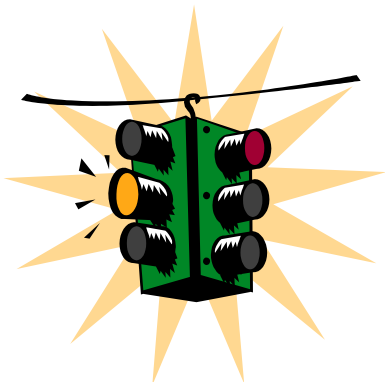
Advanced Inspection Class
Illumination and Signal Systems
W.S.D.O.T.

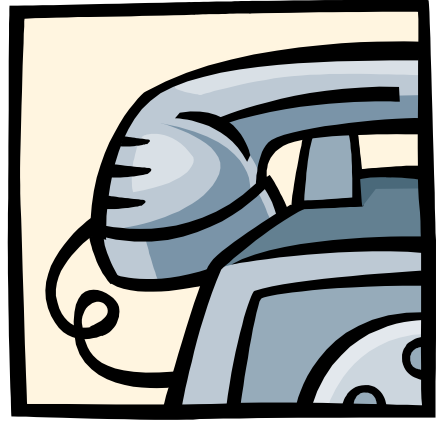


This Class Was Gary's Plan to Improve the Process

Document Hierarchy

1) Addenda
2) Proposal form
3) Special provisions (White Pages)
   a. A list is included for all Standard Plan numbers that are applicable to that contract.
4) Contract plans
5) Amendments to standard specifications (Pink Pages)
6) Standard specifications (8 - 20) (9 - 29)
   a. 8-20.1(1) “Regulations and Code” includes NEC.
7) Standard plans (J)

