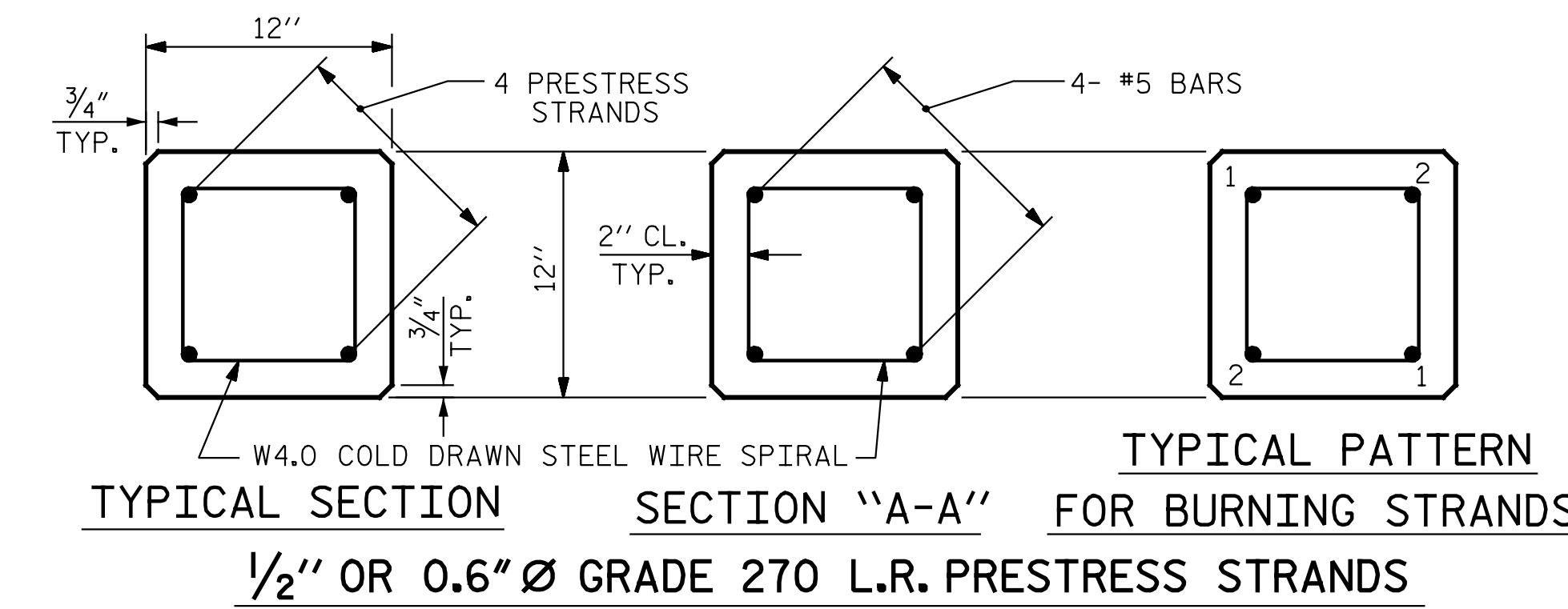
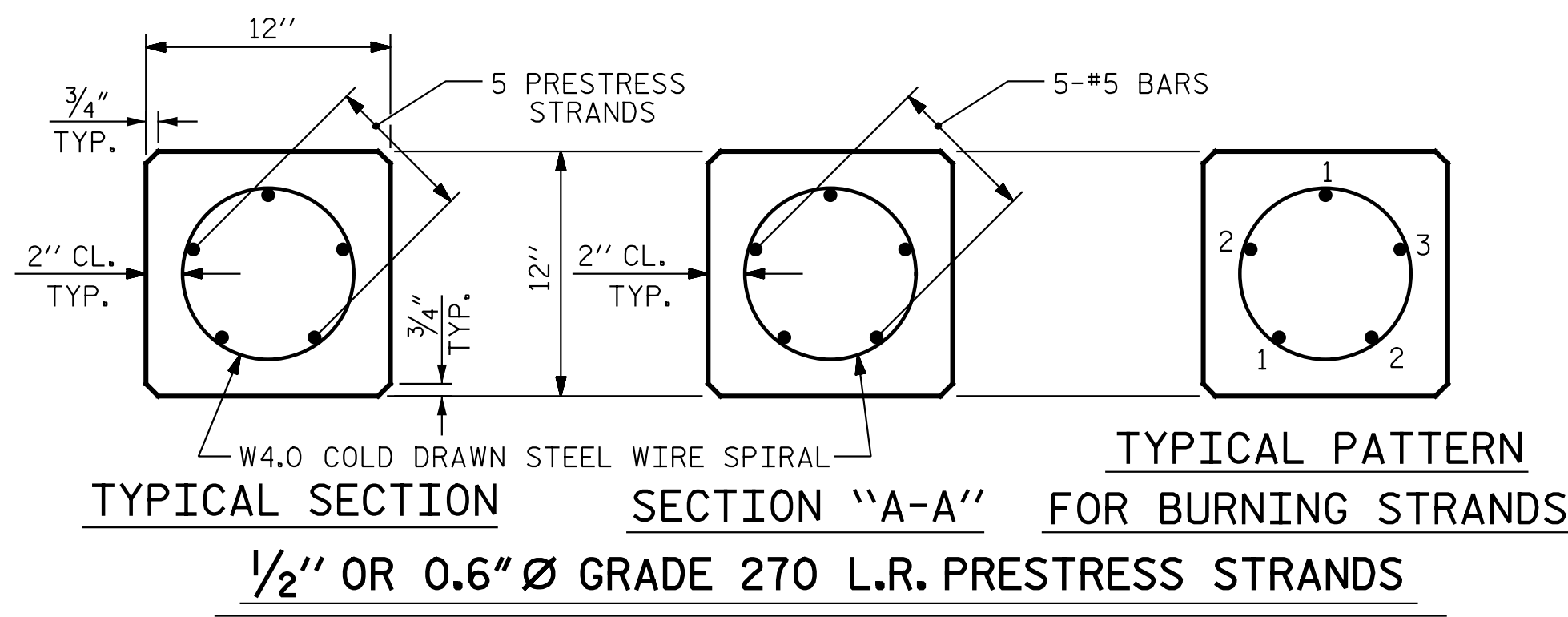


