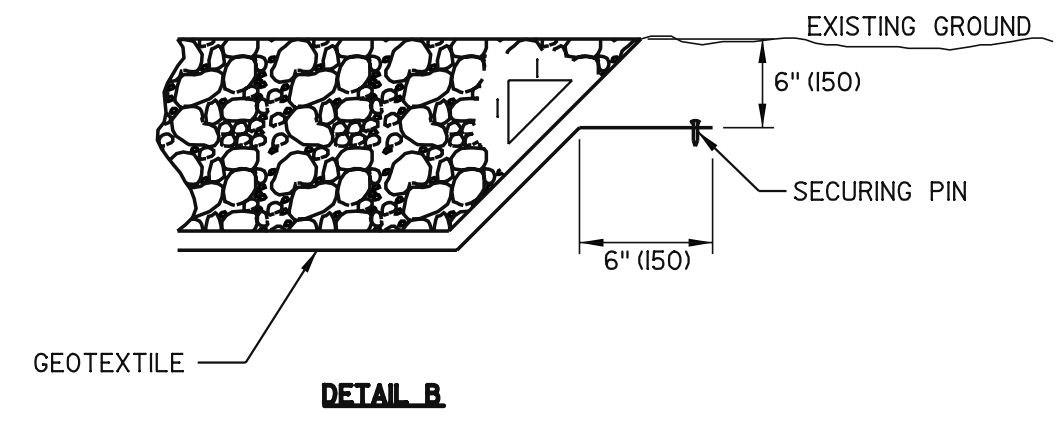
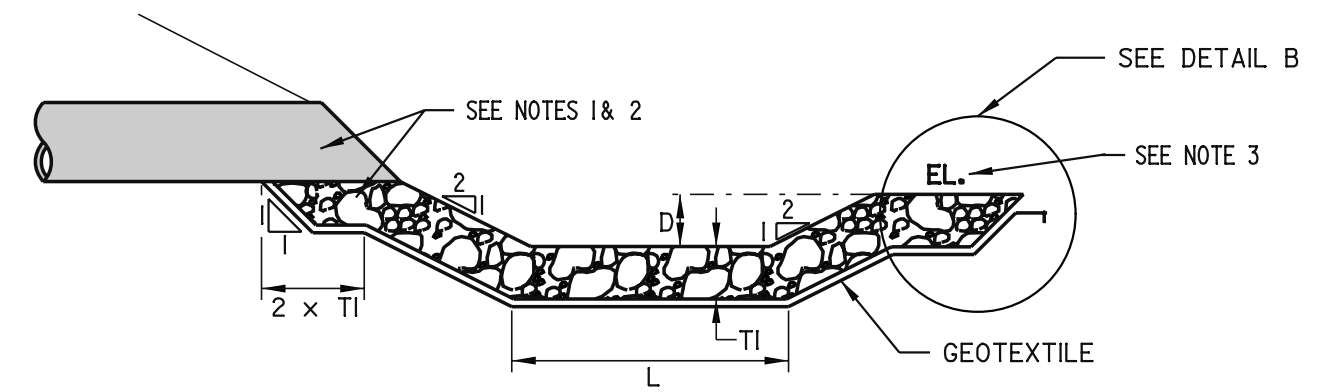


PLAN VIEW



DETAIL B



SECTION A-A

- NOTES:
1. RIPRAP IS TO BE PLACED PRIOR TO PLACING PIPE.
 2. PLACE DELAWARE NO. 3 STONE UNDER PIPE.
 3. ELEVATION (EL.) SHOULD NOT BE HIGHER THAN PIPE INVERT.
 4. REFER TO THE PIPE ENERGY DISSIPATOR SCHEDULE ON THE CONSTRUCTION PLANS FOR THE VALUE OF DIMENSION VARIABLES.



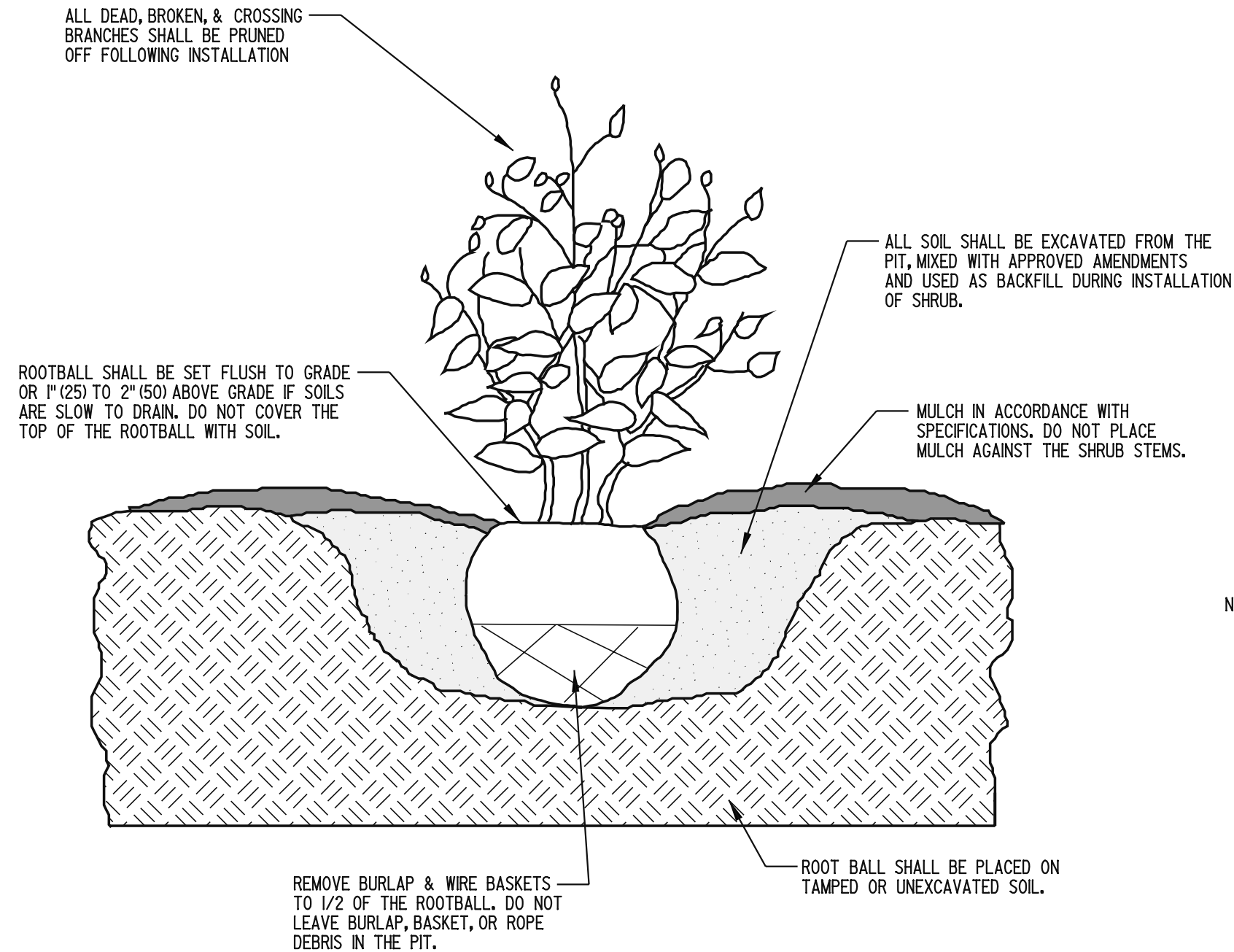
DELAWARE
DEPARTMENT OF TRANSPORTATION

RIPRAP ENERGY DISSIPATOR DETAIL

STANDARD NO. E-26 (2006)

SHT. 1 OF 1

APPROVED *[Signature]* 10/10/06
CHIEF ENGINEER DATE
RECOMMENDED *[Signature]* 10/13/06
DESIGN ENGINEER DATE



NOTES:

- 1). BASE OF PLANTING PIT SHALL BE A MINIMUM WIDTH OF TWICE THE ROOT BALL SIZE AND A MAXIMUM OF THREE TIMES THE ROOT BALL SIZE.
- 2). SHRUBS SHALL BE INSTALLED IN MASSES OF NO LESS THAN 3 PLANTS. A MINIMUM OF 6' (1800) WIDTH IS REQUIRED FROM THE BACK OF CURB TO THE EDGE OF SIDEWALK FOR INSTALLATION OF SHRUBS.
- 3). ALL PRUNING SHALL BE DONE BY AN I.S.A. CERTIFIED ARBORIST, CERTIFIED NURSERY PROFESSIONAL, OR UNDER THE DIRECTION THEREOF. DO NOT HEAVILY PRUNE SHRUBS AT PLANTING.
- 4). AUGERED HOLES SHALL BE HAND DUG TO FINAL WIDTH AND TO ELIMINATE GLAZING.
- 5). ALL SHRUB MASSES SHALL BE MULCHED AS ONE CONTINUOUS BED.

ROADSIDE SHRUB PLANTING DETAIL



DELAWARE
DEPARTMENT OF TRANSPORTATION

PLANTING DETAILS

STANDARD NO. L-1 (2006)

SHT. 1 OF 3

APPROVED

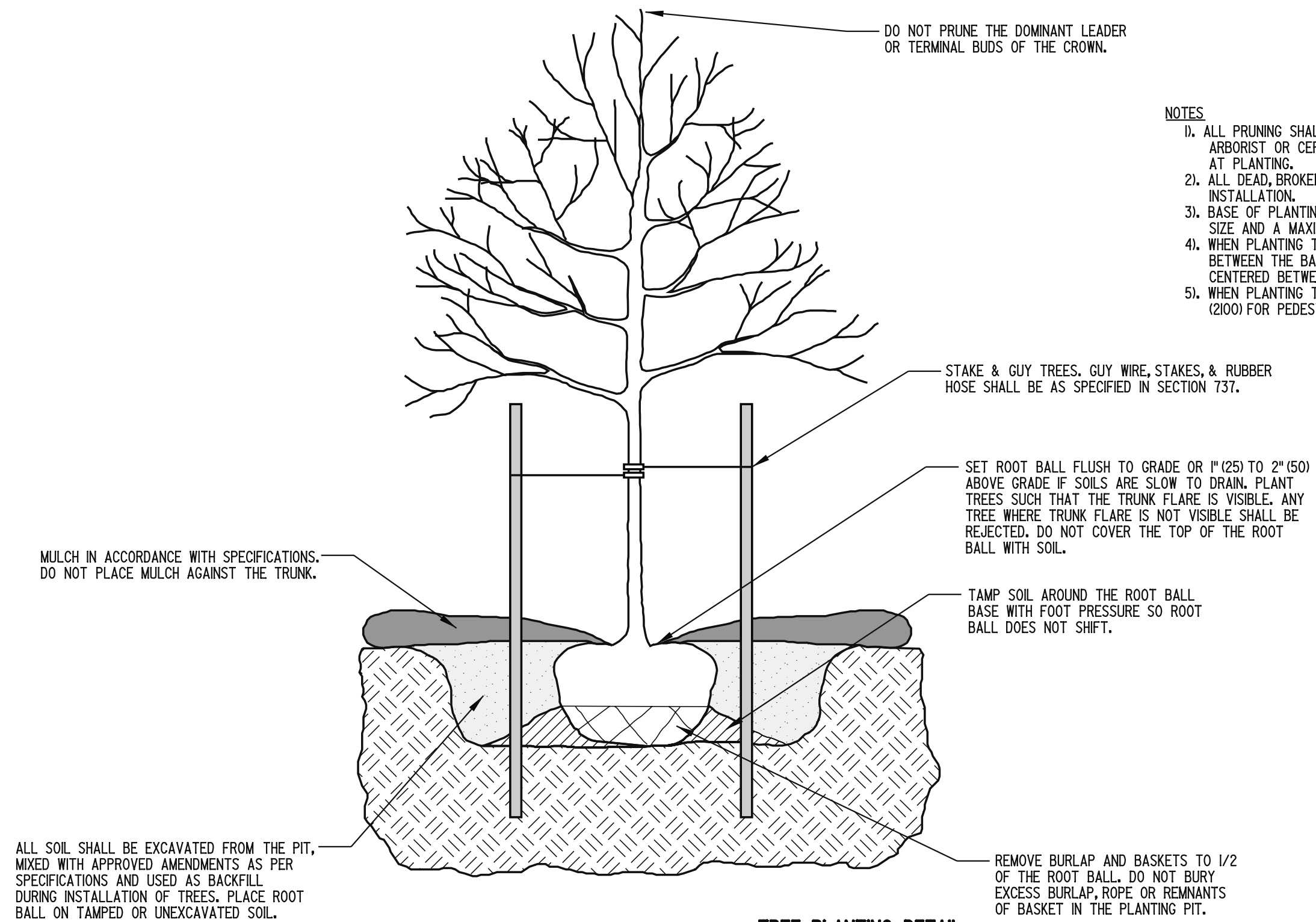
Frank Taylor
CHIEF ENGINEER

10/10/06
DATE

RECOMMENDED



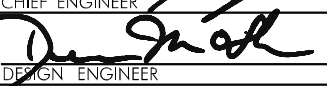
Dan Smith
DESIGN ENGINEER

10/13/06
DATE

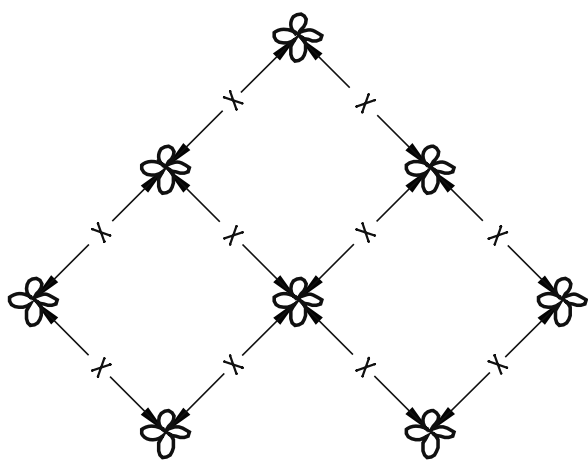


- NOTES**
- 1). ALL PRUNING SHALL BE DONE BY OR UNDER THE DIRECTION OF, AN I.S.A. CERTIFIED ARBORIST OR CERTIFIED NURSERY PROFESSIONAL. DO NOT HEAVILY PRUNE TREES AT PLANTING.
 - 2). ALL DEAD, BROKEN, & CROSSING BRANCHES SHALL BE PRUNED OFF FOLLOWING INSTALLATION.
 - 3). BASE OF PLANTING PIT SIZE SHALL BE A MINIMUM WIDTH OF TWICE THE ROOT BALL SIZE AND A MAXIMUM OF THREE TIMES THE ROOT BALL SIZE.
 - 4). WHEN PLANTING TREES ALONG STREETS, THERE MUST BE A MINIMUM OF 6' (1800) BETWEEN THE BACK OF CURB AND THE EDGE OF SIDEWALK AND SHALL BE CENTERED BETWEEN THE BACK OF CURB AND THE EDGE OF SIDEWALK.
 - 5). WHEN PLANTING TREES ALONG SIDEWALKS, THE TREE SHALL BE LIMBED TO 7' (2100) FOR PEDESTRIAN CLEARANCE.

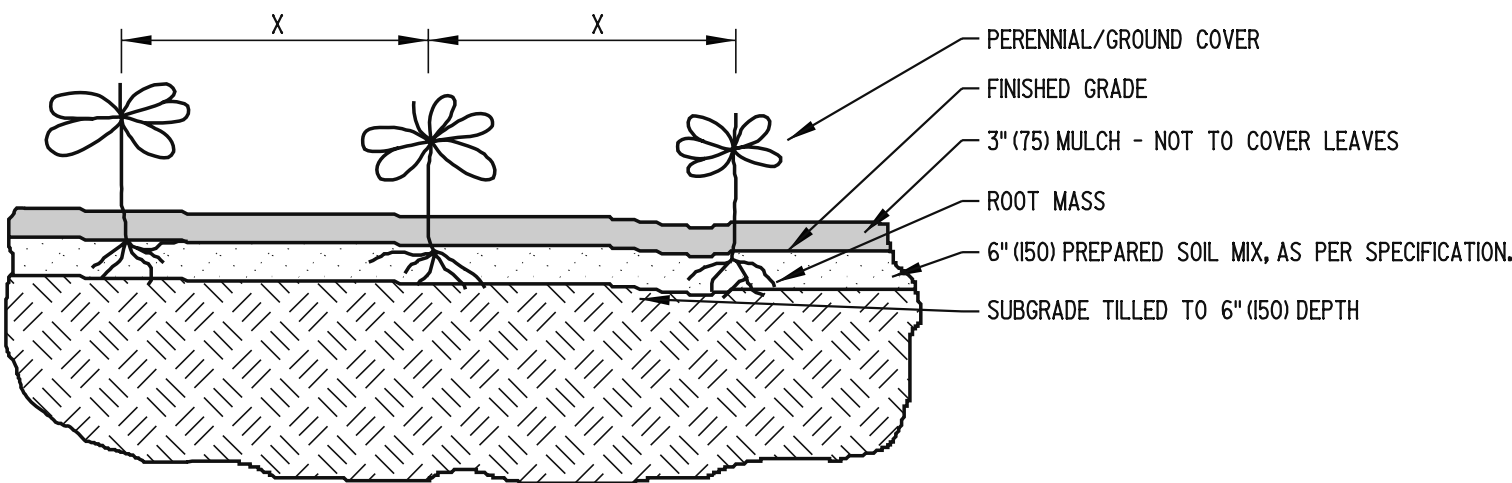
TREE PLANTING DETAIL

 DELAWARE DEPARTMENT OF TRANSPORTATION	PLANTING DETAILS			APPROVED  10/10/06 <small>CHIEF ENGINEER DATE</small>
	STANDARD NO. L-1 (2006)	SHT. 2	OF 3	RECOMMENDED  10/13/06 <small>DESIGN ENGINEER DATE</small>

NOTE:
1). SEE PLANT LIST FOR SPACING (X).






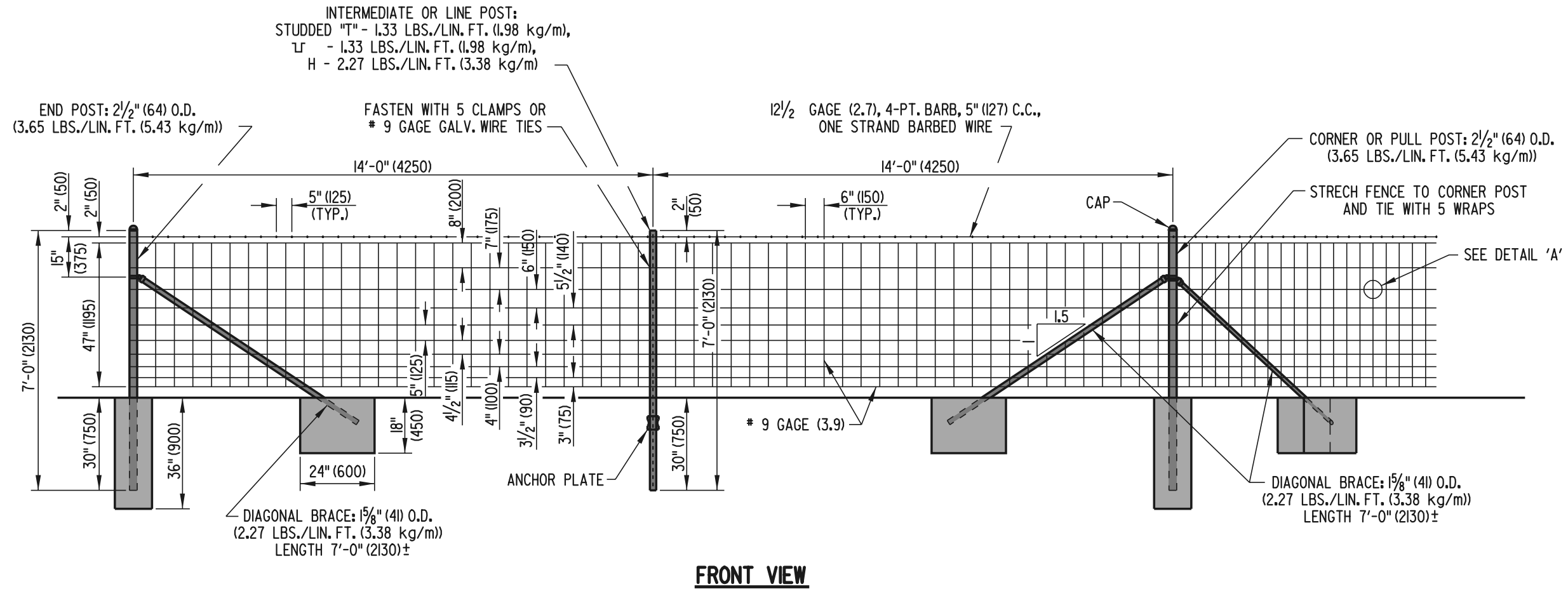
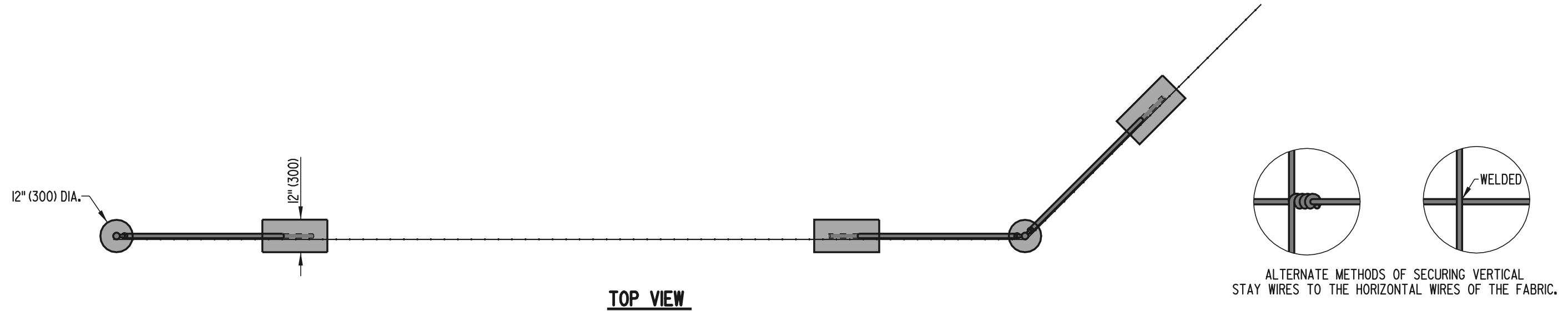
PLAN VIEW



SECTION VIEW

PERENNIAL/GROUNDCOVER PLANTING DETAIL

 DELAWARE DEPARTMENT OF TRANSPORTATION	PLANTING DETAILS			APPROVED  <u>10/10/06</u> CHIEF ENGINEER DATE
	STANDARD NO. L-1 (2006)	SHT. 3	OF 3	RECOMMENDED  <u>10/13/06</u> DESIGN ENGINEER DATE



DELAWARE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY FENCE

STANDARD NO.

M-1 (2001)

SHT. 1

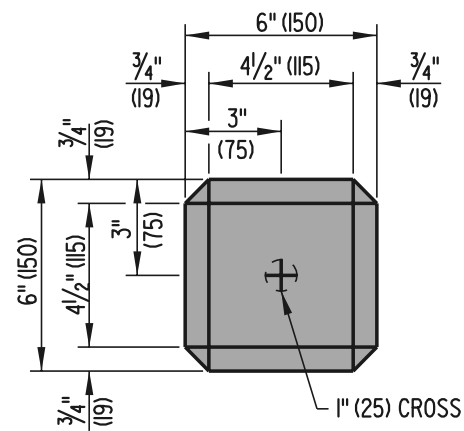
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APPROVED

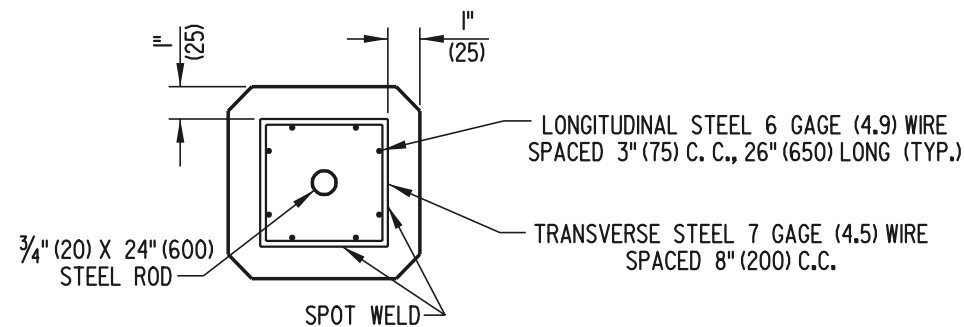
Ryan M. Harkness 6/18/01
CHIEF ENGINEER DATE

RECOMMENDED

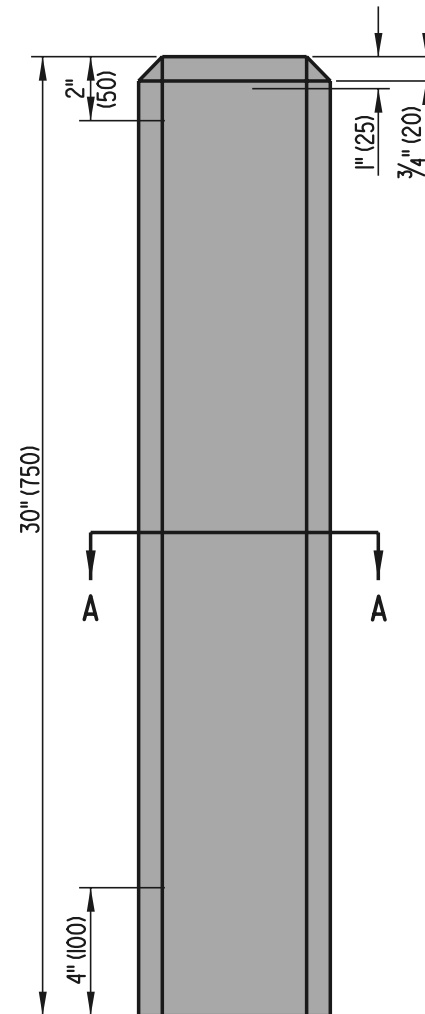
Michael J. Galt 6/18/01
DESIGN ENGINEER DATE



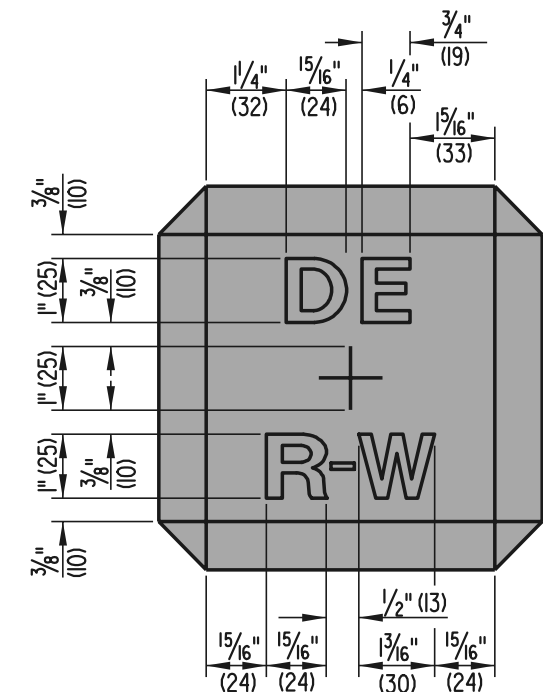
TOP



SECTION A-A



ELEVATION



TOP DETAIL

- NOTES : 1. LONGITUDINAL STEEL SHALL BE HELD IN PLACE BY CRADLES.
2. LETTERS AND CROSS TO BE COUNTERSUNK IN TOP OF MARKER 1/4" (6).



DELAWARE
DEPARTMENT OF TRANSPORTATION

CONCRETE MONUMENT

STANDARD NO.

M-2 (2001)

SHT. 1

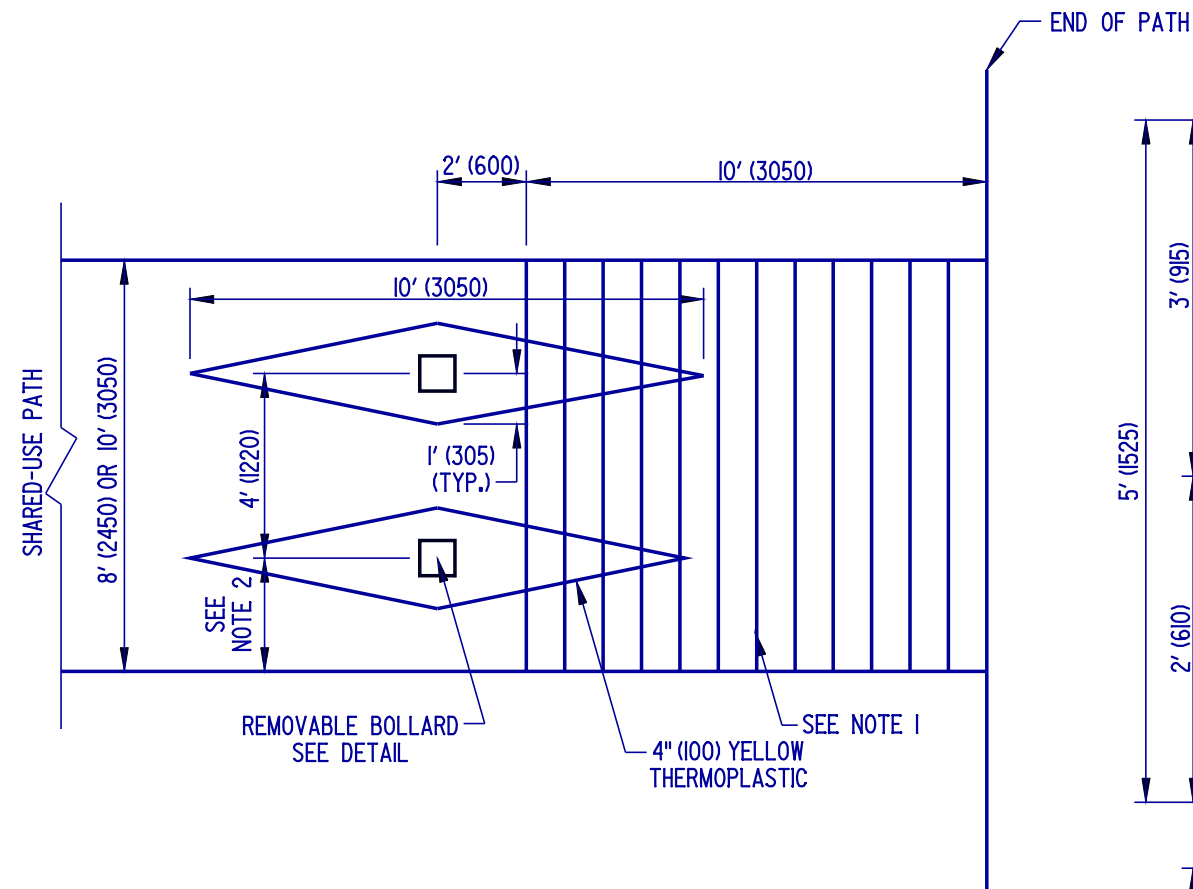
OF 1

APPROVED

Ryan M. Harkness
CHIEF ENGINEER
6/18/01
DATE

RECOMMENDED

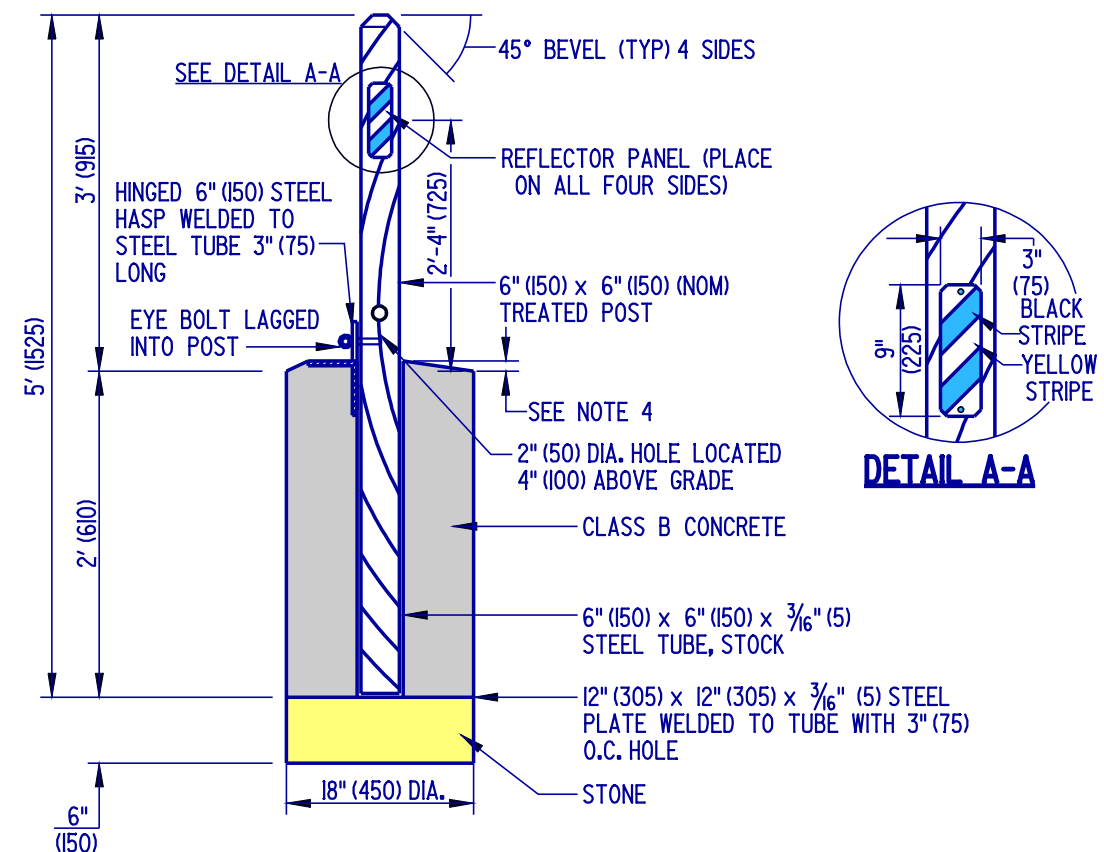
Michael R. Galt
DESIGN ENGINEER
6/18/01
DATE



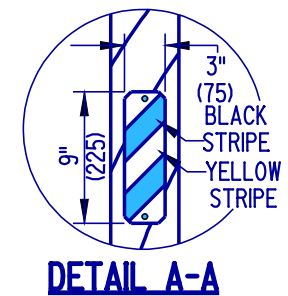
SHARED USE PATH INTERSECTION

NOTES:

1. THE 4" (100) CONCRETE SHARED-USE PATH SHALL BE FINISHED TO INCLUDE A TEXTURED WARNING SURFACE BY USING A JOINT STRIKE TO PRODUCE A 1/2" (12) DEEP V-JOINT AT 6" (150) O.C. PAYMENT FOR INSTALLING THE GROOVED FINISH SHALL BE INCIDENTAL TO THE SIDEWALK CONSTRUCTION.
2. FOR 8' (2450) AND 10' (3050) PATH WIDTH, THE OUTSIDE DIMENSION FROM CENTER OF BOLLARD TO EDGE OF PATH SHALL BE 2' (610) AND 3' (915) RESPECTIVELY.
3. IF THE SHARED USE PATH ENDS AT A ROADWAY, THEN DETECTABLE WARNING TRUNCATED DOMES 24" (600) LONG AND THE FULL WIDTH OF THE PATH SHALL BE INSTALLED. SEE SHEET C-2.
4. STEEL TUBE TO EXTEND 1/2" (13) ABOVE GROUND WITH CONCRETE TO SLOPE AWAY FROM TUBE TO KEEP WATER AND SEDIMENT FROM DRAINING INTO TUBE.