CONTACTS

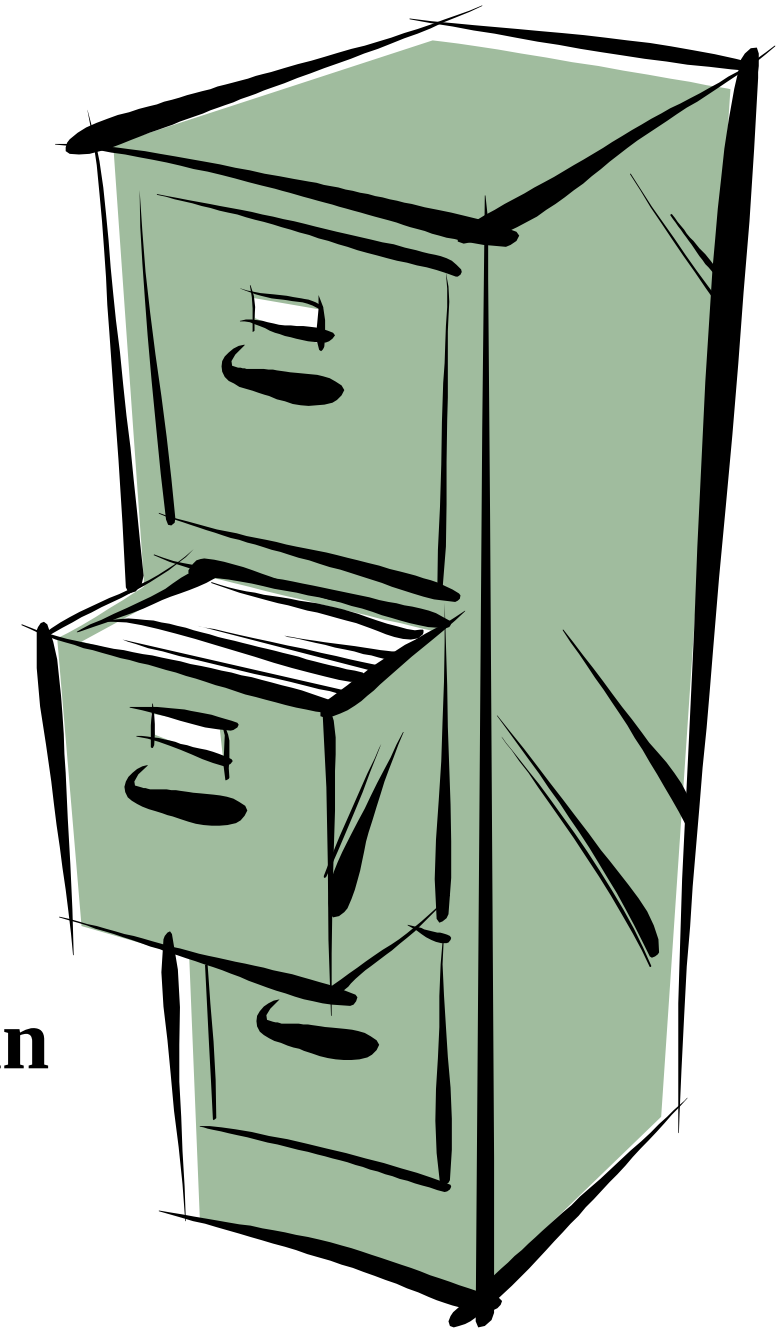


1. **Electrical Inspector**
2. **Maintenance / Signal Division / ITS**
3. **Regional Traffic Engineer**
4. **Fabrication Inspector**
5. **Headquarters Bridge and Materials Laboratory**
6. **Serving Utility, Vendors, Manufacturer's Representatives and Utility Engineer.**

Materials Documents

1. Record of Materials
2. RAM and QPL
   a. Preliminary Samples
3. Catalog Cuts
4. Shop Drawings
5. Fabrication Inspection
6. Plant Certifications and Mix design
7. Review Salvaged, Abandoned, As Ordered

Contractor Submittals



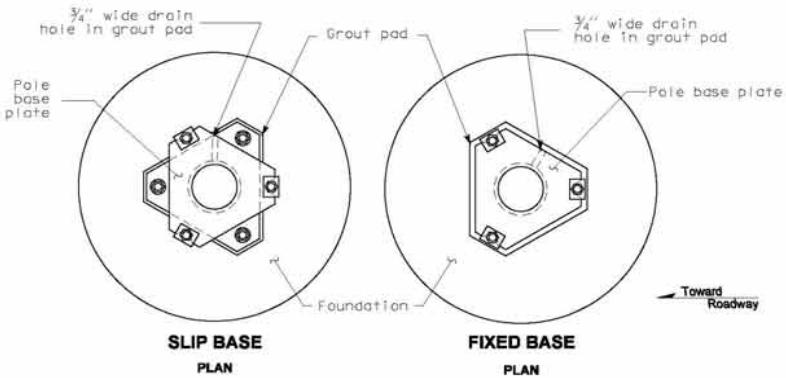
1. Traffic Control Plan
2. Pollution Control Plan
3. Schedule

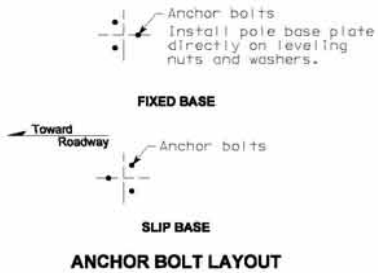
Foundations

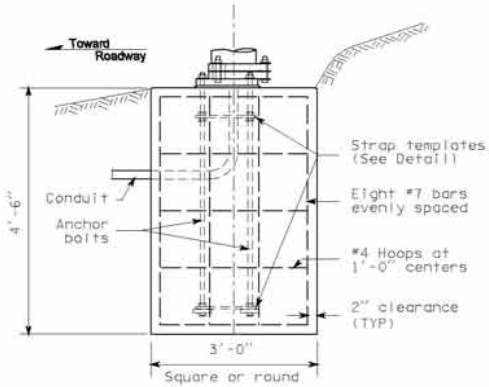
- 8-20.4
- 9-29.6(5)