(AT THE CONTRACTOR'S OPTION, PILE BUILD-UP MAY BE CONSTRUCTED WITH DOWELS.)



NOTES

PRESTRESSED CONCRETE STRENGTH : $f'_c = 7,500$ PSI
 BUILD-UP CONCRETE STRENGTH : $f'_c = 7,500$ PSI
 STRAND DATA:

| SIZE | GRADE | AREA | ULTIMATE STRENGTH | APPLIED PRESTRESS FORCE |
|------|----------|-------|--------------------|-------------------------|
| 1/2" | 270 L.R. | 0.153 | 41,300* PER STRAND | 30,980* PER STRAND |
| 0.6" | 270 L.R. | 0.217 | 58,600* PER STRAND | 43,940* PER STRAND |

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS CONFORMING TO AASHTO M203. STRAND SAMPLING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, 1/2" OR 0.6" STRANDS MAY BE USED IN EITHER THE 4 OR 5 STRAND CONFIGURATION SHOWN IN THE TYPICAL SECTION DETAIL. MIXING OF STRAND SIZE IS NOT ALLOWED.

THE SLIP-FORM METHOD OF CASTING PILES WILL NOT BE PERMITTED.

TRANSFER THE LOAD FROM THE ANCHORAGES TO THE PILE AFTER THE CONCRETE HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.

