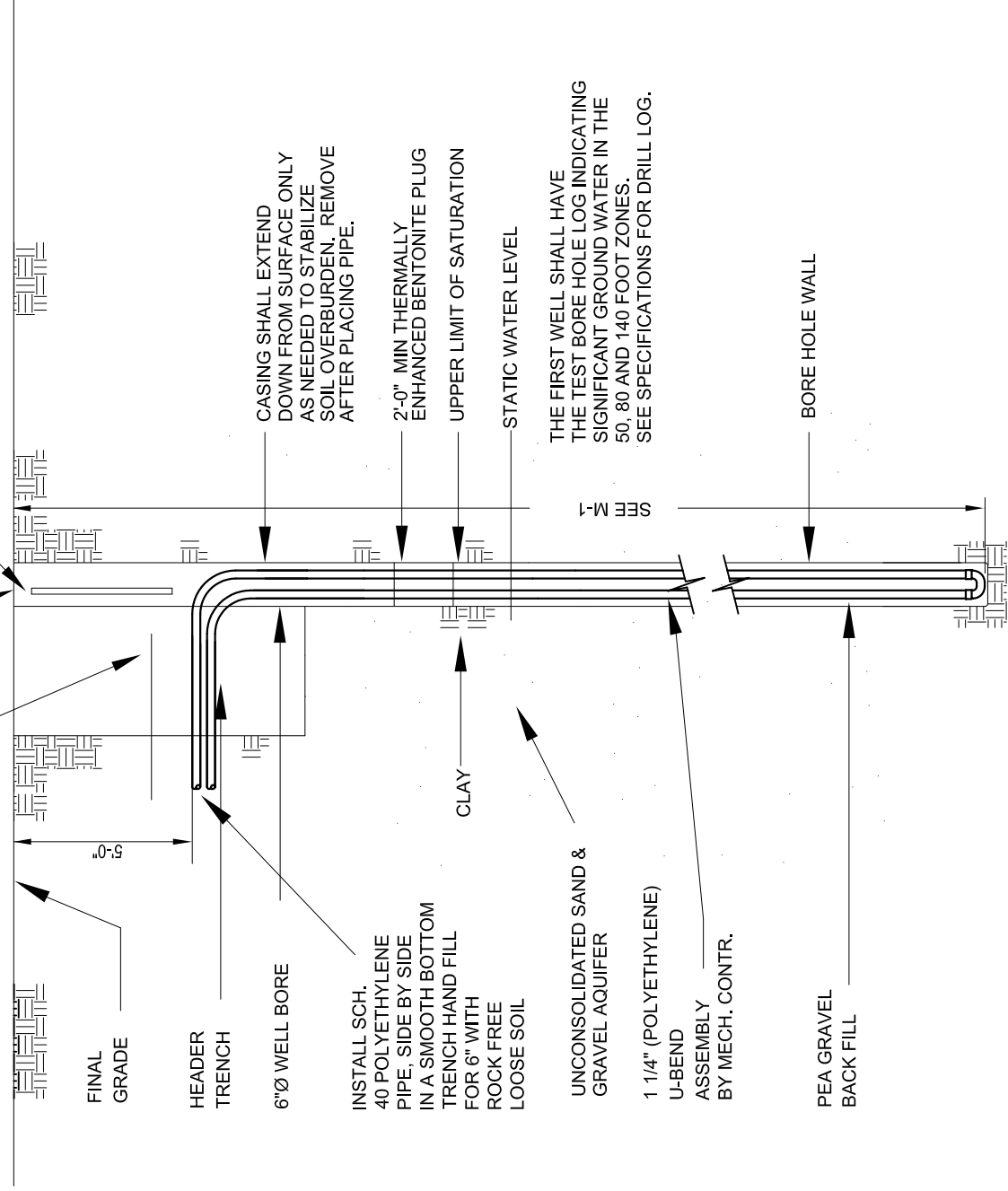


METALLIC TRACER TAPE ABOVE ALL PIPING

MAKER IN PAVEMENT

2' LENGTH OF REBAR TO AID IN LOCATING BORE HOLE AT A LATER DATE.



