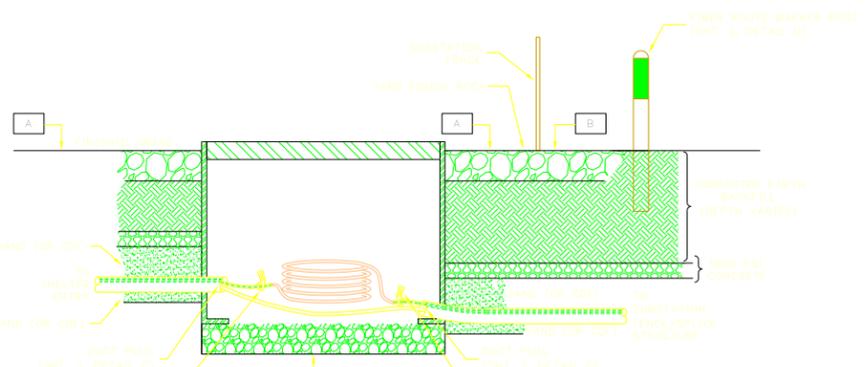


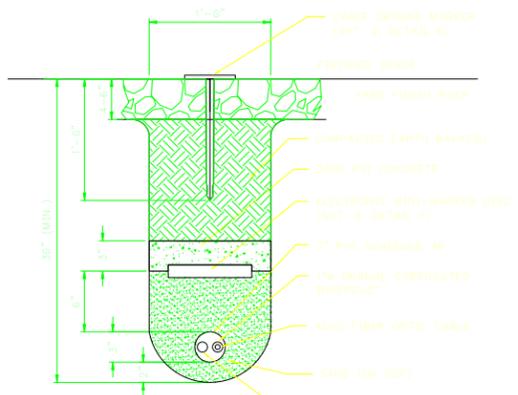
TYPICAL HAND HOLE - TOP VIEW

36" W x 48" L x 36" D QUARTZITE OPEN BOTTOM HAND HOLE (PN PG3048BA30) OR WITH TWO 4"x4" MOUSE HOLES (CAN BE USED FOR CONDUIT) (PN PG3048BB36)



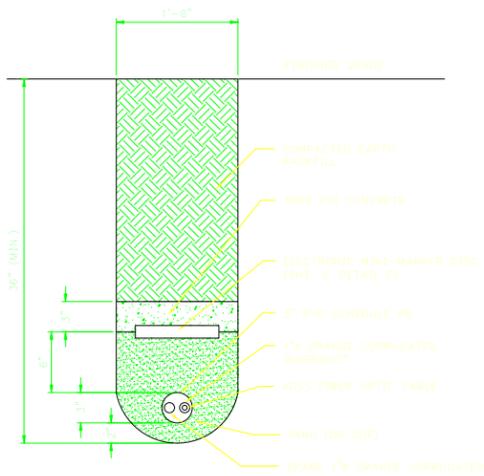
TYPICAL HAND HOLE - SIDE VIEW

36" W x 48" L x 36" D QUARTZITE OPEN BOTTOM HAND HOLE WITH EXTRA HEAVY DUTY COVER (PN PG3048HH50) OR WITH EXTRA HEAVY-DUTY COVER INCLUDING OPTIONS FOR ORANGE PAINT, INTERNAL ELECTRONIC FIBER MARKER AND FIBER LOGO (PN PG1304HH0121)



DETAIL A - TYPICAL CABLE TRENCH

INSIDE SUBSTATION YARD



DETAIL B - TYPICAL CABLE TRENCH

OUTSIDE SUBSTATION YARD

- NOTES:**
- DIG A TRENCH TO A MINIMUM DEPTH OF 24 INCHES INSIDE A SUBSTATION YARD AND 36 INCHES OUTSIDE THE YARD.
 - PLACE TWO INCHES OF SAND IN THE BOTTOM OF THE TRENCH LAY 3-INCH PVC CONDUIT ON THIS CUSHION.
 - COVER THE CABLE WITH SAND TO FORM AN UPPER CUSHION 6-INCHES THICK TO PROTECT THE CONDUIT WHEN FLOODING OR FROST HEAVING DISTURBS THE SURROUNDING EARTH.
 - PLACE A 3" CONCRETE CAP ON THE SAND FILL ABOVE THE CABLE TO PROTECT IT AND WARN WORKERS OF ITS PRESENCE WHEN DIGGING.
 - IF SAND IS NOT AVAILABLE, WELL WORKED EARTH WITH ALL CLUMPS BROKEN AND ROCKS REMOVED MAY BE SUBSTITUTED.
 - CONCRETE STRUCTURAL CONCRETE CONFORMING TO SUBSTATION CONSTRUCTION STANDARD 91123 WITH A COMPRESSIVE STRENGTH OF 3,000 PSI.
 - CONCRETE CAP SHALL HAVE AN BRAN EYE IN THE MIX OR EYE RELEASE MIXED INTO THE CONCRETE AFTER PLACEMENT.
 - ADD5 FIBER CABLE SHALL BE PLACED INSIDE ONE 1" INNERDUCT THE SECOND INNERDUCT SHALL BE SPARE.
 - INSTALL FIBER CABLE BY TAG WITH TO/TROM INTO PACIFICORP T34 683808.
 - 150' OF THE ADD5 FIBER CABLE SHALL BE COIL BOUND AND STORED IN THE VAULT. (IN NO CASE SHALL THE MINIMUM BEND RADIUS OF THE CABLE BE EXCEEDED).
 - CONTROL DENSITY FILL (CDF) CAN BE USED IN PLACE OF THE SAND AT SITES WHERE THERE IS A GREATER CHANCE OF THE CABLE BEING ACCIDENTLY SUG UP.
 - PER THE PROJECT ENGINEER, FIBER OPTIC WARNING TAPE MAY BE PLACED 6-12" BELOW FINISHED GRADE.

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| COMMUNICATIONS PROJECT NO. 1304 SHEET NO. 1304-01 DATE: 08/14/13 | DRAWN BY: J. HARRIS CHECKED BY: J. HARRIS APPROVED BY: J. HARRIS |
| SITE DETAILS FIBER OPTIC TRENCH DETAIL CE: JHARRIS | |