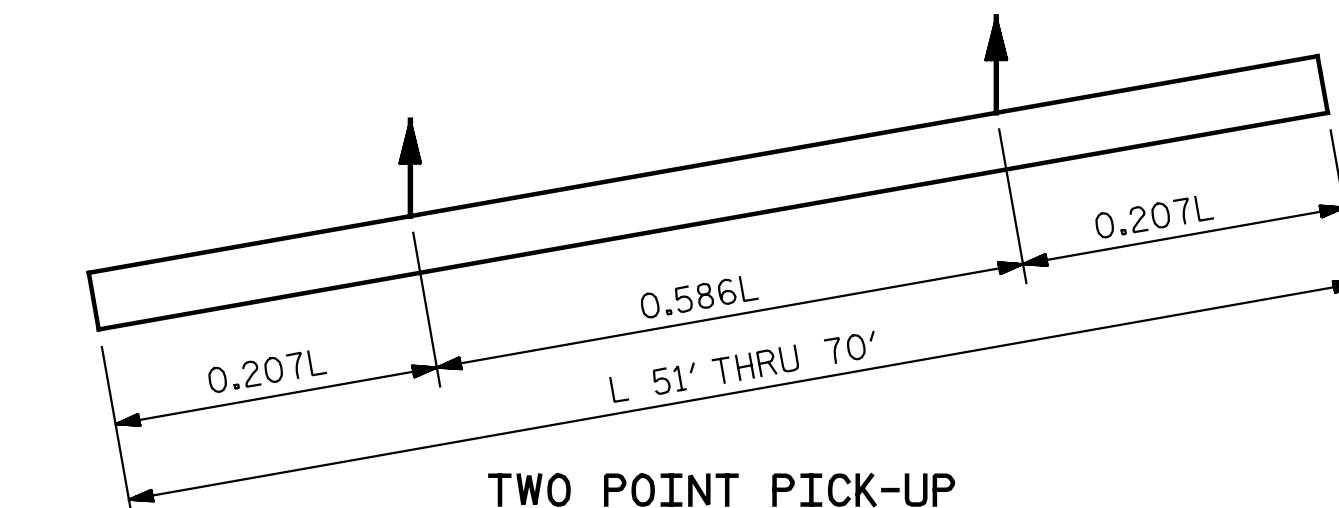
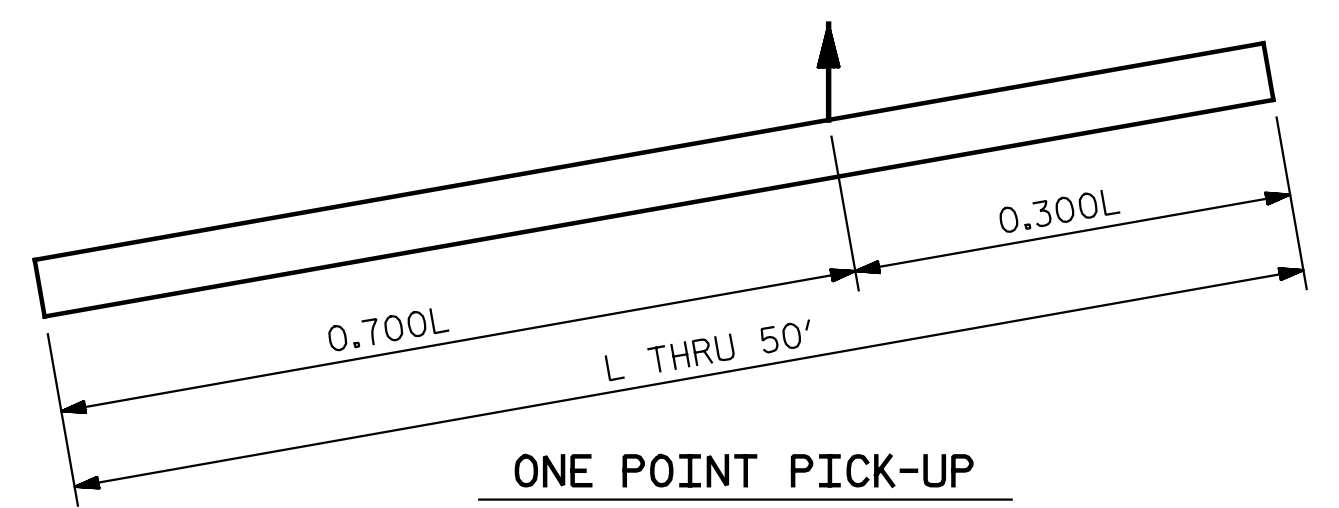
IF STRAND STRESS IS RELIEVED BY BURNING, THE STRANDS SHALL BE BURNED IN PAIRS, EXCEPT WHERE 5 STRANDS ARE USED, THE LAST STRAND MAY BE BURNED SINGLY ACCORDING TO BURNING PATTERNS SHOWN. NOT MORE THAN 4 STRANDS MAY BE BURNED AT ANY ONE SECTION BEFORE THE SAME STRANDS ARE BURNED AT BOTH ENDS OF THE BED AND BETWEEN EACH PAIR OF PILES IN THE BED.

PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.

WHERE CAST-IN-PLACE LIFTING DEVICES ARE NOT USED, PICK-UP POINTS ARE TO BE INDICATED WITH A 2" WIDE BLACK MARK.

DRIVE PILES USING A METHOD APPROVED BY THE ENGINEER, WHEREBY THE HEAD OF THE PILE IS NOT DAMAGED.

DRIVING OF THE BUILT-UP PILE WILL NOT BE PERMITTED UNTIL THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 5,000 PSI AND UNTIL A PERIOD OF SEVEN DAYS HAS ELAPSED SINCE CASTING OF THE BUILD-UP.



DOWEL INSTALLATION FOR OPTIONAL BUILD-UP

GROUT COMPRESSIVE STRENGTH: $f'_c = 5,000$ PSI

BEFORE DRILLING DOWEL HOLES, REMOVE THE UPPER 3" OF CONCRETE FROM THE TOP OF THE PILE WITHOUT DAMAGE TO THE REINFORCING STEEL. THE REMOVAL PLANE SHOULD BE NORMAL TO THE EDGE OF THE PILE.

DOWEL HOLES SHALL BE POSITIONED TO MAINTAIN 1/2" CLEAR TO ALL EXISTING PRESTRESSING STRANDS IN THE CONCRETE PILE.

FIELD DRILLED HOLES SHALL BE CLEAN AND FREE OF ANY OBSTRUCTIONS BEFORE GROUTING OF DOWELS. DOWEL BARS SHALL BE INSTALLED AND GROUTED WITH AN APPROVED NON-SHRINK GROUT.

THE SPIRAL REINFORCING IN ALL BUILD-UPS SHALL BE W4.0 COLD DRAWN WIRE WHICH SHALL BE SECURED TO THE LONGITUDINAL REINFORCEMENT TO MAINTAIN PITCH.

THE SPIRAL REINFORCING IN THE BUILD-UP AND THE PRESTRESSED CONCRETE PILE SHALL BE SPLICED BY OVERLAPPING A MIN. OF ONE TURN.

