



#### NOTES:

1. **HYDROSTOR HS31 CHAMBERS** SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418. HS31 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION GUIDELINES.
2. **SUBGRADE:** TRENCH BOTTOMS WITH UNSTABLE OR UNYIELDING MATERIAL SHALL BE EXCAVATED TO A DEPTH DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE MATERIAL. FOR UNSTABLE MATERIALS, GEOTEXTILE MAY BE USED TO STABILIZE THE TRENCH BOTTOM, IF DIRECTED BY THE ENGINEER. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING SUBGRADE SUITABILITY WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
3. **GEOTEXTILE:** AN AASHTO M288 CLASS 2 OR 3 NON-WOVEN GEOTEXTILE SHOULD BE USED FOR EMBEDMENT BACKFILL MATERIAL 3/4 TO 2 INCH (19 - 51 MM). GEOTEXTILE FILTER FABRIC IS PLACED AROUND THE SYSTEM TO PREVENT NATIVE SOIL FROM MIGRATING INTO THE EMBEDMENT BACKFILL MATERIAL. THE GEOTEXTILE MAY BE REMOVED ON THE BOTTOM OF THE SYSTEM, IF AT NO TIME THE GROUNDWATER TABLE WILL REACH THE CHAMBER SYSTEM. A 12" (300 mm) OVERLAP OF FABRIC, UNDER THE FOUNDATION STONE, IS RECOMMENDED TO HOLD THE FABRIC IN PLACE DURING CONSTRUCTION. TO ENSURE FABRIC IS SUITABLE WITH IN SITU SOILS, A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED.
4. **FOUNDATION STONE:** SUITABLE MATERIAL SHALL BE A 3/4 - 2 INCH (19 - 51 mm), CLEAN, CRUSHED ANGULAR STONE, OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57) WITH CLEAN, CRUSHED, ANGULAR STONE ADDED TO THE GRADATION, e.g., CLEAN, CRUSHED, ANGULAR #3 (AASHTO M43) STONE. COMPACTION SHOULD BE DONE IN LIFTS OF NO MORE THAN 6 INCHES (150 mm). THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE ALLOWABLE BEARING CAPACITY OF THE SUBGRADE SOIL AND DETERMINING THE FOUNDATION STONE THICKNESS. REFER TO PRINSCO'S HYDROSTOR DESIGN GUIDE SECTION 4.1 FOR ADDITIONAL GUIDANCE.
5. **EMBEDMENT BACKFILL:** SUITABLE MATERIAL SHALL BE A 3/4 - 2 INCH (19 - 51 mm), CLEAN, CRUSHED ANGULAR STONE, OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57) WITH CLEAN, CRUSHED, ANGULAR STONE ADDED TO THE GRADATION, e.g., CLEAN, CRUSHED, ANGULAR #3 (AASHTO M43) STONE. EMBEDMENT BACKFILL SHALL EXTEND FROM TOP OF BEDDING TO NOT LESS THAN 6" (150 mm) INCHES ABOVE THE TOP OF THE CHAMBER. NO COMPACTION IS REQUIRED BUT AN EFFORT SHOULD BE MADE TO HAND KNIFE STONE IN BETWEEN ALL CORRUGATIONS.
6. **INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE A GRANULAR, WELL GRADED SOIL WITH LESS THAN 35% FINES OR AASHTO M43 SIZES (3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10). MOST PAVEMENT SUBBASE MATERIALS FALL WITHIN THIS GRADING CRITERIA. INITIAL BACKFILL SHALL EXTEND FROM TOP OF EMBEDMENT BACKFILL TO NOT LESS THAN 18 INCHES (450 mm) ABOVE THE TOP OF THE CHAMBER. COMPACT TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
7. **FINAL BACKFILL:** SUITABLE MATERIALS SHALL BE ANY SOIL DIRECTED BY THE ENGINEER. FINAL BACKFILL SHALL EXTEND FROM TOP OF INITIAL BACKFILL TO NO MORE THAN 8 FEET (2.44 m) ABOVE THE TOP OF THE CHAMBER. COMPACTION LEVELS SHOULD FOLLOW ENGINEERS RECOMMENDATIONS.
8. **MINIMUM COVER:** FOR TRAFFIC APPLICATIONS A MINIMUM COVER OF 18 INCHES (450 mm) IS REQUIRED, MEASURED FROM THE TOP OF THE CHAMBER TO THE BOTTOM OF THE FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING MAY OCCUR, INCREASE COVER TO 24 INCHES (600 mm). ADDITIONAL COVER MAY BE REQUIRED FOR CONSTRUCTION LOADS.
9. **MAXIMUM COVER:** A COVER HEIGHT OF OVER 8 FEET (2.44 m) IS NOT RECOMMENDED. COVER HEIGHT IS MEASURED FROM THE TOP OF THE CHAMBER TO THE TOP OF THE PAVEMENT
10. **LOAD RATING:** HS31 CHAMBERS ARE TRAFFIC RATED FOR H-20 VEHICLES WITH ADDITIONAL CONSIDERATION FOR LANE LOADING, COMMONLY REFERRED TO AS HL-93 LOAD RATING (AASHTO DESIGN TRUCK).

THIS DETAIL DEPICTS RECOMMENDED INSTALLATION PRACTICES AND IS NOT INTENDED TO SUPERSEDE ANY NATIONAL, STATE OR LOCAL SPECIFICATIONS. PRINSCO BEARS NO RESPONSIBILITY FOR ANY ALTERATIONS, REVISION AND/OR DEVIATION FROM THIS STANDARD DETAIL. PRINSCO HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICE FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION TO VERIFY SUITABILITY. © PRINSCO, INC.



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