REMOVABLE BOLLARD



DELAWARE
DEPARTMENT OF TRANSPORTATION

BOLLARD DETAILS

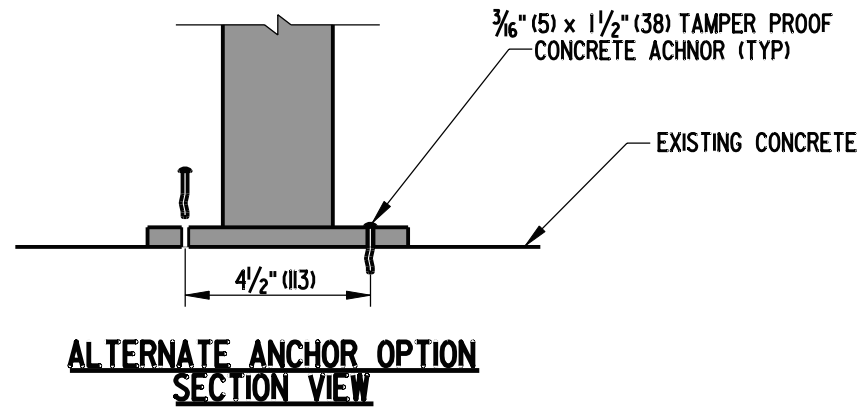
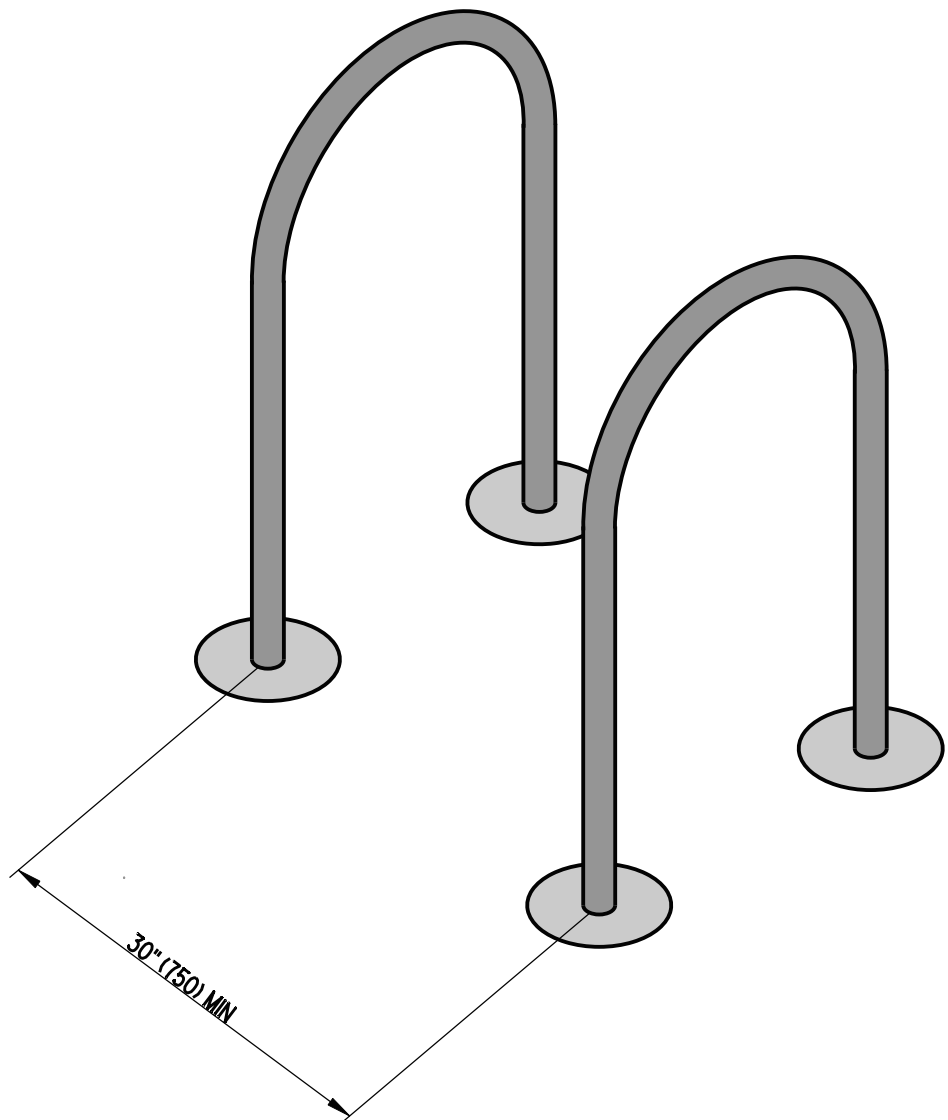
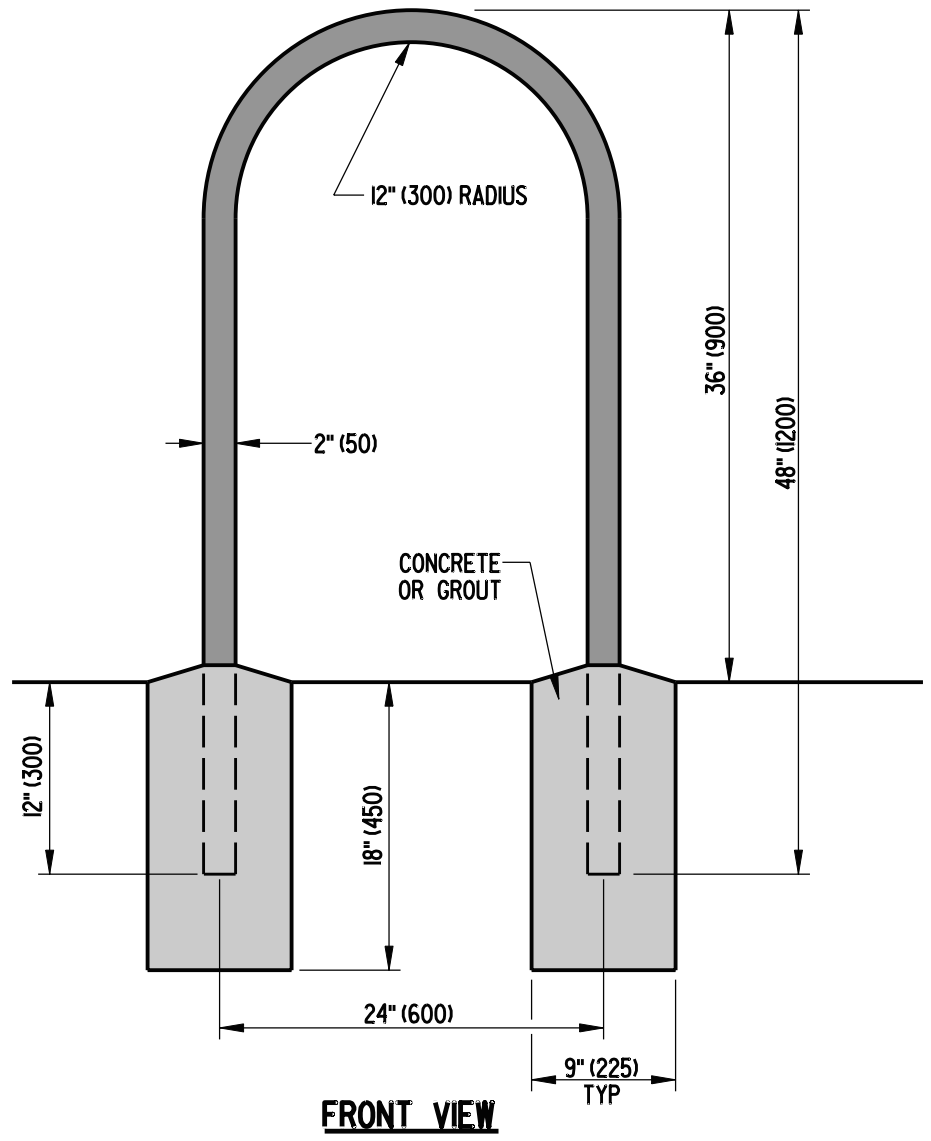
STANDARD NO. M-3 (2004)




SHT. 1 OF 1

APPROVED *Carolann Wicks* 1/10/05
CHIEF ENGINEER DATE

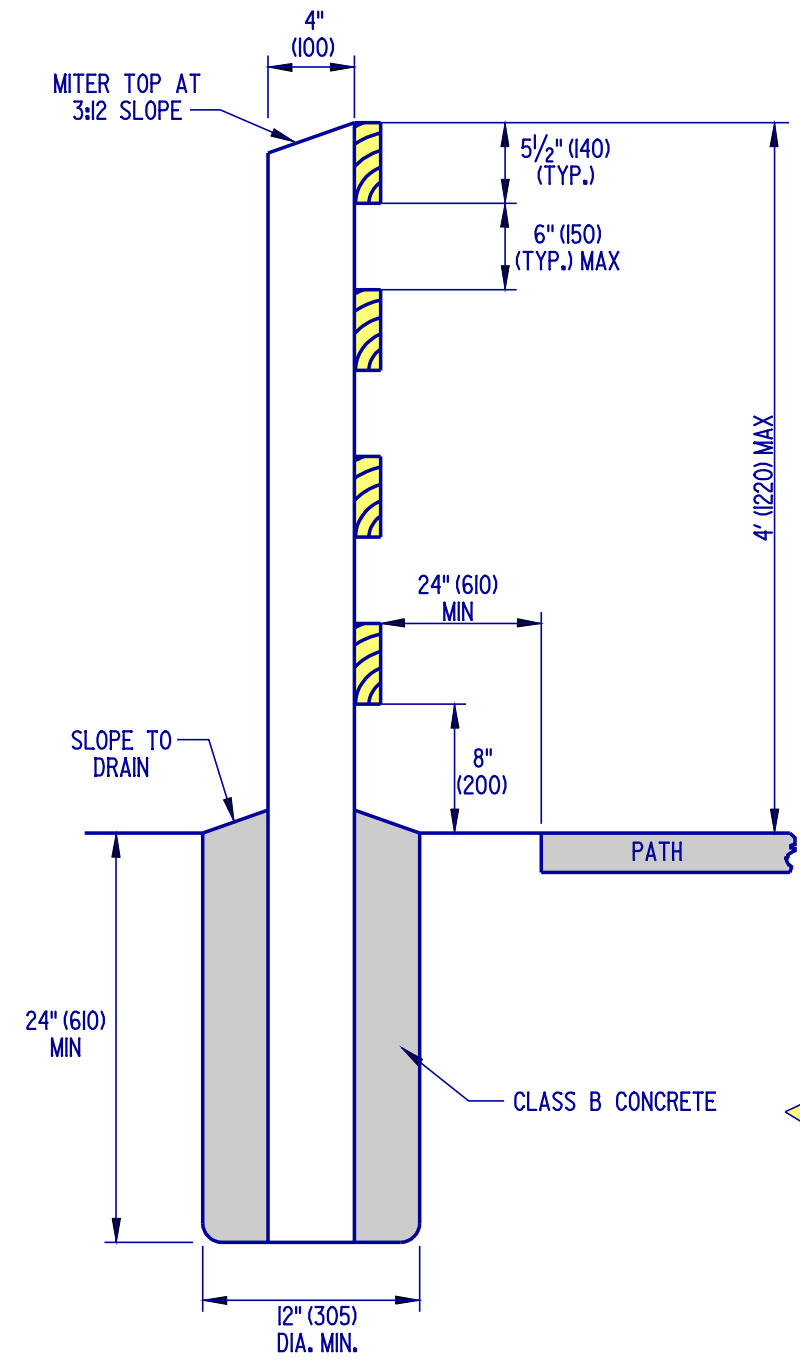
RECOMMENDED *Dennis M. O'Flaherty* 1/3/05
DESIGN ENGINEER DATE

SCALE : N.T.S.

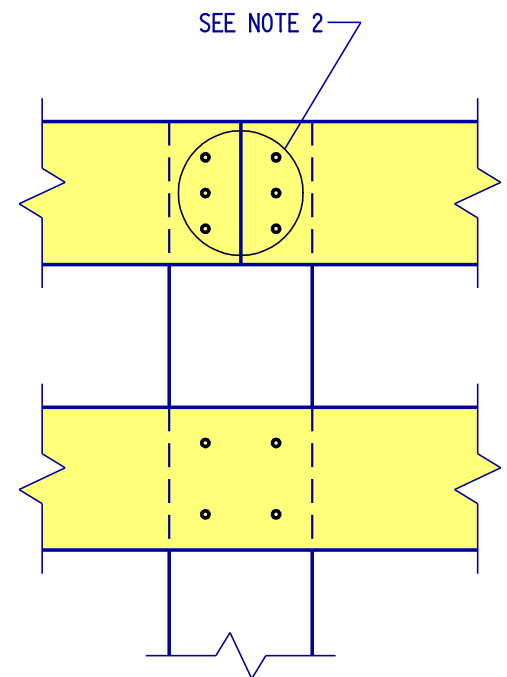


 DELAWARE DEPARTMENT OF TRANSPORTATION	BIKE RACK DETAILS			APPROVED  10/24/07 CHIEF ENGINEER DATE
	STANDARD NO. M-4 (2007)	SHT. 1	OF 1	RECOMMENDED  10/23/07 DESIGN ENGINEER DATE

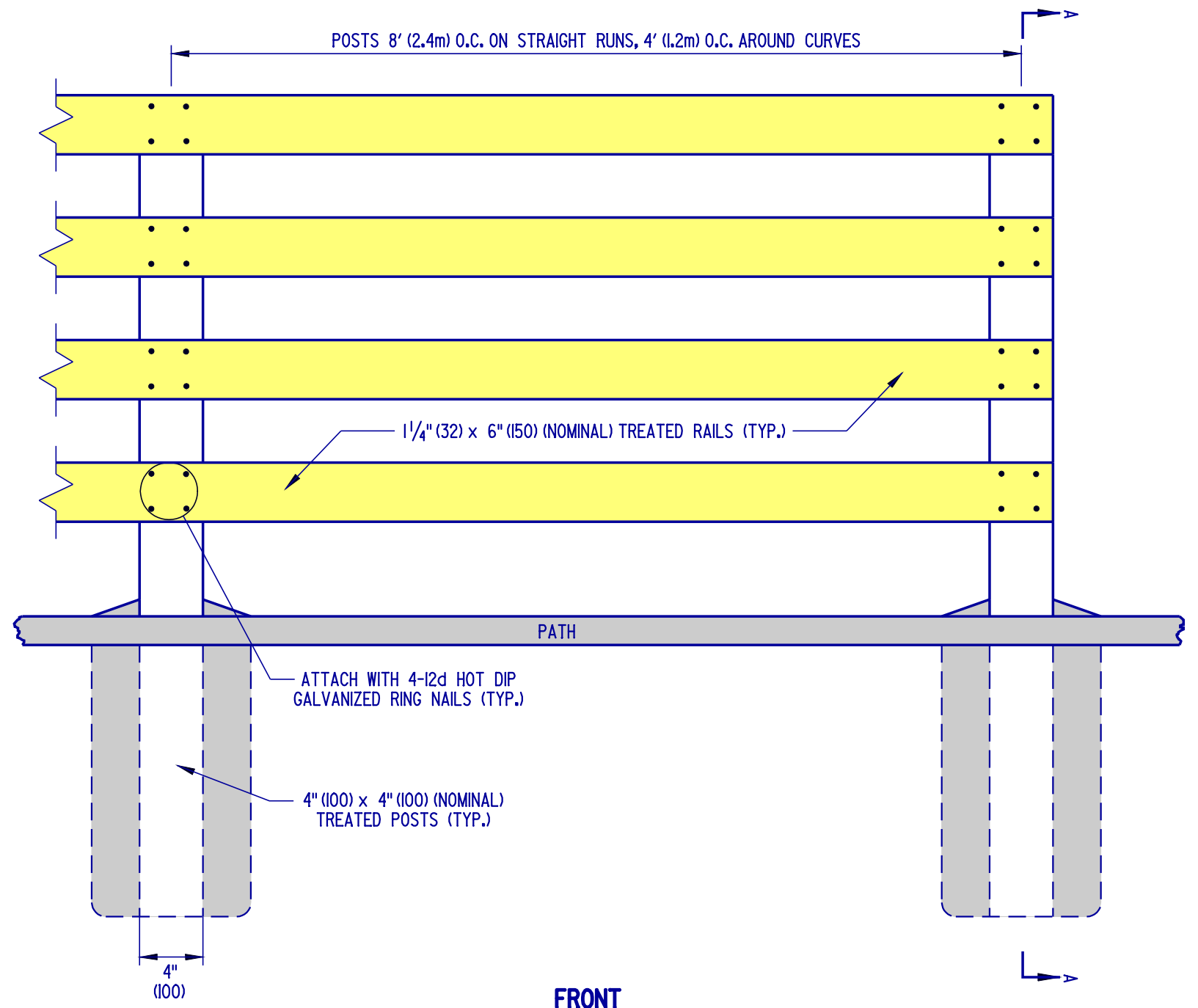
SCALE : N.T.S.



SECTION A-A



TYPICAL JOINT DETAIL



FRONT

- NOTES:
1. ALL RAIL JOINTS SHALL BE CENTERED AT THE POSTS.
 2. ALL JOINTS SHALL BE ATTACHED WITH 3 - 12d NAILS AND TWO ADJACENT RAILS SHALL NOT END ON THE SAME POST.
 3. RAILS SHALL BE FLUSH TO THE POSTS AT THE END POSTS.

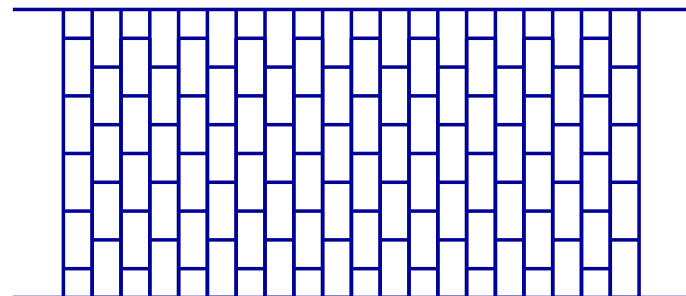


DELAWARE
DEPARTMENT OF TRANSPORTATION

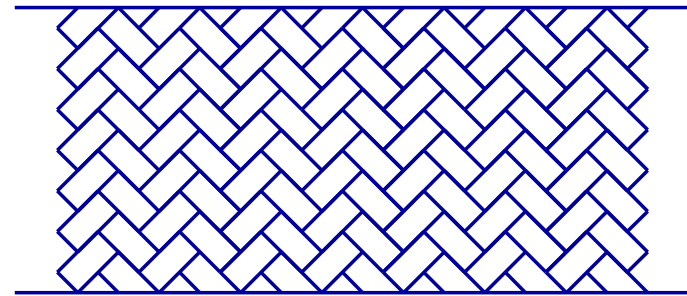
WOOD RAIL FENCE DETAILS

STANDARD NO. M-5 (2004) SHT. 1 OF 1

APPROVED *Carolann Wick* 1/10/05
CHIEF ENGINEER DATE
RECOMMENDED *Dennis M. O'Flaherty* 1/13/05
DESIGN ENGINEER DATE



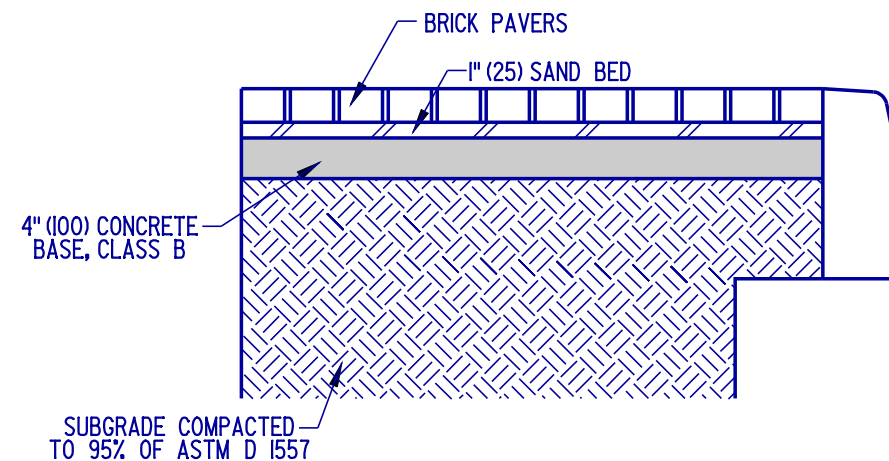
4" (100) x 8" (200) RUNNING BOND PATTERN



4" (100) x 8" (200) HERRINGBONE PATTERN

NOTES:

1. ACTUAL PATTERN TO BE USED SHALL BE SPECIFIED ON THE PLANS. COLOR IS TO BE "BRICK RED" UNLESS OTHERWISE NOTED ON THE PLANS.
2. MATERIALS AND PAVEMENT BOX VARY DEPENDING ON PLANS.
3. FOR CROSSWALK APPLICATIONS, 8" (200) WHITE LINES SHOULD BE PLACED ON BOTH SIDES.
4. THE PATTERNS ABOVE ARE THE PREFERRED PATTERNS AVAILABLE FOR SIDEWALK OR CROSSWALK APPLCATIONS.



BRICK PAVER SIDEWALK DETAIL

NOTES:

1. ALL PAVERS ARE TO BE "BRICK RED" UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE PATTERN SHALL BE SPECIFIED ON THE PLANS.
2. EXPANSION JOINT MAY BE NEEDED ON NON-CURB SIDE OF BRICK PAVER SIDEWALK IF THAT SIDE IS AGAINST BUILDING OR OTHER CONFINING FEATURE.



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

PATTERNED HOT-MIX OR CONCRETE & BRICK PAVER DETAILS

STANDARD NO. M-6 (2004)

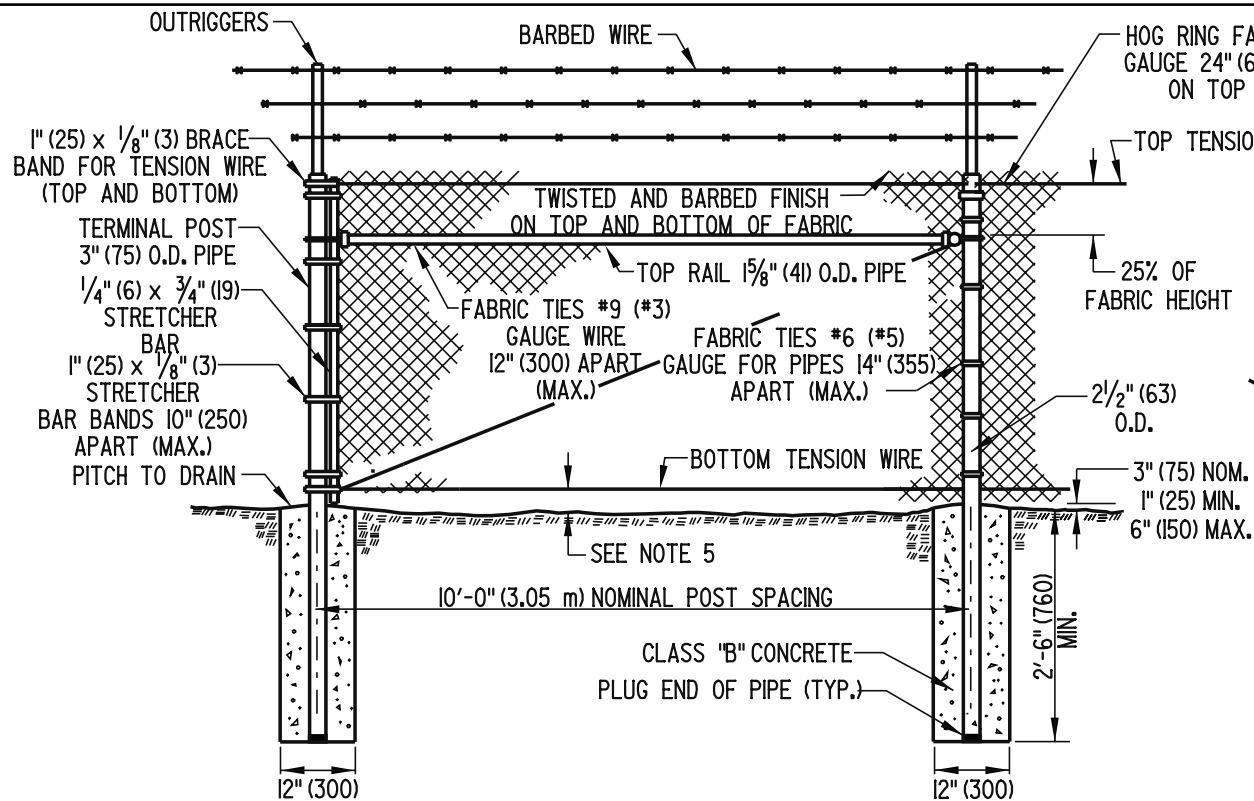
SHT. 1 OF 1

APPROVED

Carolann Wicks
CHIEF ENGINEER
DATE 1/10/05

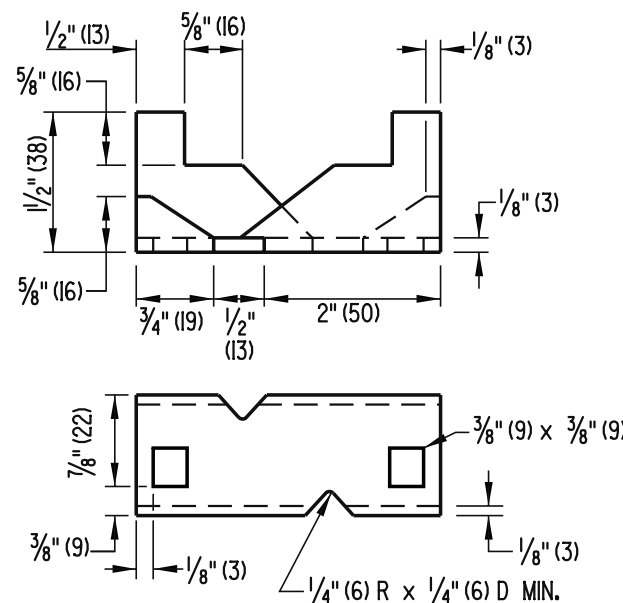
RECOMMENDED

Dennis M. O'Flaherty
DESIGN ENGINEER
DATE 1/3/05

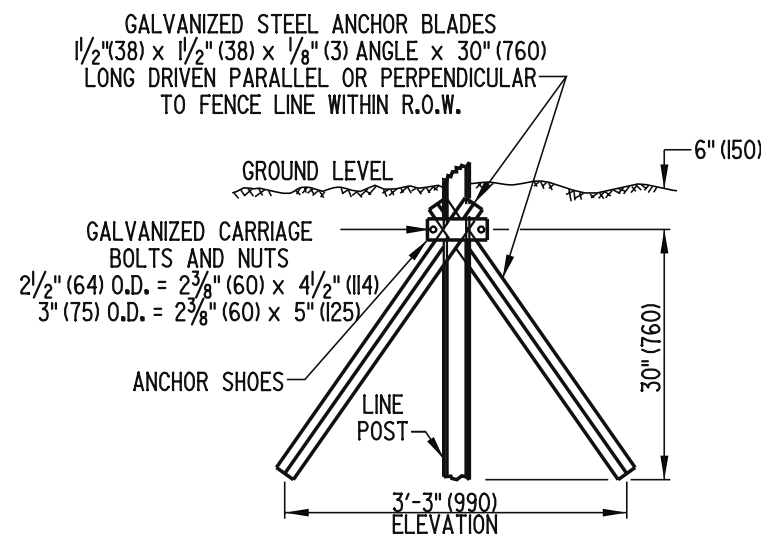


CHAIN-LINK FENCE

**TENSION WIRE CONNECTION AT
ROUND INTERMEDIATE OR CORNER POST**

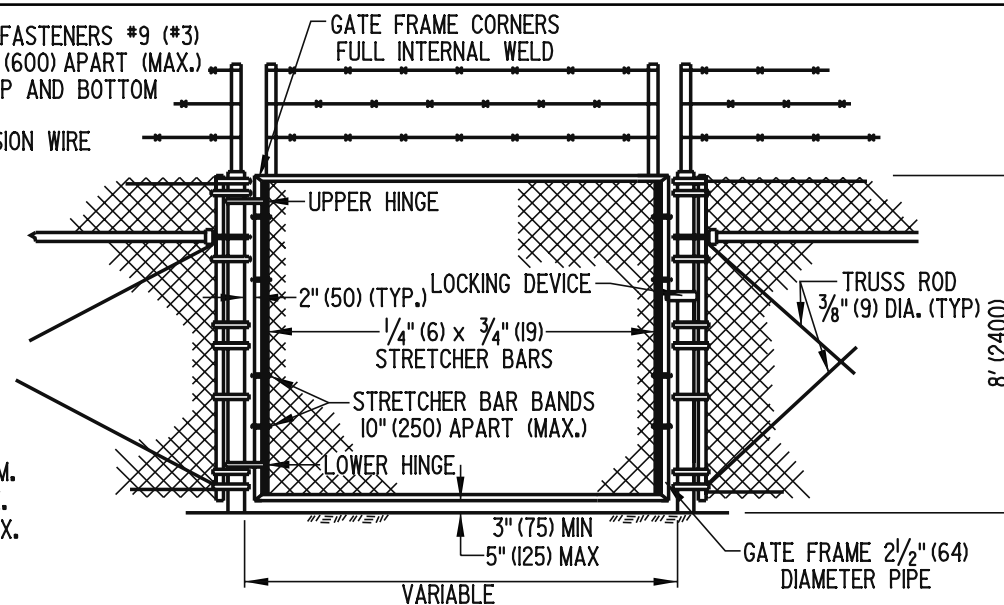


ANCHOR SHOE

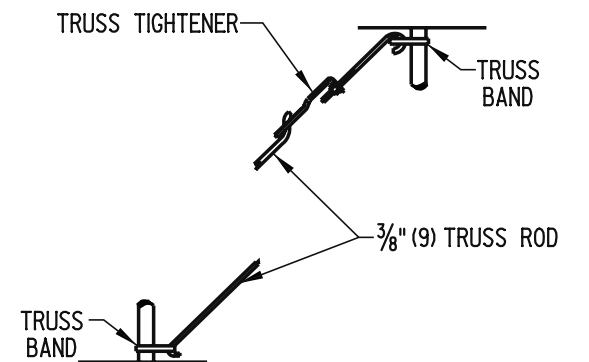


DRIVE ANCHOR SHOE ASSEMBLY

(SEE NOTE 4)



GATES, CHAIN-LINK FENCE



CHAIN-LINK FENCE ASSEMBLIES

GENERAL NOTES

1). POSTS

	TERMINAL, CORNER AND GATE POSTS	LINE POSTS	TOP OR BRACE RAIL
	3" (75) O.D. PIPE	2 1/2" (64) O.D. PIPE	1 5/8" (41) O.D. PIPE
AASHTO TYPE	1 OR II	1 OR II	1 OR II
AASHTO GRADE	1 OR 2	1 OR 2	1 OR 2
MINIMUM LENGTH OF POST:	10'-8" (3250)	10'-8" (3250)	N/A
ACTUAL OUTSIDE DIAMETER	2 7/8" (73)	2 3/8" (60)	1.660" (42)
WALL THICKNESS	GRADE 1 = .203" (5.2) GRADE 2 = .160" (4)	GRADE 1 = .154" (3.9) GRADE 2 = .120" (3)	GRADE 1 = .140" (3.5) GRADE 2 = .111" (2.8)

- THE DEPTH OF CONCRETE FOOTERS IN SOLID ROCK MAY BE REDUCED TO 12" (300) BELOW THE TOP OF ROCK AND THE DIAMETER OF THE HOLE IN ROCK MAY BE REDUCED TO 6" (150).
- BRACE BANDS AND STRETCHER BAR BANDS SHALL BE FURNISHED WITH 5/16" (8) DIA. CARRIAGE BOLTS AND ELASTIC STOP NUTS.
- DRIVE ANCHOR SHOE ASSEMBLY ONLY TO BE USED IN WET AREAS AND WITH PRIOR APPROVAL OF THE ENGINEER.
- THE BOTTOM OF THE FENCE SHALL BE 2" (50) MAX ABOVE HARD GROUND OR PAVEMENT. WHERE THERE IS SOFT GROUND, THE BOTTOM OF THE FENCE SHALL EXTEND INTO THE GROUND IN ORDER TO BE FIRM DUE TO SHIFTING SOIL OR SAND.
- NUTS AND BOLTS SHALL BE TACK WELDED OR BURRED TO PREVENT REMOVAL.
- IF THERE ARE ANY OPENINGS IN THE FENCE LARGER THAN 96 SQ. IN. (620 sq. cm) DUE TO UTILITIES OR GRADED TERRAIN, THE OPENINGS SHALL BE SECURED WITH A METAL GRILL THAT IS LOCKED OR PERMANENTLY WELDED.
- VEGETATION AND PERMANENT STRUCTURES (SUCH AS BUILDINGS, LIGHT POLES, AND UTILITY POLES) SHALL BE AT LEAST 14' (4.2 m) FROM THE FENCE. ANY EXCEPTIONS SHALL REQUIRE THE CONSTRUCTION OF TOP GUARDS.



