NOTES

- All tie rod connections and hardware except those of weldable iron shall be galvanized.
- Treat all lumber and timber with one of the preservatives recommended in the standard specifications.
- Tie rods shall be coated with the coal tar or bitumastic compound listed for covering non-ferrous metals.
- Refer to approved specifications for lumber and timber design requirements.
- The body backing planks shall be continuous over 4 piles if tied and present space; if required, they shall be of the same material and dimension of piles. All tie rods shall be staggered.
- All tie rods, turnbuckles, nuts, and washers shall be paid for as "structural steel carbon.
- Tie rod connections and hardware shall be included in the cost for tied-lumber and timber.
- Alternate details may be submitted using either galvanized or structural steel planks or precast concrete planks in lieu of timber backed abutment planking, subject to approval by the Engineer.

CORNER DETAIL

SPORT  TO  STREAM BED (TYPS.)

US. 2:1 IF RIPRAP IS NOT USED.

0° TO 15° INCL.

15° TO 20° INCL.

OVER 20°

SECTION

CLEAT - CUT TO FIT.

MAX.

WING PLANKS

WORKING POINT

WING CLEAT

BODY PLANKS

2½" DIA. SPILL RING CONNECTORS.

CONCRETE CAST-IN-PLACE, STEEL "W", OR TIMBER PLANK.

CONCRETE OR TIMBER.  (HARDWARE)  2½" DIA. BOLT & WASHER.

BOLT TO EVERY OTHER "D" DIA. BOLT & WASHER.

OUTSIDE EDGE OF SUPERSTRUCTURE CONNECTS ON THREE (3) PANELS.

SECTIONS  WOODEN CAPACITY  FROM  SECTIONS

10 CASES 1½" x 3" GRADE A x ARMED  20.0 (F. x W.K.S.)

7 CASES 1½" x 3½" GRADE A x ARMED  35.0 (F. x W.K.S.)

ASTM A446

*USE TIE RODS ON WING PILING.

USE TIE RODS WITH A BRACKET ON WING PILING.

1. CONCRETE OR TIMBER.  (HARDWARE)  2½" DIA. BOLT & WASHER.

2. BODY PLANK.  (HARDWARE)  2½" DIA. BOLT & WASHER.

3. CONCRETE OR TIMBER.
TREATED TIMBER PILE DECKING (TIMBER GIRDER)

HEAVY HEX. NUT P1

60 d NAILS.

BACKING PLANK (ALTERNATE ATTACHMENT)

60 d NAILS

SECTION THRU DEADMAN STEEL "HP" PILING SECTION P1

STEEL "HP" PILING (ALTERNATE ATTACHMENT)

BODY & WING PLANK CONNECTION DETAILS

CONCRETE CAST-IN-PLACE PILING

3'-0" X 3'-0"

NAILING STRIP 6" X 6"

NAILING STRIP 8" X 6"

3'-0"

PILE CAP 12" X 12"

PILE STAY 8" X 8" X 5'-0"

1'-6"

6"

1'-0"

2'-6"

WASHER PLATE.

SHOWN WITH 2-40 d NAILS PER APPROVED EQUAL AT LOCATIONS STANLEY ANCHOR PLATES OR ATTACH BACKING TO PILES WITH FULL LENGTH #4 BARS WASHER.

PLANK BACKING PLATE.

WHEN PILES ARE EXPOSED.

THRU REINFORCED CAST-IN-PLACE PILING REFER TO STANDARD 11.01 FOR SECTION WEARING SURFACE

2'-0" LONG ½" DIA. DRIFT BOLT x ½" DIA. X 2'-6" LONG SLEEVE.

1" DIA. PIPE 1" DIA. TIE ROD

WELD ROD TO PILE SHELL AS SHOWN. PILING, WITH SQUARE NUT & WASHER. 4'-0" CENTERS FOR WING & BODY ½" DIA. THREADED BOLT, PLACE AT ALTERNATE CENTERS. WITH ⅝" DIA. BOLTS AT 3'-0" BOLT NAILING STRIP TO PILING

½" DIA. BOLT WITH PLATE WASHERS.

Approved: STANLEY

Date: 7-16

Bill Oliva

TIMBER ABUTMENT DETAILS

STANDARD 23.03