Currently the reinforce earth (RE) wall is proposed as the retaining structure to stabilize the slope abutting on the water channel, subject to further detailed study.

Construction sequences of reinforced earth (RE) wall (water channel is wet):

1. Install sheet piles at 2m from the crest of PFA fill slope abutting on the water channel and approximate 12m south from the crest to form a cofferdam
2. Excavate PFA fill and install struts stage by stage until the excavation level (i.e. +4.0mPD) is reached
3. Provide 1m thick compacted rock fill at the excavation level
4. Construct RE wall on top of rock fill layer by layer and provide compacted PFA behind the RE wall area in parallel
5. Remove the struts when the construction of RE wall reaches the corresponding strut levels
6. Construct RC retaining wall with wall top at +11.8mPD at the crest of the completed RE wall at +10.5mPD
7. Backfill behind the retaining wall

Equipment required:

-Backhoes or excavator

-Piling plants (for installing sheet piles; could use those for piling works)

-Vibrator (if not using piling plant for sheet piles)

-Crawler crane

-Compacting roller

Construction sequences of reinforced earth RE wall (water channel is dry):

1. Open cut PFA fill slope abutting on the water channel (in dry condition) and form a 8m wide formation area
2. Provide 1m thick compacted rock fill at the excavation level (i.e. +4mPD)
3. Construct RE wall on top of rock fill layer by layer and provide compacted PFA behind the RE wall area in parallel
4. Construct retaining wall with wall top at +11.8mPD at the crest of the completed RE wall at +10.5mPD
5. Backfill behind the retaining wall

Equipment required:

-Backhoes or excavator

-Crawler crane

-Compacting roller

Alternative solution if RE wall cannot be completed within 120 working days

Hybrid system of retaining wall with RE wall at the lower portion may be adopted such that the retaining wall will have 2 levels with different material composition.

1. Gabion wall
2. RC L-shaped retaining wall with soil backfill
3. Mass concrete wall

DEEP BAY
(SHENZHEN WAN)

