B & T DESIGN & ENGINEERING, INC.
P.O. Box 595 • Issaquah, WA 98027 • Phones: 425-557-0779 • Fax: 425-557-0765

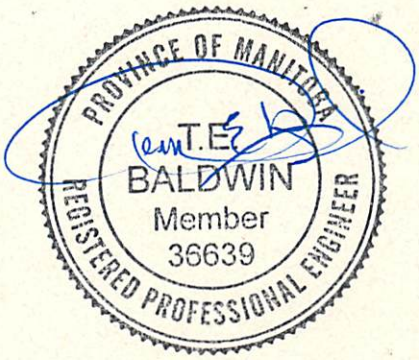
STRUCTURAL 9 5/8" O.D. TYPE "A" & TYPE "B" & "C" HELICAL PILING CALCULATIONS

FOR

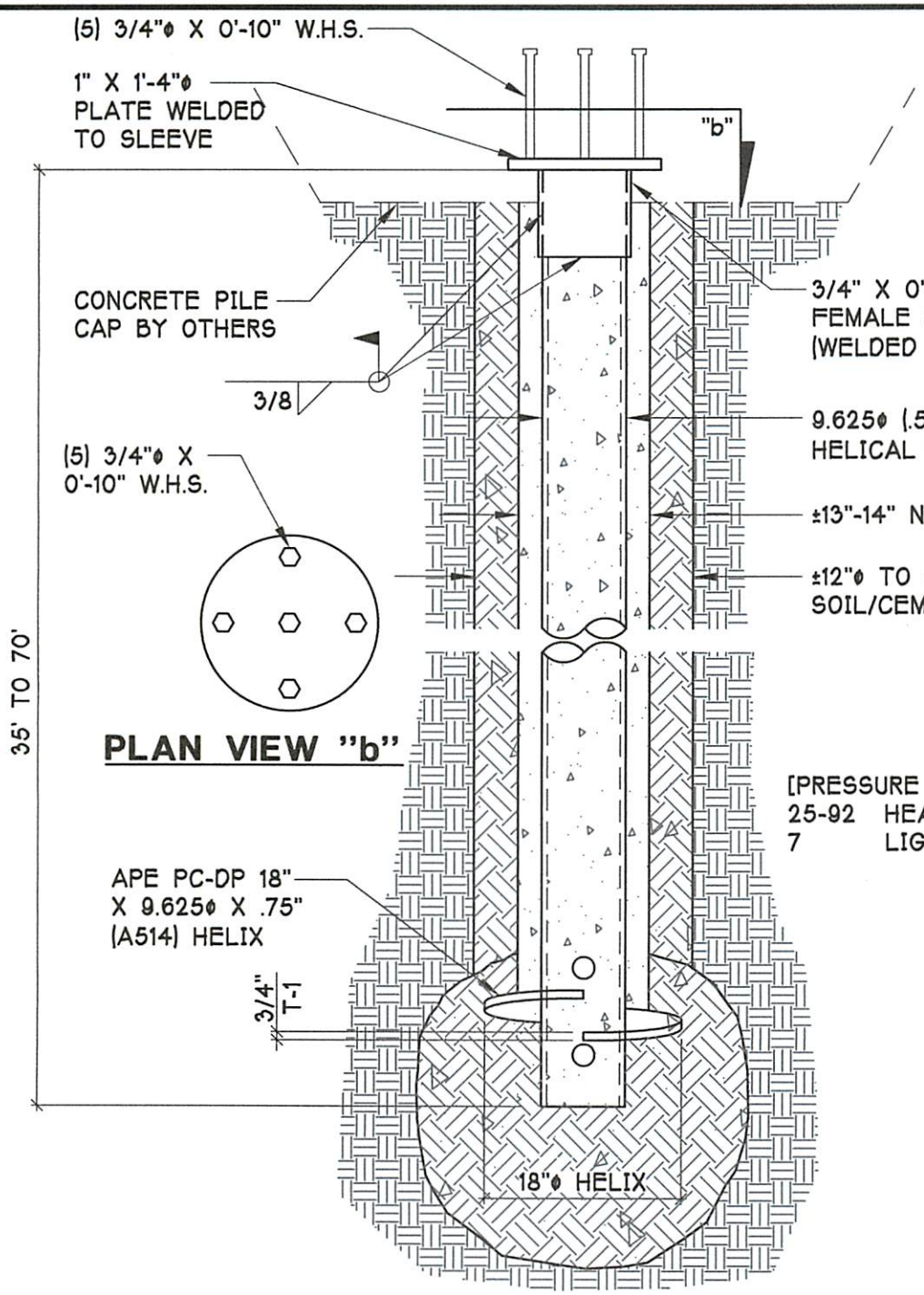
BI POLE III HELICAL PILE FOUNDATIONS MANITOBA, CANADA

PILING MANUFACTURER/SUPPLIER:

A.P.E. DEEP FOUNDATIONS
7032 SOUTH 196TH STREET
KENT, WASHINGTON 98032
[CONTACT: PAUL SUVER, (206) 403-8277-MOBILE]



AUGUST 3, 2015 – SUBMITTAL
[B & T PROJECT NO. 15099.0]



[PRESSURE GROUTED DISPLACEMENT PILE]
25-92 HEAVY ANGLE SELF SUPPORTING
7 LIGHT ANGLE SELF SUPPORTING

(APE PGDP)