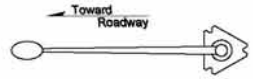
J-1b 1 of 3

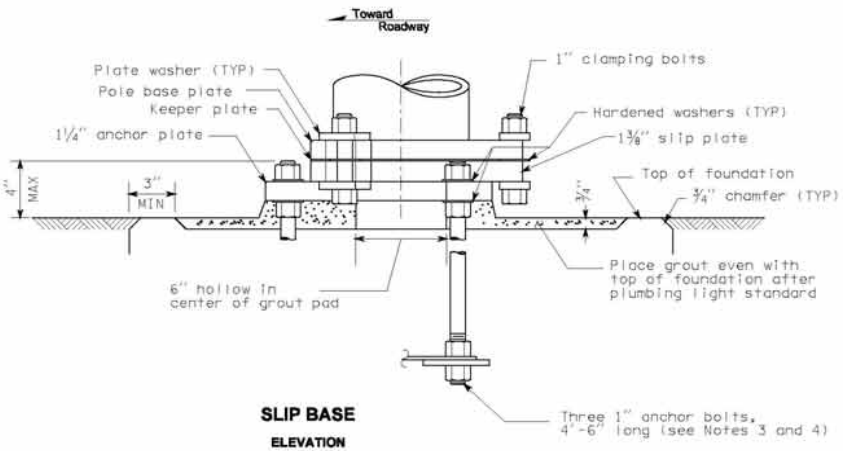
Standard Plan J-1b

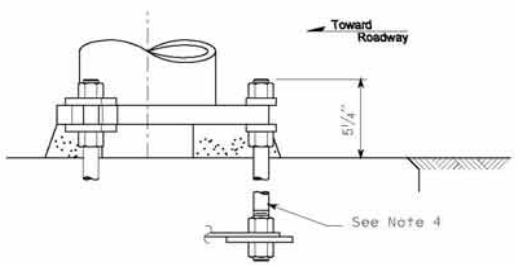












Details similar to slip base except where noted

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PROFESSIONAL ENGINEER

EXPIRES JUNE 29, 2000

STEEL LIGHT STANDARD BASE DETAILS

STANDARD PLAN J-1b

SHEET 1 OF 3 SHEETS

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

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10-99		TWS

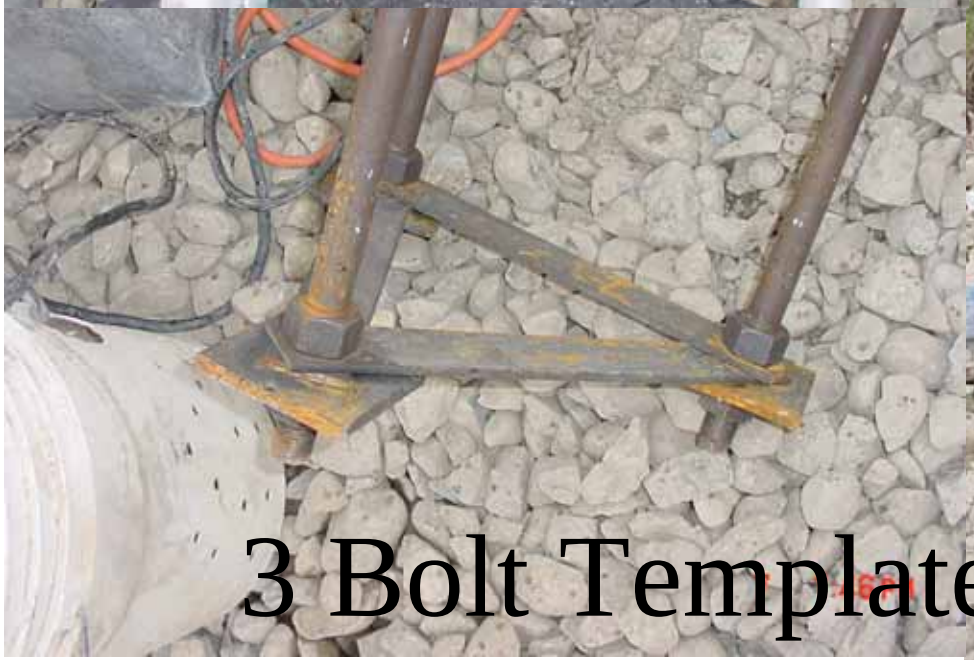
APPROVED FOR PUBLICATION

Clifford E. Mansfield 10/08/99

DEPUTY STATE DESIGN ENGINEER DATE

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON

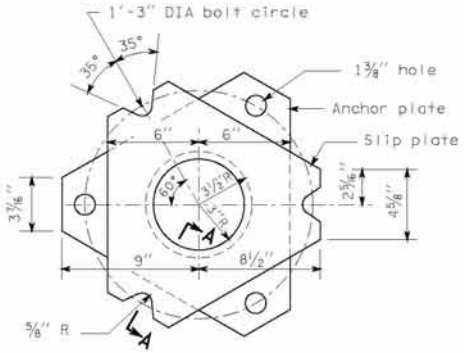
J-1b



3 Bolt Template

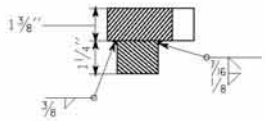
J-1b 2 of 3