PROPOSED REINFORCED EARTH WALL

APPROX. 30m
WATER CHANNEL

A

A

APPROX. 28.5m

CONSTRUCTION AREA OF RE WALL
APPROX. 12m TO 17m
DEPENDING ON WET/DRY CONDITIONS
OF THE WATER CHANNEL

RAMP

GROUND FLOOR PLAN

C3

D3

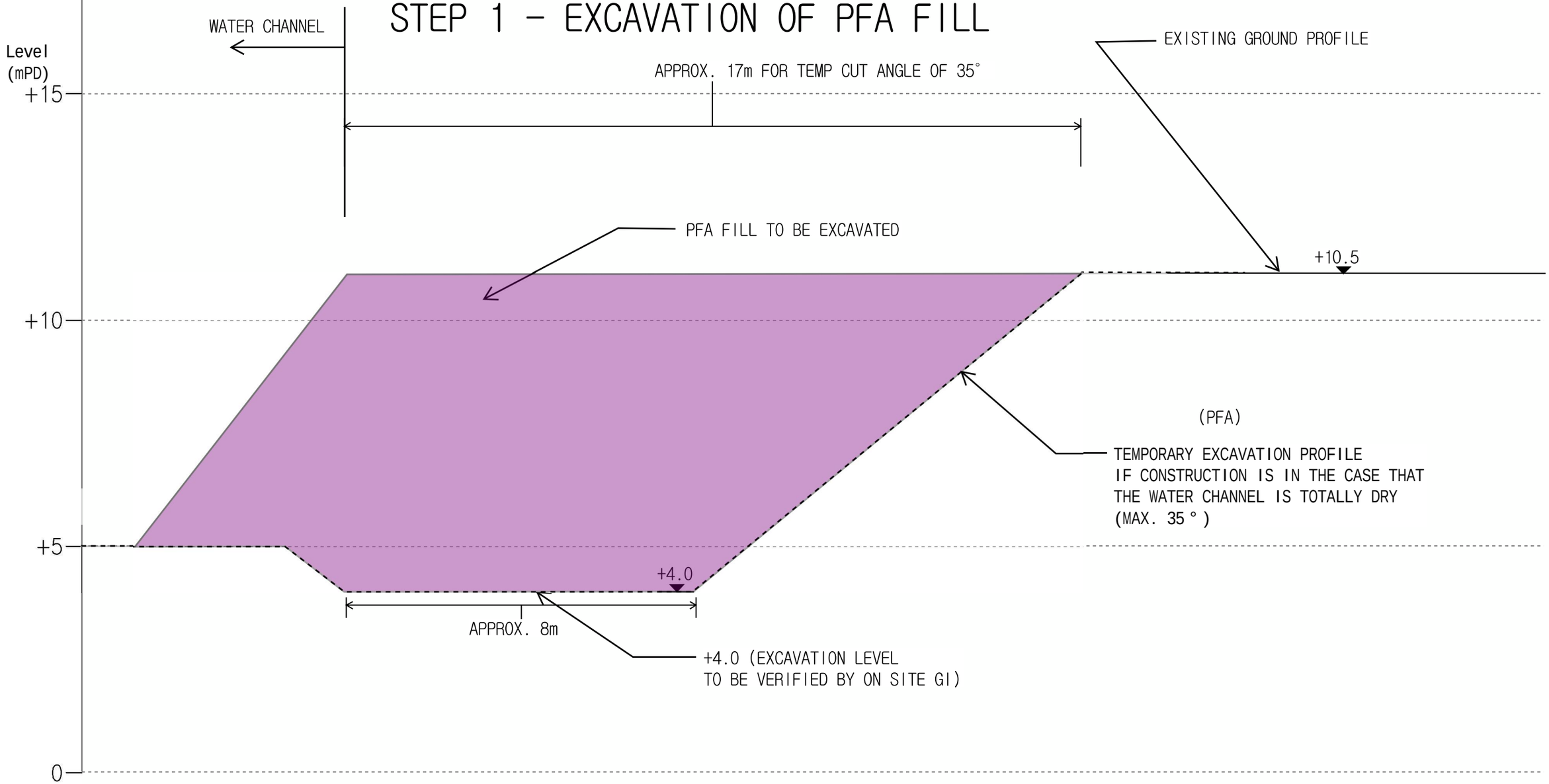
Pipeline

SITE PLAN

CONSTRUCTION SEQUENCES