A M-7

VERTICAL APPLICATIONS

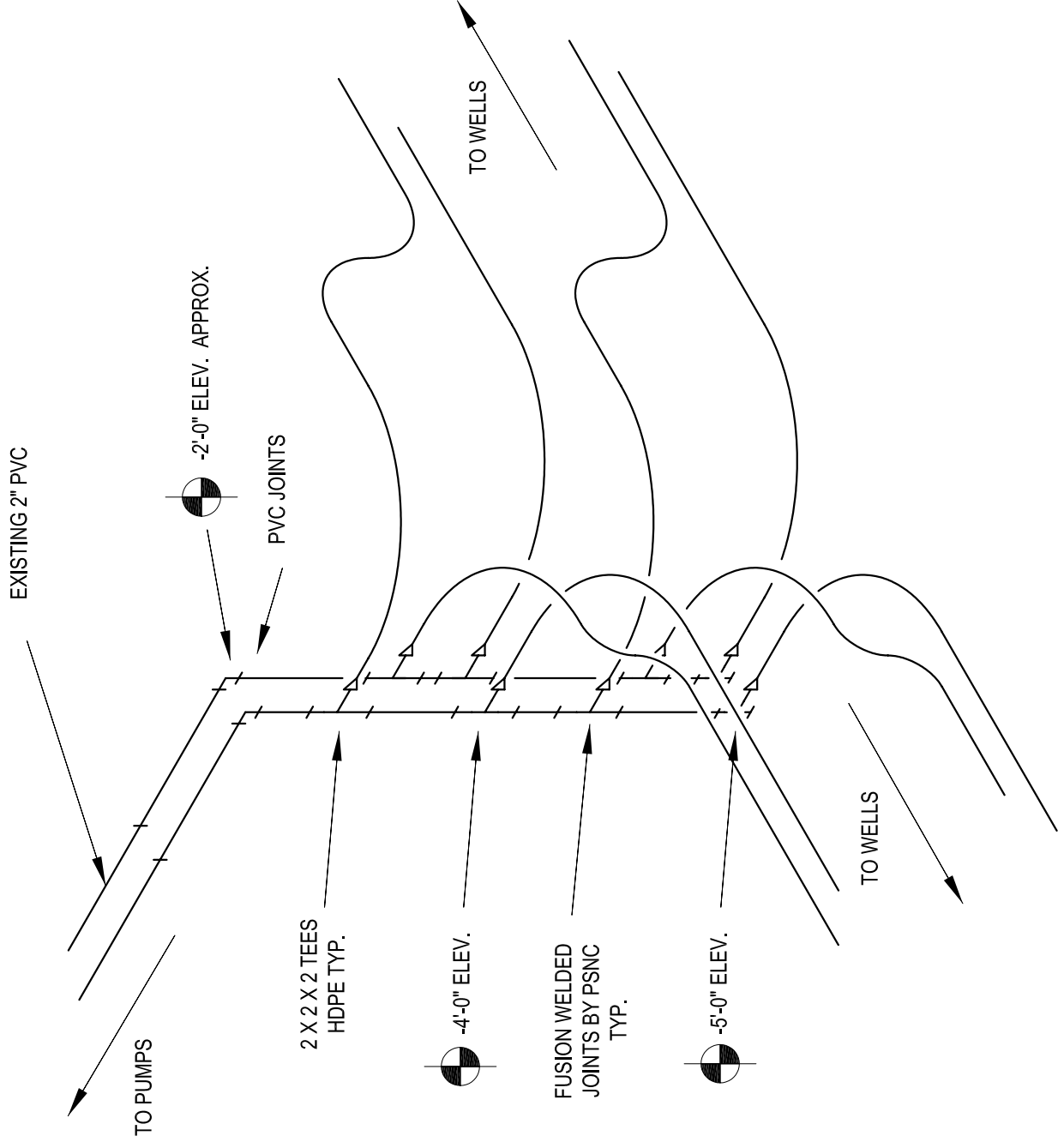
N.T.S

THE U-BEND ASSEMBLY SHALL BE ASSEMBLED, FILLED WITH WATER AND PRESSURE TESTED PRIOR TO INSERTION INTO THE BORE HOLE. ATTACH A 10 FOOT PIECE OF ONE INCH DIA. REINFORCING BAR TO THE U-BEND END OF THE ASSEMBLY WHICH WILL ASSIST IN INSERTING THE PIPE DOWN THE BORE HOLE. IT ADDS WEIGHT AND PREVENTS THE PIPE FROM CURVING AND DIGGING INTO THE BORE HOLE WALL WHILE BEING FORCED DOWNWARDS. THE ADDED WEIGHT HELPS SINK THE WATER FILLED U-BEND ASSEMBLY SINCE WATER FILLED POLYETHYLENE IS STILL BUOYANT IN WATER OR DRILLING MUD SOLUTIONS. THE PIPES SHALL BE TAPED TOGETHER EVERY 5-FEET (WITH A SPACER) AS THE ASSEMBLY IS PUSHED DOWN THE BORE HOLE. U-BEND ASSEMBLIES NOT TAPED WILL SEPARATE UNDER DOWNWARD PRESSURE AND BOW OUT AGAINST THE BORE HOLE WALL.

THE U-BEND ASSEMBLY CAN BE MANUALLY OR MECHANICALLY INSERTED INTO THE BORE HOLE. IF A LARGE DRILLING RIG WITH A WINCH ON THE DRILLING TOWER IS USED, THE WINCH AND A 20-FOOT PIECE OF 1" ROD CAN BE USED TO LOWER THE U-BEND ASSEMBLY. SOME TYPE OF RECEPTACLE SHALL BE TAPED TO THE U-BEND ASSEMBLY, WITH THE ROD INSERTED INTO THE RECEPTACLE AND THEN LOWERED INTO THE BORE HOLE. AFTER THE U-BEND IS IN PLACE, THE WINCH CAN BE REVERSED AND THE ROD REMOVED. SECURE THE U-BEND ASSEMBLY WITH BACK FILL OR BY TYING IT OFF SINCE IT IS BUOYANT AND MAY FLOAT OUT OF THE BORE HOLE IF NOT SECURED.

A GEOTHERMAL WELL DETAIL

N.T.S



B M-7

B RUNOUT TO WELLS DETAIL

N.T.S

CONSTRUCTION NOTES:

12/17/04 FOR CONSTRUCTION
 11/22/04 FOR FINAL REVIEW
 11/12/04 FOR REVIEW
 9/03/04 FOR REVIEW
 6/24/04 OWNERS REVIEW AND ARCHITECT COORDINATION
 6/06/04

DRAWINGS ISSUED © 2004

DRAWN: JORDAN 3/18/2004
 DESIGN: BISESI 3/17/2004
 APVD:



PHILIP J BISESI, PE
 PH: 828/232-2025
 FAX: 828/232-1725
 EMAIL: eng@affilice.com

AFFILIATED CONSULTANTS,
 ENGINEERS
 70 WOODFIN PLACE, SUITE 210
 ASHEVILLE, NC 28801

STEPHENS SMITH FARRELL
 ARCHITECTURE
 17 ZILICOA STREET ASHEVILLE, NC 28801



WARREN WILSON
 COLLEGE
 COLLEGE RELATIONS
 OFFICE BUILDING

GEOTHERMAL WELL
 DETAILS

DRAWING:

M-7