Standard Plan J-1b

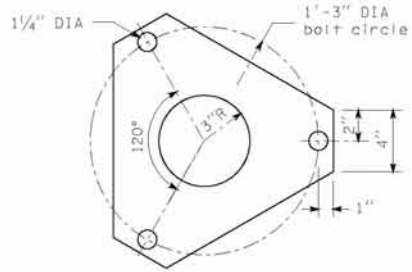


SLIP/ANCHOR PLATES DETAIL

Smooth finish top, bottom, and notched surfaces

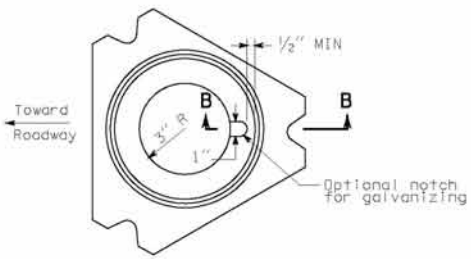


SECTION A-A



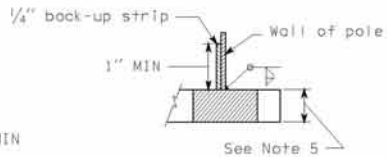
KEEPER PLATE

Place between pole base plate and slip plate on top of middle washers.



POLE BASE PLATE

Smooth finish top, bottom, and notched surfaces



SECTION B-B

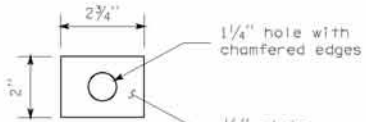
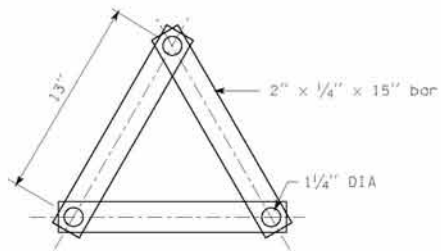


PLATE WASHER



STRAP TEMPLATE ASSEMBLY DETAIL

Place over anchor bolts (See Note 4)

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EXPIRES JUNE 29, 2000

STEEL LIGHT STANDARD BASE DETAILS

STANDARD PLAN J-1b

SHEET 2 OF 3 SHEETS

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DEPUTY STATE DESIGN ENGINEER DATE