IN THE CASE THAT
THE WATER CHANNEL IS TOTALLY DRY

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS TOTALLY DRY

STEP 1 - EXCAVATION OF PFA FILL

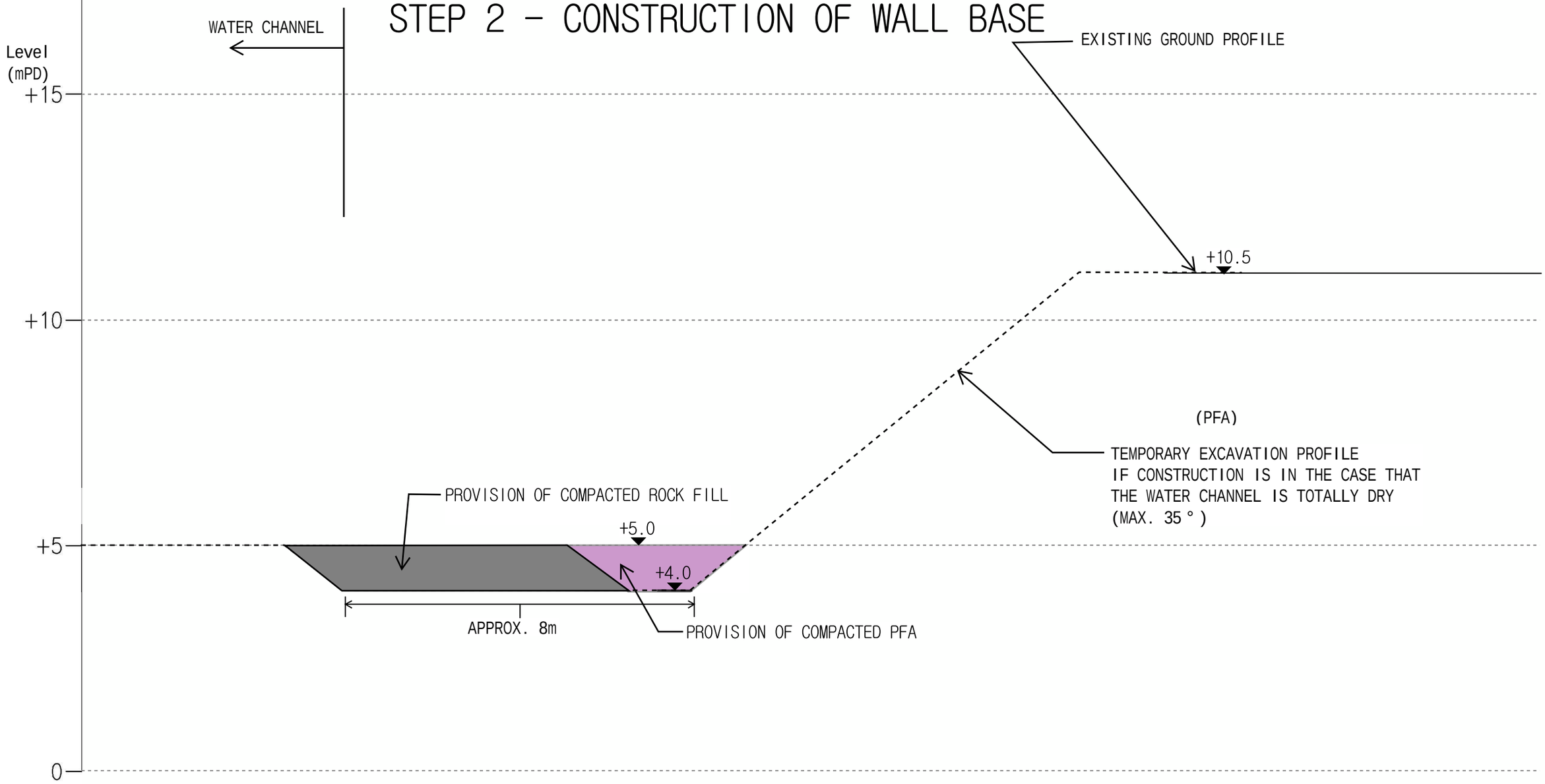


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS TOTALLY DRY

STEP 2 - CONSTRUCTION OF WALL BASE

