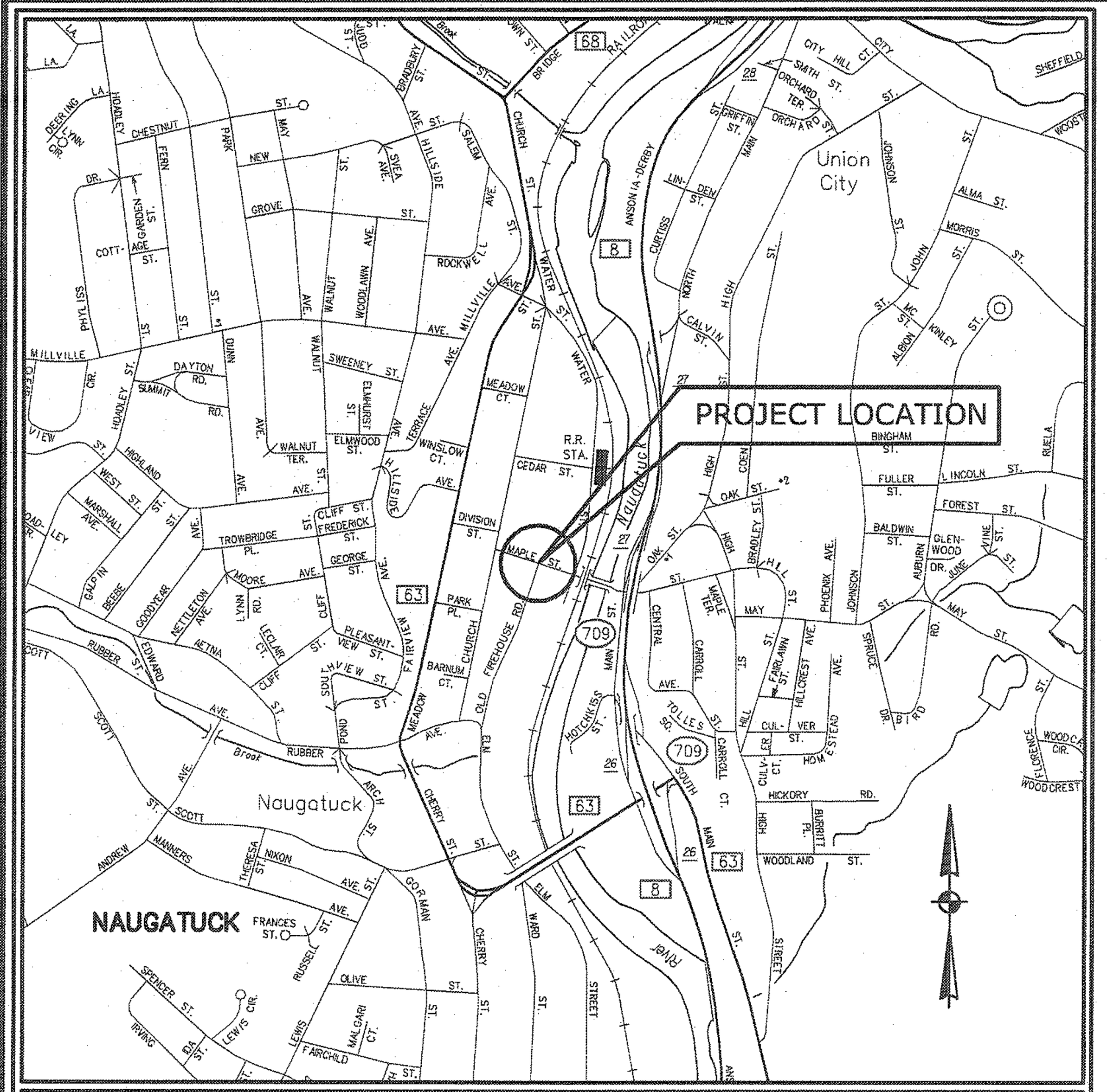