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OLYMPIA, WASHINGTON

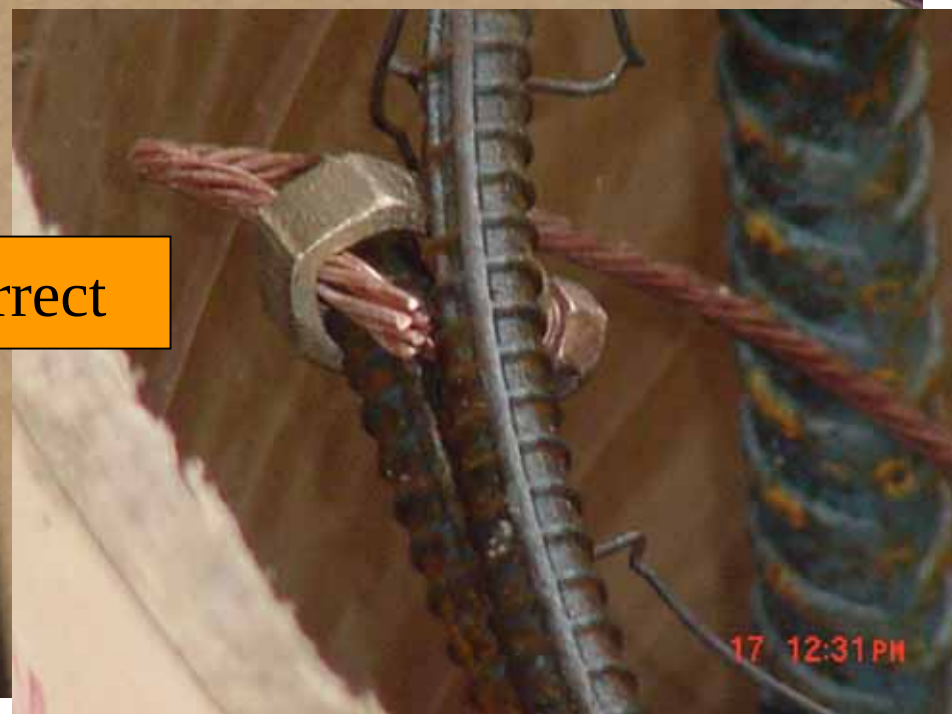
Corrugated Tube/Wet Hole

Luminaire Foundation

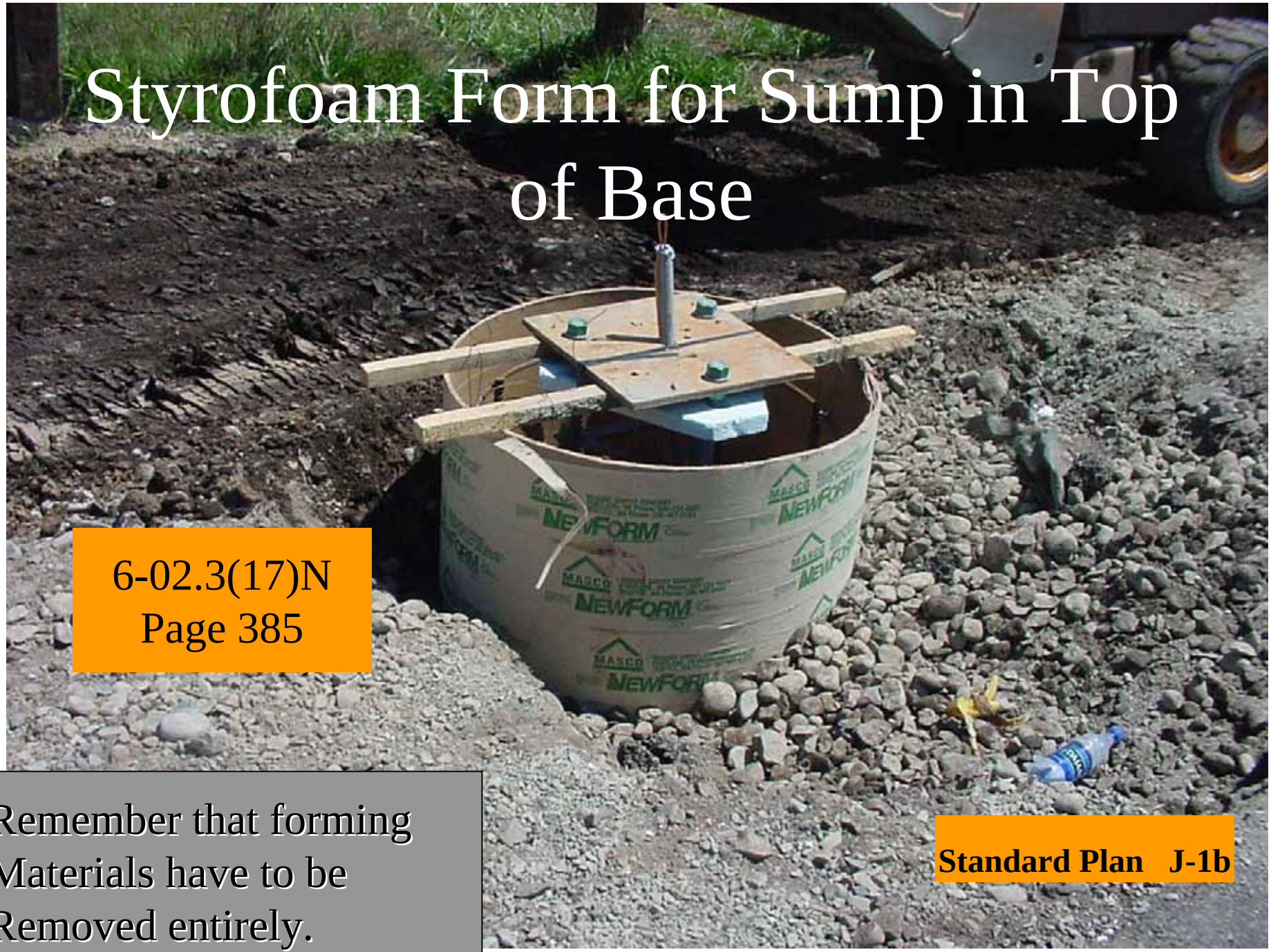
Supplementary Ground

Wrong

Correct



Styrofoam Form for Sump in Top of Base



6-02.3(17)N
Page 385

Remember that forming Materials have to be Removed entirely.