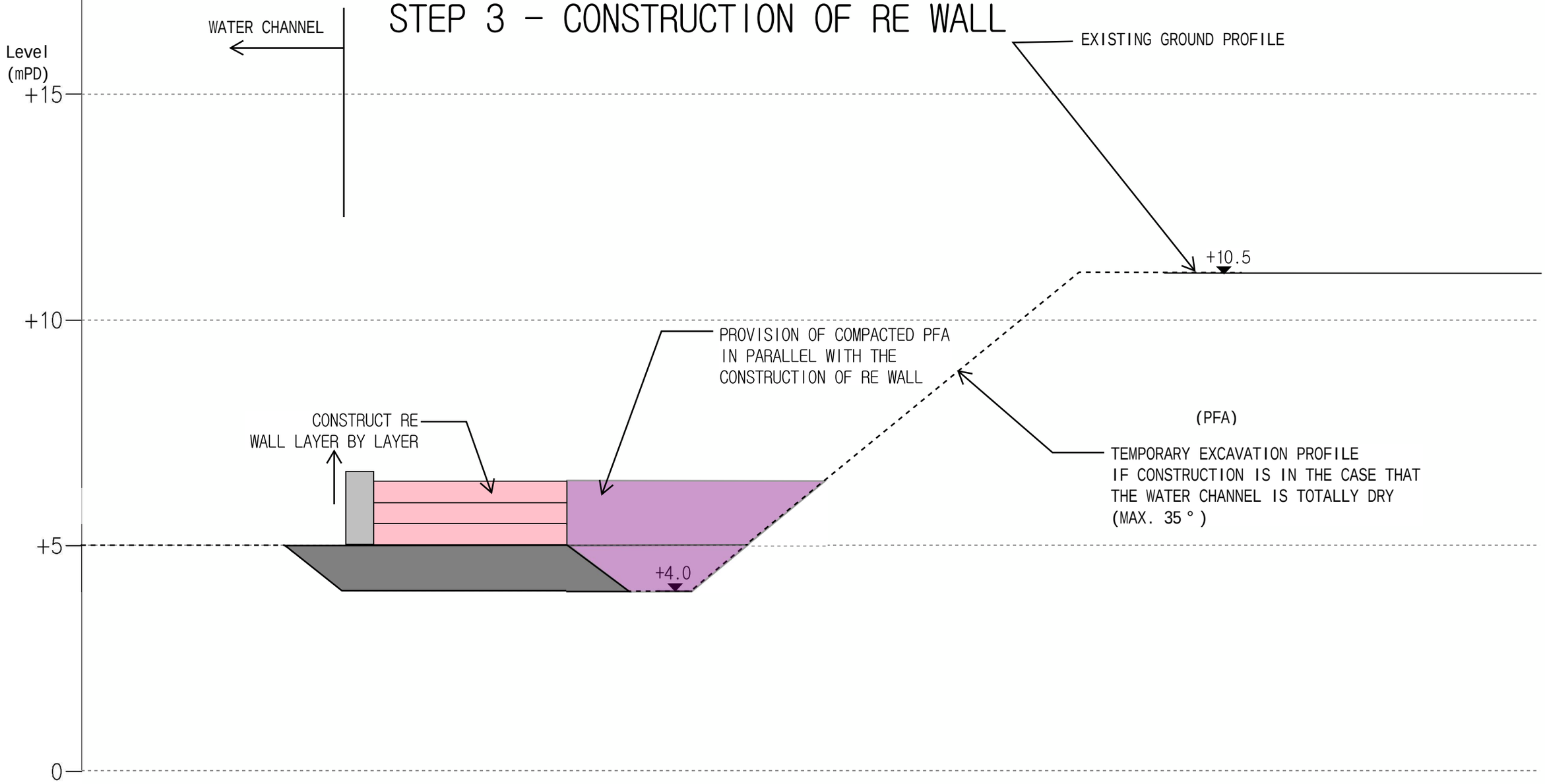


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS TOTALLY DRY

STEP 3 - CONSTRUCTION OF RE WALL

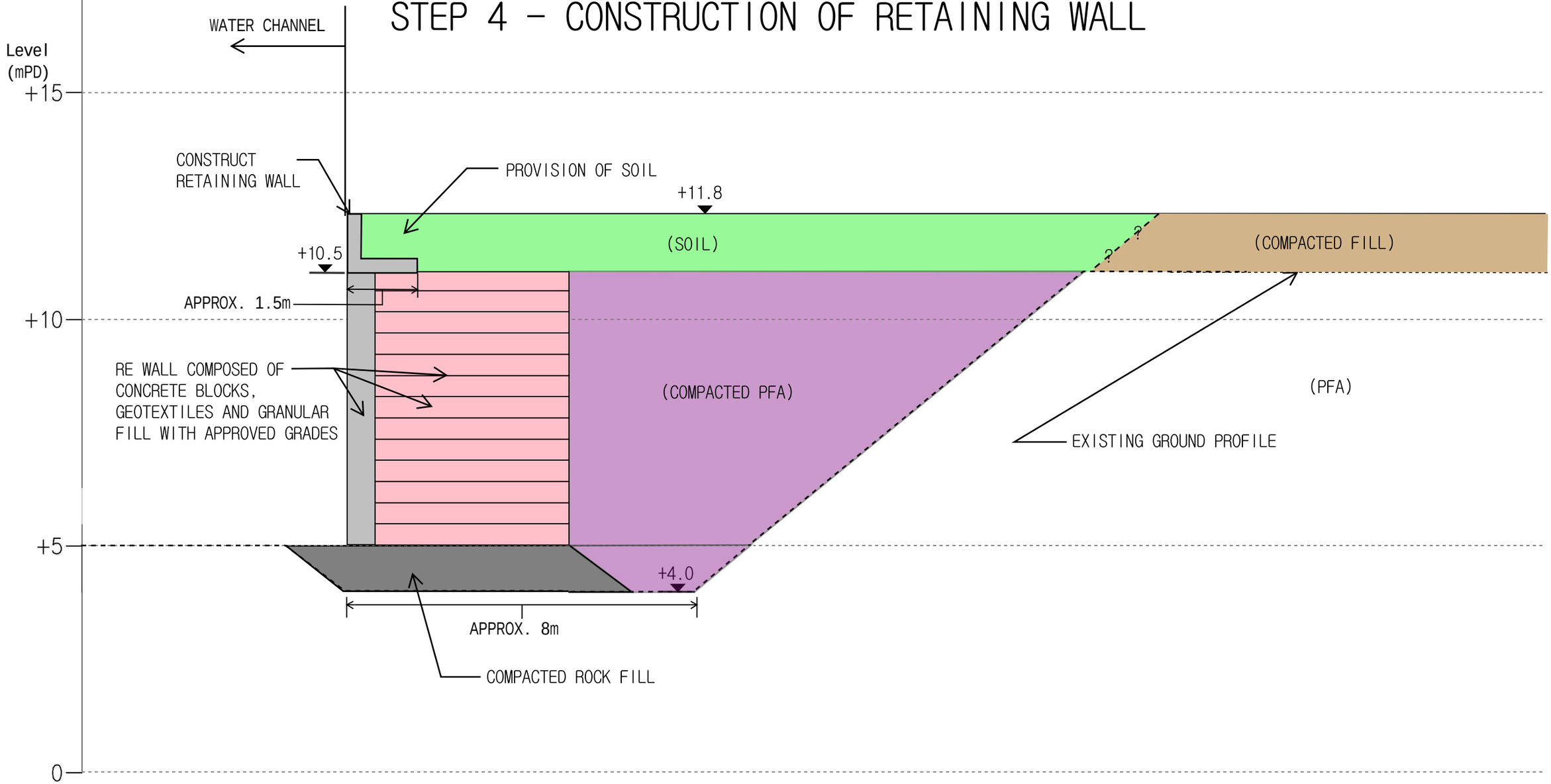


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS TOTALLY DRY

STEP 4 - CONSTRUCTION OF RETAINING WALL

