.0 X 0.188	2" SCH 40

GENERAL NOTES:

1. TITAN 30/16 ROD HAVE TO BE METALIZED
2. STRUCTURAL STEEL TUBING TO BE GALVANIZED
3. VERTICAL/HORIZONTAL NAILS SPACING BASED ON REQUIRED CAPACITY.



CROSS SECTION

03 **SOIL NAIL WITH STEEL TUBING**
OPTION 3 SCALE 1:20

GENERAL NOTES:

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Rev	DESCRIPTION	DATE
01	**ADDENDUM INFORMATION**	**08-10-2023**
00	INTERNAL APPROVAL	07-01-2023

REMARKS:

PURPOSE OF ISSUE:

- ☐ INFORMATION
- ☐ REVIEW / APPROVAL
- ☐ PRODUCTION

SHEET CONTENT

MAXUMSTONE®
SOIL ANCHOR WALL

OPTIONS - 3

SOIL NAIL WITH STEEL SQUARE TUBING

SHEET REFERENCE

103

1104-MX-ETC

DRAWING INFORMATION

SCALE : 1 : 20
PAPER SIZE: 431.8mm x 297.5mm
PREPARED BY: RM

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BAR SIZE	AREA (in²)	GUTS(kips)	YIELD(kips)	Max.TEST (kips)	Max.DESIGN LOAD (kips)	BAR LENGTH (ft)
TITAN 30/16	0.59	49.5	40.5	39.6	29.7	10

AVERAGE ULTIMATE BOND STRESS - ROCK/GROUT	psi	CARBIDE DRILL BIT SIZE (in)	FACTOR OF SAFETY	min. BOND LENGTH (ft)
GRANITE & BASALT	250 - 450	2	1.5	2.4
DOLOMOTIC LIMESTONE	200 - 300	2	1.5	2.9
SOFT LIMESTONE	150 - 200	2	1.5	4.0
SLATES & HARD SHALES	120 - 200	2	1.5	4.9
SOFT SHALES	30 - 120	2	1.5	19.7
SAND STONES	120 - 250	2	1.5	4.9
WEATHERED SANDSTONES	100 - 120	2	1.5	5.9
CHALK	30 - 155	2	1.5	19.7
WEATHERED MARL	25 - 35	2	1.5	29.5
CONCRETE	200 - 400	2	1.5	2.9

AVERAGE ULTIMATE BOND STRESS - COHESIVE SOILS/GROUT	psi	CLAY DRILL BIT SIZE (in)	FACTOR OF SAFETY	min. BOND LENGTH (ft)
SOFT SILTY CLAY	5 - 10	3.75	1.5	45.2
SILTY CLAY	5 - 10	3.75	1.5	45.2
STIFF CLAY, MED. TO HIGH PLASTICITY	5 - 15	3.75	1.5	45.2
VERY STIFF CLAY, MED. TO HIGH PLASTICITY	10 - 25	3.75	1.5	22.6
STIFF CLAY, MED. PLASTICITY	15 - 35	3.75	1.5	15.1
VERY STIFF CLAY, MED. PLASTICITY	20 - 50	3.75	1.5	11.3
VERY STIFF SANDY SILT, MED. PLASTICITY	40 - 55	3.75	1.5	5.6

AVERAGE ULTIMATE BOND STRESS - COHESIONLESS SOILS /GROUT	psi	DRILL BIT SIZE (in)	FACTOR OF SAFETY	min. BOND LENGTH (ft)
FINE-MED. SAND, MED. DENSE - DENSE	12 - 55	3.5	1.5	18.5
MED.-COARSE SAND (W/GRAVEL), MED.-DENSE	16 - 95	3.5	1.5	13.9
MED.-COARSE SAND (W/GRAVEL), DENSE-VERY DENSE	35 - 140	3.5	1.5	6.4
SILTY SAND	25 - 60	3.5	1.5	8.9
DENSE GLACIAL TILL	43 - 75	3.5	1.5	5.2
SANDY GRAVEL, MED. DENSE - DENSE	31 - 200	3.5	1.5	7.2
SANDY GRAVEL, DENSE - VERY DENSE	40 - 200	3.5	1.5	5.6

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NOTE:
BOND LENGTH CALCULATED WITH MAX. DESIGN LOAD OF 29.7 kips PER ROD.
IF MAXUMSTONE® REQUIRE LOWER DESIGN LOAD, DIFFERENT IN LOAD (%) WILL APPLY ON THE BOND LENGTH TOO.

Rev	DESCRIPTION	DATE
01	**ADDENDUM INFORMATION**	**08-10-2023**
00	INTERNAL APPROVAL	07-01-2023

REMARKS:

PURPOSE OF ISSUE:

- ☐ INFORMATION
- ☐ REVIEW / APPROVAL
- ☐ PRODUCTION

SHEET CONTENT

MAXUMSTONE®
SOIL ANCHOR WALL

BOND LENGTH FOR TITAN 30/16 APPLICATION

SHEET REFERENCE

301

1104-MX-ETC

DRAWING INFORMATION

SCALE : 1 : 20
PAPER SIZE: 431.8mm x 297.5mm
PREPARED BY: RM

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