Standard Plan J-1b

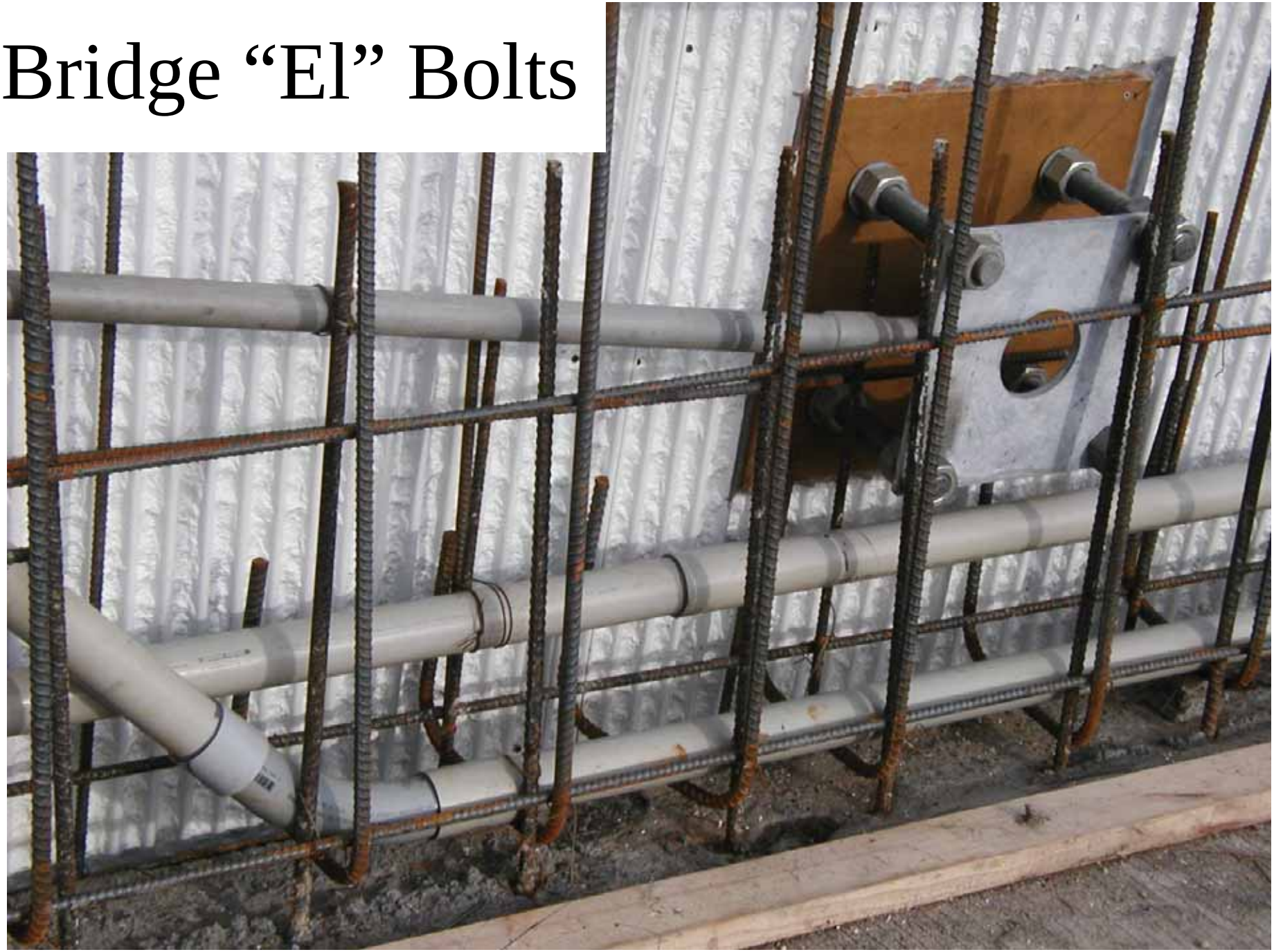
Base Poured Styrofoam Removed

Supplemental ground is the bare number 6 wire.