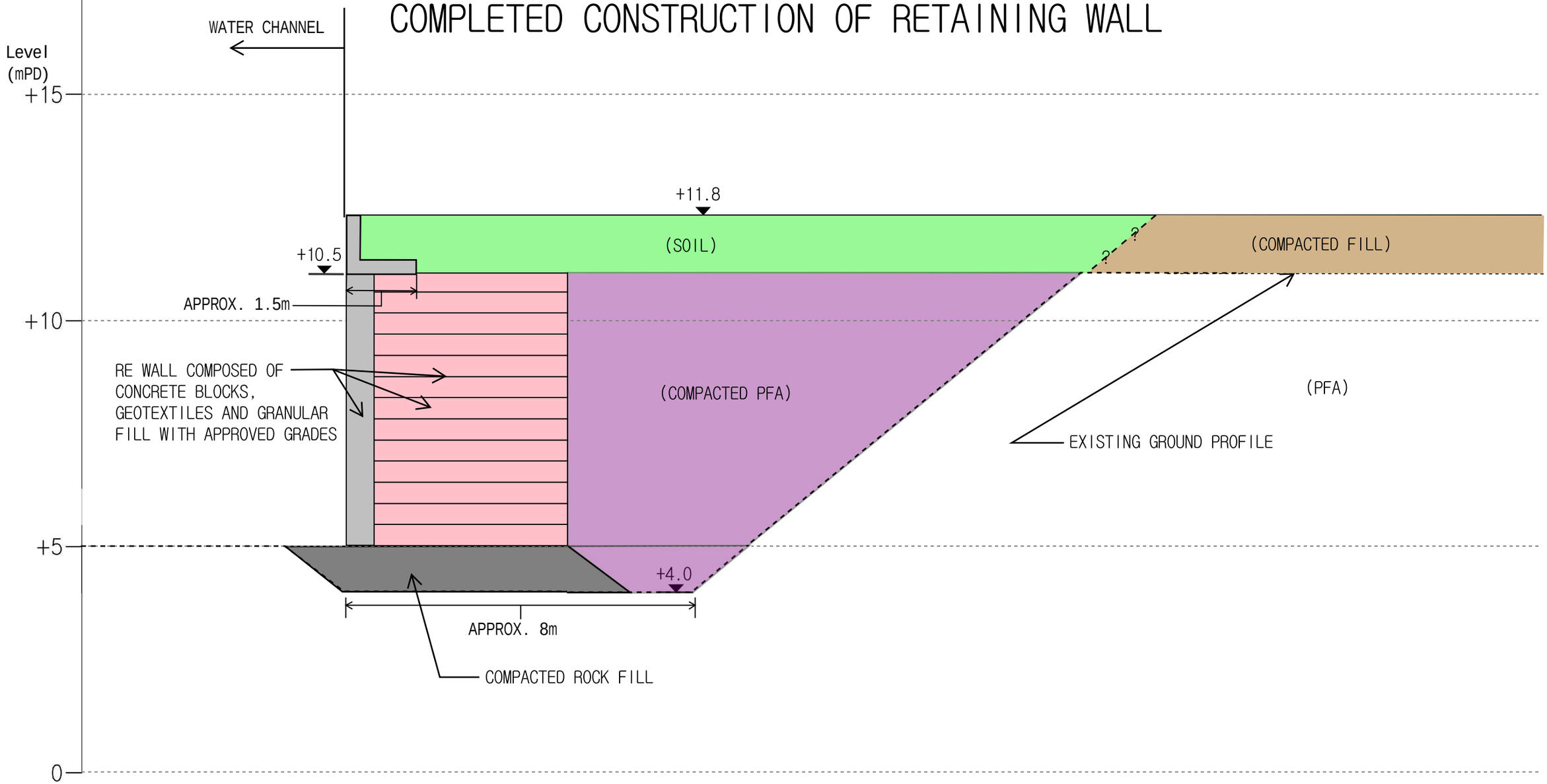


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS TOTALLY DRY

COMPLETED CONSTRUCTION OF RETAINING WALL



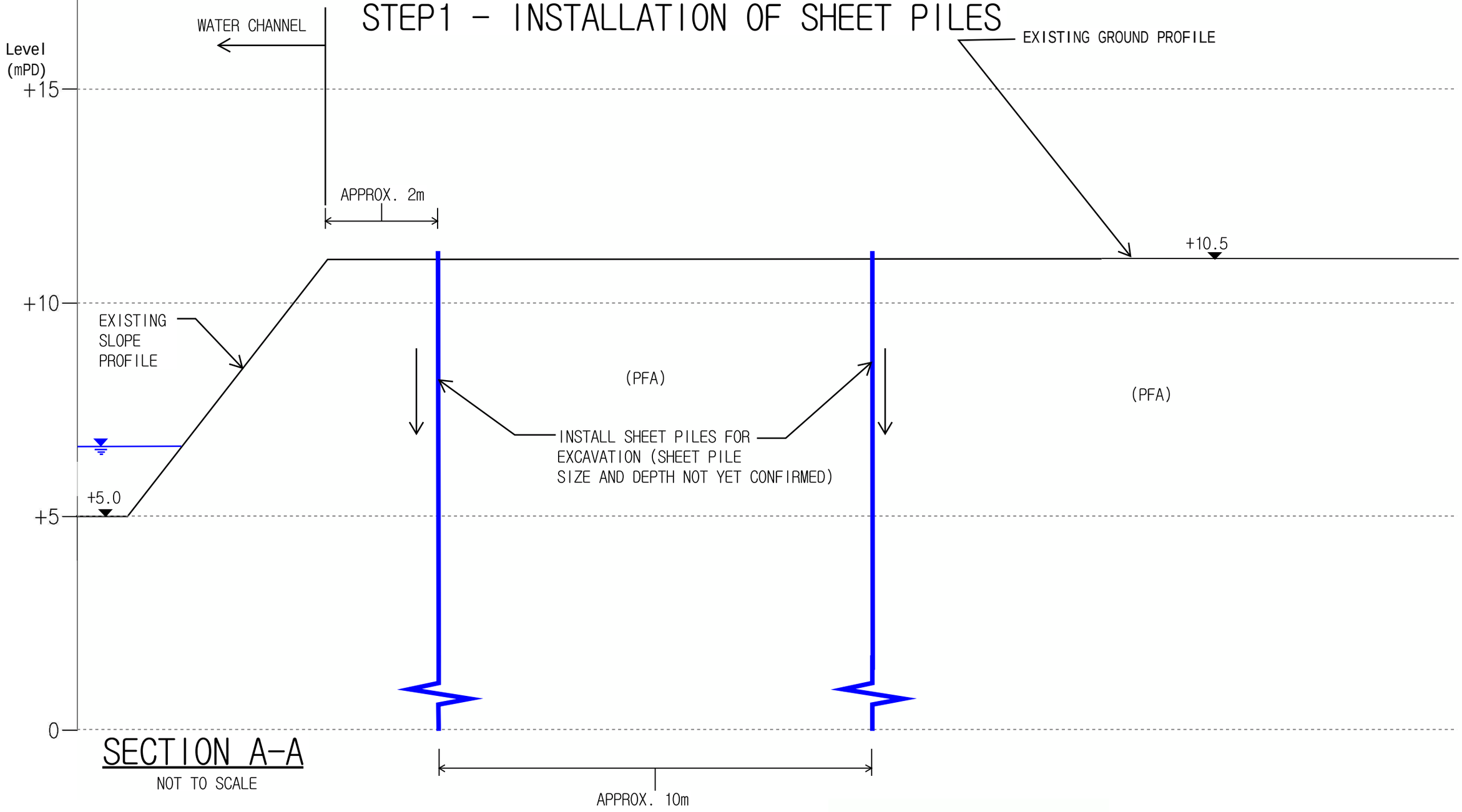
SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES
IN THE CASE THAT
THE WATER CHANNEL IS WET

