

GENERAL NOTES

- A. Rockery construction is a craft. The skill and experience of the builder will largely dictate the success of the construction. Ultimately, the responsibility for suitable rockery construction lies with the rockery contractor.
- B. A rockery is a protective system with respect to weathering and erosion processes on an exposed soil face.
- C. The degree of retention achieved is dependent largely on the size of rock used. Rockeries constructed using larger rocks tend to be more competent.

DESIGN NOTES

- A. Reference: 1. Barghausen Consulting Engineers, Inc., Grading Plan South, dated March 22, 2024
2. Terra Associates, Inc., Geotechnical Report, addended December 29, 2022
- B. The following design assumptions were used:
 - Internal angle of friction for retained soil = 34 degrees
 - Unit weight of retained soil = 125 pcf
 - Maximum total rockery height = 8 feet
 - Batter of rockery = 1H : 6V
 - Site-modified peak ground acceleration = 0.6 g (per 2018/2021 IBC)
 - Surcharge (Where Applicable) = None

CONSTRUCTION NOTES

- A. All rocks should be sound, angular to sub-angular ledge rock that is resistant to weathering.
- B. Top rock and base rock widths shall be consistent with the detail provided on this sheet and the Rock Schedule below. Intermediate rock sizes (between the base rock and top rock) shall be appropriately incremented with respect to the overall rockery height and the required (minimum) rock widths.

ROCK SCHEDULE		
Range of H (ft)	Min. Top Width (in)	Min. Base Width (in)
H ≤ 4.0	14	28
4.0 < H ≤ 6.0	24	36
6.0 < H ≤ 8.0	30	52

- C. The keyway shall comprise a shallow trench of not less than 12 inches in depth. The keyway subgrade should be slightly inclined back toward the soil cut face. The competency of the keyway shall be confirmed by the Geotechnical Engineer using a small-diameter steel rod.
- D. The first course of rock should be placed on firm and unyielding soil, or onto the previously installed layer of crushed rock. Full contact between the rock and soil (or crushed rock surface, at the option of the contractor) should occur.
- E. Rocks should be placed to avoid continuous joint planes in vertical or lateral directions. Each rock should bear on two or more rocks below it, with good flat-to-flat contact. Rocks should be placed so that there is some bearing between flat rock faces rather than in or on spaces between the underlying rocks. The upper plane of each rock between courses (the top surface of rock) should slope back toward the soil cut face and away from the face of the rockery.
- F. The long dimensions of the rocks should extend back toward the cut face to provide maximum stability.
- G. Filter drain rock shall consist of 2- to 4-inch diameter, clean, angular rock (e.g., quarry spalls). Alternative filter drain rock material may be considered upon approval by the Geotechnical Engineer. Minimum thickness of the filter drain rock shall be consistent with the detail provided on this sheet.
- H. The drainage pipe discharge points shall be connected to an approved system.
- I. The slopes above and below the rockery shall be consistent with the detail provided on this sheet. Steeper slope inclinations must be approved by the Geotechnical Engineer.
- J. The rockery batter should be inclined at approximately 1H:6V. The rockery shall not be inclined flatter than 1H:4V without approval from the Geotechnical Engineer.