STEEL PILE TIP DETAILS

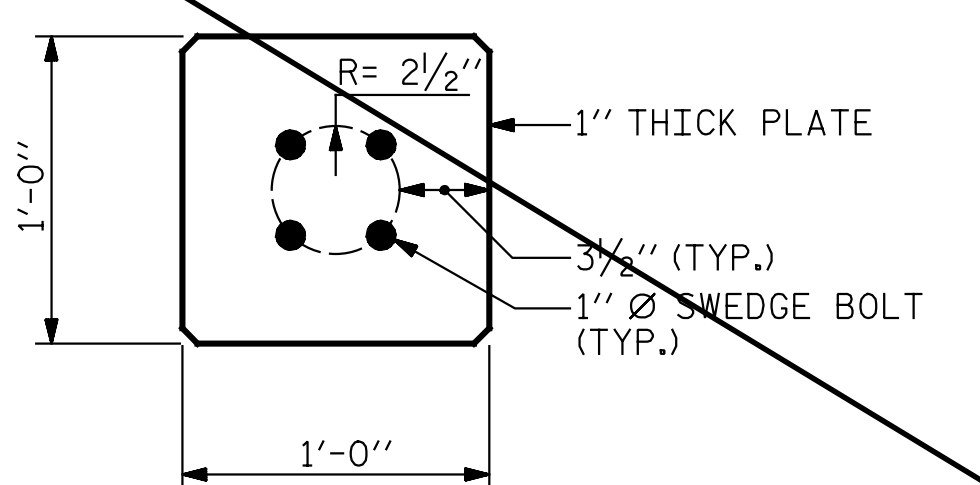
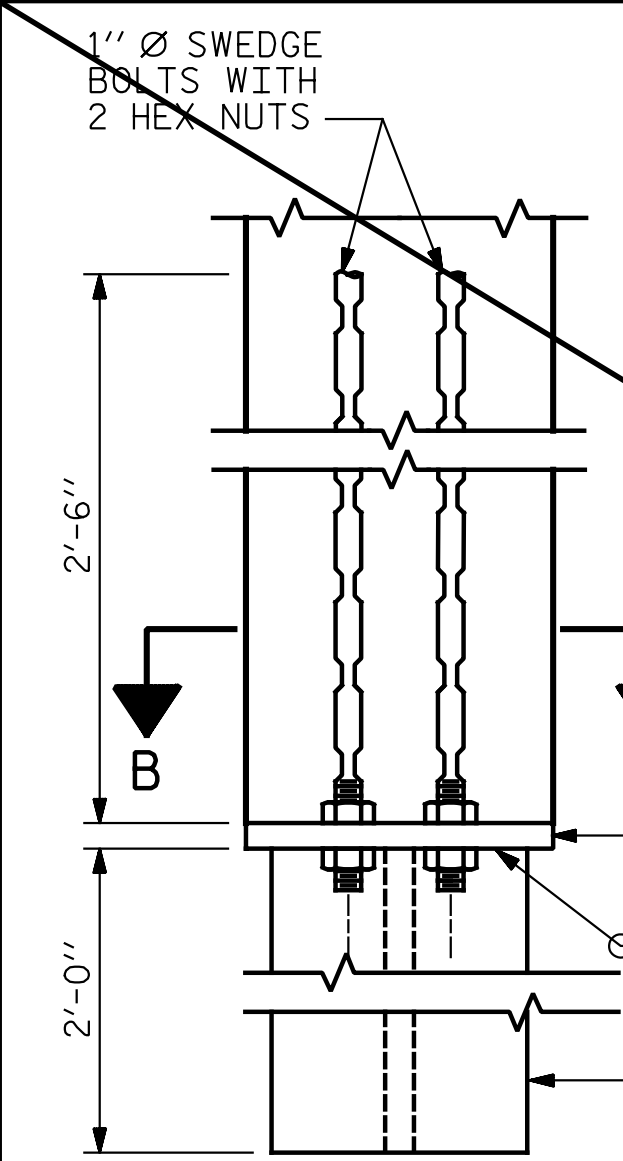
NOTES

PLATE AND SWEDGE BOLTS SHALL MEET THE REQUIREMENTS OF AASHTO M270 GRADE 36. THREADS OF THE SWEDGE BOLTS SHALL BE BURRED AT THE FACE OF THE NUT.

PILE SHALL BE CAST WITH SWEDGE BOLTS AND PLATE IN PLACE.

FOR SPIRAL REINFORCING AND PRESTRESSING STRAND DETAILS, SEE STANDARD 12" PRESTRESSED CONCRETE PILE ELEVATION AND TYPICAL SECTION.