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

STEP1 - INSTALLATION OF SHEET PILES

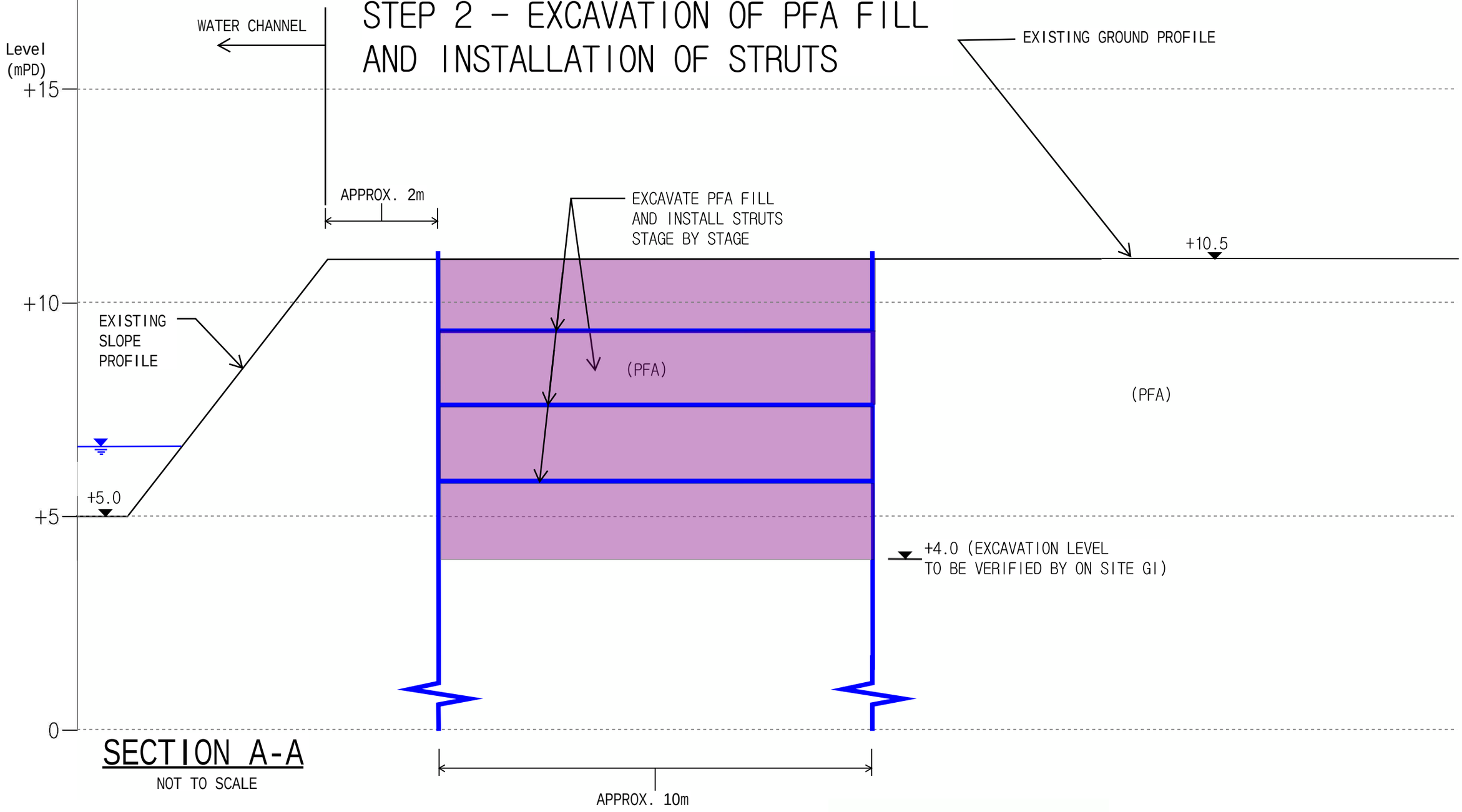


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

STEP 2 - EXCAVATION OF PFA FILL AND INSTALLATION OF STRUTS

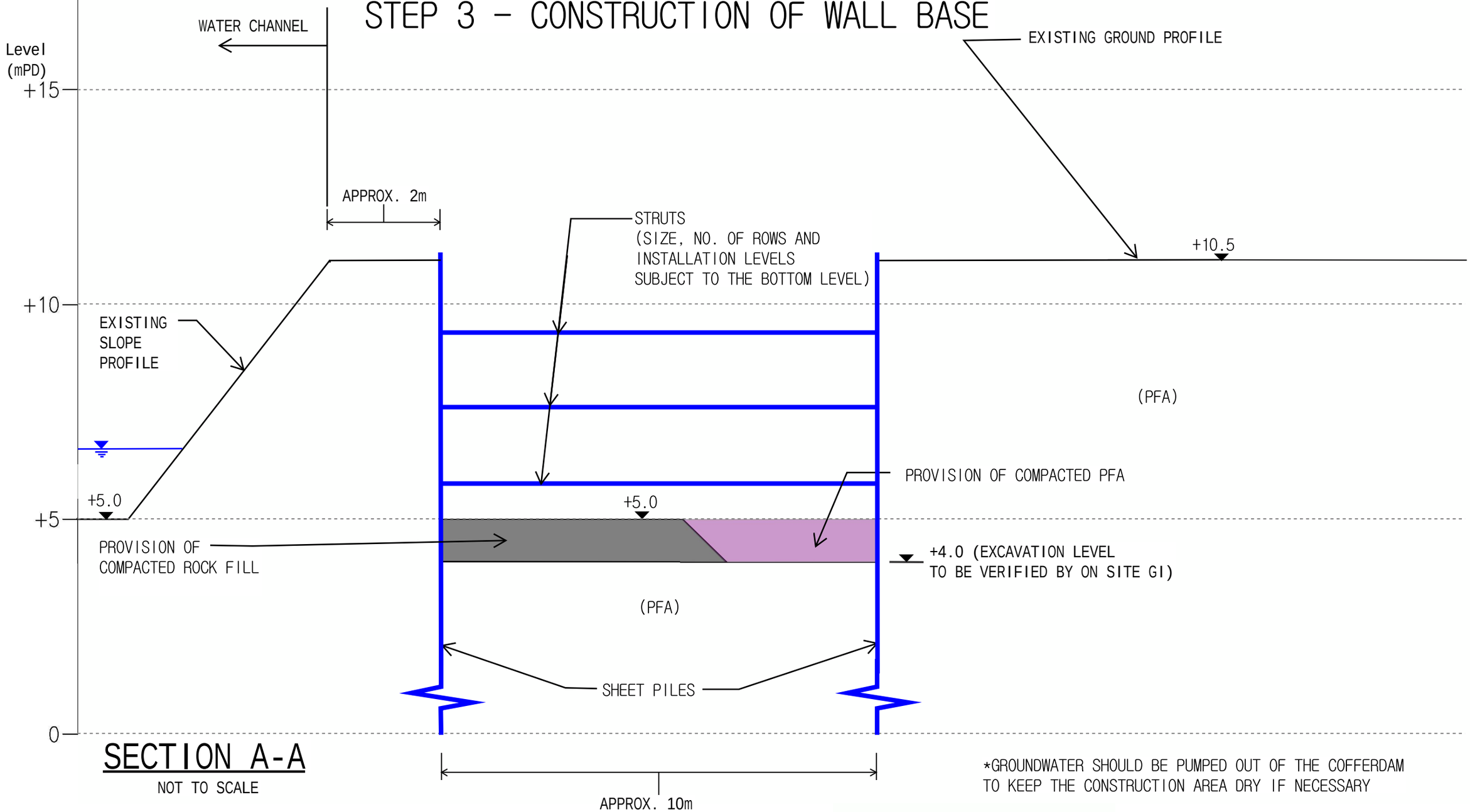


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

