INTENT/DISCLAIMER: IT IS THE INTENT OF THIS DETAIL TO PROVIDE GENERAL GUIDANCE ON THE INSTALLATION OF H-PILES TO SUPPORT AN AERIAL CROSSING. THE DESIGN ENGINEER SHALL CAREFULLY REVIEW THE SPECIFIC SITE, SOIL CONDITIONS, PIPE LOADS, AND PIPE DESIGN PRIOR TO CONSTRUCTION. THE FAYETTEVILLE PUBLIC WORKS COMMISSION ASSUMES NO LIABILITY FOR THE USE OF THIS DETAIL.

TYPICAL "H" PILE SUPPORT
N.T.S.

H-PILE DETAIL 4" THRU 16" PIPE FOR AERIAL CROSSINGS
N.T.S.

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.

WATER RESOURCES ENGINEERING DEPARTMENT

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NO. | DATE | REVISION
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1  | 07/09 | UPDATED DETAIL
2  | 09/10 | REVISED NOTES
3  | 07/17 | REVISED NOTES

1/2" TAKE-UP (TYP.)

2-3/4"Ø A325 BOLTS AND WASHERS EACH SIDE TYPICAL (UPSET THREADS)

3/16" WELD ALONG BOTH EDGES OF THE 3/8" PLATE

(WELD VERTICAL HP CONTINUOUSLY TO HORIZONTAL HP)

3'-0" MIN TO 5'-0" MAX

4"-12" SHALL BE CLASS 53 MANUFACTURED RESTRAINED JOINT DUCTILE IRON CLASS 53 DI OR FLANGED PIPE. FIELD RESTRAINT SYSTEMS (IE: MEGA-LUGS, GRIP-RINGS, ETC,) SHALL NOT BE UTILIZED. ALL OTHER PIPE SHALL BE CLASS 53 DUCTILE IRON FLANGED PIPE.

TAKE-UP (TYP.)

(3/16" WELD ALONG BOTH EDGES OF THE 3/8" PLATE)

(4/0" VERTICAL PLATE WELD CONTINUOUSLY TO HORIZONTAL HP)

SEE NOTES: SHEET 3 OF 3
INTENT/DISCLAIMER: IT IS THE INTENT OF THIS DETAIL TO PROVIDE GENERAL GUIDANCE ON THE INSTALLATION OF H-PILES TO SUPPORT AN AERIAL CROSSING. THE DESIGN ENGINEER SHALL CAREFULLY REVIEW THE SPECIFIC SITE, SOIL CONDITIONS, PIPE LOADS, AND PIPE DESIGN PRIOR TO CONSTRUCTION. THE FAYETTEVILLE PUBLIC WORKS COMMISSION ASSUMES NO LIABILITY FOR THE USE OF THIS DETAIL.

TYPICAL "H" PILE SUPPORT

H-PILE DETAIL >16" THRU 24" PIPE FOR AERIAL CROSSINGS

WATER RESOURCES ENGINEERING DEPARTMENT

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.

NO. DATE REVISION
1 07/09 UPDATED DETAIL
2 09/10 REVISED NOTES
3 07/17 REVISED NOTES

DATE: JULY 01, 2020
APPROVED BY: J.E.G.
NOTES:
1. ALL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A992 GRADE 50.
2. A SUBSURFACE GEO-TECHNICAL REPORT IS REQUIRED TO DETERMINE PILE EMBEDMENT LENGTH.
3. THIS DETAIL IS FOR GUIDANCE/INFORMATION ONLY. THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR PROVIDING A PROJECT SPECIFIC DESIGN.
4. FOR ALL AERIAL CROSSINGS, A PROJECT SPECIFIC DESIGN SHALL BE SUBMITTED TO FAYPW FOR REVIEW AND APPROVAL.
5. A SUBSURFACE GEO-TECHNICAL EVALUATION IS REQUIRED IN ORDER TO DESIGN THE PILE LENGTH, EMBEDMENT, AND SPACING FOR THE SPECIFIC PROJECT LOCATION. THE DESIGN ENGINEER SHALL PROVIDE A COPY OF THE REPORT AND THE DESIGN TO FAYPW.
7. FOR AERIAL SUPPORT OF PRESSURE MAINS, THE ENGINEER SHALL ENSURE THAT THE PIPE JOINTS CAN PROVIDE THE NECESSARY THRUST RESTRAINT. CALCULATIONS SHALL BE SUBMITTED TO FAYPW FOR REVIEW PRIOR TO CONSTRUCTION.
8. LOCATION AND SPACING OF PILES SHALL BE BASED UPON ACTUAL FIELD CONDITIONS AND AS SPECIFIED BY THE DESIGN ENGINEER. EACH PIPE JOINT SHALL BE SUPPORTED BY A PILE, UNLESS OTHERWISE APPROVED BY FAYPW.
9. ANY CHANGES TO THIS DETAIL SHALL BE REVIEWED AND APPROVED BY FAYPW PRIOR TO CONSTRUCTION.
10. ANY REVISIONS TO THIS DETAIL SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO FAYPW FOR REVIEW.
11. PILES SHOULD NOT BE PLACED IN THE CENTERLINE OF THE STREAM.
12. PILES SHALL BE DRIVEN UTILIZING A VIBRATORY HAMMER OR PILE HAMMER.
13. ALL PILES SHALL BE DRIVEN TO REFUSAL. THE DESIGN ENGINEER SHALL PROVIDE FAYPW WITH CALCULATIONS AND/OR A REPORT THAT CLEARLY DEFINES WHAT CONSTITUTES REFUSAL. SHOULD THE CONTRACTOR UTILIZE A DIFFERENT DRIVING METHOD THAN SPECIFIED, THEN REVISED CALCULATIONS SHALL BE PROVIDED TO FAYPW.
14. PILES SHALL BE CUT OFF SQUARE AT THE REQUIRED ELEVATIONS WITH METHOD OF CUT APPROVED BY THE DESIGN ENGINEER.
15. EXPANSION JOINTS SHALL BE PROVIDED AS REQUIRED. THE EXPANSION JOINTS SHALL BE SUPPORTED BY PLACEMENT OF PIERS WITHIN 3 FEET ON BOTH SIDES OF THE JOINT OR AS SPECIFIED IN THE DESIGN.
16. ALL PILE LOCATIONS SHALL BE STAKED BY A NC LICENSED PROFESSIONAL SURVEYOR, IN ACCORDANCE WITH THE APPROVED PLANS.
17. ALL WELDS SHALL BE BY A CERTIFIED WELDER.
18. ALL STEEL MEMBERS AND STRAPS WILL BE POWER TOOL CLEANED TO A MINIMUM OF SSPC-SP3 AND HOT-DIP GALVANIZED PER ASTM A123. BOLTS AND WASHERS WILL BE HOT-DIP GALVANIZED PER ASTM A153. ALL WELDS WILL BE GRINDED AND COATED WITH 2 COATS OF A COLD APPLIED GALVANIZING PAINT.
19. ALL DI PIPE IN SANITARY SEWER SERVICE SHALL HAVE AN INTERIOR LINING OF PROTECTO 401 OR APPROVED EQUAL.