Concrete Vibrator

Luminaire Base / Barrier

Bridge “El” Bolts

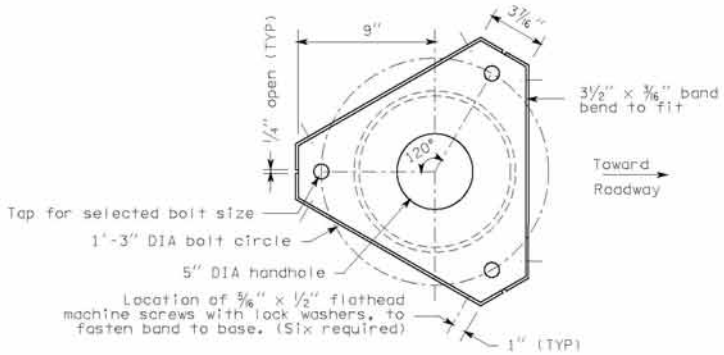


Bridge El

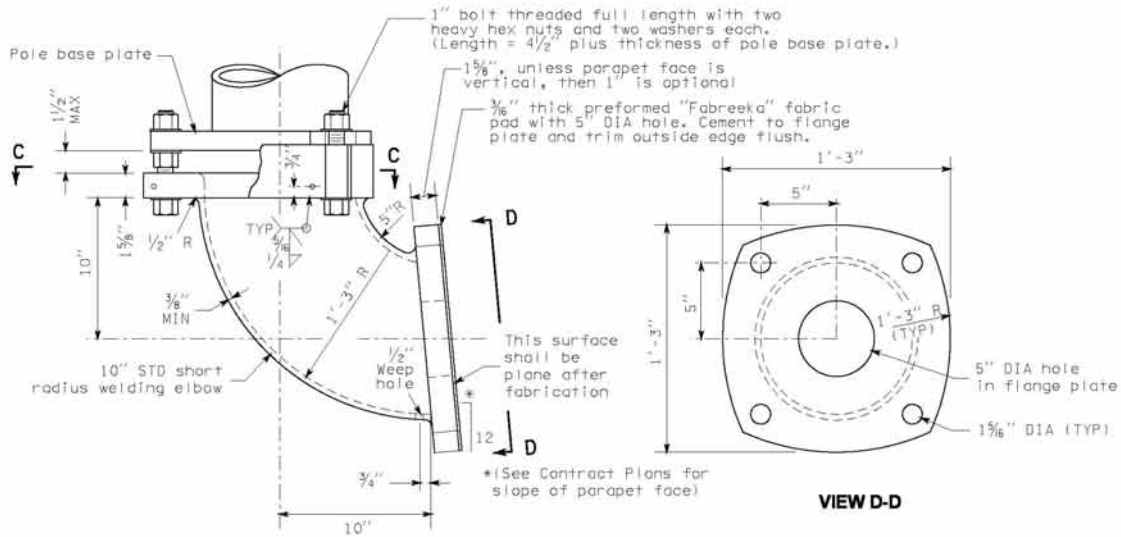
Working Clearances at Hand Hole
NEC Table 110.26(A)(1)
0 – 150 volts = 900mm clearance
151 – 600 volts = 1M clearance

J-1b 3 of 3

Standard Plan J-1b



SECTION C-C



VIEW D-D

ELEVATION

LIGHTING BRACKET DETAIL

For light standards with single arm 12' or less and double arms 8' or less mounted on bridges or retaining walls.

NOTES

1. See Standard Plan C-8b for base plate and foundation requirements when light standards are mounted on concrete barrier.
2. Round and smooth all edges along wire-way to protect conductors. See Standard Plan J-1e for wiring details.
3. The top of the anchor rod shall be both threaded and galvanized a minimum of 12". The bottom of the anchor rod shall be threaded a minimum of 3". Galvanizing shall be in accordance with AASHTO M111 after threading. Hooked anchor bolts are not allowed.
4. Strap templates shall be held in place by nuts 6" from the top of the foundation, and at bottom of anchor bolts resting on 4" x 3/8" square washers.
5. Pole base plate for a slip base design shall be 1 1/4" AASHTO M223 Gr. 345. Pole base plate for a fixed base design may be either 1 1/4" AASHTO M223 Gr. 345 or 1 1/2" AASHTO M183.
6. Installation of a 50' pole with double mast arms on a slip base is not allowed.

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REGISTERED
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EXPIRES JUNE 29, 2000