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

CHAIN LINK FENCE DETAILS

STANDARD NO. M-7 (2006)

SHT. 1 OF 1

APPROVED

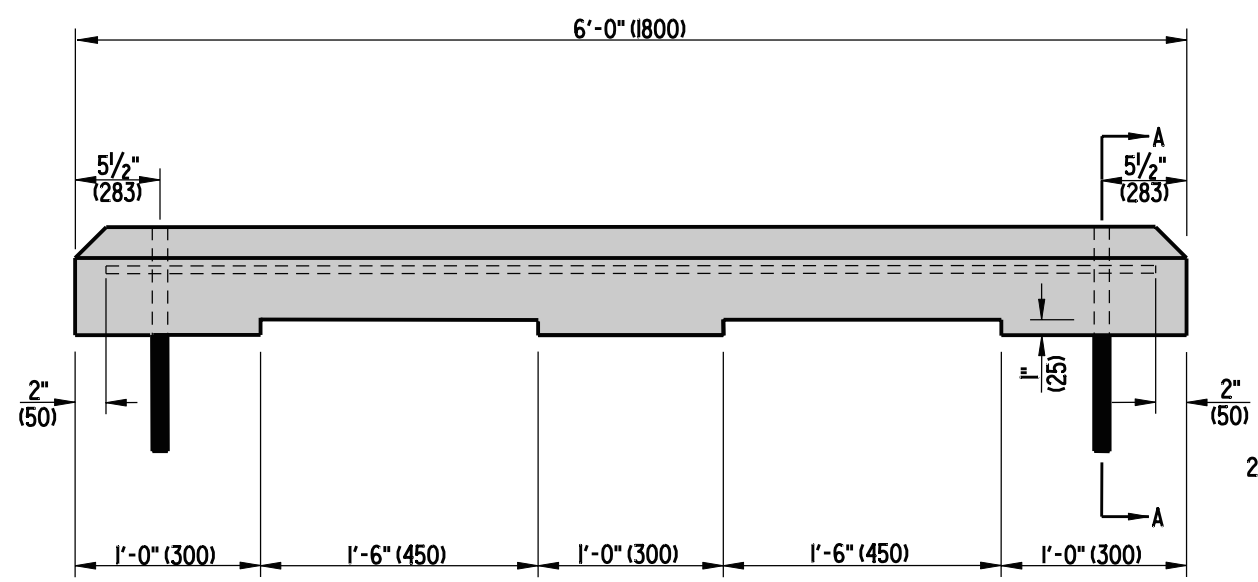
Frank Taylor
CHIEF ENGINEER

10/10/06
DATE

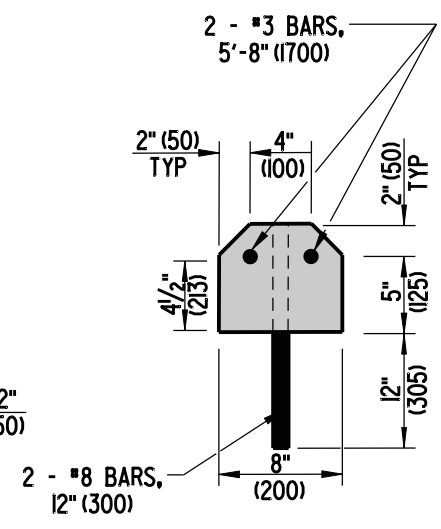
RECOMMENDED

Dan Smith
DESIGN ENGINEER




10/13/06
DATE

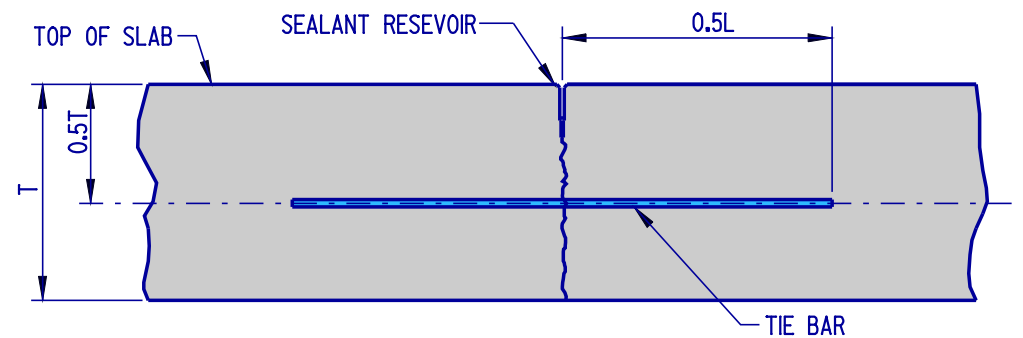


ELEVATION

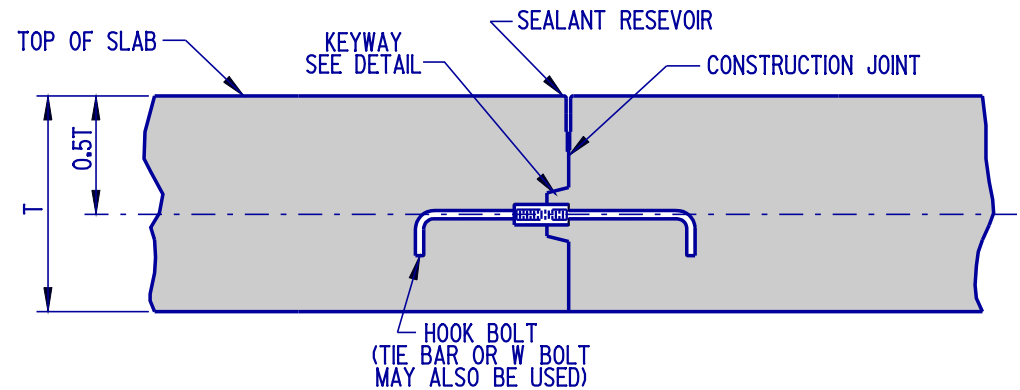


SECTION A-A

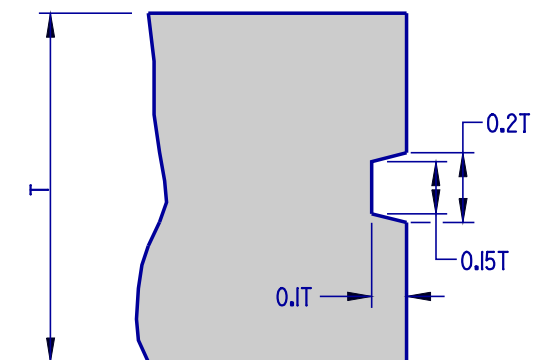
 DELAWARE DEPARTMENT OF TRANSPORTATION	P.C.C. PARKING BUMPER			APPROVED  10/24/07 CHIEF ENGINEER DATE
	STANDARD NO. M-8 (2007)	SHT. 1	OF 1	RECOMMENDED  10/23/07 DESIGN ENGINEER DATE



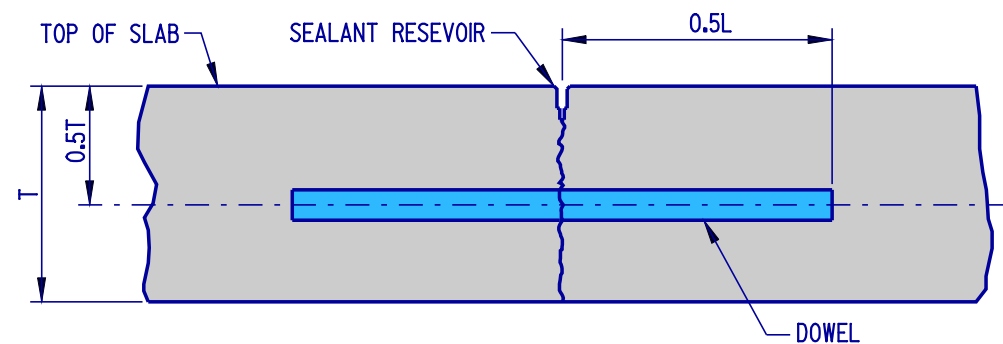
LONGITUDINAL SAW-CUT JOINT DETAIL



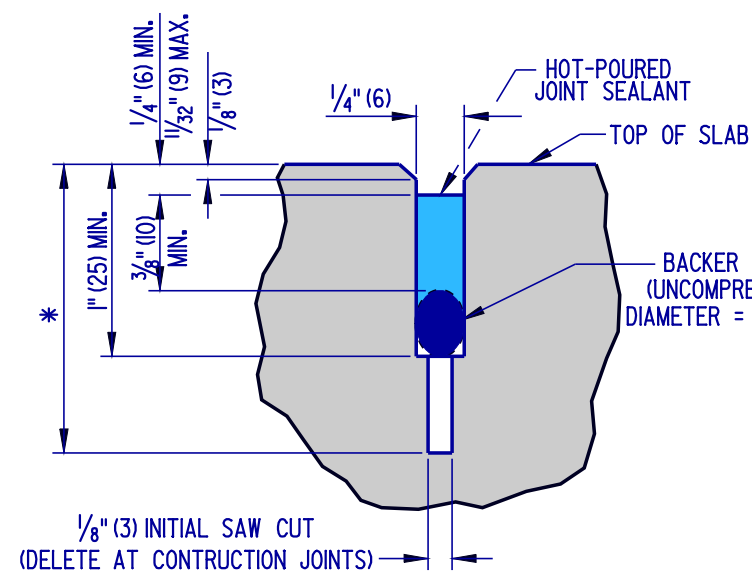
LONGITUDINAL CONSTRUCTION JOINT DETAIL



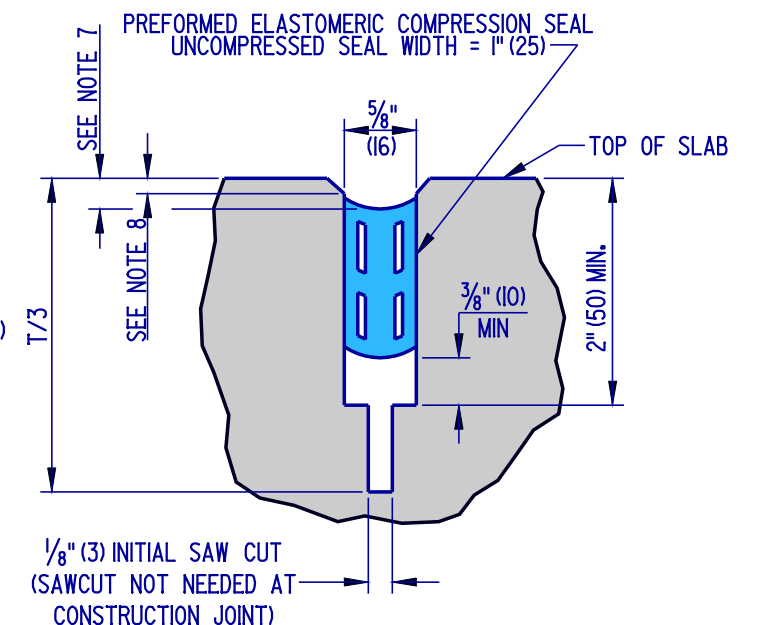
KEYWAY DETAIL



TRANSVERSE SAW-CUT JOINT DETAIL



**SEALANT DETAIL-
LONGITUDINAL JOINT**



**SEALANT DETAIL-
TRANSVERSE JOINT**

* - 0.3T (10\"/>

NOTES:

- 1). AS DIMENSIONED, THE WIDTH OF THE TRANSVERSE SEALANT RESERVOIR IS APPLICABLE WHEN THE TEMPERATURE OF THE PAVEMENT SURFACE IS BETWEEN 60°F (16°C) AND 80°F (27°C). WHEN THE TEMPERATURE IS BELOW 60°F (16°C), THE SEALANT RESERVOIR SHALL BE CUT 1/16\"/>

JOINT AND SEALANT DETAILS



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

STANDARD NO. P-1 (2004)

P.C.C.PAVEMENT

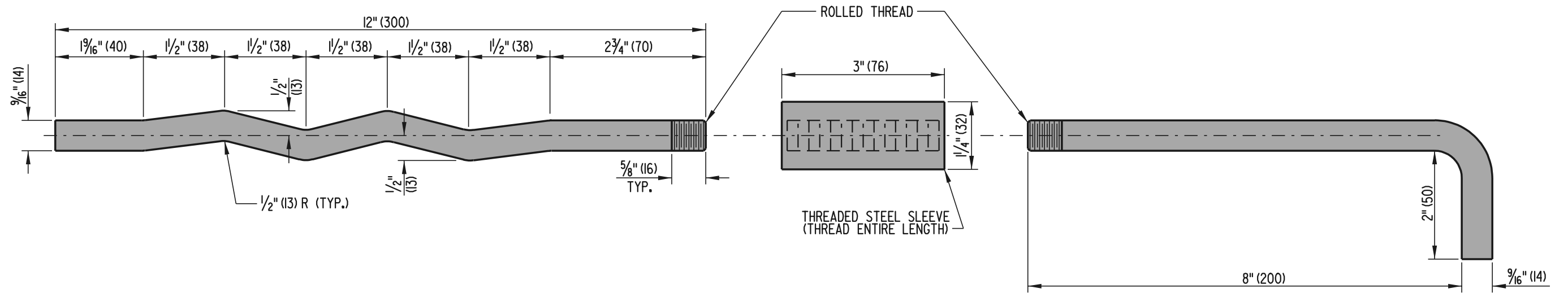
SHT. 2 OF 5

APPROVED

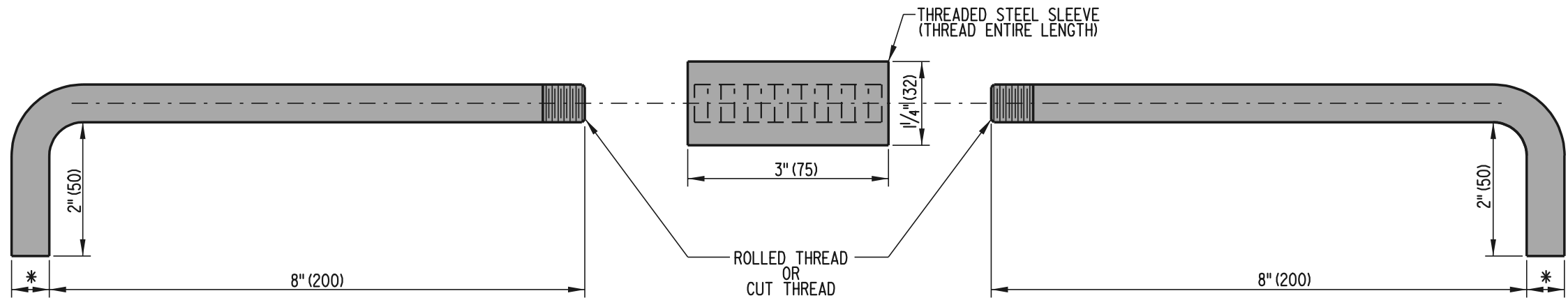
Carolann Wick 1/10/05
CHIEF ENGINEER DATE

RECOMMENDED

Dennis M. O'Flaherty 1/13/05
DESIGN ENGINEER DATE

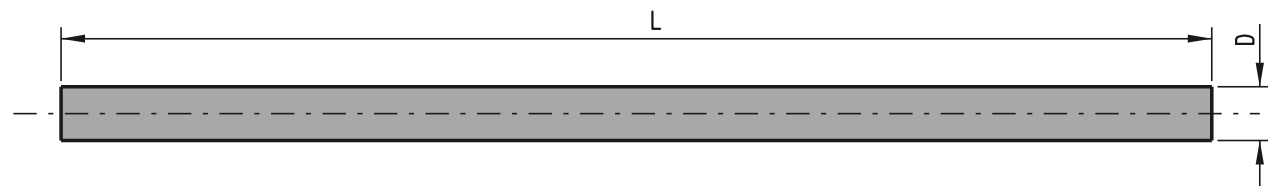


W BOLT



HOOK BOLT

* -1 1/16" (17) ROLLED THREADS
3/4" (19) CUT THREADS



DOWEL & TIE BAR

DOWEL & TIE BAR CHART				
SLAB THICKNESS	DOWEL		TIE BAR	
	D	L	D	L
10" (250)	1 1/4" (32)	18" (450)	5/8" (16)	30" (750)
12" (300)	1 1/2" (38)	20" (500)	5/8" (16)	30" (750)

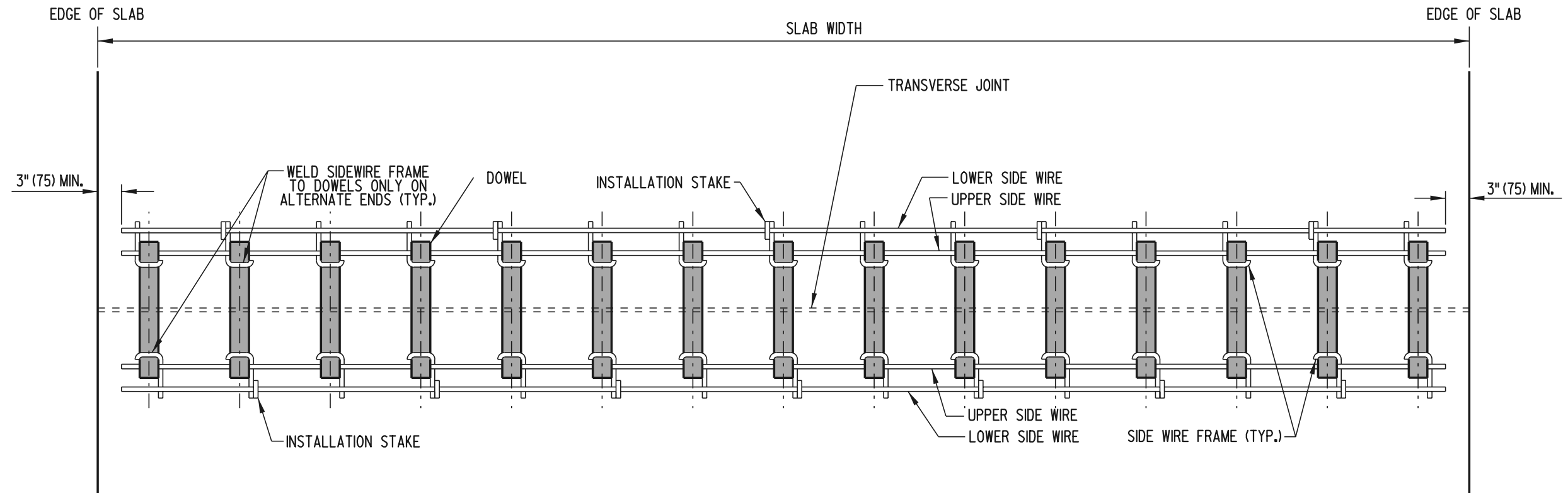


DELAWARE
DEPARTMENT OF TRANSPORTATION

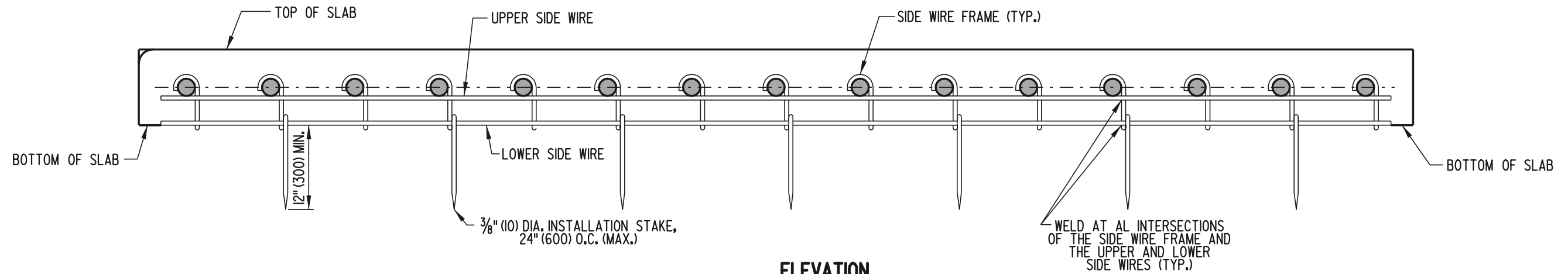
P.C.C. PAVEMENT
STANDARD NO. P-1 (2001)

SHT. 3 OF 5

APPROVED *Ryan M. Harkins* 6/18/01
CHIEF ENGINEER DATE
RECOMMENDED *Michael P. Gotsch* 6/18/01
DESIGN ENGINEER DATE



PLAN



ELEVATION

DOWEL SUPPORT BASKET



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

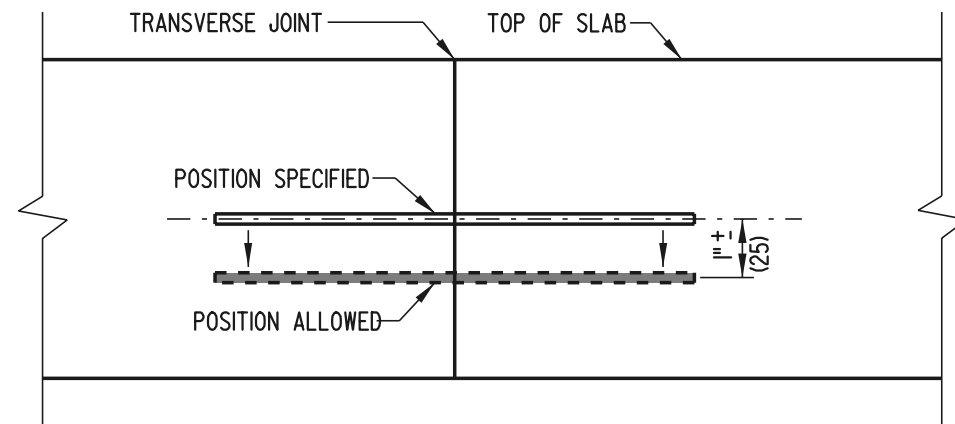
P.C.C. PAVEMENT

STANDARD NO. P-1 (2001)

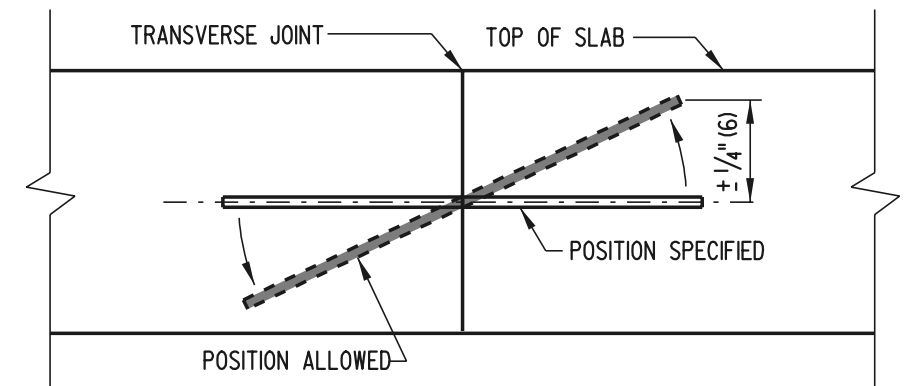
SHT. 4 OF 5

APPROVED *Ryan M. Harkness* **6/18/01**
CHIEF ENGINEER DATE

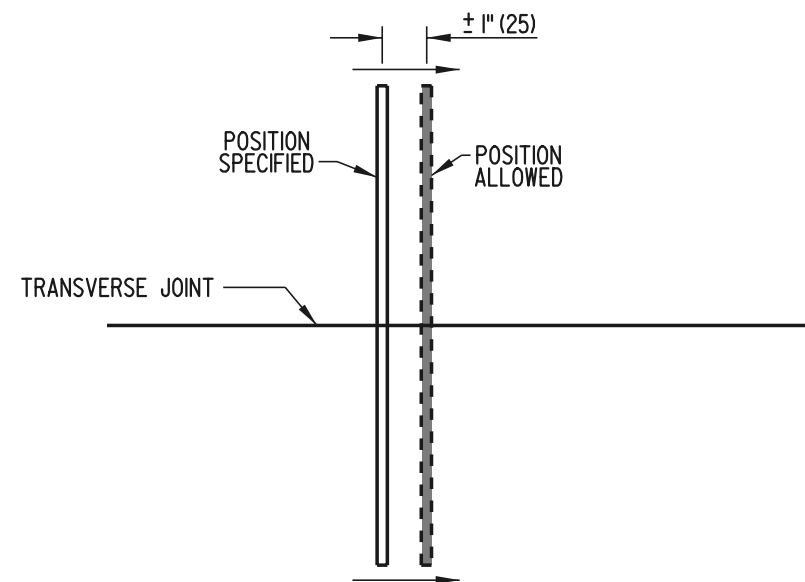
RECOMMENDED *Mehal Alghamdi* **6/18/01**
DESIGN ENGINEER DATE



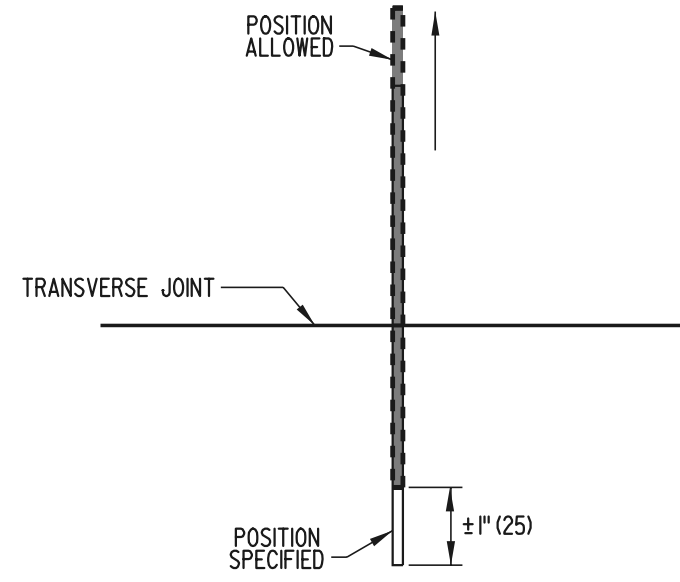
VERTICAL TRANSLATION



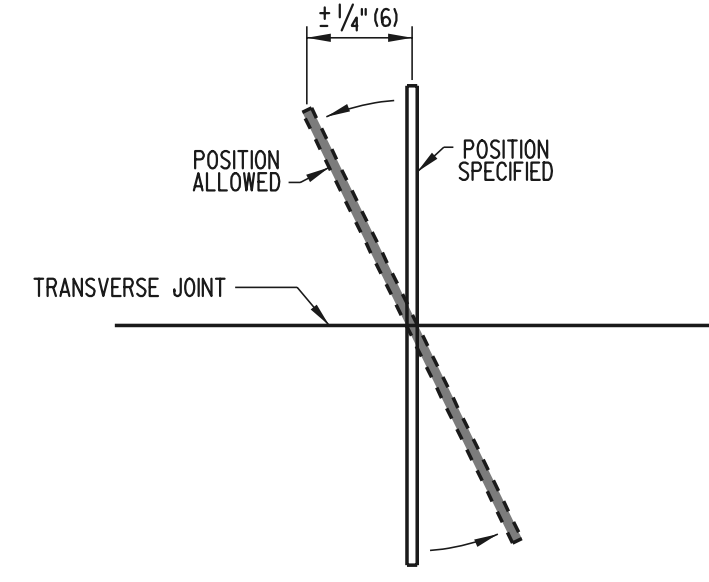
VERTICAL ROTATION



HORIZONTAL TRANSLATION



LONGITUDINAL TRANSLATION



HORIZONTAL ROTATION

DOWEL & TIE BAR PLACEMENT TOLERANCES



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

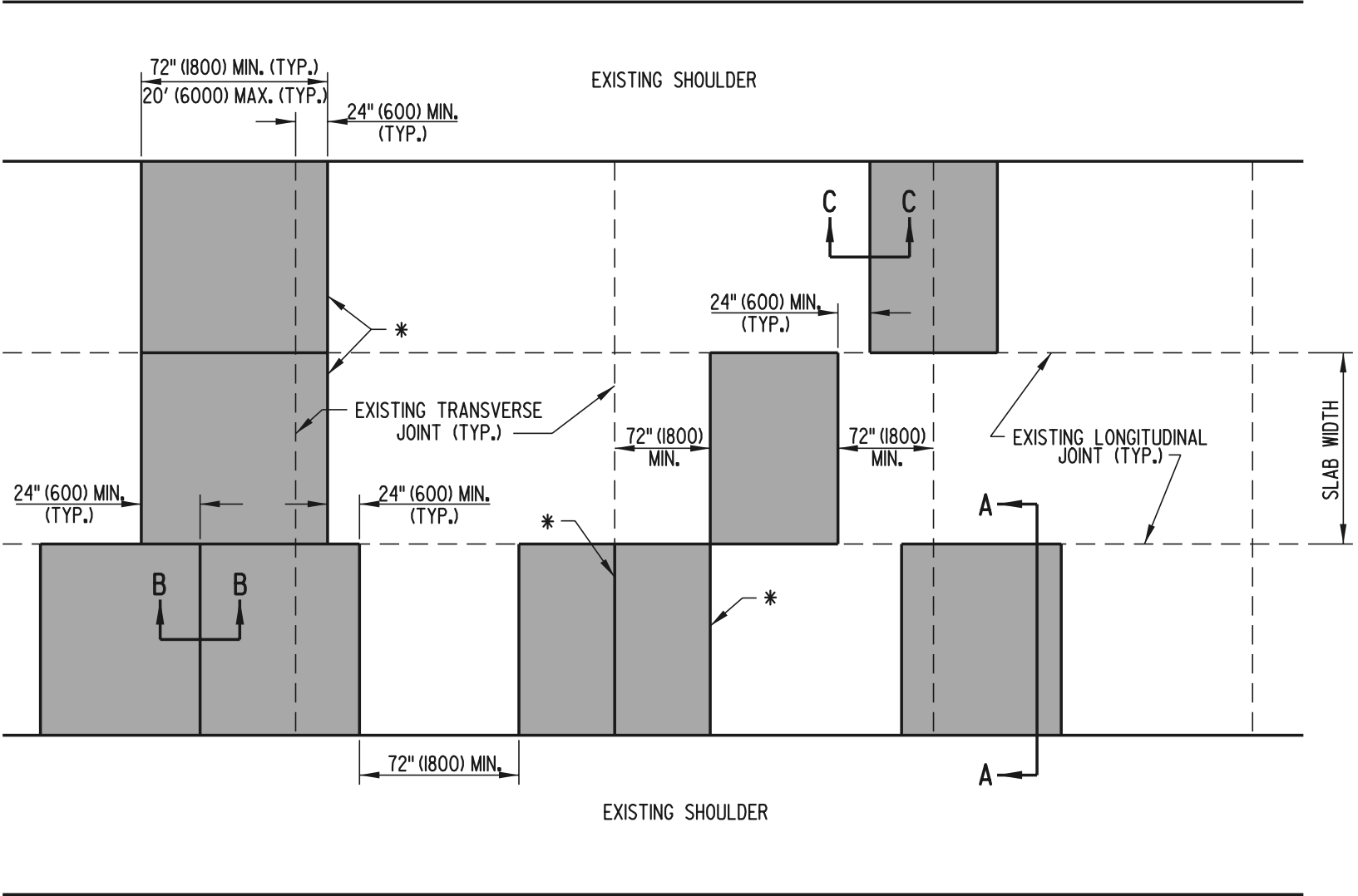
P.C.C. PAVEMENT

STANDARD NO. P-1 (2001)

SHT. 5 OF 5

APPROVED *Ryan M. Harkness* **6/18/01**
CHIEF ENGINEER DATE

RECOMMENDED *Michael R. Gotsch* **6/18/01**
DESIGN ENGINEER DATE



PLAN

*- PROPOSED LOCATIONS FOR TRANSVERSE JOINTS SHALL EXACTLY MATCH THE ALIGNMENT OF THE FINAL (EXISTING OR RELOCATED) TRANSVERSE JOINTS IN ALL IMMEDIATELY ADJACENT LANES.