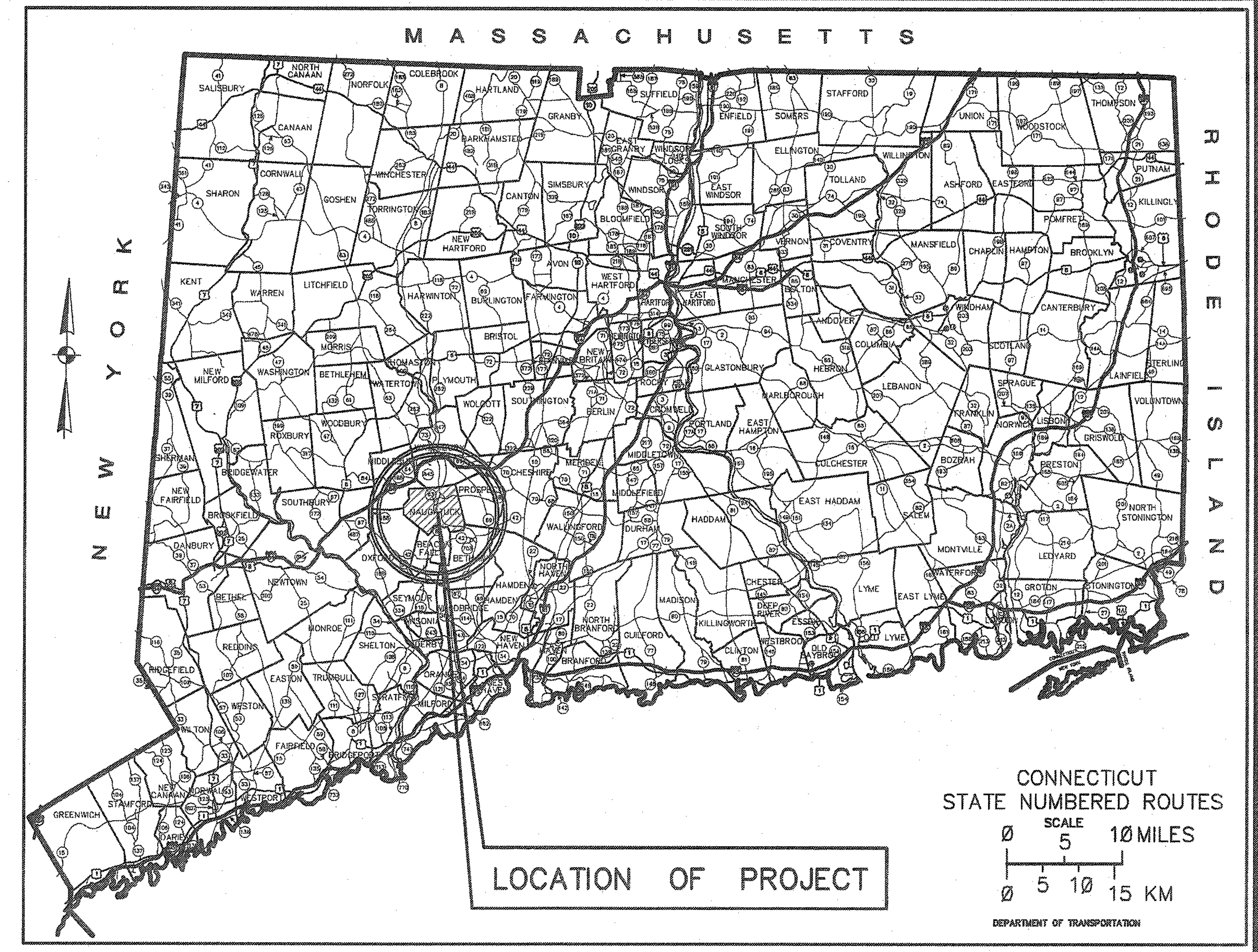