STEEL LIGHT STANDARD BASE DETAILS

STANDARD PLAN J-1b

SHEET 3 OF 3 SHEETS

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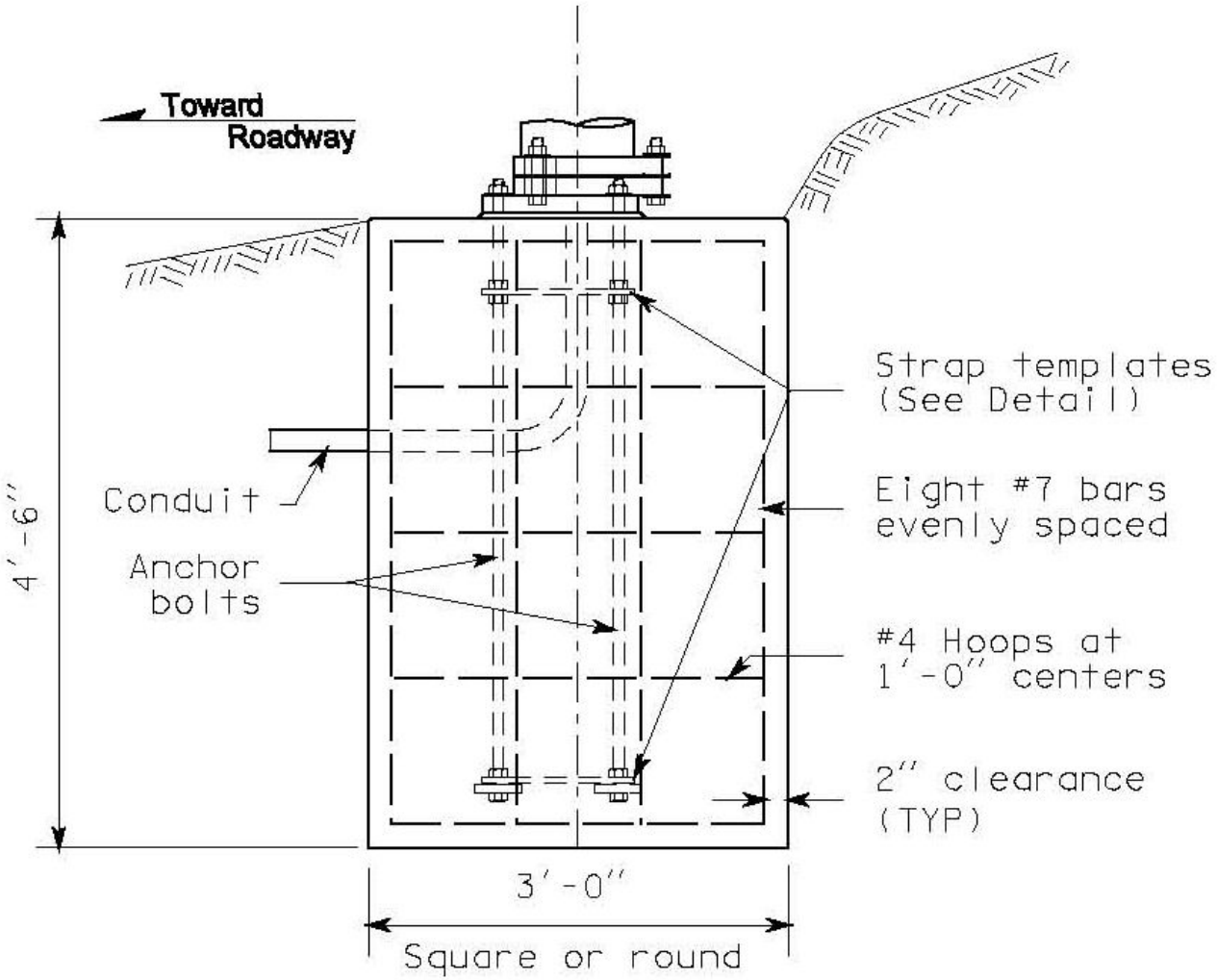
OLYMPIA, WASHINGTON

DATE	REVISION	BY
10-99	REVISED NOTES 1, 2 & 5; ADDED NOTE 6.	TWS

Light Base (Slip Base)

J-1b

Standard Plan J-1b



FOUNDATION DETAIL

(See Note 1)

Extend a Base

High Mast Shaft and Top Form

High Mast Bolts and Top Cage

Drilling a Sign Base

Augured Hole

Rebar Cage and Bolts

Check the Grade

Ready for the First Pour

6-02.3(6)
P 336

Use a Tremie for Deep Pours

Another Tremie

Strain Pole Bolts & Bottom Nut

43 Foot Deep Signal Base

Set Up Deep Base

Pouring Deep Base

Set up to Pour Pad Foundations
1 12:51 PM

Steel Couplings at Foundation Surface

Pad Foundation for Multiple Cabinets

Steel Coupling Flush With Surface

- Each cabinet should have a drain tube
- A supplemental ground should be connected to the rebar and routed the Transformer Cabinet Ground

No Steel Coupling
Poor Placement

Spare Conduits
Need Coupling
Flush With Surface
and Steel Plug

Keep Ground Tile Far Enough in That the Corners Will Not Break off
DEC 22 2004

Removal of Forms

- 6-02.3(17)N
- Forms shall be removed whether above or below ground level.

6-02.3(17)N
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