- NOTES:**
- 1). WHEN REPAIRING EXISTING TRANSVERSE JOINTS, THE PATCH SHALL EXTEND A MINIMUM OF 24" (600) THROUGH THE EXISTING JOINT, WHICH WILL RELOCATE THE JOINT.
 - 2). PROPOSED LOCATIONS FOR TRANSVERSE JOINTS, WHEN NOT ALIGNED WITH THE FINAL EXPECTED TRANSVERSE JOINT LOCATIONS IN THE IMMEDIATELY ADJACENT LANES, SHALL BE OFFSET A MINIMUM OF 24" (600) FROM THE AFOREMENTIONED JOINTS.
 - 3). THE LONGITUDINAL JOINT ALIGNMENT SHALL BE STRAIGHT AND CONTINUOUS THROUGH THE REPAIRED AREA.

FULL DEPTH PATCH



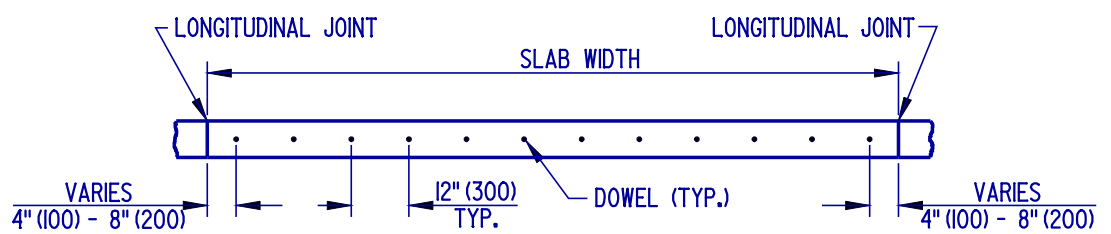
DELAWARE
DEPARTMENT OF TRANSPORTATION

P.C.C. PAVEMENT PATCHING

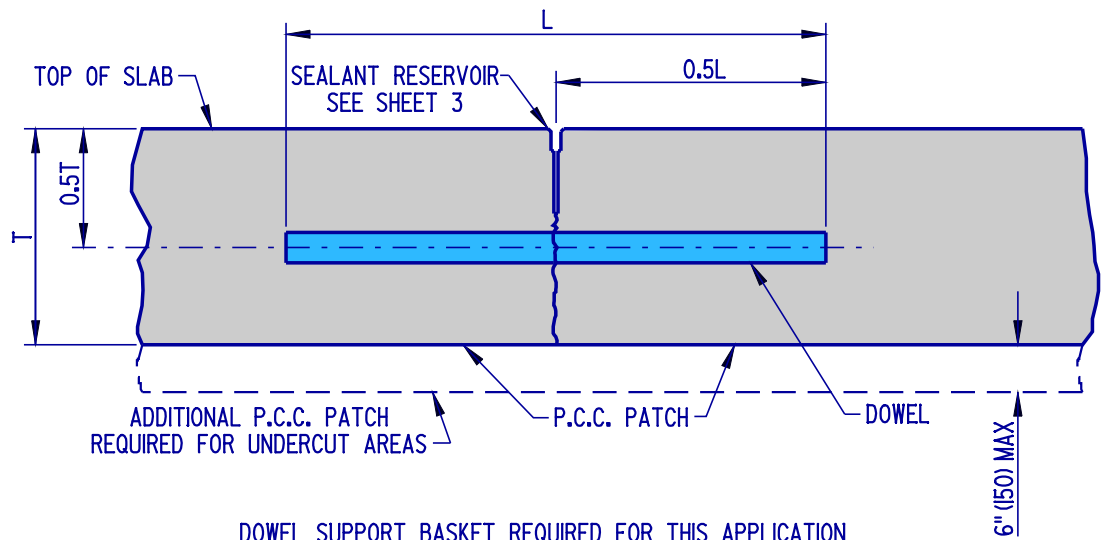
STANDARD NO. P-2 (2001)

SHT. 1 OF 5

APPROVED *Ryan M. Hershman* 6/18/01
CHIEF ENGINEER DATE
RECOMMENDED *Michael P. Gotsch* 6/18/01
DESIGN ENGINEER DATE



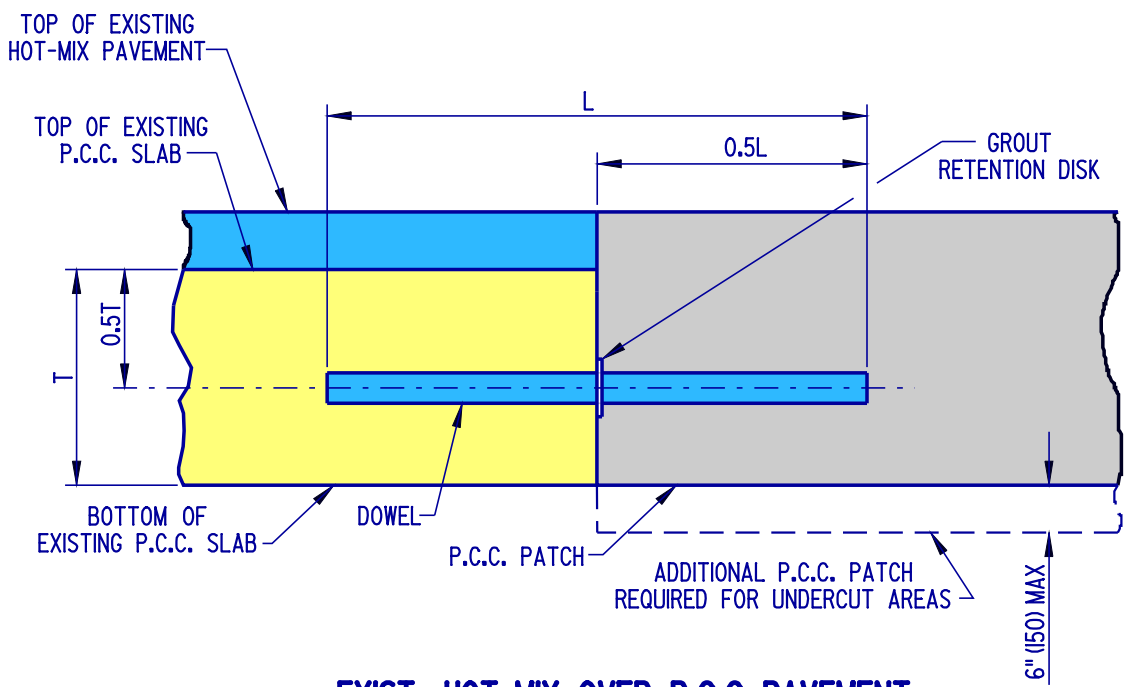
SECTION A-A



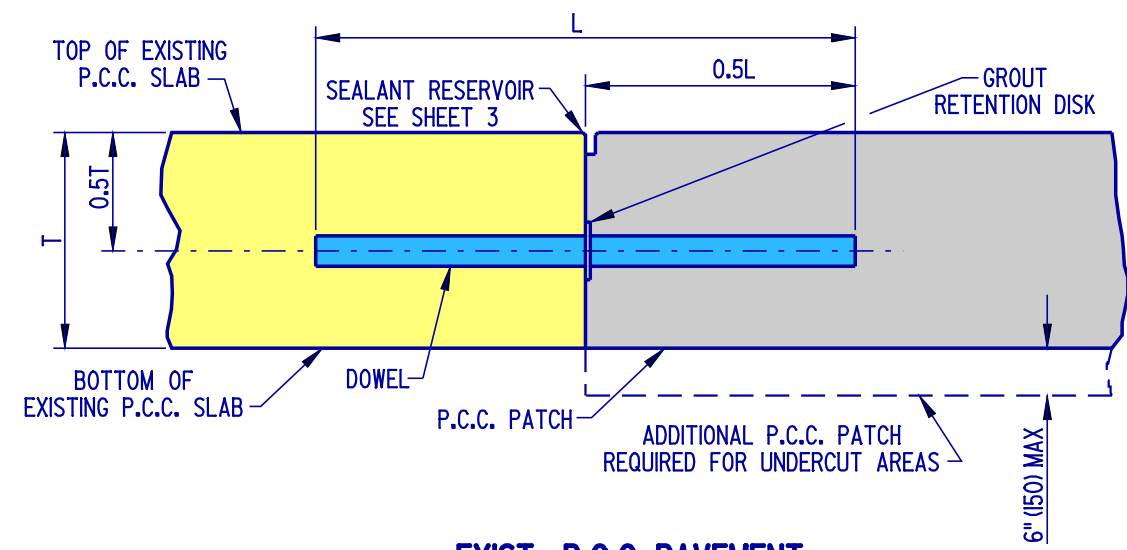
DOWEL SUPPORT BASKET REQUIRED FOR THIS APPLICATION
(REFER TO STANDARD CONSTRUCTION DETAIL FOR P.C.C. PAVEMENT.)

SECTION B-B

TRANSVERSE SAW-CUT USED FOR
JOINTS LOCATED WITHIN THE PATCH



EXIST. HOT-MIX OVER P.C.C. PAVEMENT



EXIST. P.C.C. PAVEMENT

SECTION C-C

TRANSVERSE CONSTRUCTION JOINT USED ON
JOINTS BETWEEN EXISTING PAVEMENT AND PATCH

FULL DEPTH PATCH



DELAWARE
DEPARTMENT OF TRANSPORTATION

STANDARD NO. P-2 (2004)

P.C.C.PAVEMENT PATCHING

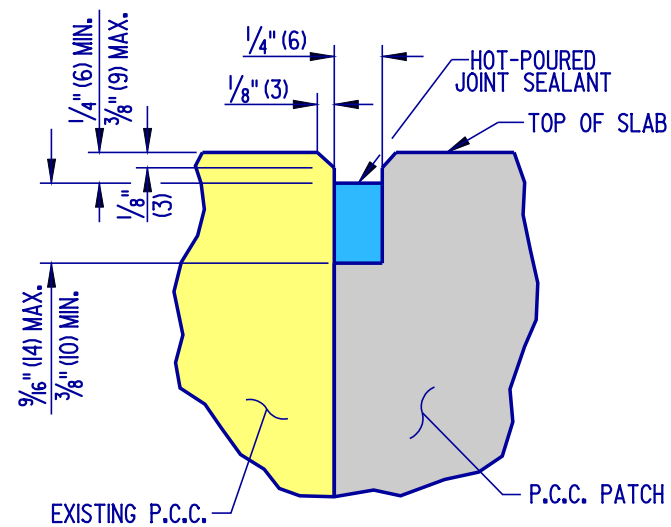
SHT. 2 OF 5

APPROVED

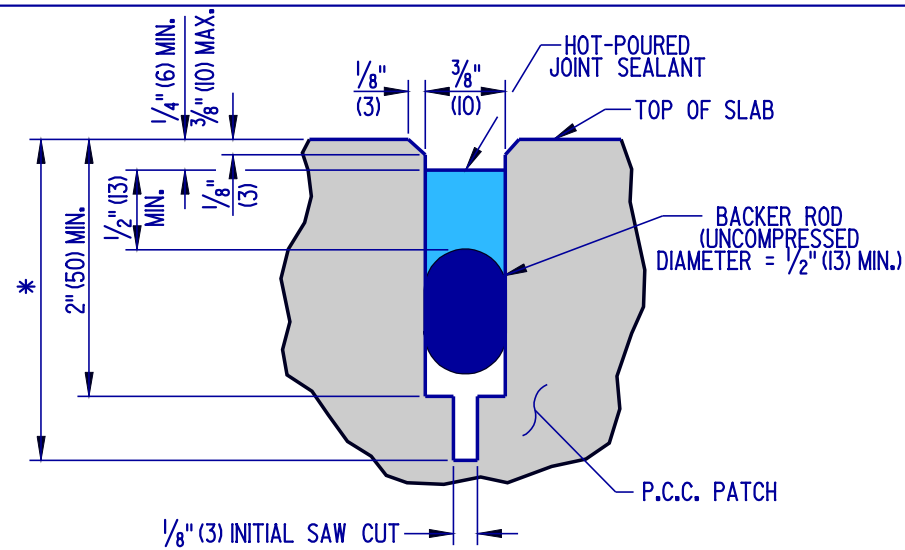
Carolann Wicks
CHIEF ENGINEER
DATE 1/10/05

RECOMMENDED

Dennis M. O'Flaherty
DESIGN ENGINEER
DATE 1/3/05

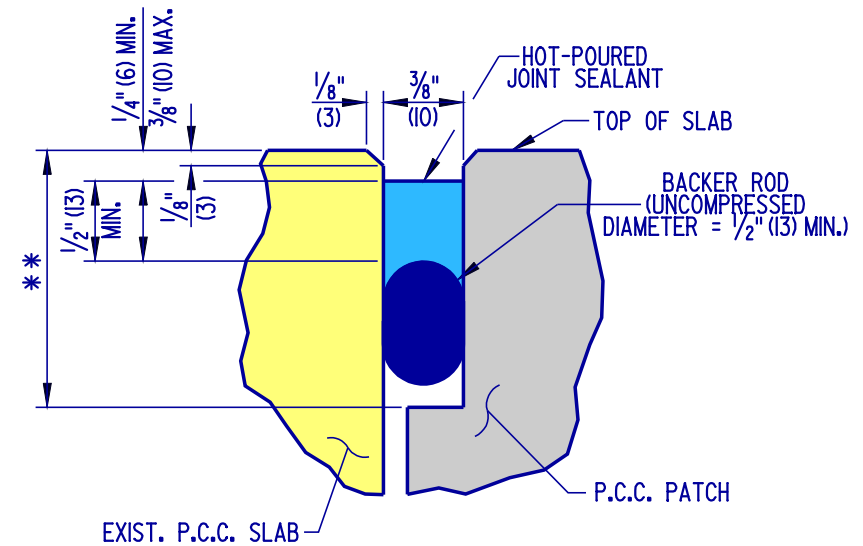


**SEALANT DETAIL-
LONGITUDINAL JOINT**



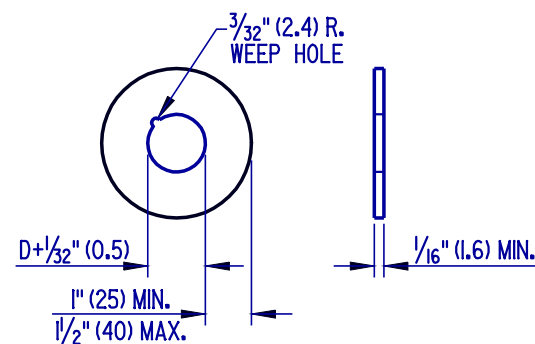
* - 0.3T (T < 10" (250) P.C.C. PAVEMENT)
0.4T (T > 10" (250) P.C.C. PAVEMENT)

**SEALANT DETAIL-
TRANSVERSE SAW-CUT JOINT**



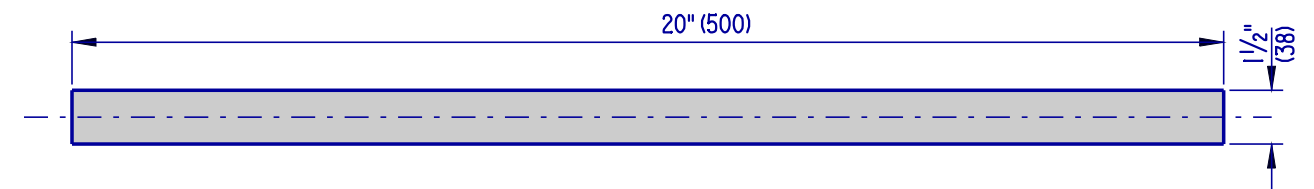
** - 2" (50) MIN. WITH BACKER ROD
5/8" (16) MIN. WITH BOND BREAKER TAPE

**SEALANT DETAIL-
TRANSVERSE CONSTRUCTION JOINT**



D - DOWEL DIAMETER (INCLUDING
PROTECTING COATINGS, IF ANY.)

GROUT RETENTION DISK



DOWEL BAR

NOTES:

1. AS DIMENSIONED, THE WIDTH OF THE TRANSVERSE SEALANT RESERVOIR IS APPLICABLE WHEN THE TEMPERATURE OF THE PAVEMENT SURFACE IS BETWEEN 60°F (16°C) AND 80°F (27°C). WHEN THE TEMPERATURE IS BELOW 60°F (16°C), THE SEALANT RESERVOIR SHALL BE CUT 1/16" (2) WIDER. WHEN THE TEMPERATURE IS ABOVE 80°F (27°C), THE SEALANT RESERVOIR SHALL BE CUT 1/16" (2) NARROWER.
2. "T" REFERS TO THE EXISTING "AS-BUILT" SLAB THICKNESS.
3. TOLERANCE ON ALL JOINT SEALANT DETAIL DIMENSIONS SHOWN WITHOUT RANGES SHALL BE PLUS 1/16" (2), MINUS 0" (0).
4. THE TOP EDGES OF THE CONTACT SURFACES OF THE SEALANT MATERIAL ON BOTH SIDES OF THE JOINT RESERVOIR SHALL BE AT THE SAME ELEVATION.

FULL DEPTH PATCH



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

P.C.C. PAVEMENT PATCHING

STANDARD NO. P-2 (2004)

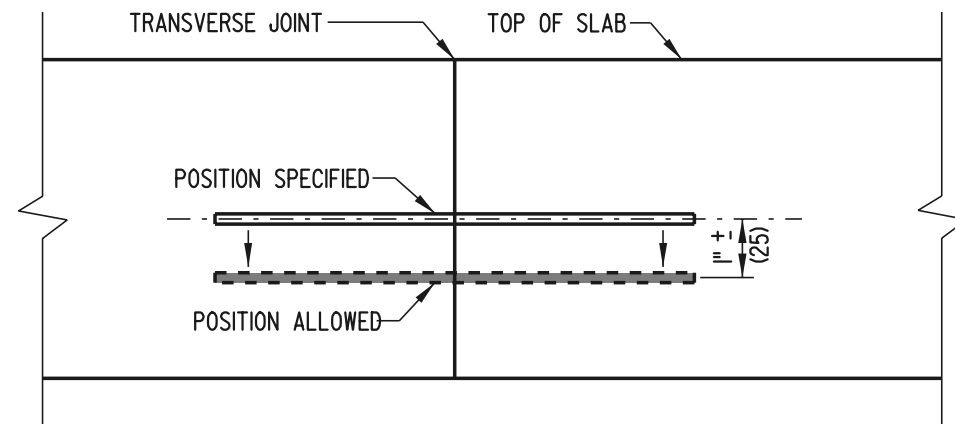
SHT. 3 OF 5

APPROVED

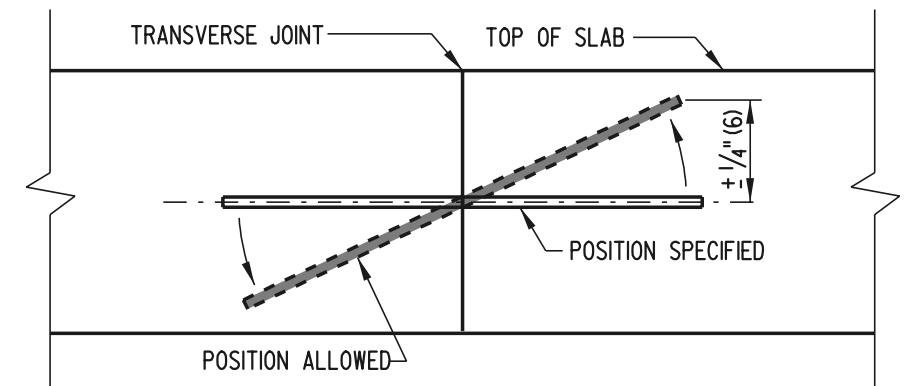
Carolann Wicks
CHIEF ENGINEER
DATE: 1/10/05

RECOMMENDED

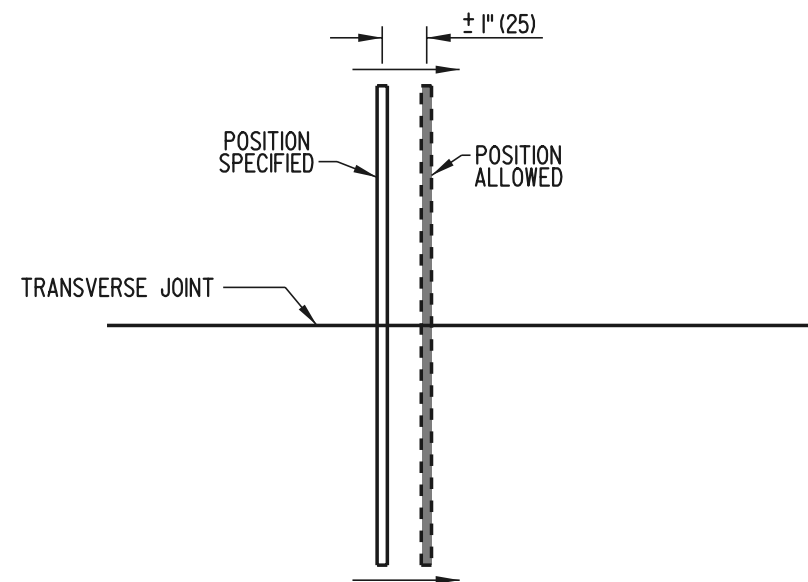
Dennis M. O'Flaherty
DESIGN ENGINEER
DATE: 1/13/05



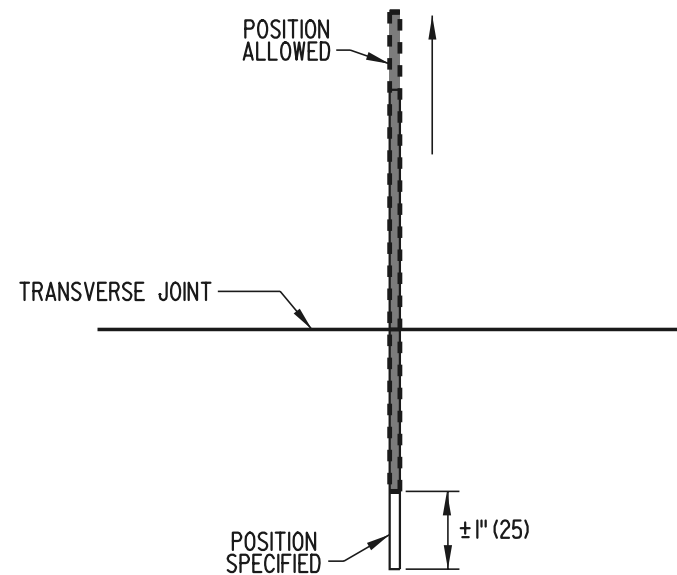
VERTICAL TRANSLATION



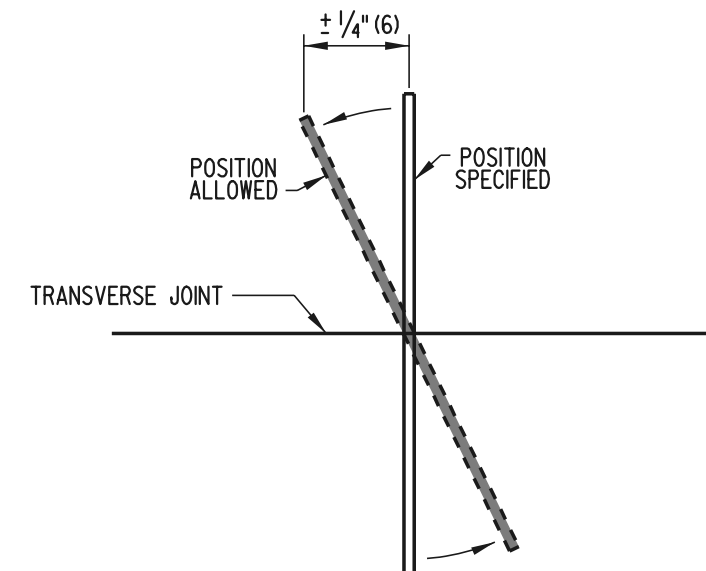
VERTICAL ROTATION



HORIZONTAL TRANSLATION



LONGITUDINAL TRANSLATION



HORIZONTAL ROTATION

DOWEL & TIE BAR PLACEMENT TOLERANCES

FULL DEPTH PATCH



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

P.C.C. PAVEMENT PATCHING

STANDARD NO. P-2 (2001)

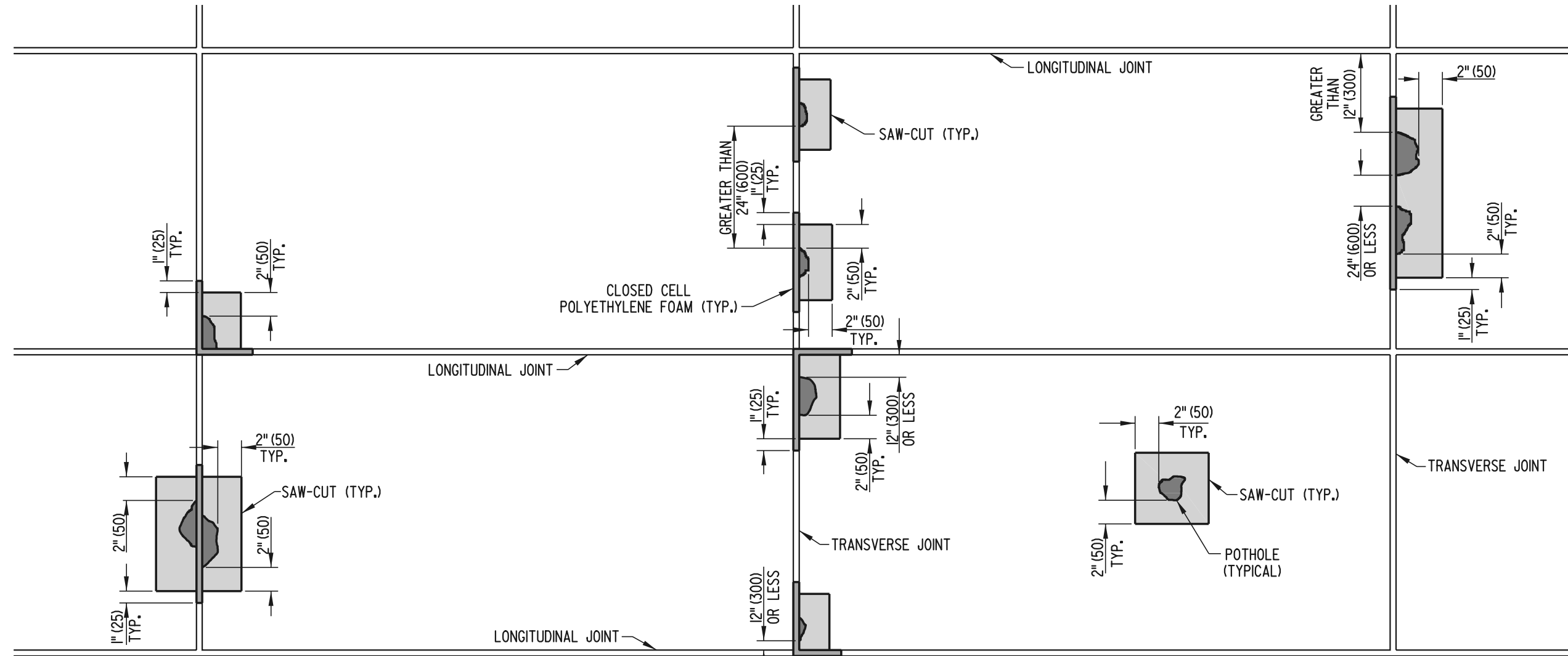
SHT. 4 OF 5

APPROVED

Ryan M. Harkness **6/18/01**
CHIEF ENGINEER DATE

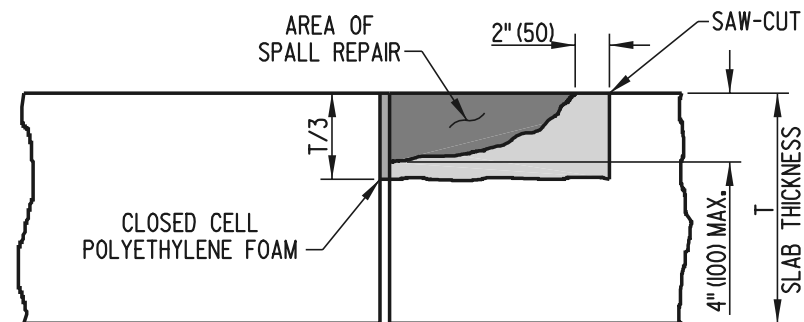
RECOMMENDED

Michael R. Gotsch **6/18/01**
DESIGN ENGINEER DATE

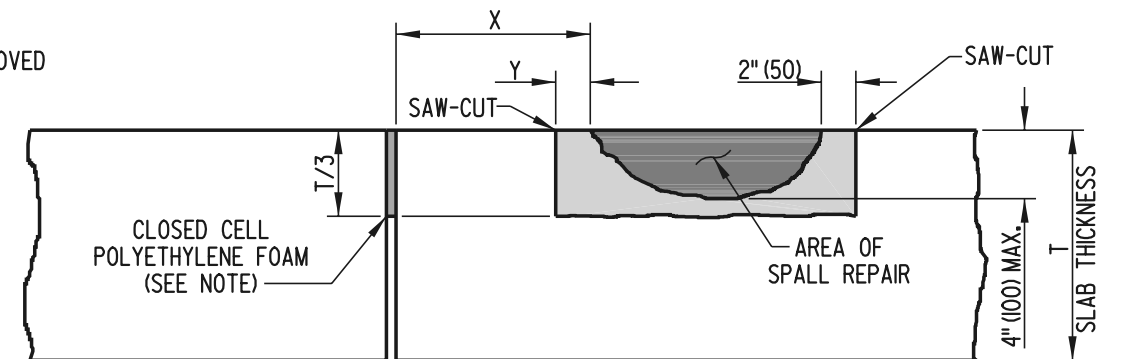


PLAN

NOTE: CLOSED CELL POLYETHYLENE FOAM SHALL BE THE SAME WIDTH AS THE JOINT AND 5" (125) IN DEPTH. AFTER THE CONCRETE IN THE REPAIR AREA HAS ACHIEVED THE SPECIFIED STRENGTH, THE FOAM SHALL BE REMOVED AND REPLACED WITH BACKER ROD AND HOT-POUR SEALANT MEETING ALL APPLICABLE STANDARD DETAILS AND SPECIFICATIONS.