ALTERNATE 2 PILE TYPE FOR TWO TOWER TYPES

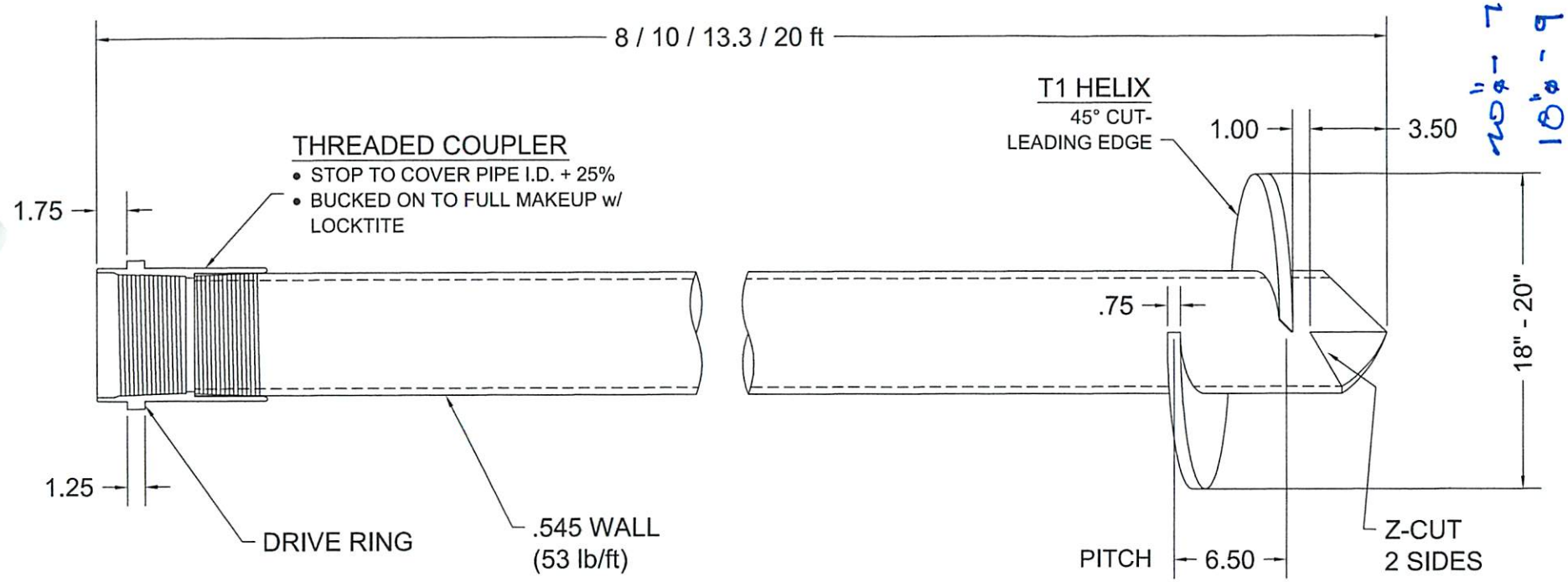
3/4" = 1'-0"

B&T DESIGN & ENGINEERING

B & T DESIGN & ENGINEERING, INC.
250 E. SUNSET WAY
ISSAQUAH, WA 98027
(425) 557-0779 (PHONE)
(425) 557-0765 (FAX)

PROJECT TITLE: BI POLE III, S-1, S-2			SHEET: ALT-2
DWG TITLE: ALTERNATE 2 PILE TYPE		ENG: JT	
JOB NO.: 15099	DATE: 08/04/15	DRWN: NH	
		CHKD: JT	

© 2015 B&T DESIGN & ENGINEERING, INC



9.63" STARTER PILE

TYPE "B & C" Helical Pile Alternate APE HD

REV	COMMENTS	DATE	BY
A			

AMERICAN PILEDRIVING EQUIPMENT, INC.
7032 SOUTH 196TH STREET
KENT, WASHINGTON 98032

PROPRIETARY AND CONFIDENTIAL

SCALE: DO NOT SCALE

DRAWN	JMK	DATE	7/29/15
CHECKED	.	DATE	XX/XX/XX
APPROVED	.	DATE	XX/XX/XX

SUBTITLE: BiPOLE III

TITLE: 9.63" STARTER PILE

SHEET – OF –
DRAWING NO: 1003127
REV: –
PLOT INFO:
BORDER SCALE: 1=6

DESIGN & ENGINEERING
B&T
425-557-0779

PROJECT B1 POLE III
DESCRIPTION COMPOSITE HELICAL PILE
SHEET NO. Sp.2 OF
DES. J.T. DATE 8/15
CHK JOB NO. 15099

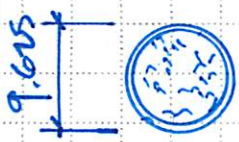
▶ 9 5/8" ϕ [.545" WALL] COMPOSITE PILE

PILE LENGTHS - 35' - 70'

HELIX ϕ - 18"ϕ - 22"ϕ

HELIX AREA 18"ϕ - 181.71 IN²

I_o = 421.3 IN⁴



9 5/8" ϕ O.D. COMPOSITE

F_y = 110 KSI I_{MATRL} = 398.8 IN⁴ [2.5" WALL]

9 5/8" O.D. 4.625 I.D. [2.5" WALL]

$A_{REA\ EQUIV.} = .765398\left[7.625^2 - 4.625^2\right] = 55.95\ IN^2$

$S = .098175\left[\frac{9.625^4 - 4.625^4}{9.625}\right] = 82.87\ IN^3$

$F_A = .5(110^{KSI}) = 55^{KSI}$

$F_y = 55.95(55^{KSI}) = 3,077^{K/PILE}$ ⟨1,538 TONS⟩

↑ PILE ONLY