FIELD QUALITY CONTROL

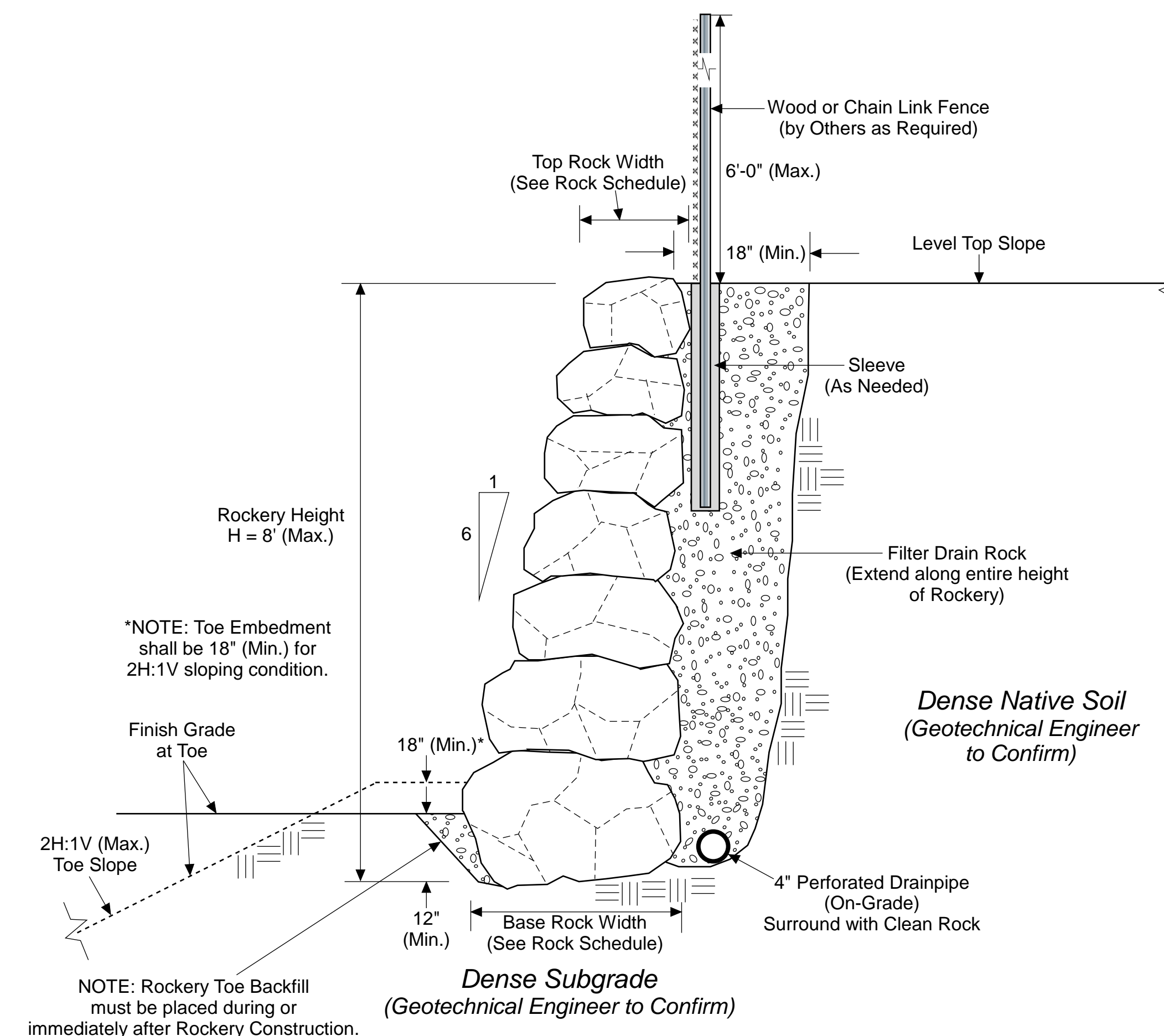
- A. The Geotechnical Engineer shall be notified to observe cuts for the rockery on a periodic or full-time basis, as appropriate. Additional flattening of cuts may be recommended by the Geotechnical Engineer depending on the soil and groundwater conditions observed. Where native cuts do not expose competent native soil, additional excavation activities, as well as addition of reinforcement and compacted structural fill, may be necessary.
- B. Quality assurance shall include observation of the rockery construction for general compliance with the design drawings and specifications. At a minimum, quality assurance inspections shall include observation, testing, and/or documentation of the subgrade and keyway, filter drain zone, rockery thickness, placement and configuration on the rocks, batter, and sloped conditions (if any) at the top and toe of the rockery.
- C. The Owner may elect to complete additional quality control measures with respect to rock quality. Such measures may include testing to determine the following rock characteristics: adsorption, expansive breakdown, soundness, unconfined compressive strength, and bulk specific gravity. Rock quality testing should be completed in accordance with applicable ASTM or AASHTO standards, where applicable.

MAINTENANCE & SERVICE NOTES

- A. Rockeries should be considered maintenance items that will require periodic inspection and repair and should therefore be located such that a contractor can access the rockery if repairs become necessary.
- B. The Geotechnical Engineer should be contacted to re-evaluate the rockery if any of the following conditions occur once the rockery is constructed:
 - Excavations (even if temporary) within H feet of the back (top) of the rockery
 - Excavations (even if temporary) within 2/3 H feet of the front (toe) of the rockery
 - Excavations (even if temporary) that penetrate into the zone of influence of the front (toe) of the rockery, which is bounded by a 45-degree line extending from the rockery toe
 - Removal of soil from the subgrade in front of the rockery
 - Adding load or surcharge within H feet of the back (top) of the rockery, including any increase to the rockery height
 - Forcing, directing, or otherwise causing surface or subsurface water to flow behind the rockery

NOTES

1. Rockery alignment and heights to be established by Contractor / Surveyor.
2. Geotechnical Engineer to confirm Keyway stability, support characteristics, and overall stability prior to construction.



NATIVE CUT ROCKERY DETAIL

NOT - TO - SCALE

PRRWF20241506

As a condition of City of Puyallup Engineering Approval, City Standard Details 05.03.02, 05.03.03, 05.03.04, and 05.03.05 shall also apply to the work.

Calculations required to be provided by the Permittee on site for all Inspections

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permittee on site for inspection.

Approval of submitted plans is not an approval of omissions or oversights by this office or non compliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic

City of Puyallup Building REVIEWED FOR COMPLIANCE

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09/26/2024
2:05:21 PM

Client	Santa, Inc.		
Proj. No.	5152.02	Date	09/18/2024
Designed	KDH	Drawn	MRS
Checked	KDH	Approved	KDH
No.	Date	Revision	

Earth Solutions NW LLC
Geotechnical Engineering, Construction
Observation/Testing and Environmental Services

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Rockery Design and Notes
WESLEY BRADLEY PARK - PHASE 2
Puyallup, Washington

WESLEY BRADLEY
REGISTERED PROFESSIONAL ENGINEER
53734
09/18/2024

Sheet No.
W1