SECTION WITH SPALL ADJACENT TO JOINT



SECTION WITH SPALL NOT ADJACENT TO JOINT

NOTE: WHEN $X > 12" (300)$, THEN $Y = 1" (25)$ AND POLYETHYLENE FOAM IS NOT USED. WHEN $X \leq 12" (300)$, THEN $Y = X$ AND POLYETHYLENE FOAM IS USED.

PARTIAL DEPTH PATCH



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

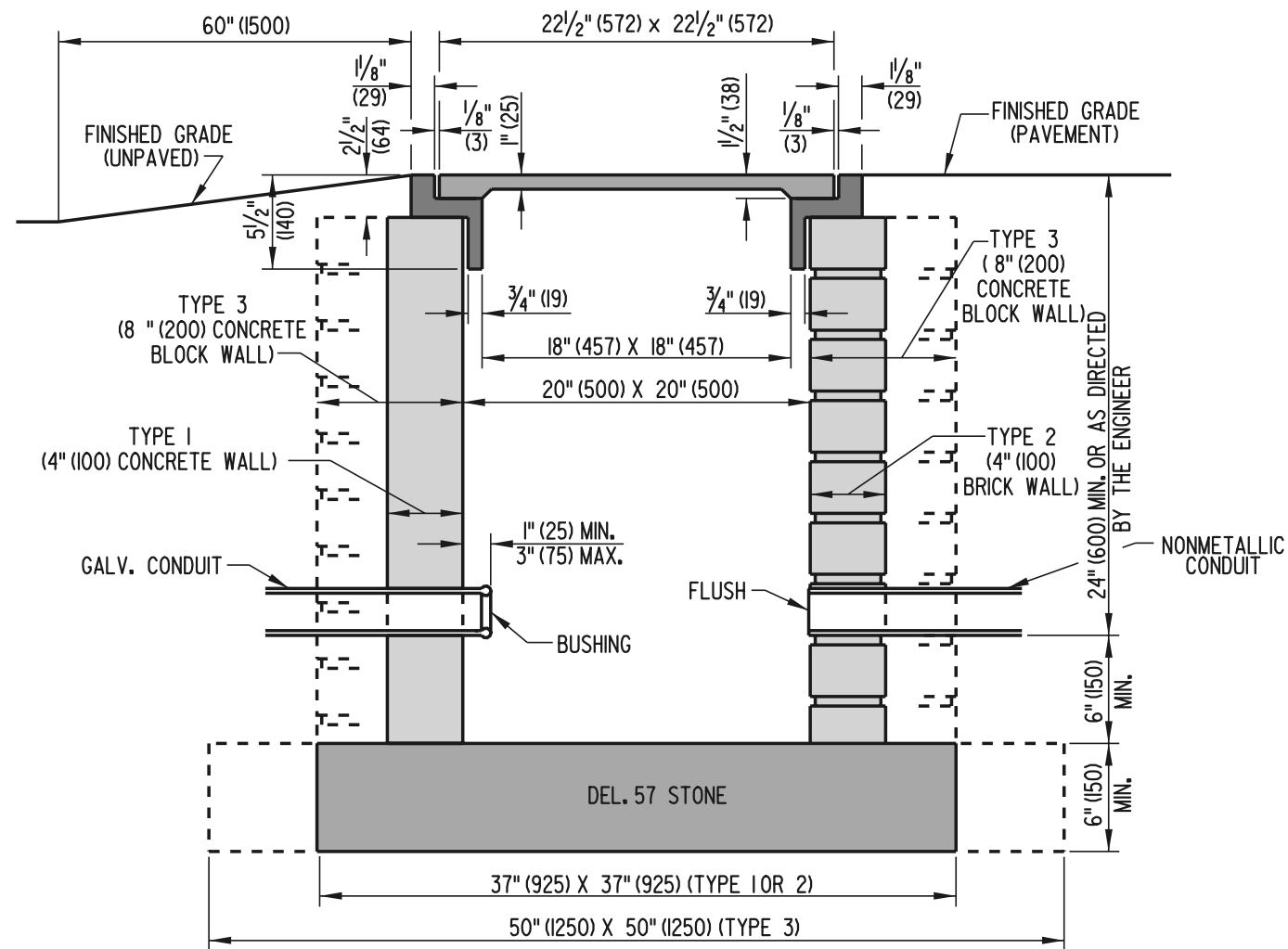
P.C.C. PAVEMENT PATCHING

STANDARD NO. P-2 (2001)

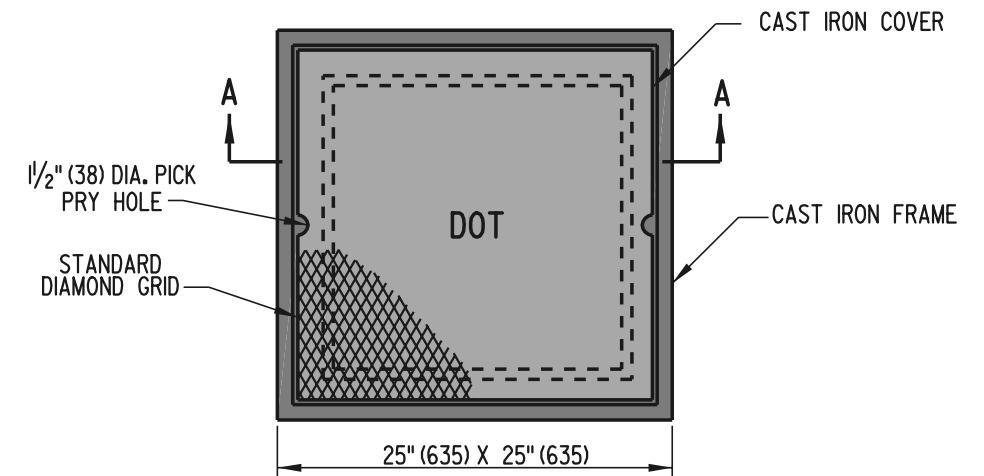
SHT. 5 OF 5

APPROVED *Ryan M. Hershman* **6/18/01**
CHIEF ENGINEER DATE

RECOMMENDED *Michael P. Galt* **6/18/01**
DESIGN ENGINEER DATE



SECTION A-A



PLAN VIEW

- NOTES:**
- 1). TYPE 1 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" (125) DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
 - 2). TYPE 2 AND TYPE 3 CONDUIT JUNCTION WELLS SHALL BE BRICK AND WILL CONFORM TO STANDARD SPECIFICATIONS FOR BRICK MASONRY. JOINTS SHALL BE CONCAVE TYPE. TYPE 2 WALLS WILL BE A NOMINAL 4" (100) THICK. TYPE 3 WALL WILL BE A NOMINAL 8" (200) THICK.
 - 3). TYPE 2 AND TYPE 3 CONDUIT JUNCTION WELLS SHALL NOT BE PLACED UNDER ANY TYPE OF PAVEMENT.
 - 4). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.

PLAN SYMBOL



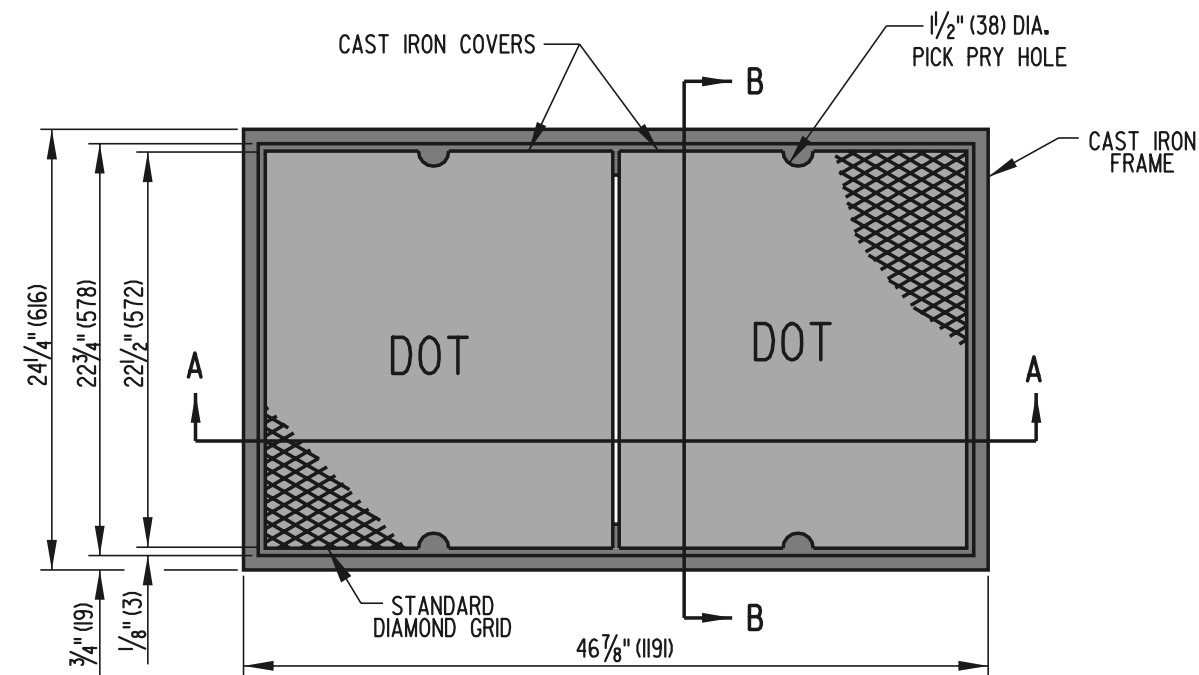
**DELAWARE
DEPARTMENT OF TRANSPORTATION**

CONDUIT JUNCTION WELL, TYPES 1, 2, AND 3

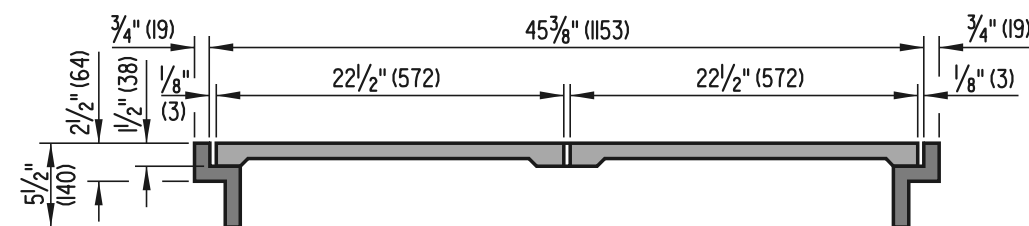
STANDARD NO. T-1 (2002)

SHT. 1 OF 1

APPROVED *Caroleen Wicks* *9/6/02*
CHIEF ENGINEER DATE
RECOMMENDED *Theresa Delph* *8/19/02*
DESIGN ENGINEER DATE

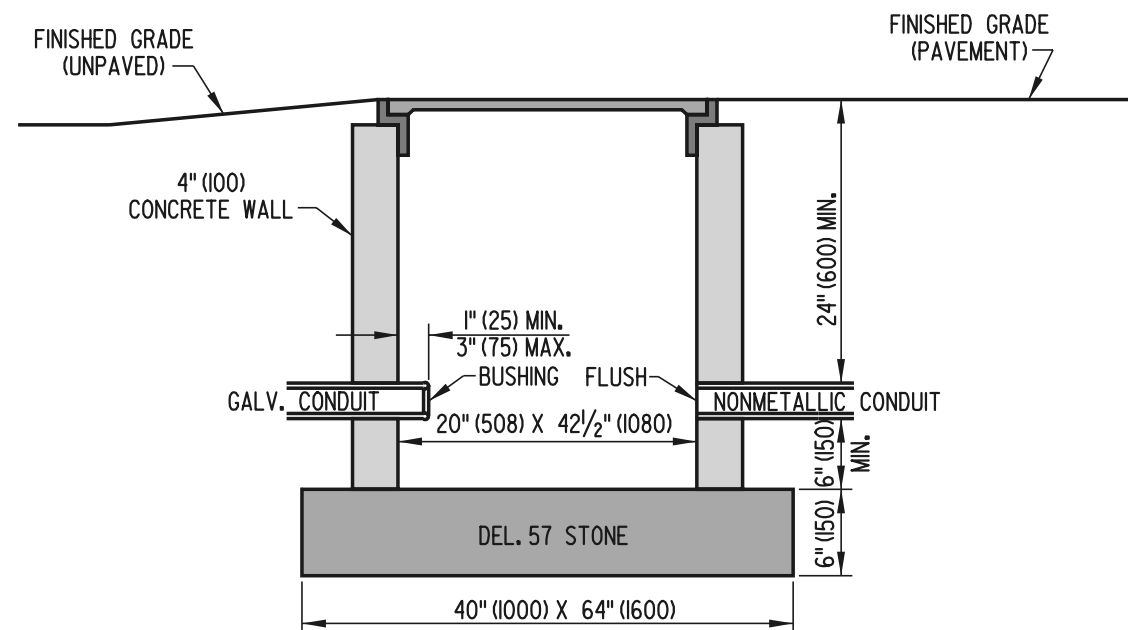


PLAN VIEW



SECTION A-A

- NOTES: 1). TYPE 4 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" (125) DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.



SECTION B-B

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELL, TYPE 4

STANDARD NO.

T-2 (2002)

SHT.

1

OF

1

APPROVED

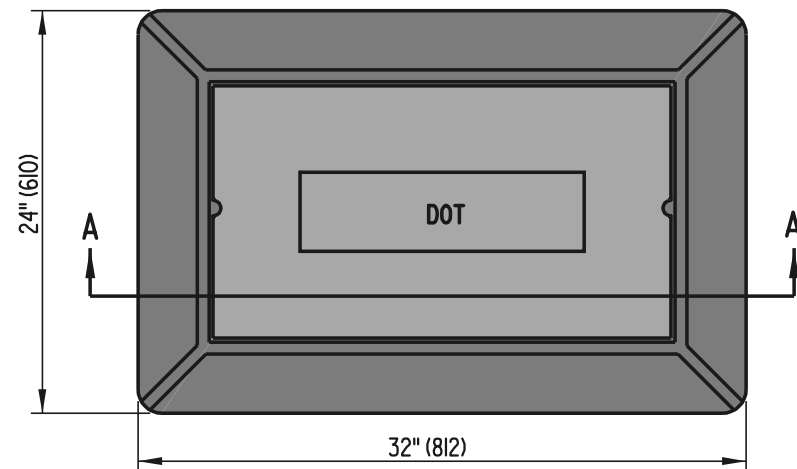
Caudam Wicks
CHIEF ENGINEER

9/6/02
DATE

RECOMMENDED

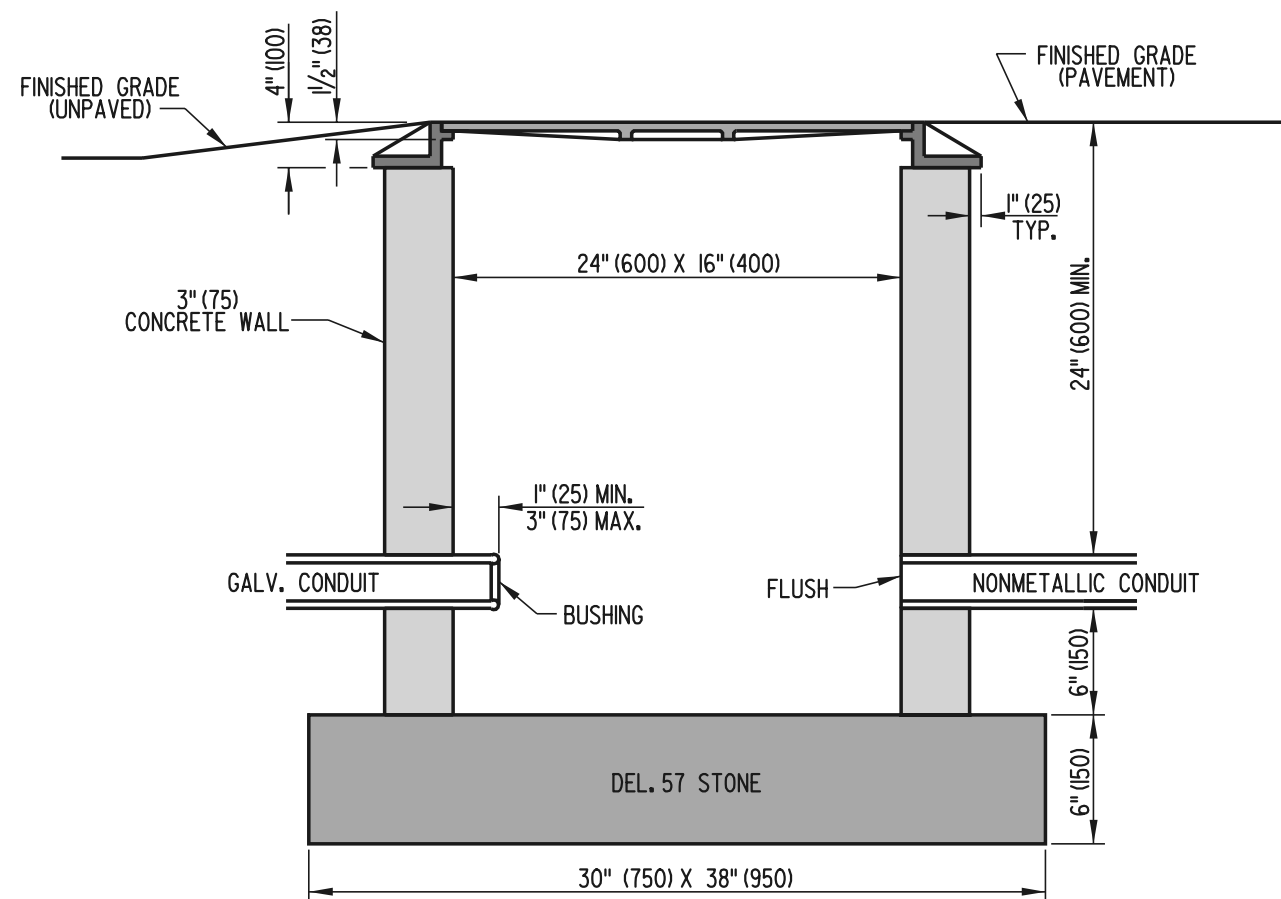
Thurman O'Leary
DESIGN ENGINEER

8/19/02
DATE



PLAN VIEW

- NOTES: 1). TYPE 5 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" (125) DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.



SECTION A-A

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELL, TYPE 5

STANDARD NO.

T-3 (2002)

SHT.

1

OF

1

APPROVED

Caution Wicks
CHIEF ENGINEER

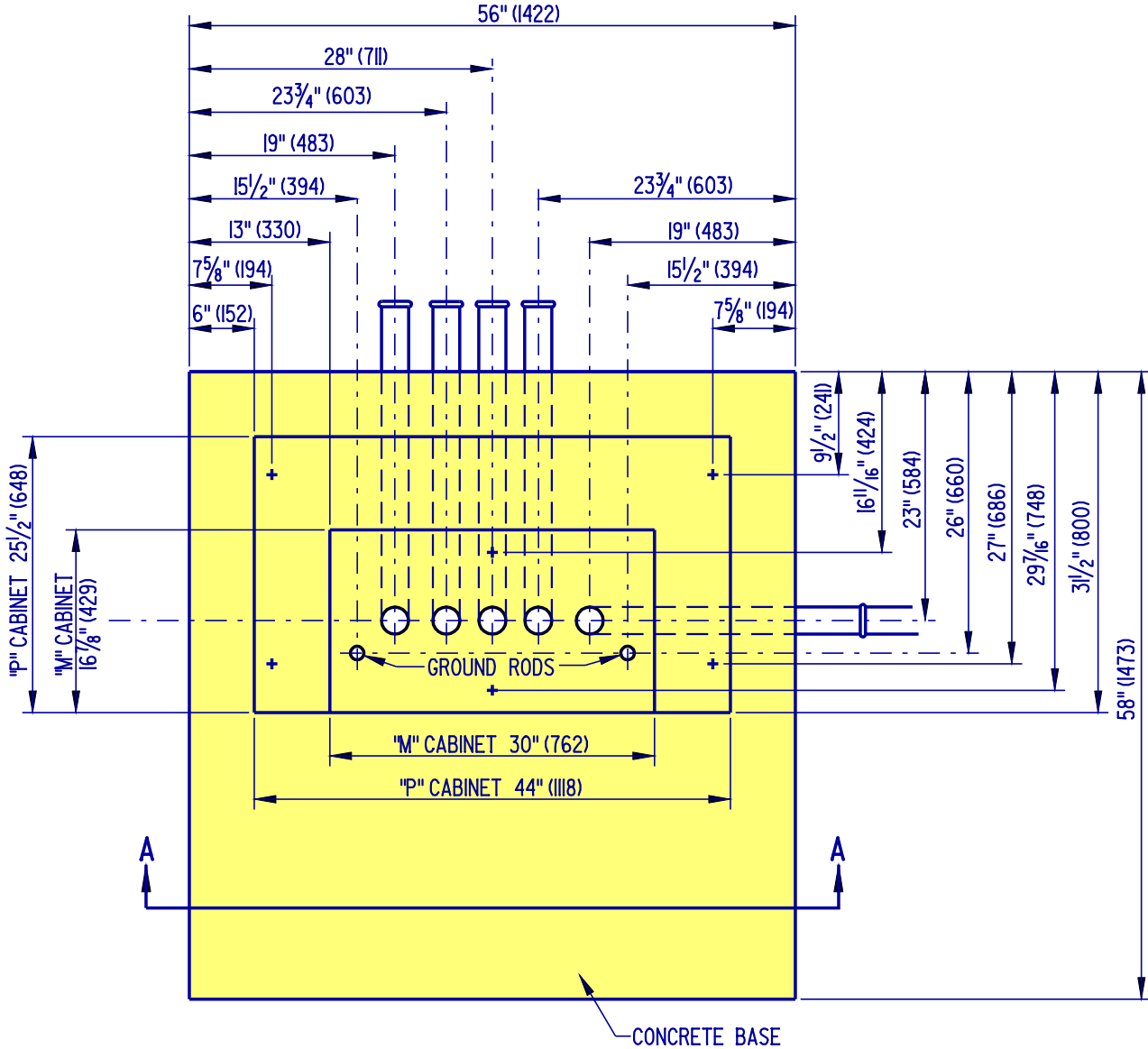
9/6/02
DATE

RECOMMENDED

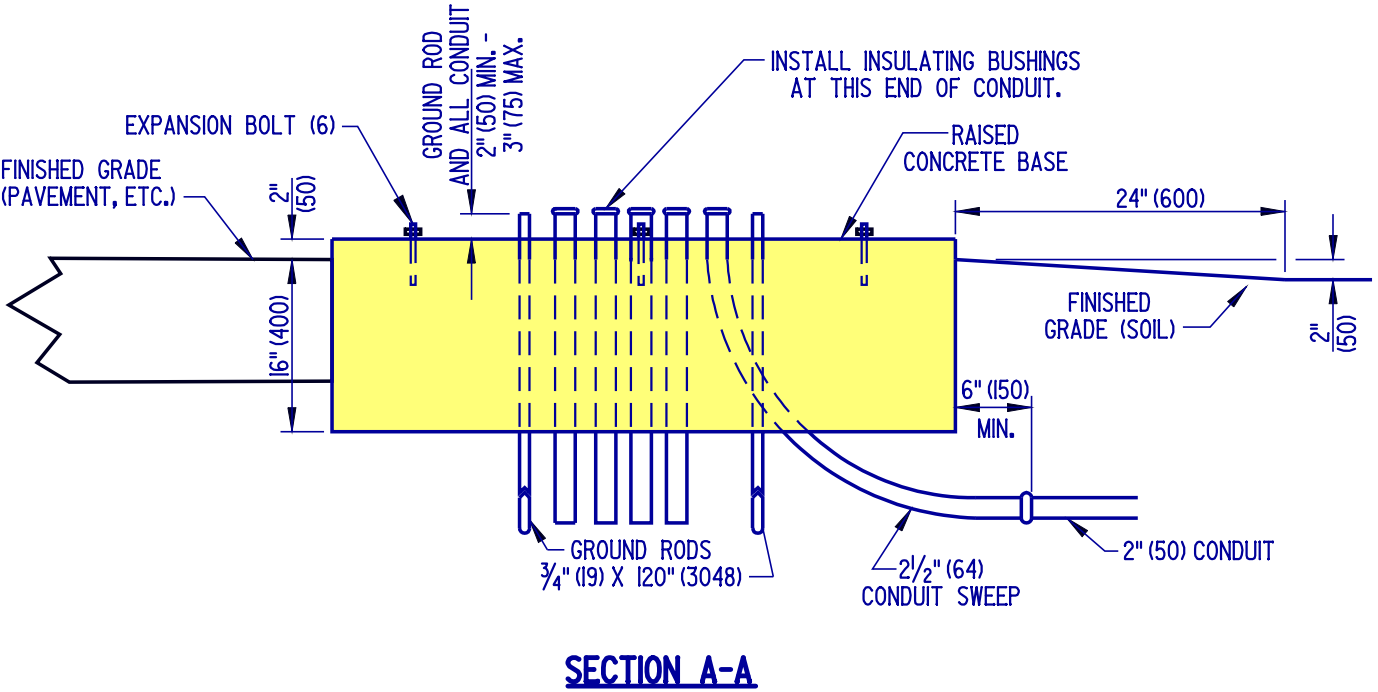
Theresa R. Ricks
DESIGN ENGINEER

8/19/02
DATE

SCALE : N.T.S.



PLAN VIEW



SECTION A-A

CONCRETE CABINET BASE

PLAN SYMBOL

	CA
P	



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

CABINET BASES (TYPES 'M' & 'P')

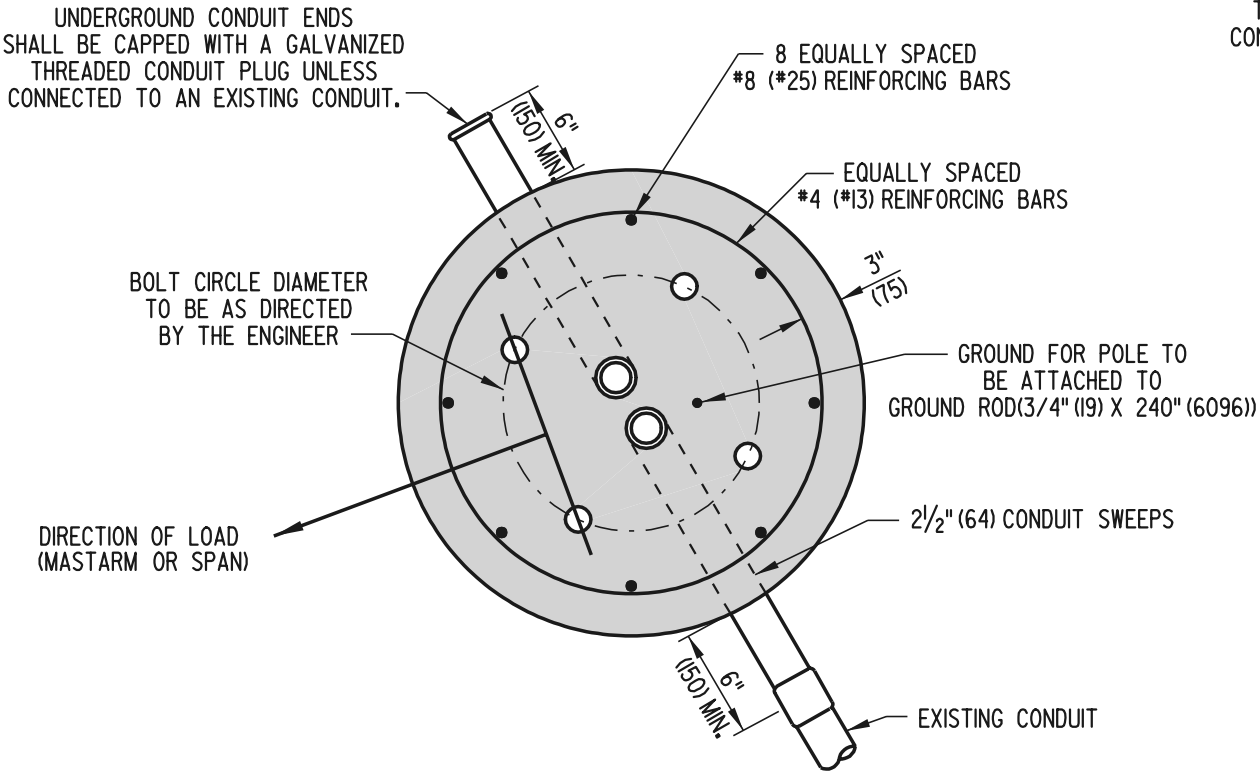
STANDARD NO. T-4 (2004)

SHT. 1 OF 1

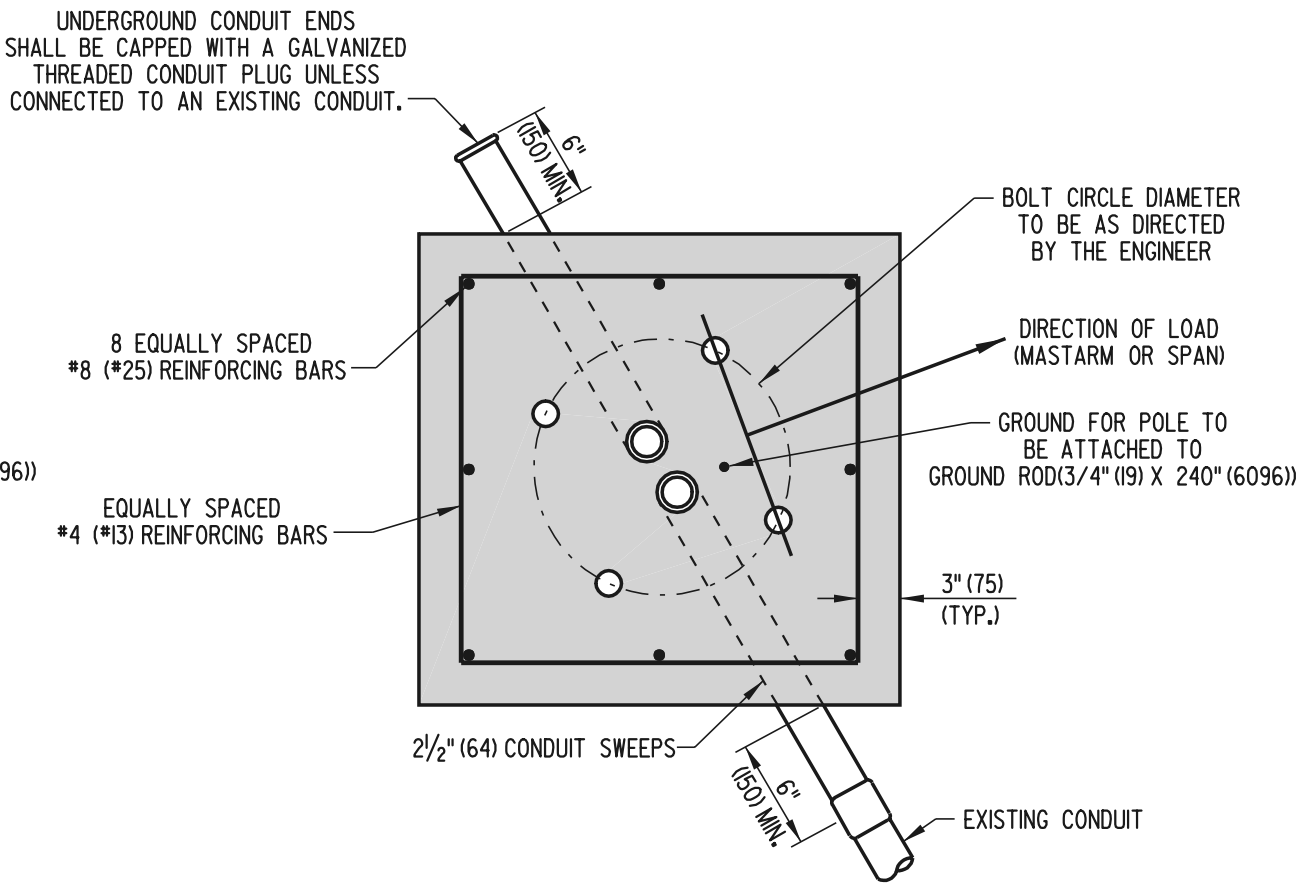
APPROVED Carolann Wachs 1/10/05
CHIEF ENGINEER DATE

RECOMMENDED *Dennis M. O'Leary* *11/3/05*
DESIGN ENGINEER DATE

09/24/2004



ROUND BASE



SQUARE BASE

NOTE: BASE DEPENDENT ON POLE AND EQUIPMENT TO BE ATTACHED.