STEP 3 - CONSTRUCTION OF WALL BASE



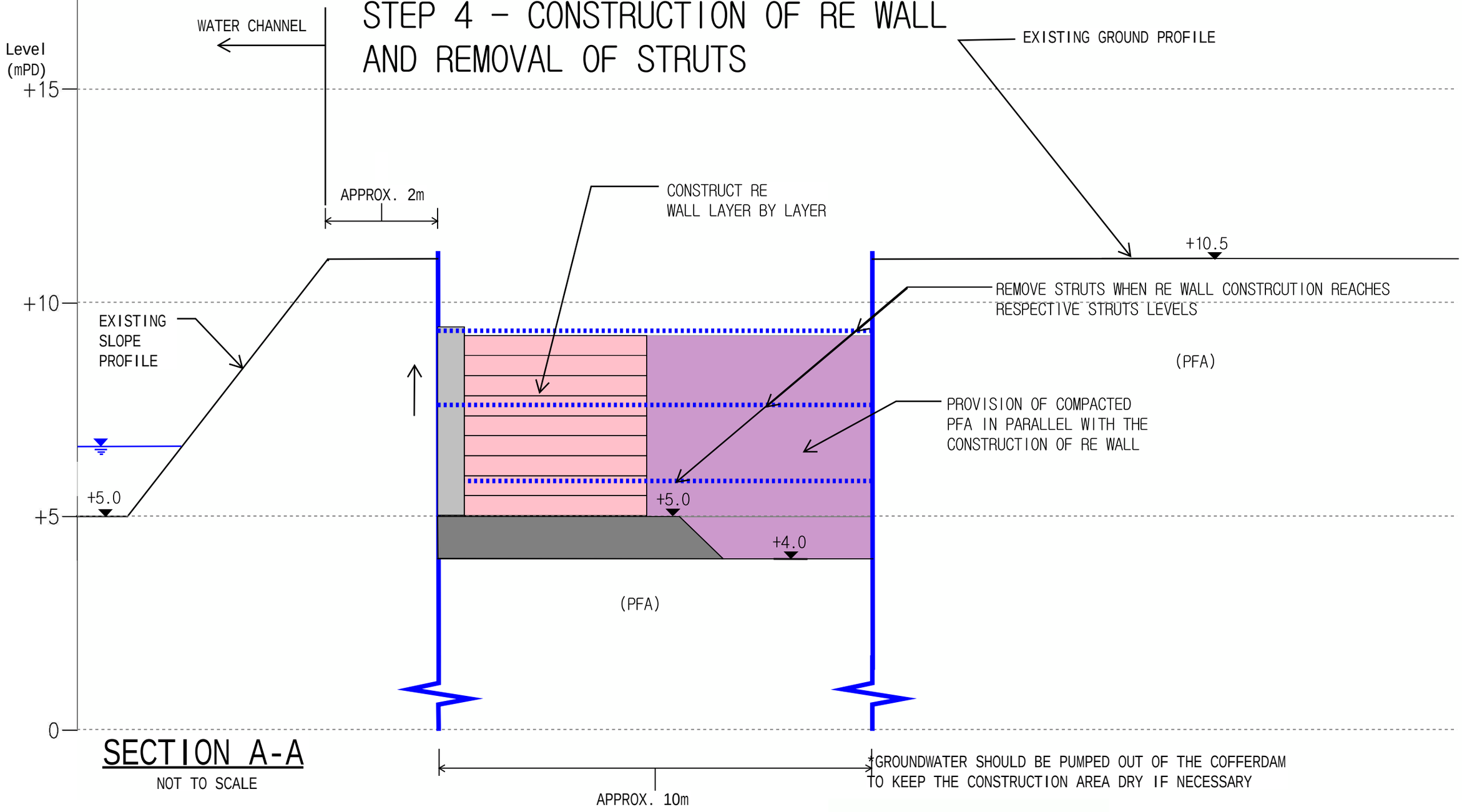
SECTION A-A

NOT TO SCALE

*GROUNDWATER SHOULD BE PUMPED OUT OF THE COFFERDAM TO KEEP THE CONSTRUCTION AREA DRY IF NECESSARY

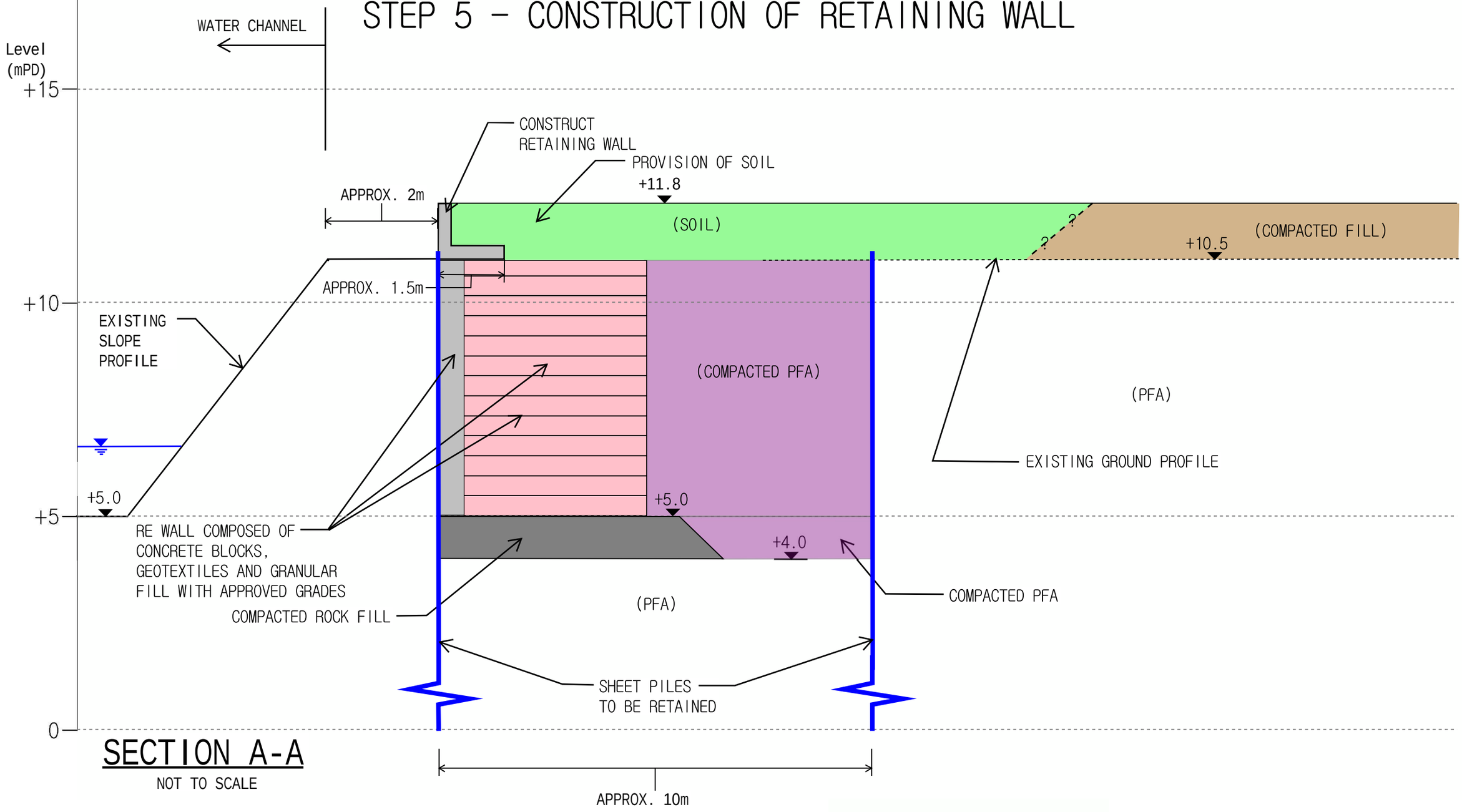
CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