LOCATION PLAN
SCALE IN FEET
1000 0 1000 2000 3000

BOROUGH OF NAUGATUCK
PLAN
FOR THE
INSTALLATION OF A TRAFFIC SIGNAL
MAPLE ST. AT OLD FIREHOUSE RD.
IN THE TOWN OF
NAUGATUCK



STA. ________ TO STA. ________

LENGTH: ______________________

DESIGN SCALES
PLAN 1 IN. = 40 FT.
PROFILE HOR. 1 IN. = ____FT. VERT. 1 IN. = ____FT.
CROSS SECTIONS 1 IN. = ____FT.
OTHER SCALES AS NOTED

MAPLE ST. AND OLD FIREHOUSE RD. TO BE MAINTAINED BY THE BOROUGH OF NAUGATUCK

2004 STANDARD SPECIFICATIONS, FORM NO. 816 INCLUDING SUPPLEMENTS THERETO DATED JANUARY, 2010 GOVERN.
ALL ELEVATIONS ON THIS PROJECT BASED ON N.G.V.D. OF 1929.
COORDINATES BASED ON NORTH AMERICAN DATUM (NAD 1983).

TOWN NO. 87
PROJECT NO. 87-144

MAPLE ST. AT OLD FIREHOUSE RD.
DESIGN CLASSIFICATION:
DESIGN SPEED:
PROJECT LENGTH:
BEGIN STATION:
END STATION:

LIST OF DRAWINGS

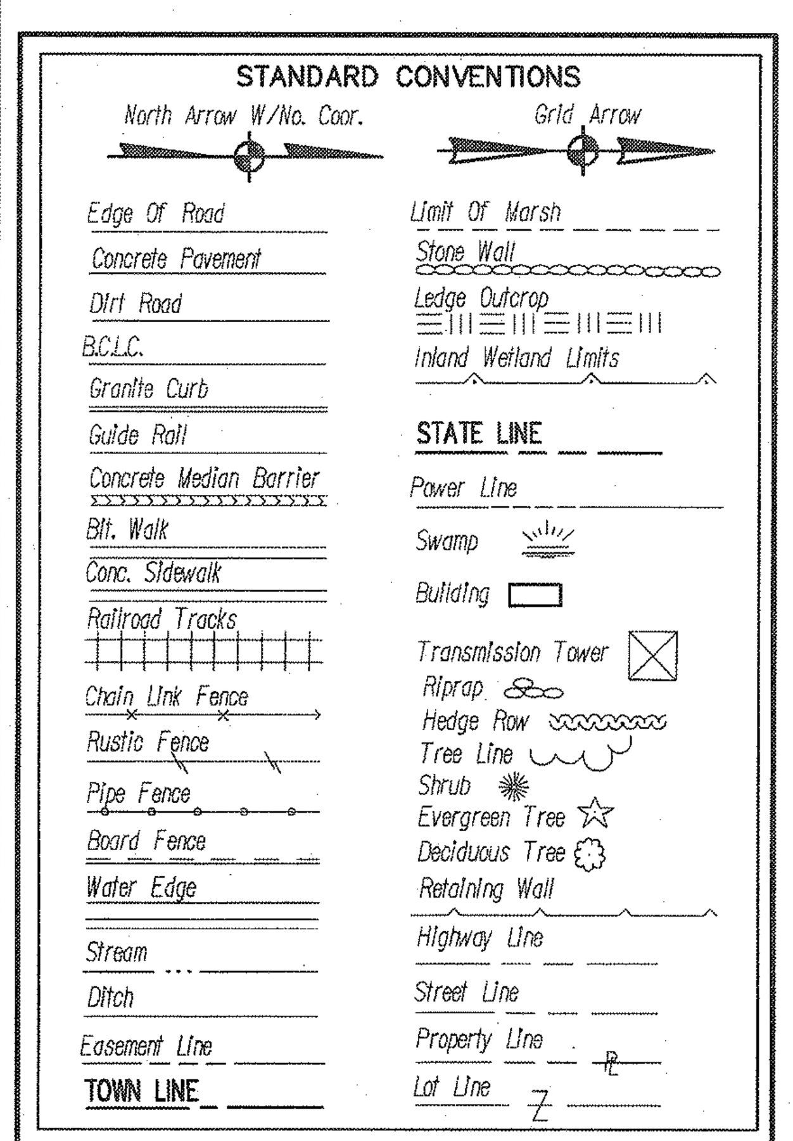
SHEET NO.	TITLE	SHEET NO.	TITLE
1	TITLE SHEET		
2	DETAILED ESTIMATE SHEET		
3	TRAFFIC CONTROL SIGNAL PLAN		
4	TRAFFIC STANDARDS INDEX SHEET		
	TRAFFIC STANDARDS SHEETS		
	MISCELLANEOUS DETAIL SHEETS		

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

APPROVAL IS HEREBY CONSTRUED TO MEAN THAT THIS DESIGN WAS PREPARED BY PERSONS BELIEVED TO BE COMPETENT IN DESIGN AND THAT THE DESIGN APPEARS TO CONFORM TO APPLICABLE CRITERIA.

APPROVAL IS NOT TO BE CONSTRUED TO MEAN THAT ALL ASPECTS OF THE DESIGN HAVE BEEN PERSONALLY CHECKED BY THE UNDERSIGNED.