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

POLE BASES

STANDARD NO. T-5 (2002)

SHT. 1 OF 3

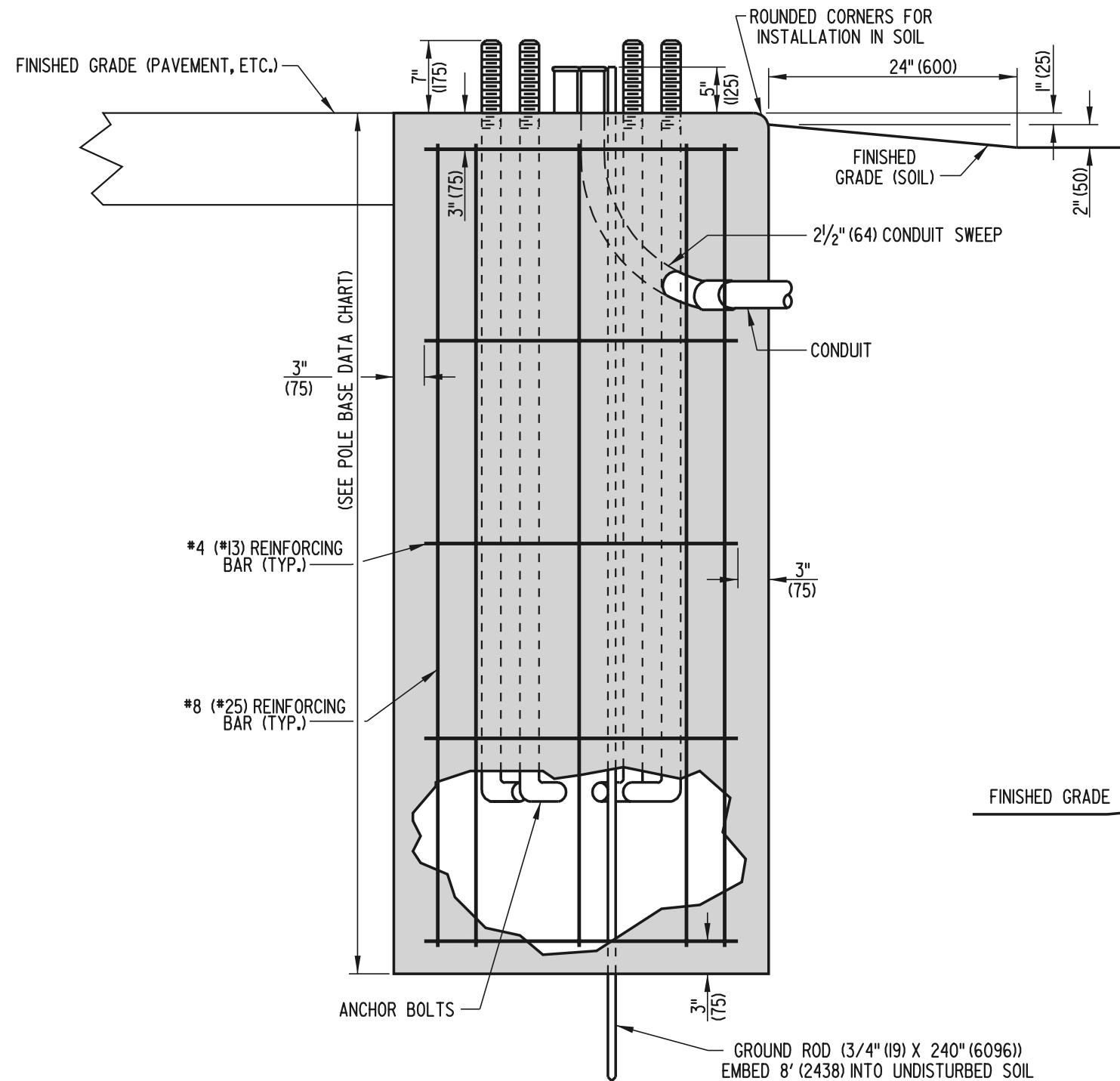
APPROVED

Caroleen Wicks 9/6/02
CHIEF ENGINEER DATE

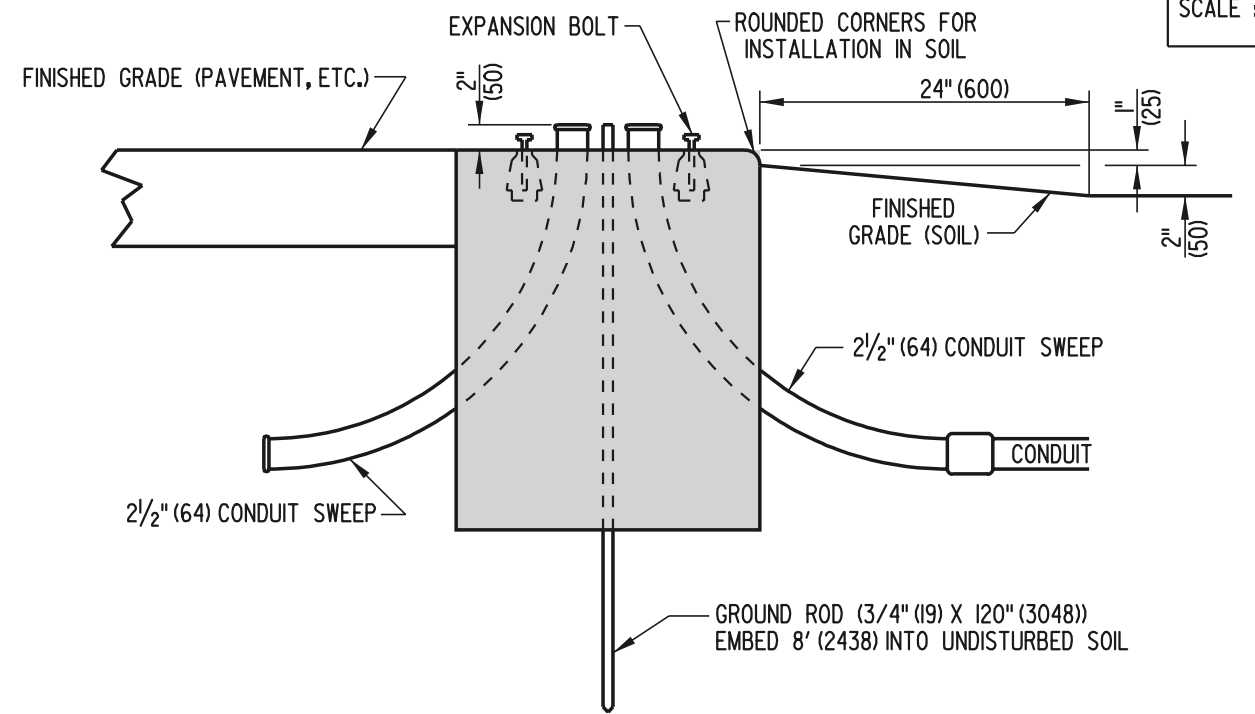
RECOMMENDED

Theresa Delph 8/19/02
DESIGN ENGINEER DATE

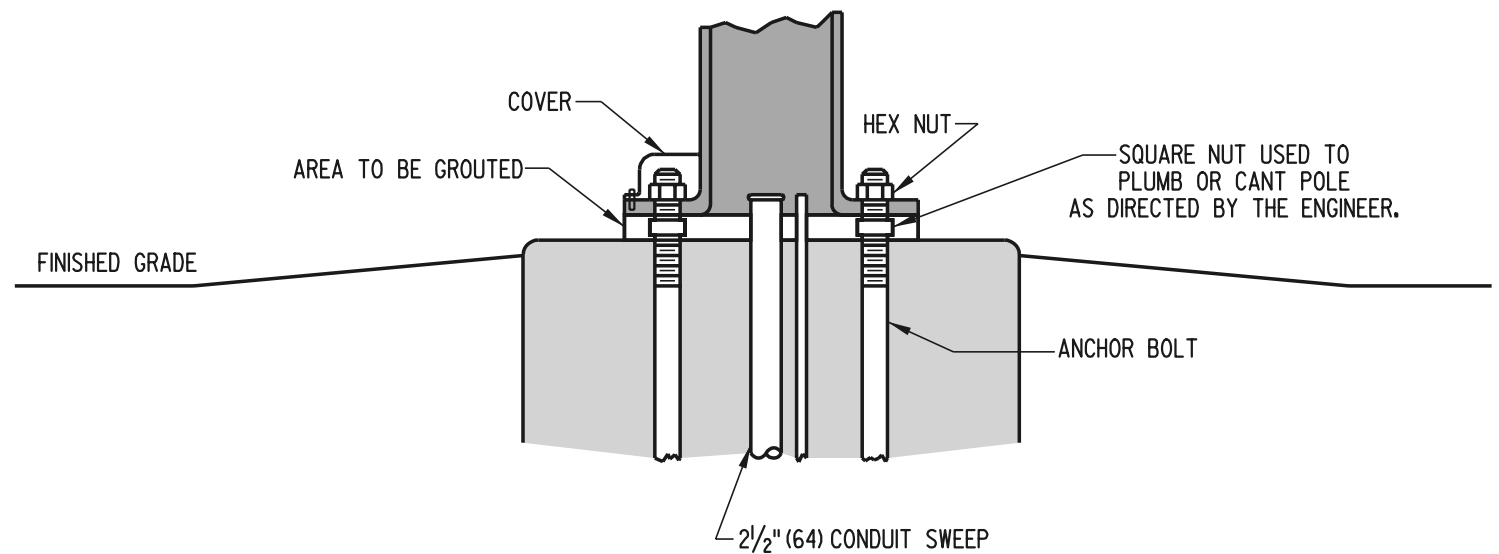
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TYPICAL SECTION (BASES 1,2,2A,2B,3,3A,3B, AND 7)



TYPICAL SECTION (BASE 4)



TYPICAL INSTALLATION (BASES 1,2,2A,2B,3,3A,3B,4, AND 7)

NOTES:

- 1.) PLACE 2 EACH 6" (150) LONG x 1/2" (13) DIA. P.V.C., SCHEDULE 40 (TYP) VENTS IN THE GROUT AS DIRECTED IN THE FIELD BY ENGINEER.
- 2.) SEE POLE BASE DATA CHART FOR POLE BASE DIMENSIONS.

PLAN SYMBOL



**DELAWARE
DEPARTMENT OF TRANSPORTATION**

POLE BASES

STANDARD NO. T-5 (2002)

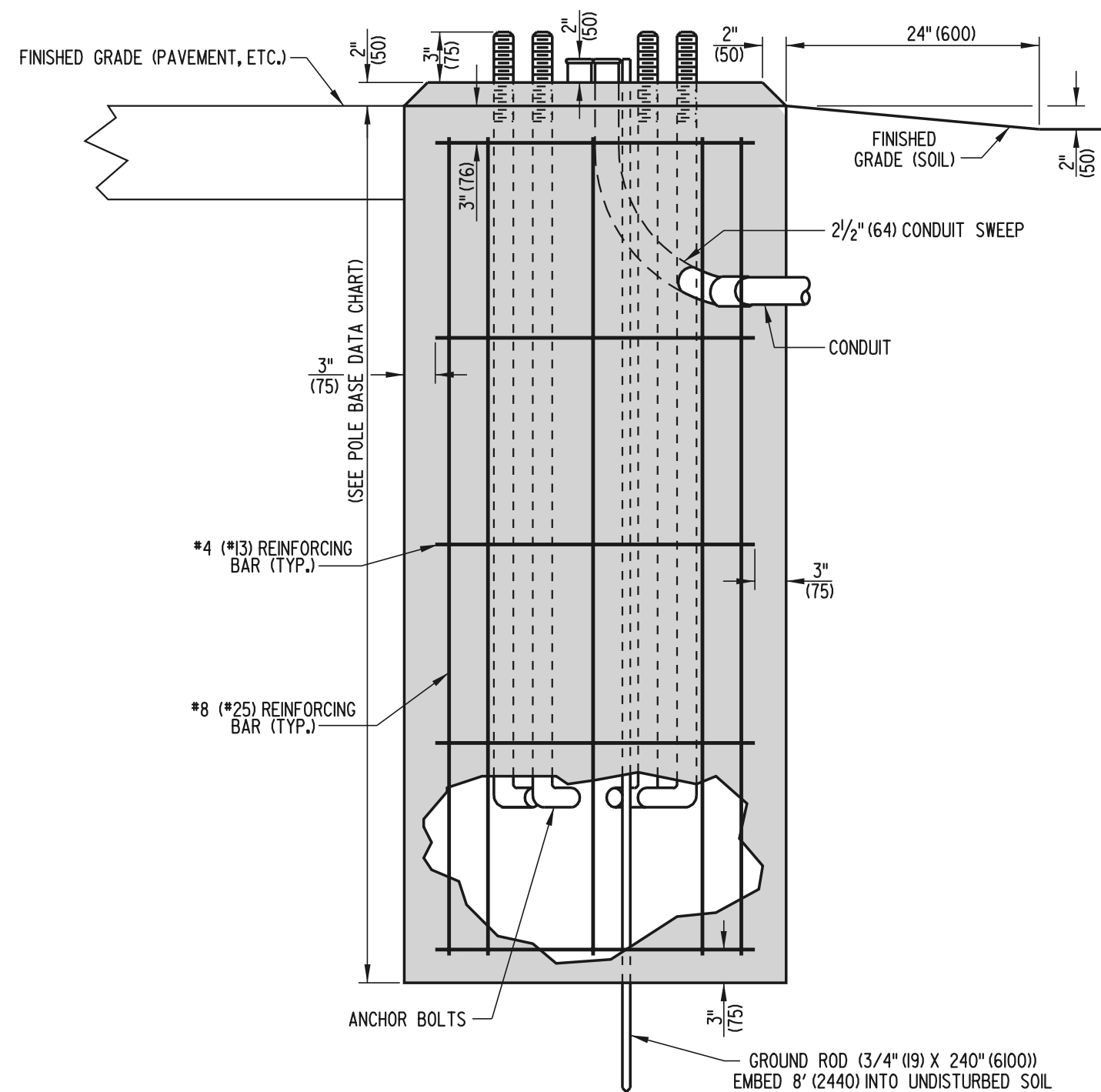
SHT. 2 OF 3

APPROVED

Caution Wicks 9/6/02
CHIEF ENGINEER DATE

RECOMMENDED

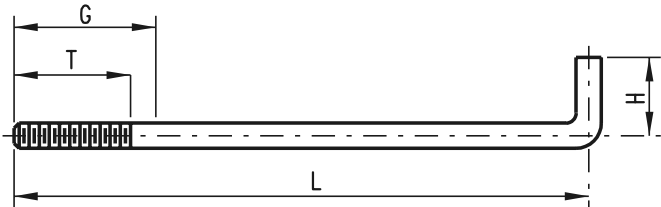
Theresa Delph 8/19/02
DESIGN ENGINEER DATE



TYPICAL SECTION (BASES 5 AND 6)

POLE BASE DATA CHART				
POLE BASE TYPE #	DIAMETER	DEPTH *	#4 (*13) HORIZONTAL REINFORCING BARS	#8 (*25) VERTICAL REINFORCING BARS
1	36" (915)	7' (2150)	5	8
2	36" (915)	10' (3050)	6	8
2A	48" (1220)	8' (2450)	5	8
2B	60" (1525)	7' (2150)	5	8
3	48" (1220)	10' (3050)	6	8
3A	60" (1525)	9' (2750)	6	8
3B	72" (1830)	7' (2150)	5	8
4	24" (610)	2'-4" (725)	NONE	NONE
5	36" (915)	4' (1225)	NONE	NONE
6	24" (610)	6' (1850)	4	8
7	48" (1220)	13'-4" (4000)	7	8

* - ADDITIONAL DEPTH FOR POLE BASE EXTENSION, IF REQUIRED, TO BE DETERMINED BY TRAFFIC ENGINEERING AND MANAGEMENT (TEAM) FIELD REPRESENTATIVE.



G = GALVANIZED PORTION
T = THREAD LENGTH
L = LENGTH OF ROD
H = HEIGHT OF ROD

NOMINAL BOLT SIZE	L	H	T	G
1" (25) X 40" (1025)	36" (925)	4" (100)	6" (150)	8" (200)
1 1/4" (32) X 48" (1225)	42" (1075)	6" (150)	8" (200)	10" (250)
1 1/2" (38) X 60" (1525)	54" (1375)	6" (150)	10" (250)	12" (305)
1 3/4" (45) X 90" (2285)	84" (2135)	6" (150)	10" (250)	20" (500)
2" (51) X 90" (2285)	82" (2085)	8" (200)	8" (200)	18" (455)

ANCHOR BOLT DATA CHART AND DETAILS

NOTE: ANCHOR BOLTS FOR POLE BASE TYPE 7 SHALL CONFORM TO THE CCTV POLE MANUFACTURER'S SPECIFICATIONS.

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

POLE BASES

STANDARD NO. T-5 (2002)

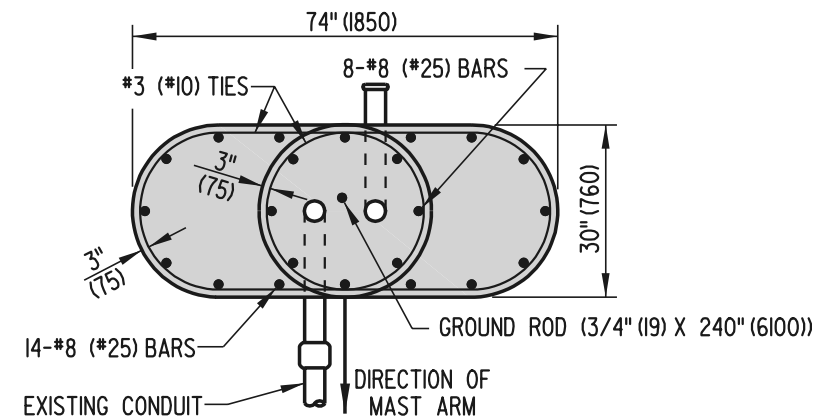
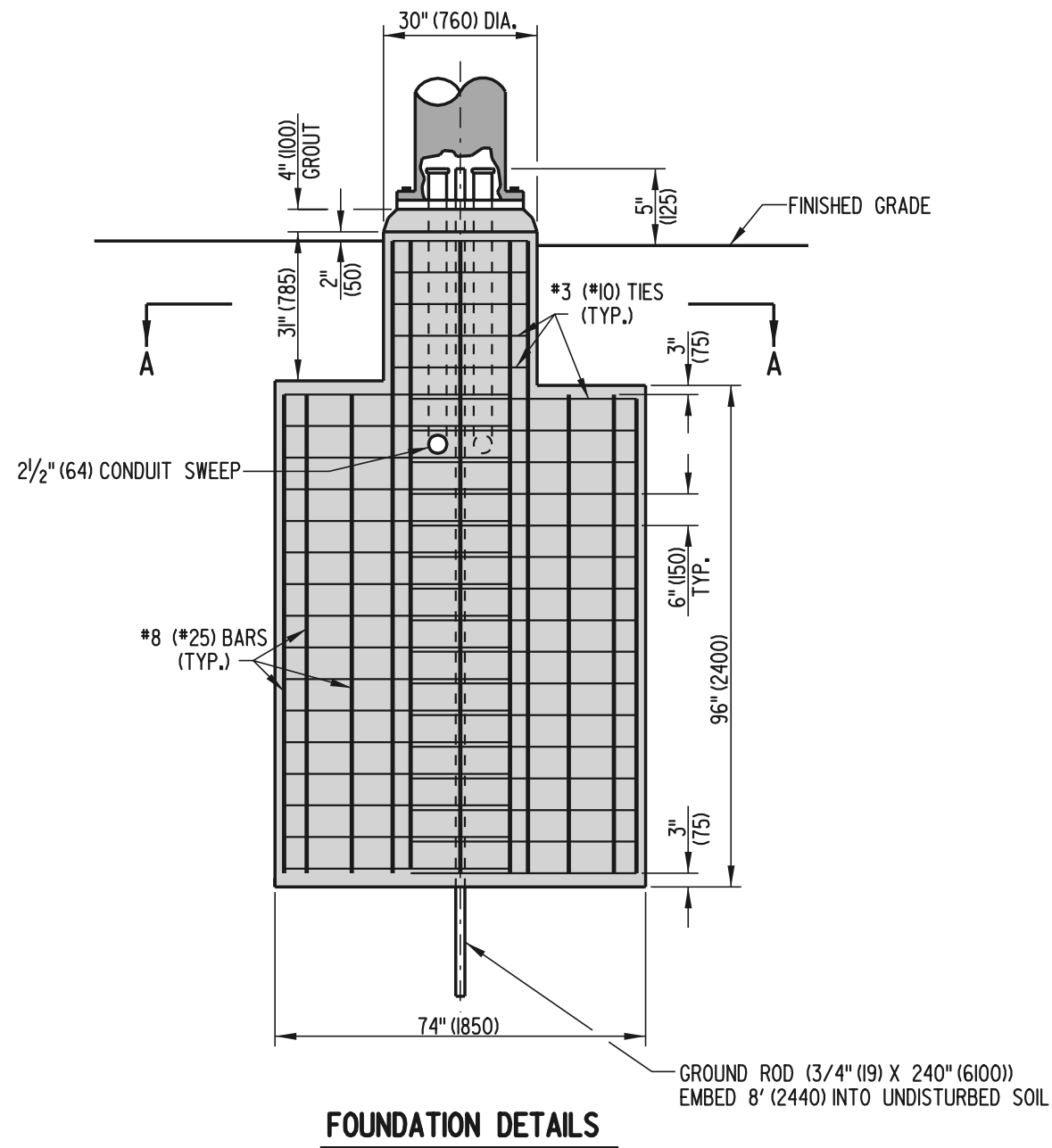
SHT. 3 OF 3

APPROVED

Caution Wicks
CHIEF ENGINEER
DATE 9/6/02

RECOMMENDED

Theresa Delph
DESIGN ENGINEER
DATE 8/19/02



NOTES:

1. UNDERGROUND CONDUIT ENDS SHALL BE CAPPED WITH A GALVANIZED THREADED CONDUIT PLUG UNLESS CONNECTED TO AN EXISTING CONDUIT.
2. PLACE 2 EACH 6" (150) X 1/2" (13) P.V.C., SCHEDULE 40 (TYP) VENTS IN THE GROUT AS DIRECTED IN THE FIELD BY THE ENGINEER.

PLAN SYMBOL



(SAME AS NORMAL POLE BASE)



DELAWARE
DEPARTMENT OF TRANSPORTATION

SPECIAL POLE BASE

STANDARD NO. T-6 (2002)

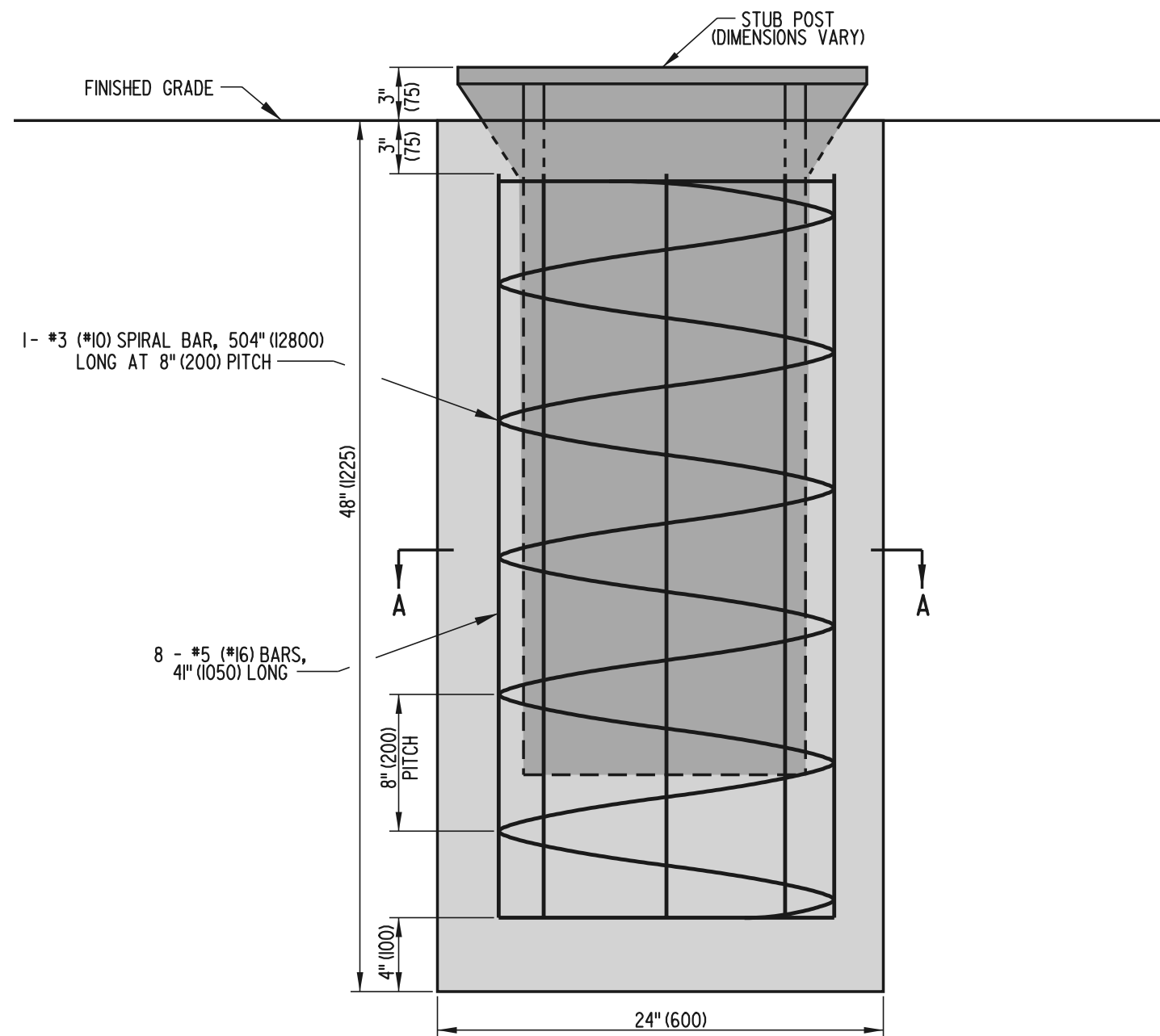
SHT. 1 OF 1

APPROVED *Carolee Wicks*
CHIEF ENGINEER

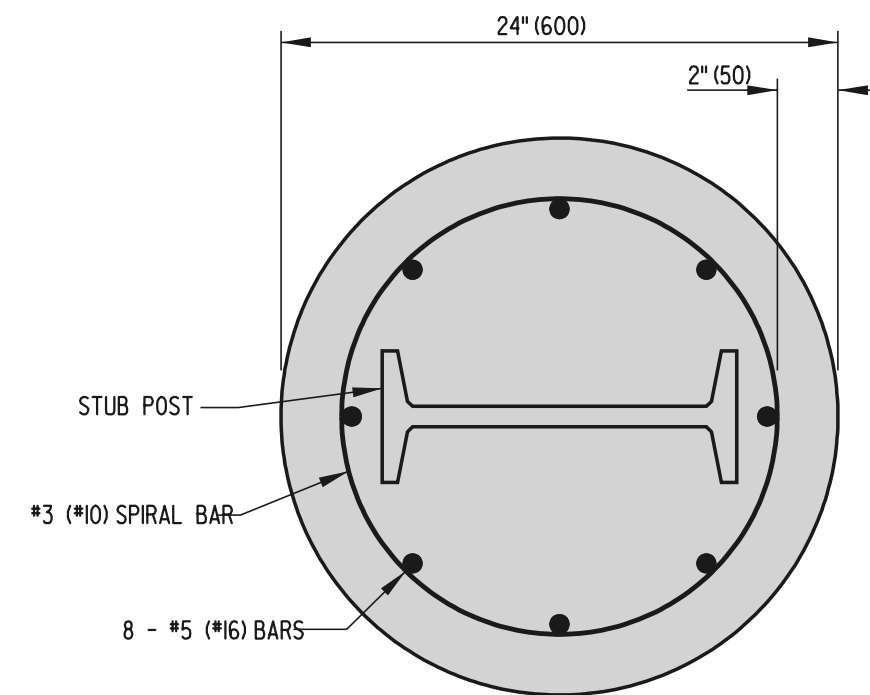
9/6/02
DATE

RECOMMENDED *Theresa Delph*
DESIGN ENGINEER

8/19/02
DATE



NOTES: 1). STUB POST TO BE SUPPLIED BY THE DEPARTMENTS TRAFFIC,
ENGINEERING, AND MANAGEMENT SECTION.