STEP 4 - CONSTRUCTION OF RE WALL AND REMOVAL OF STRUTS



CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

STEP 5 - CONSTRUCTION OF RETAINING WALL

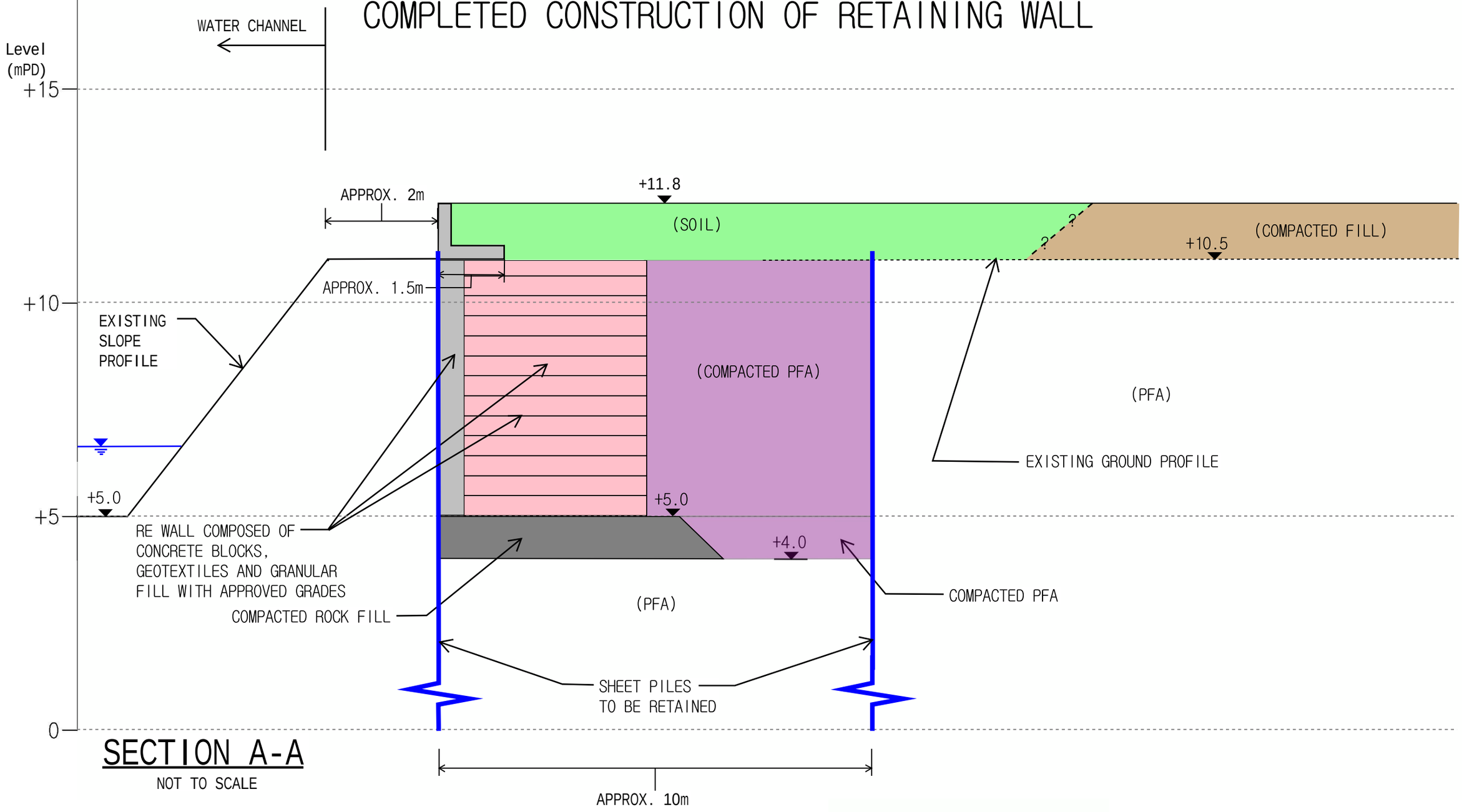


SECTION A-A

NOT TO SCALE

CONSTRUCTION SEQUENCES IN THE CASE THAT THE WATER CHANNEL IS WET

COMPLETED CONSTRUCTION OF RETAINING WALL



SECTION A-A

NOT TO SCALE