* EXCEPT AS NOTED BELOW, THE HP 10 X 57 SECTION SHALL BE WELDED TO THE STEEL PLATE AFTER STRAND STRESS IS RELIEVED. THE HP 10 X 57 SECTION MAY BE WELDED IN THE PRESTRESSER'S YARD OR IN THE FIELD. WHEN A CIRCULAR STRAND PATTERN AS SHOWN ON THE PLANS IS USED, THE CONTRACTOR, AT HIS OPTION, MAY WELD THE HP 10 X 57 SECTION TO THE STEEL PLATE AT THE FABRICATION PLANT PRIOR TO PLACING THE CONCRETE. THE FLANGES OF THE HP SECTION SHALL BE PARALLEL TO THE EDGES OF THE STEEL PLATE AND CONCRETE PILE.



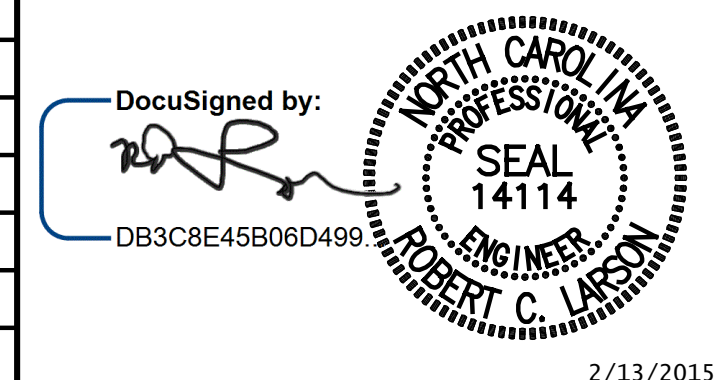
DESIGN ENGINEER OF RECORD: DATE : 2/13/2015

DRAWN BY : E. C. DECOLA DATE : 03/06/14
 CHECKED BY : R. C. LARSON DATE : 03/24/14

DRAWN BY : FCJ 7/88 REV. 5/1/06R TLA/GM
 CHECKED BY : CRK 3/89 REV. 11/30/10 WMC/GM
 REV. 10/12/11 MAA/GM

QUANTITIES FOR ONE 12" PRESTRESSED PILE

| LENGTH | CONCRETE CU. YDS. | PILE WT. TONS | ONE POINT PICK-UP | | TWO POINT PICK-UP | |
|--------|-------------------|---------------|-------------------|--------|-------------------|--------|
| | | | 0.300L | 0.700L | 0.207L | 0.586L |
| 25'-0" | 0.91 | 1.85 | 7'-6" | 17'-6" | | |
| 30'-0" | 1.10 | 2.22 | 9'-0" | 21'-0" | | |
| 35'-0" | 1.28 | 2.59 | 10'-6" | 24'-6" | | |
| 40'-0" | 1.46 | 2.96 | 12'-0" | 28'-0" | | |
| 45'-0" | 1.64 | 3.33 | 13'-6" | 31'-6" | | |
| 50'-0" | 1.83 | 3.72 | 15'-0" | 35'-0" | | |
| 55'-0" | 2.01 | 4.09 | | | 11'-4 1/2" | 32'-3" |
| 60'-0" | 2.19 | 4.46 | | | 12'-5" | 35'-2" |
| 65'-0" | 2.38 | 4.81 | | | 13'-5 1/2" | 38'-1" |
| 70'-0" | 2.57 | 5.18 | | | 14'-6" | 41'-0" |



PROJECT NO. R-2514D
JONES COUNTY
 STATION: 320+39.56 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

12" PRESTRESSED CONCRETE PILES

STD. NO. PCP1 RIGHT LANE

REVISIONS

| NO. | BY: | DATE: | NO. | BY: | DATE: |
|-----|-----|-------|-----|-----|-------|
| 1 | | | 3 | | |
| 2 | | | 4 | | |

SHEET NO. S02-21
 TOTAL SHEETS S02-24