SECTION A-A

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

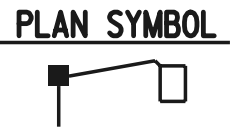
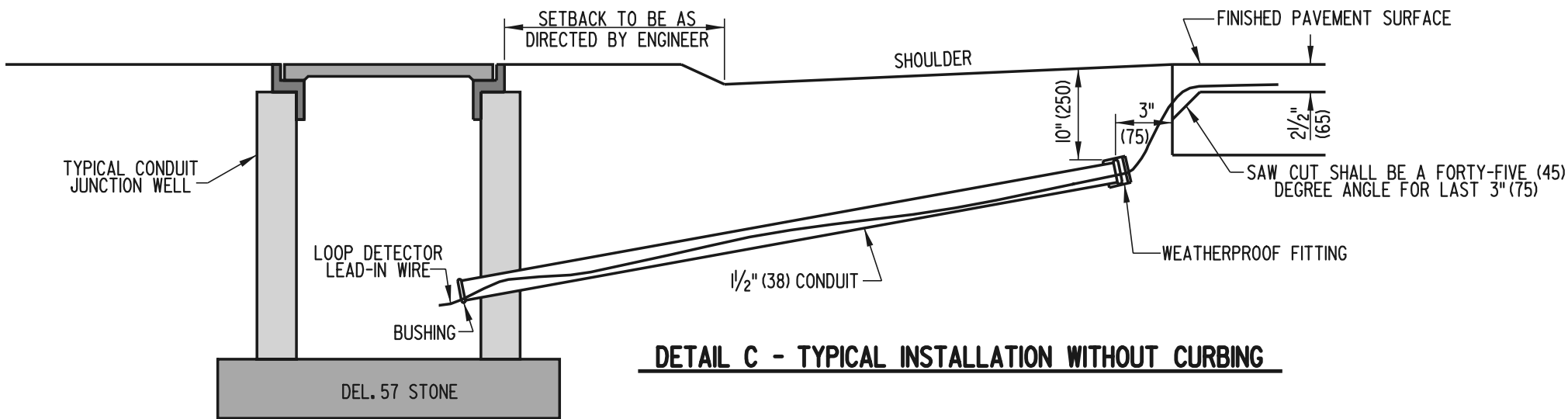
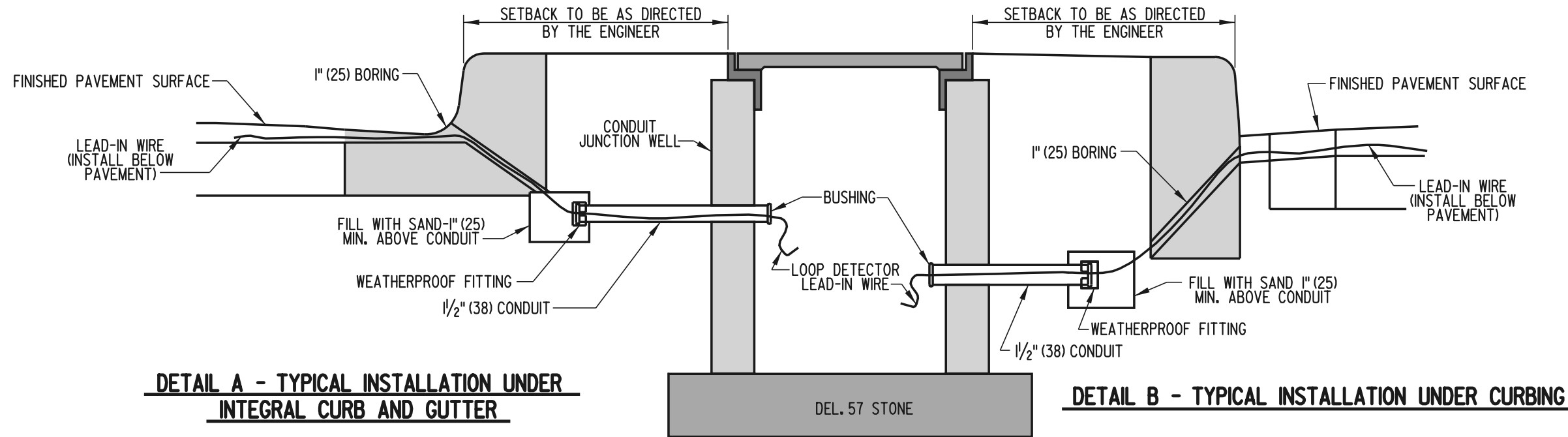
SIGN FOUNDATION

STANDARD NO. T-7 (2002)

SHT. 1 OF 1

APPROVED *Caution Wicks* 9/6/02
CHIEF ENGINEER DATE
RECOMMENDED *Theresa Delph* 8/19/02
DESIGN ENGINEER DATE

- NOTES:** 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE CONDUIT AGAINST ANY POSSIBLE DAMAGE IN PAVING OPERATIONS.
2. THE WEATHERPROOF FITTING SHALL CONSIST OF A GALVANIZED 1/2" (38) COUPLING CONTAINING A STEEL THREADED REDUCING BUSHING (1/2" (38) TO 3/4" (19)) AND A 3/4" (19) WATERTIGHT CONNECTOR FOR SERVICE ENTRANCE CABLE.
3. THE LEAD-IN WIRE SHALL BE RUN THROUGH THE RUBBER OF THE WEATHERPROOF FITTING.

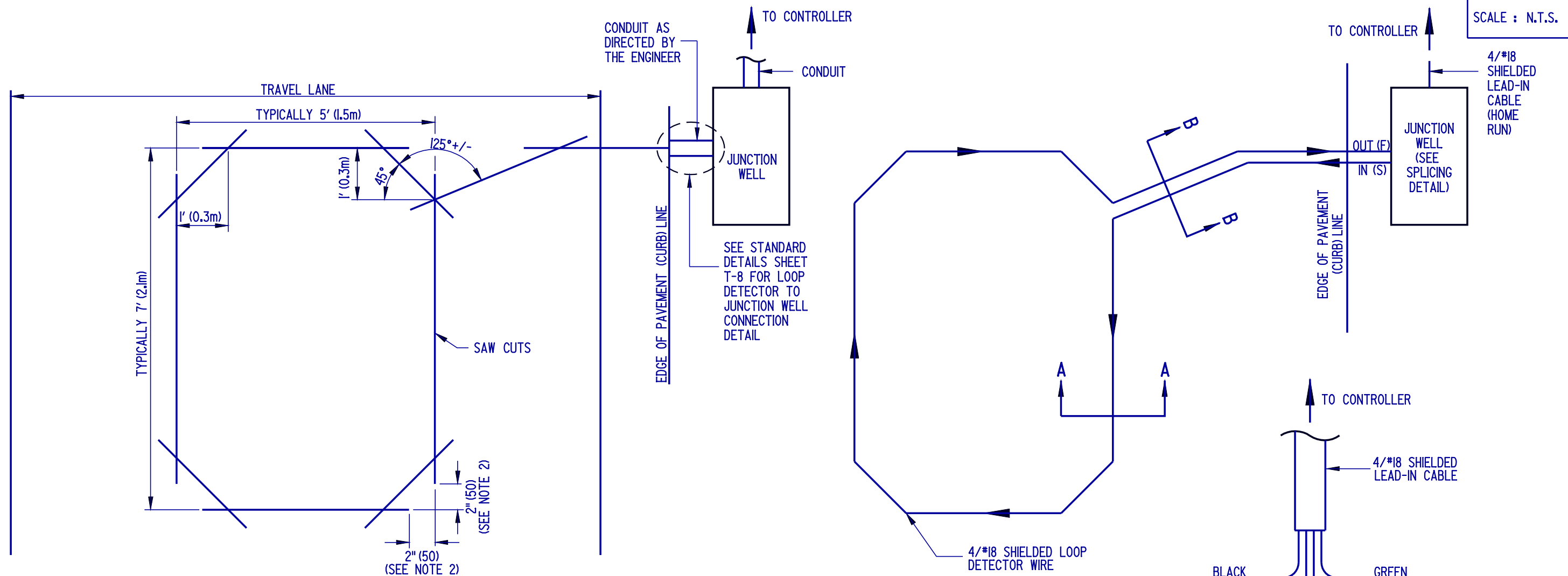


**DELAWARE
DEPARTMENT OF TRANSPORTATION**

LOOP DETECTOR TO CONDUIT JUNCTION WELL CONNECTION				
STANDARD NO.	T-8 (2002)	SHT.	1	OF 1

APPROVED *Caudam Wicks* *9/6/02*
CHIEF ENGINEER DATE

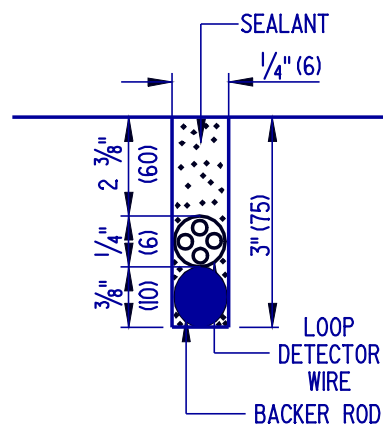
RECOMMENDED *Thurman Alpert* *8/19/02*
DESIGN ENGINEER DATE



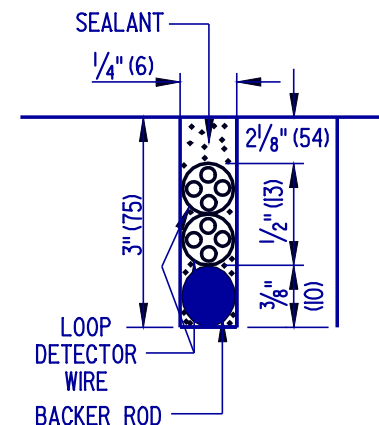
WIRE SLOT CONSTRUCTION

NOTES:

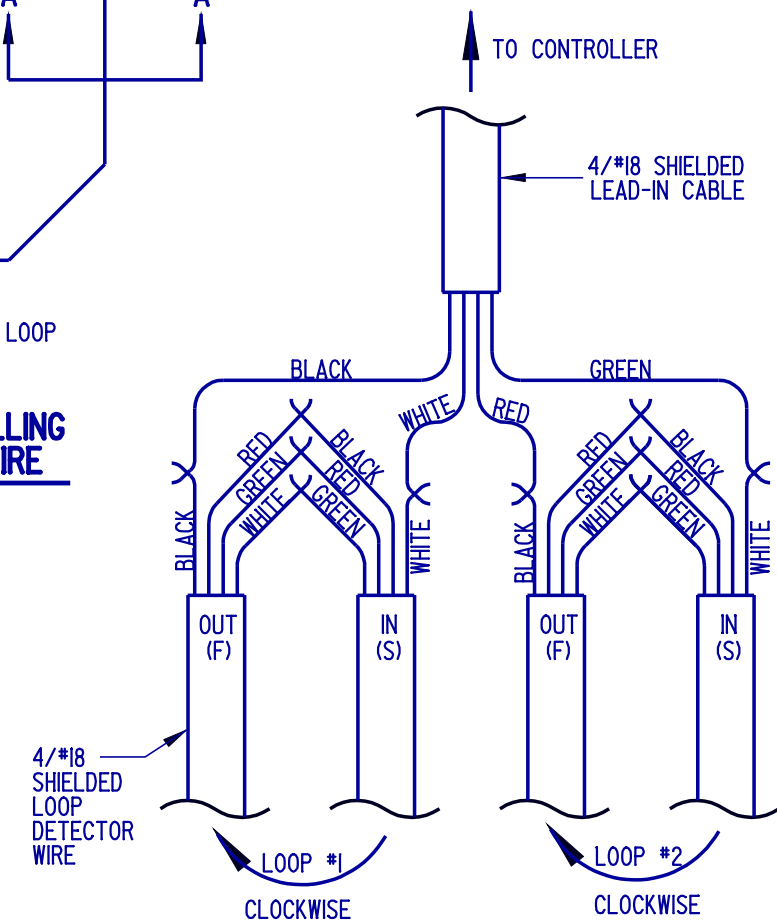
- 1). SAW CUTS FOR WIRE SLOT CONSTRUCTION SHALL BE EXTENDED BEYOND THE CORNERS SO THAT THE SLOT IS FULL DEPTH AT TURN POINTS. A FORTY-FIVE (45) DEGREE ANGLE SHALL BE CUT 12" (300) BACK FROM THE POINT OF THE EXTENDED CORNER.
- 2). THE DIAGONAL CUT SHALL BE STOPPED APPROXIMATELY 2" (50) FROM THE CORNER TO PREVENT THE TRIANGULAR PORTION OF THE PAVEMENT FROM BREAKING.
- 3). A MAXIMUM OF TWO LOOP DETECTORS CAN BE SPLICED TO ONE LEAD-IN CABLE, THE DETAIL ILLUSTRATES THE METHOD OF SPLICING TWO LOOP DETECTORS (LOOP #1 AND LOOP #2) TO A LEAD-IN CABLE.
- 4). LOOP DETECTOR SHALL BE CENTERED IN TRAVEL LANE.



SECTION A - A



SECTION B - B



SPLICING DETAIL
(SEE NOTE 3)

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

TYPE #1 LOOP DETECTOR

STANDARD NO. T-9 (2004)

SHT. 1 OF 1

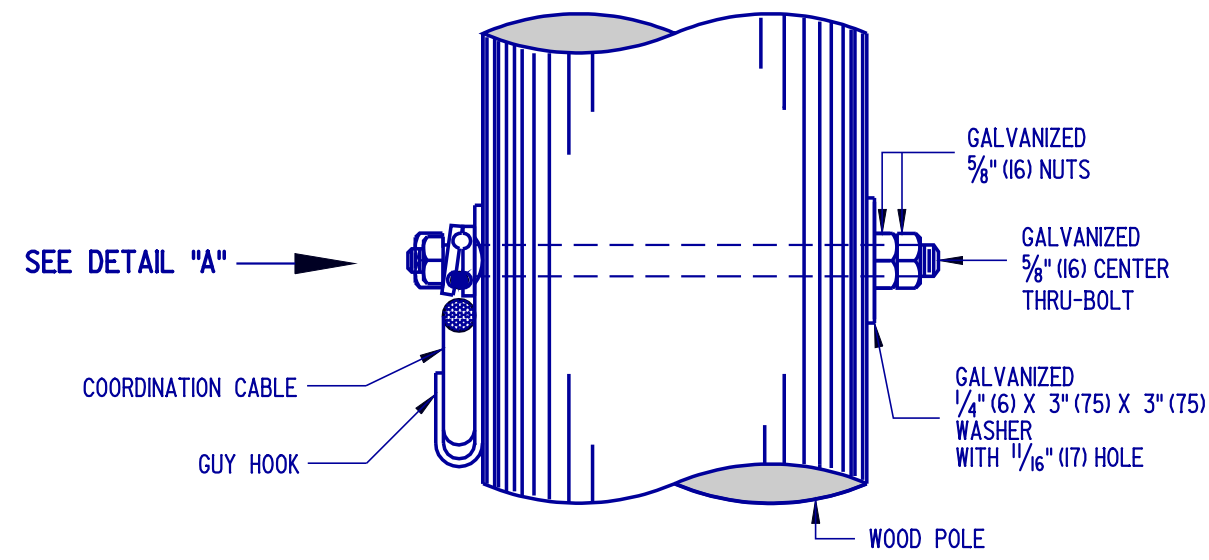
APPROVED

Carolann Wicks
CHIEF ENGINEER
DATE 1/10/05

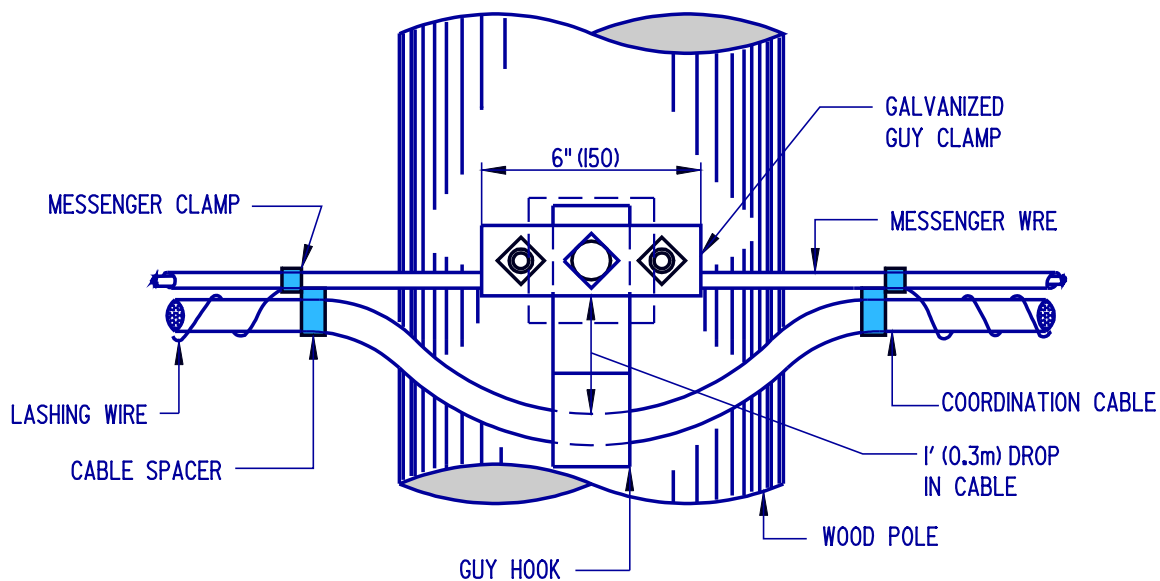
RECOMMENDED

Dennis M. O'Flaherty
DESIGN ENGINEER
DATE 1/13/05

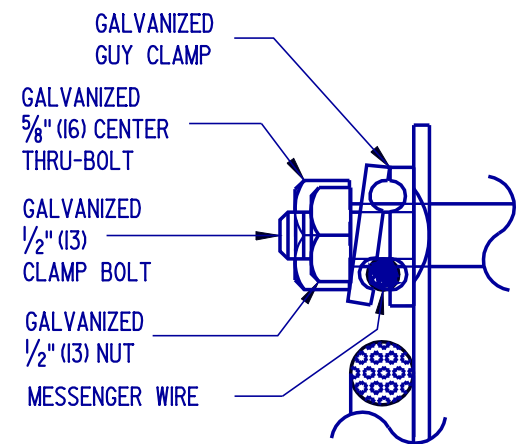
INTERMEDIATE



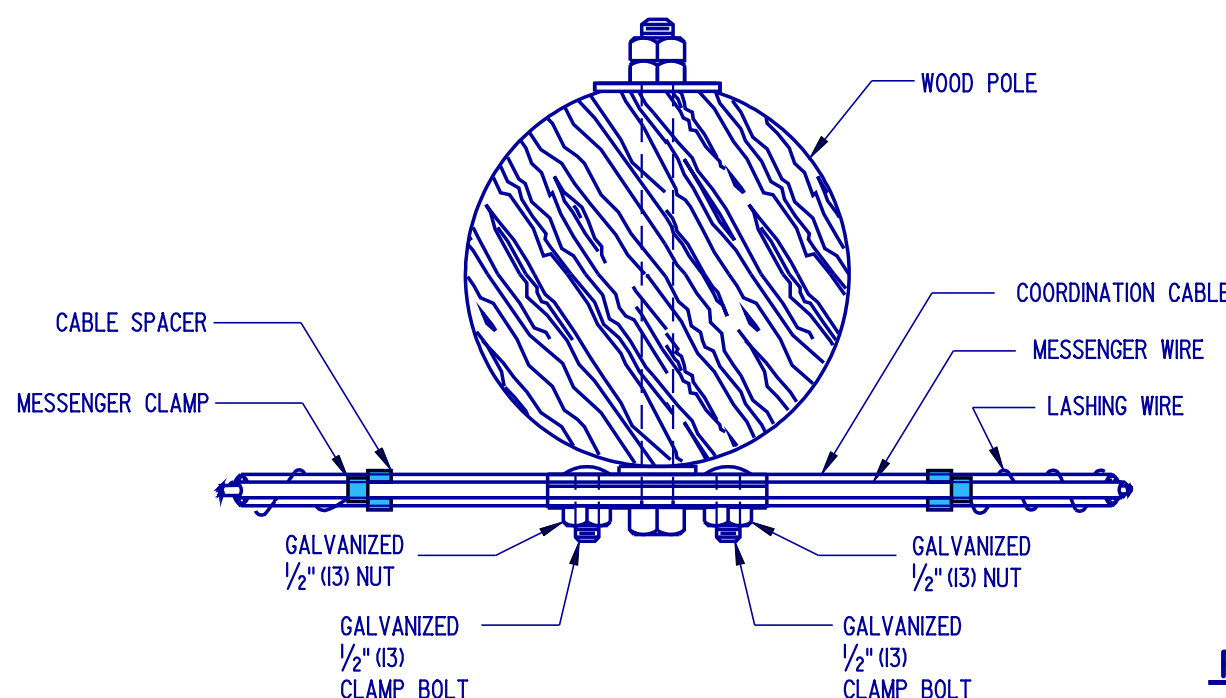
SIDE VIEW



FRONT VIEW

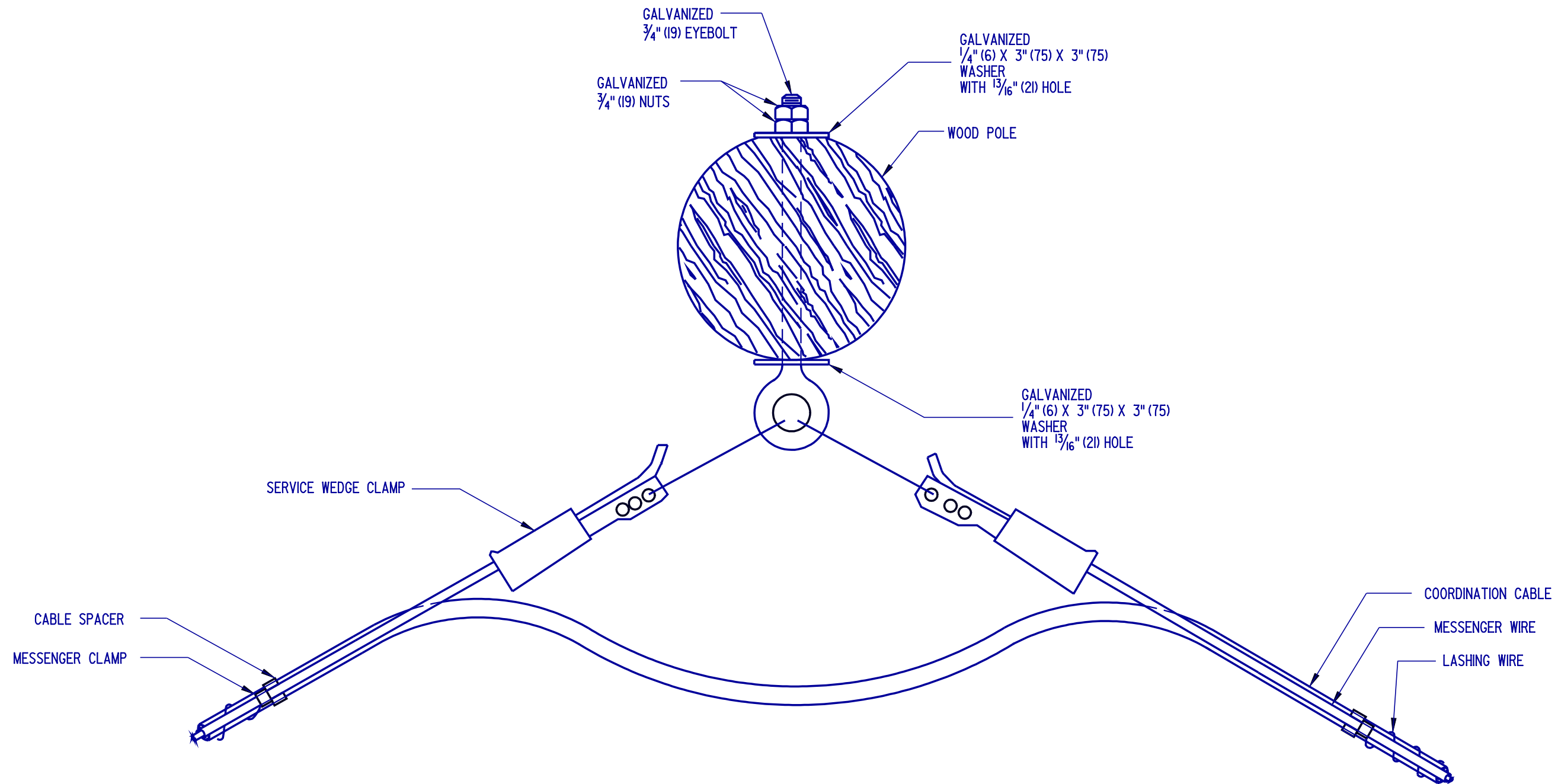


DETAIL "A"



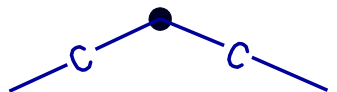
TOP VIEW





TOP VIEW

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

ANGULAR INTERMEDIATE MESSENGER WIRE ATTACHMENT

STANDARD NO. T-11 (2004)

SHT. 2 OF 2

APPROVED

Carolann Wicks
CHIEF ENGINEER

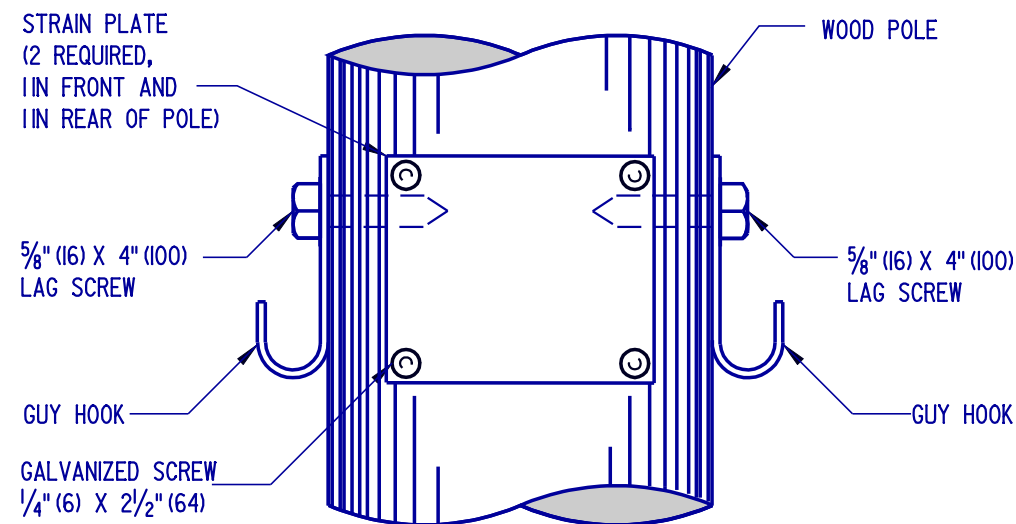
1/10/05
DATE

RECOMMENDED

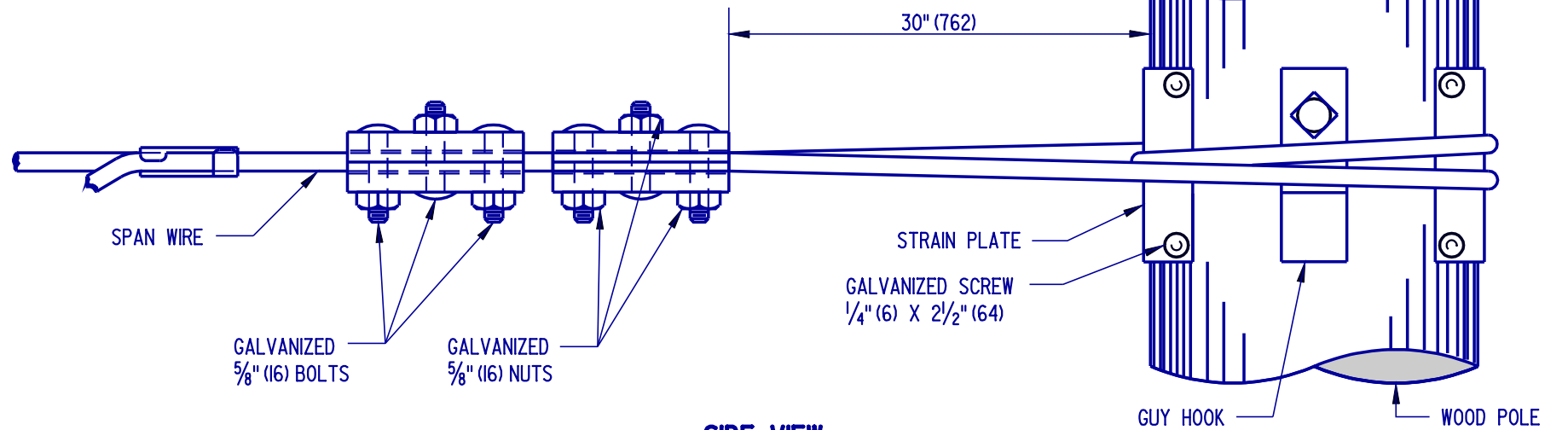
Dennis M. O'Flaherty
DESIGN ENGINEER

1/13/05
DATE

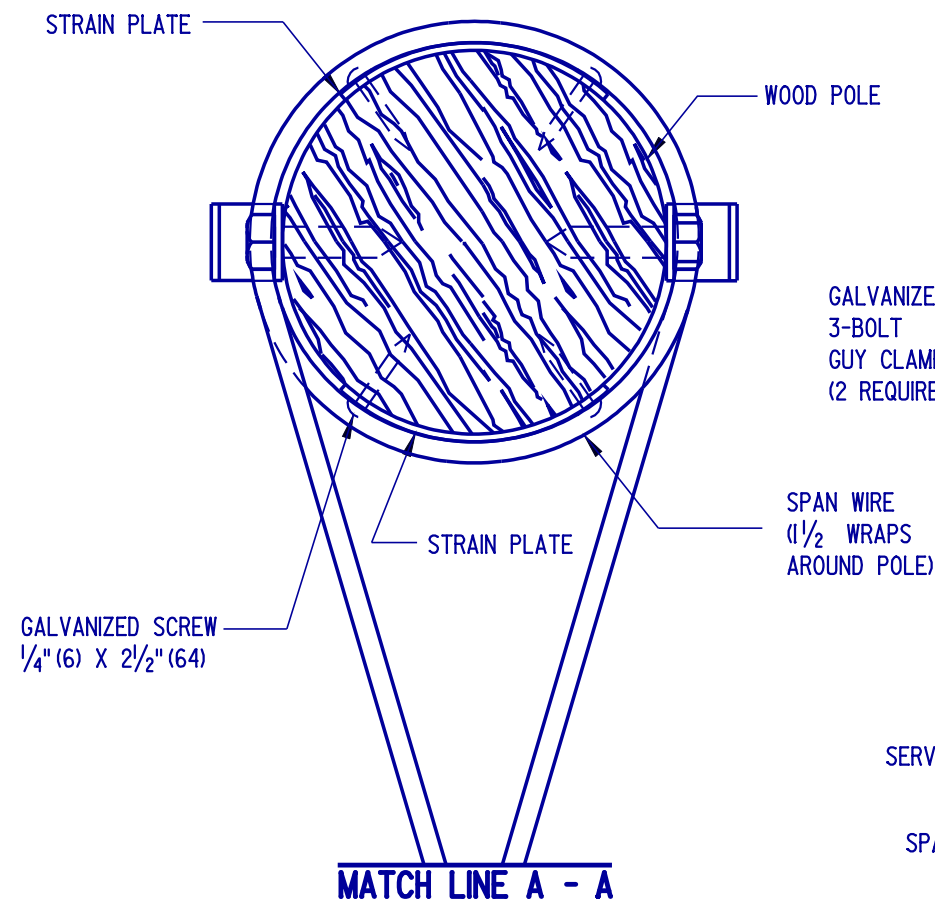
SCALE : N.T.S.



FRONT VIEW
(SPAN WIRE NOT SHOWN)



SIDE VIEW



TOP VIEW

MATCH LINE A - A

GALVANIZED
3-BOLT
GUY CLAMPS
(2 REQUIRED)

SPAN WIRE
(1 1/2 WRAPS
AROUND POLE)

SERVICE SLEEVE

SPAN WIRE

1\" (25)

6\" (150)

36\" (914) MIN.

NOTE: SPAN WIRE ATTACHMENT BETWEEN METAL POLES IS THE SAME AS SHOWN FOR WOOD POLES EXCEPT THAT THE STRAIN PLATES AND GUY HOOKS ARE NOT USED. FOR DETAIL SEE T-14 SHEET 2 - "DEAD END MESSENGER WIRE ATTACHMENT, METAL POLES".

PLAN SYMBOL



DELAWARE
DEPARTMENT OF TRANSPORTATION

SPAN WIRE ATTACHMENT BETWEEN POLES

STANDARD NO. T-12 (2004)

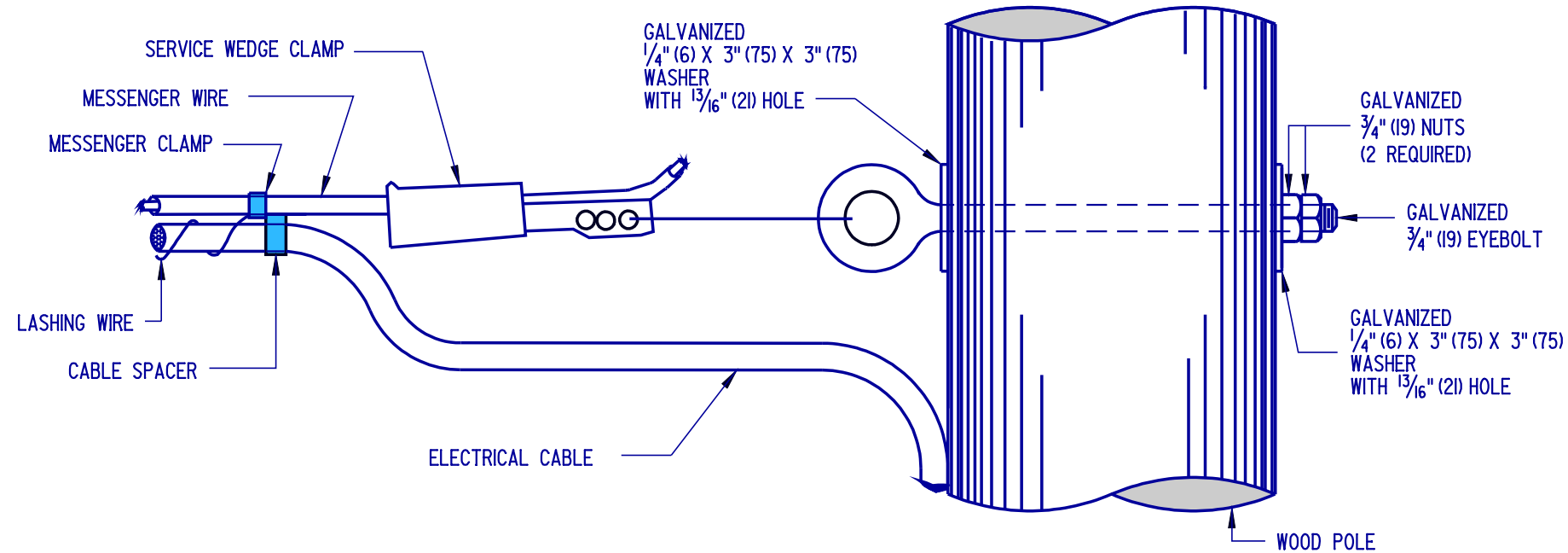
SHT. 1 OF 2

APPROVED

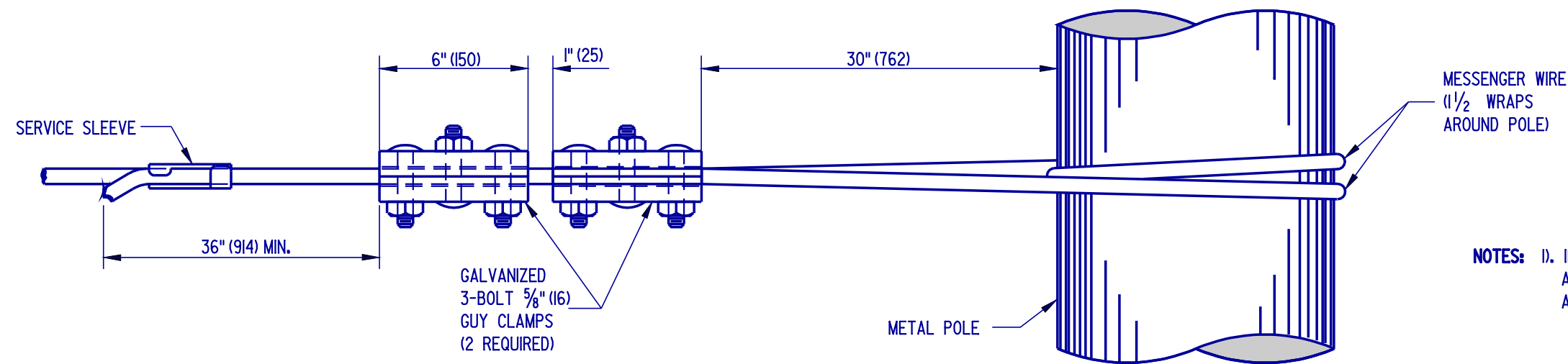
Carolann Wicks
CHIEF ENGINEER
DATE 1/10/05

RECOMMENDED

Dennis M. O'Flaherty
DESIGN ENGINEER
DATE 1/13/05



WOOD POLES



NOTES: 1). INSTALLATION METHOD SHOWN FOR DEAD END MESSENGER WIRE ATTACHMENT TO METAL POLES SHALL BE USED FOR SPAN WIRE ATTACHMENT BETWEEN METAL POLES.

PLAN SYMBOL

—X—○

METAL POLES

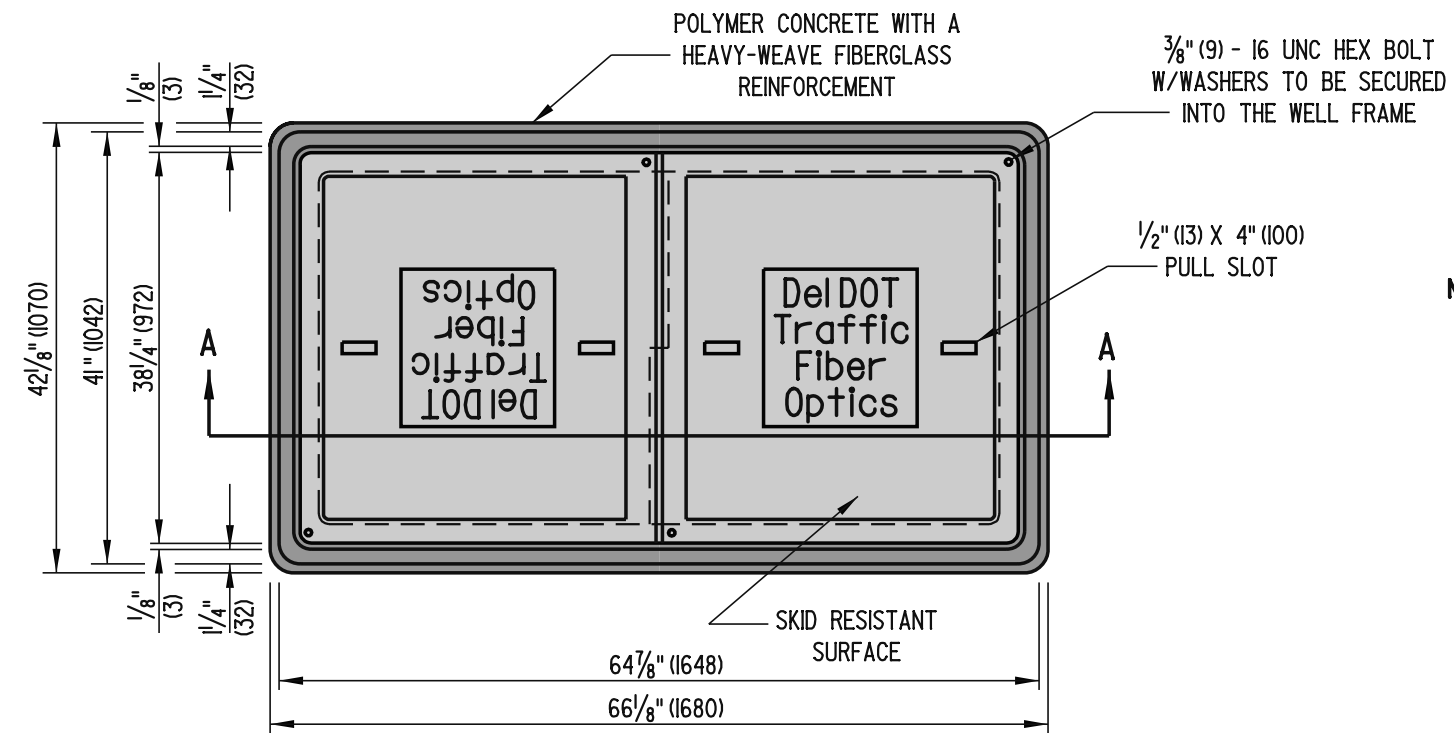


DELAWARE
DEPARTMENT OF TRANSPORTATION

DEAD END MESSENGER WIRE ATTACHMENT

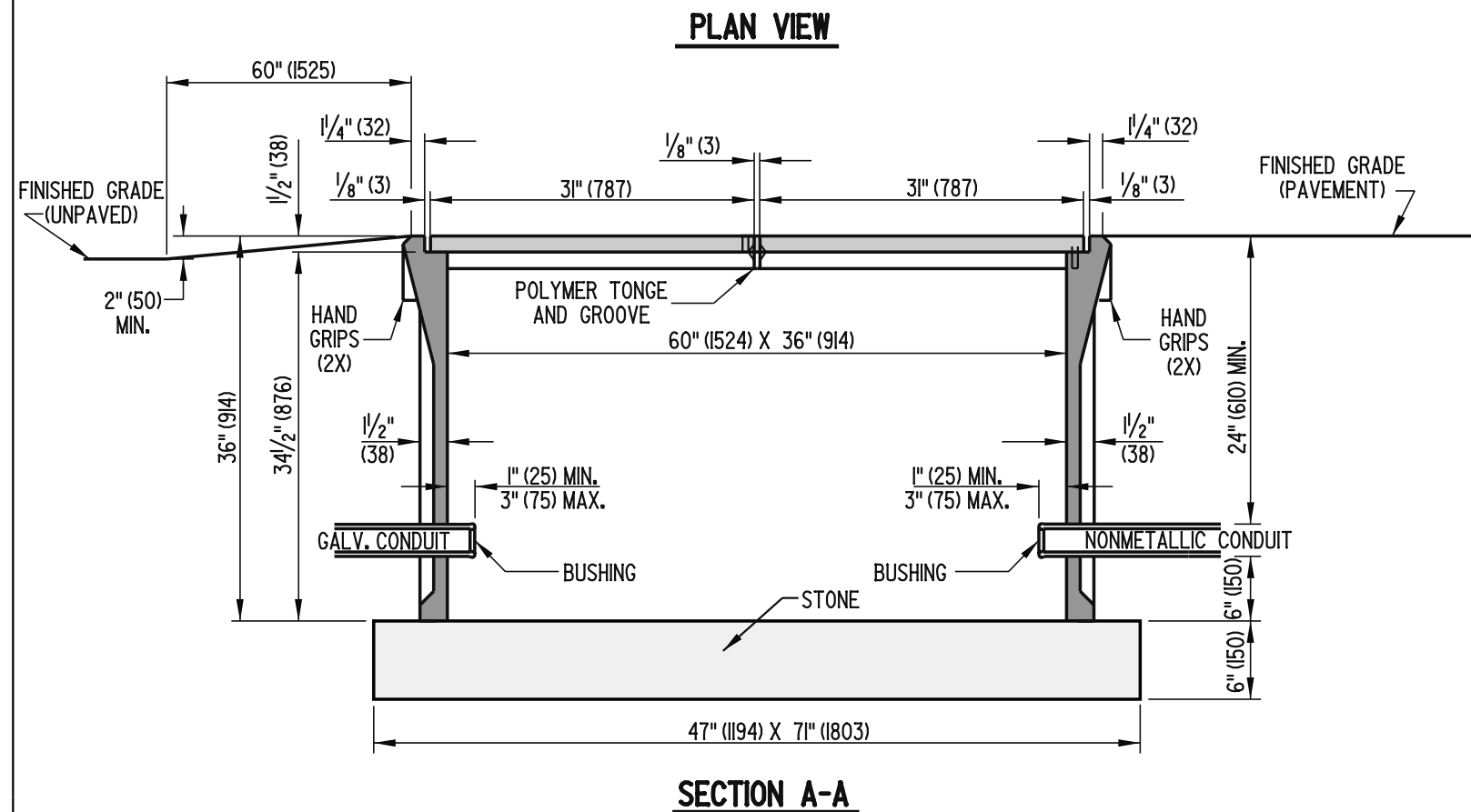
STANDARD NO. T-12 (2004) SHT. 2 OF 2

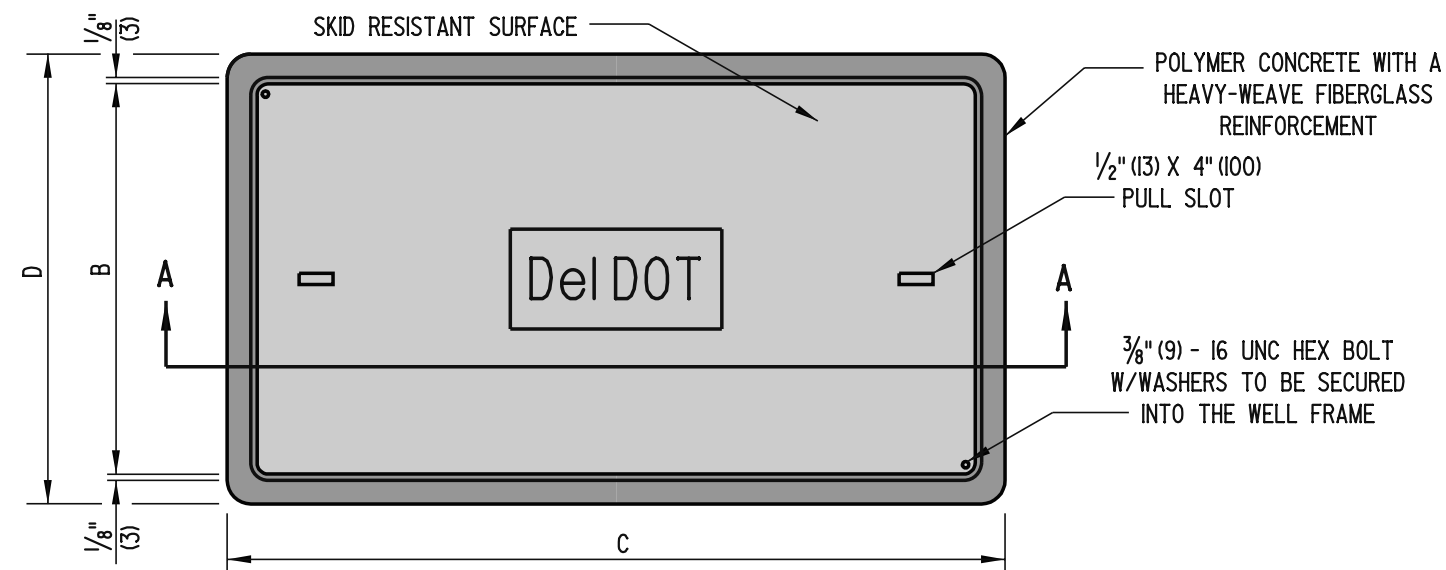
APPROVED *Carolann Wicks* 1/10/05
CHIEF ENGINEER DATE
RECOMMENDED *Dennis M. O'Flaherty* 1/13/05
DESIGN ENGINEER DATE



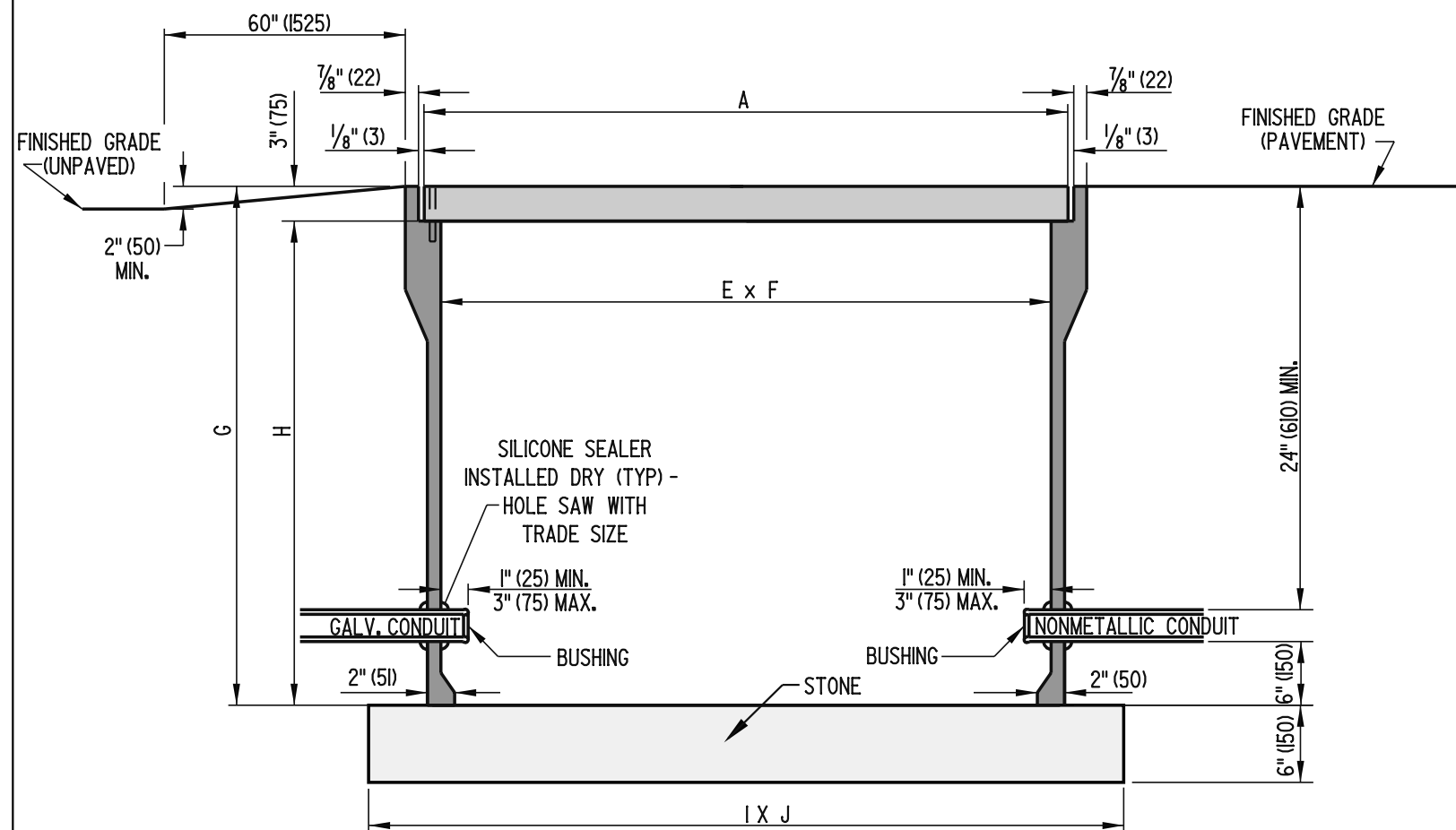
- NOTES:**

- 1). TYPE 7 CONDUIT JUNCTION WELL SHALL BE PRECAST POLYMER CONCRETE.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
- 3). POLYMER CONCRETE COVERS SHALL BE THE HEAVY DUTY TYPE WITH A DESIGN LOAD OF 15,000 LBS (6800 kg) OVER A 10"(255) SQUARE.





PLAN VIEW



SECTION A-A

NOTES:

- 1). TYPES 8 & 10 CONDUIT JUNCTION WELLS SHALL BE PRECAST POLYMER CONCRETE.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
- 3). POLYMER CONCRETE COVERS SHALL BE THE HEAVY-DUTY TYPE WITH A DESIGN LOAD OF 15,000 LBS (6800 kg) OVER A 10\"/>

DIMENSIONS		TYPE 8	TYPE 10
COVER	A	47 5/8\"/>	35 5/8\"/>
	B	30 1/8\"/>	24\"/>
FRAME	C	49 5/8\"/>	37 5/8\"/>
	D	32 1/8\"/>	26\"/>
	E	45 5/8\"/>	33 7/8\"/>
	F	28 1/8\"/>	22 1/4\"/>
	G	36\"/>	30\"/>
	H	33\"/>	27\"/>
BASE	I	58\"/>	46\"/>
	J	40\"/>	34\"/>



DELAWARE
DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELLS, TYPES 8 & 10

STANDARD NO. T-13 (2006)

SHT. 3 OF 3

APPROVED

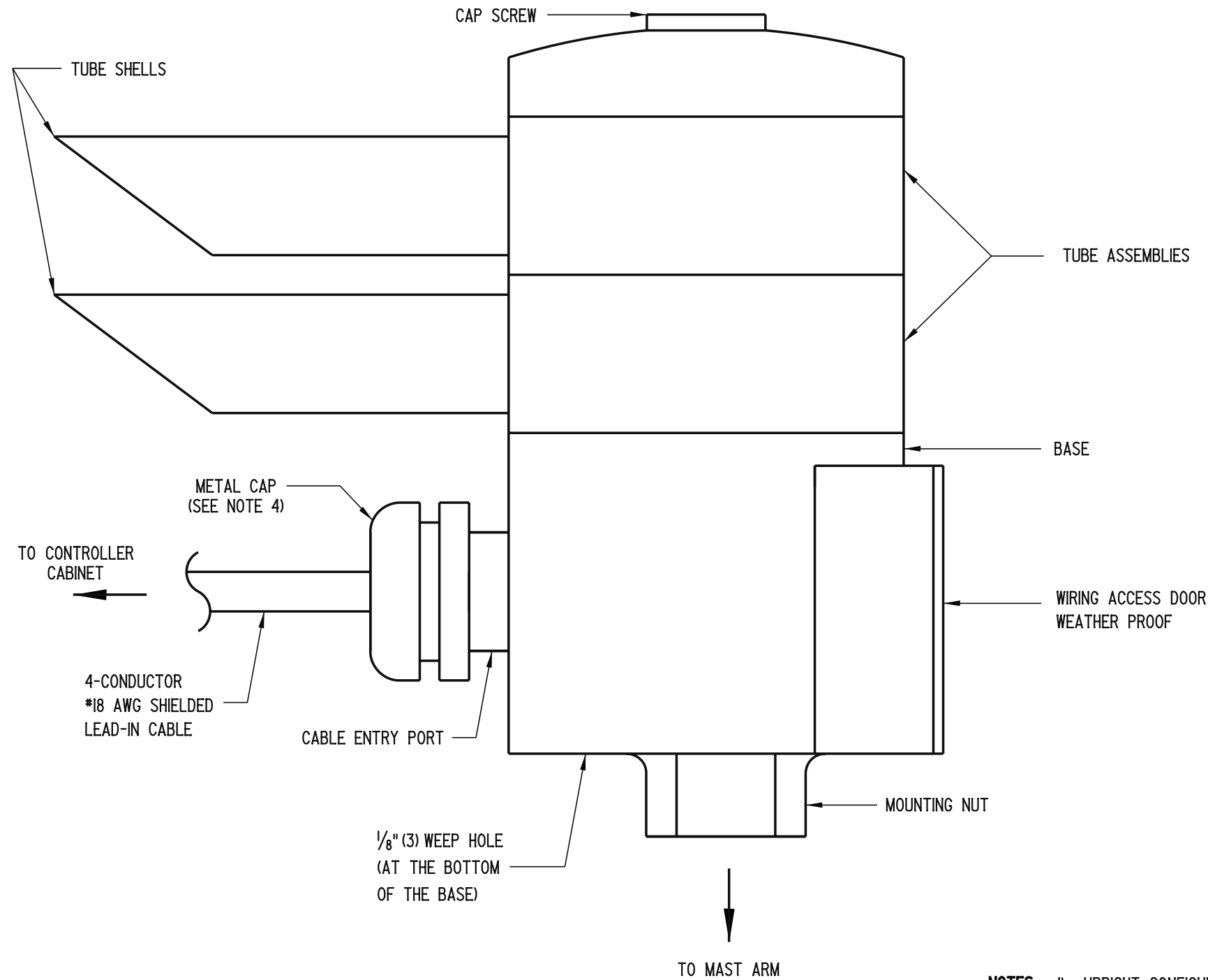
[Signature]
CHIEF ENGINEER

10/10/06
DATE

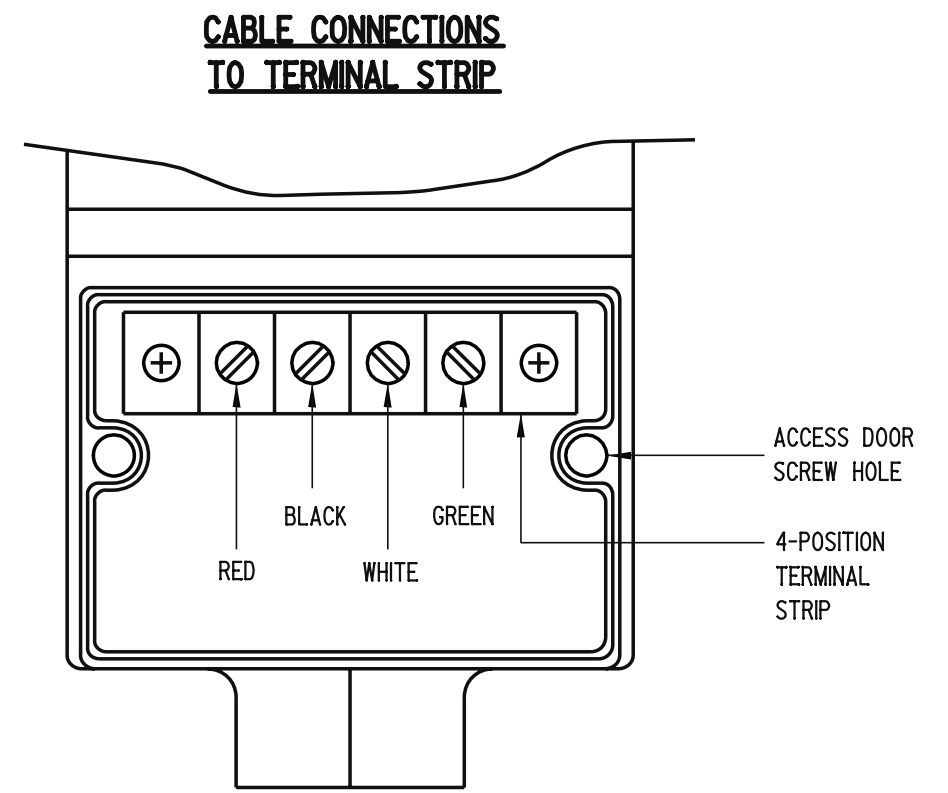
RECOMMENDED

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DESIGN ENGINEER

10/13/06
DATE






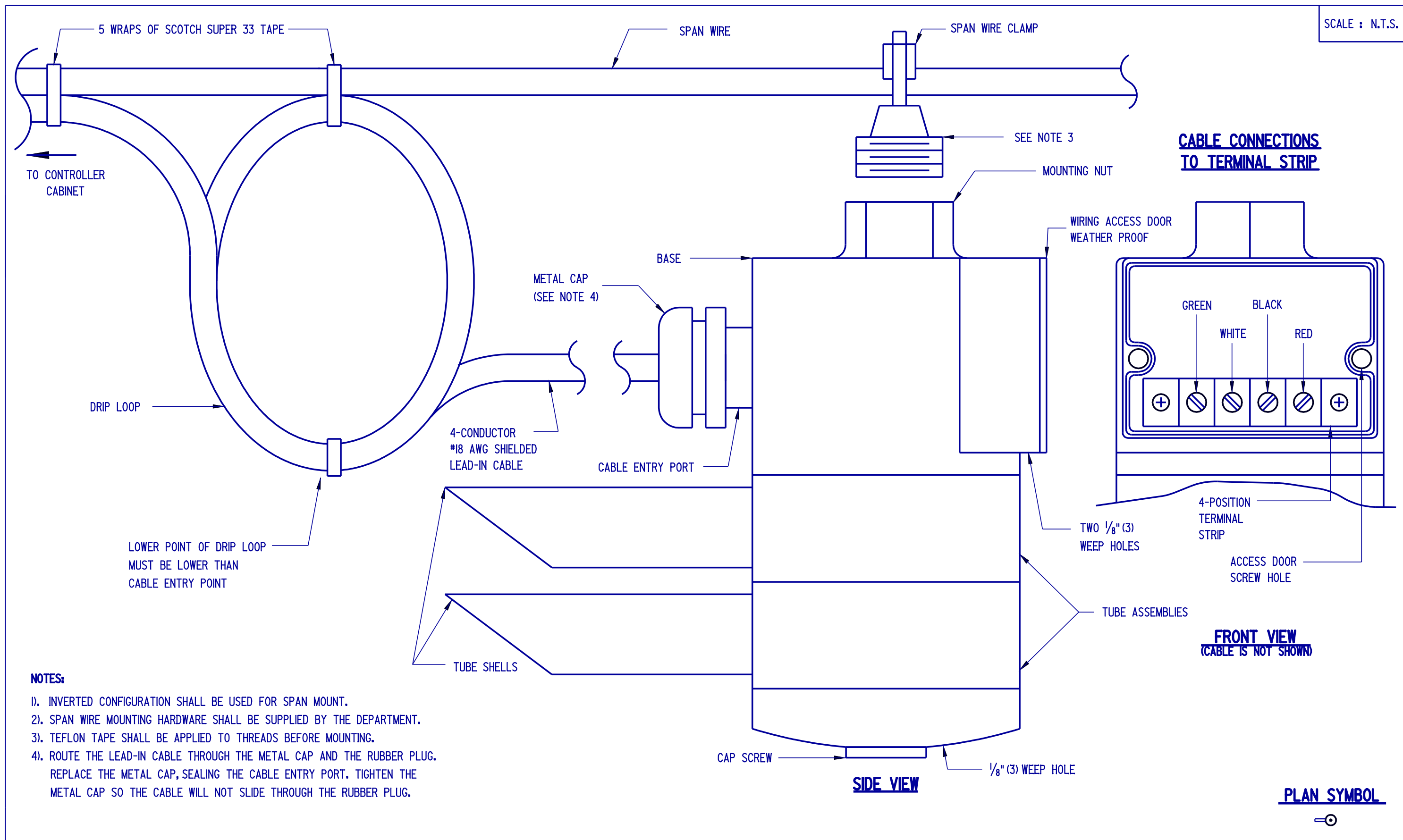
SIDE VIEW



FRONT VIEW
(CABLE IS NOT SHOWN)

- NOTES:**
- 1). UPRIGHT CONFIGURATION SHALL BE USED FOR MOUNTING ON MAST ARMS, SIGNAL HEAD FRAMEWORKS AND PEDESTALS.
 - 2). UPRIGHT MOUNTING HARDWARE SHALL BE SUPPLIED BY THE DEPARTMENT.
 - 3). TEFLON TAPE SHALL BE APPLIED TO THREADS BEFORE MOUNTING.
 - 4). ROUTE THE LEAD-IN CABLE THROUGH THE METAL CAP AND THE RUBBER PLUG. REPLACE THE METAL CAP, SEALING THE CABLE ENTRY PORT. TIGHTEN THE METAL CAP SO THE CABLE WILL NOT SLIDE THROUGH THE RUBBER PLUG.

 DELAWARE DEPARTMENT OF TRANSPORTATION	EMERGENCY PREEMPTION RECEIVER, UPRIGHT MOUNT		APPROVED  10/10/06 <small>CHIEF ENGINEER DATE</small>
	STANDARD NO. T-14 (2006)	SHT. 1 OF 2	RECOMMENDED  10/13/06 <small>DESIGN ENGINEER DATE</small>



DELAWARE
DEPARTMENT OF TRANSPORTATION

EMERGENCY PREEMPTION RECEIVER, INVERTED MOUNT

STANDARD NO. T-14 (2004)

SHT. 2 OF 2

APPROVED

Carolann Wick
CHIEF ENGINEER

1/10/05
DATE

RECOMMENDED

Dennis M. O'Flaherty
DESIGN ENGINEER

1/13/05
DATE