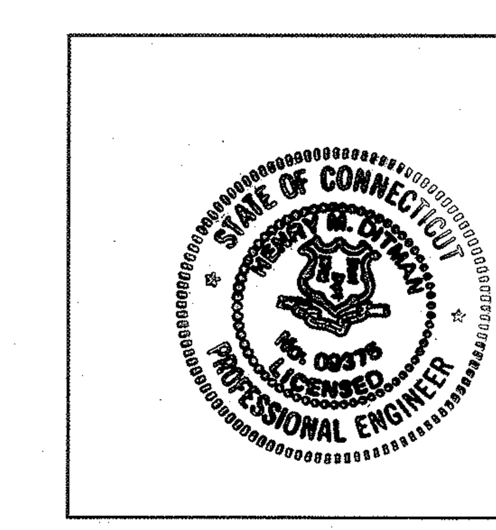
APPROVED BY:
DIRECTOR OF PUBLIC WORKS 7/15/11 DATE



FINAL SUBMISSION

DESIGNED BY:

Engineering, Landscape Architecture and Environmental Science
MILONE & MACBROOM
500 East Main Street, Suite 326
Branford, Connecticut 06450
(203) 481-4208 Fax (203) 483-7205
miloneandmacbroom.com
HENRY M. DITMAN, P.E.
CONN. PROFESSIONAL REG. NO. 9375
DATE: 7/15/11



F.HW.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
	CONN.	NAUGATUCK		87-144	2010	MAPLE ST.	1	

TRAFFIC CONTROL SIGNAL ITEMS

ITEM NUMBER	0921001A	0971001A	0975002	1001001	1002015	1002202	1002203	1002208	1008114
ITEM	CONCRETE SIDEWALK	MAINTENANCE AND PROTECTION OF TRAFFIC	MOBILIZATION	TRENCHING AND BACKFILLING	ROCK IN FOUNDATION EXCAVATION	TRAFFIC CONTROL FOUNDATION - MAST ARM	TRAFFIC CONTROL FOUNDATION - PEDESTAL TYPE I	TRAFFIC CONTROL FOUNDATION - CONTROLLER TYPE IV	1-1/2" RIGID METAL CONDUIT - IN TRENCH
UNIT	S.F.	L.S.	L.S.	L.F.	V.F.	EA.	EA.	EA.	L.F.
	500	L.S.	L.S.	100	4	3	2	1	40
SUBTOTAL	500	1	1	100	4	3	2	1	40
UNASSIGNED									
TOTAL	500	1	1	100	4	3	2	1	40

ITEM NUMBER	1008115	1008215	1008907A	1010001	1010021	1102002	1104026A	1104028A	1104031A
ITEM	2" RIGID METAL CONDUIT - IN TRENCH	2" RIGID METAL CONDUIT - UNDER ROADWAY	CLEAN EXISTING CONDUIT	CONCRETE HANDHOLE	CONCRETE HANDHOLE - TYPE II	8' ALUMINUM PEDESTAL	25' STEEL MAST ARM ASSEMBLY	30' STEEL MAST ARM ASSEMBLY	35' STEEL MAST ARM ASSEMBLY
UNIT	L.F.	L.F.	HR.	EA.	EA.	EA.	EA.	EA.	EA.
	150	20	8	5	3	2	1	1	1
SUBTOTAL	150	20	8	5	3	2	1	1	1
UNASSIGNED									
TOTAL	150	20	8	5	3	2	1	1	1

ITEM NUMBER	1105101A	1105103A	1106001A	1106003A	1106004A	1107007A	1108115A	1108724A	1111401A
ITEM	1 WAY, 1 SECTION MAST ARM TRAFFIC SIGNAL	1 WAY, 3 SECTION MAST ARM TRAFFIC SIGNAL	1 WAY PEDESTRIAN SIGNAL POLE MOUNTED	1 WAY PEDESTRIAN SIGNAL PEDESTAL MOUNTED	2 WAY PEDESTRIAN SIGNAL PEDESTAL MOUNTED	PEDESTRIAN PUSH BUTTON AND SIGN (PIEZO)	FULL ACTUATED CONTROLLER 8 PHASE	PHASE SELECTOR	LOOP VEHICLE DETECTOR
UNIT	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.
	4	6	3	1	1	5	1	1	3
SUBTOTAL	4	6	3	1	1	5	1	1	1
UNASSIGNED									
TOTAL	4	6	3	1	1	5	1	1	1

ITEM NUMBER	1111451A	1112470A	1113004	1113050	1113102	1113103	1118012A	1206013A	1208928
ITEM	LOOP DETECTOR SAW CUT	PRE-EMPTION SYSTEM CHASSIS	2 CONDUCTOR NO. 8 AWG TYPE SE STYLE THW	2 CONDUCTOR NO. 14 CABLE	5 CONDUCTOR NO. 14 CABLE	7 CONDUCTOR NO. 14 CABLE	REMOVAL AND/OR RELOCATON OF TRAFFIC SIGNAL EQUIPMENT	REMOVAL OF EXISTING SIGNING	SIGN FACE SHEET ALUMINUM (TYPE III REFLECTIVE SHEETING)
UNIT	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.S.	L.S.	S.F.
	350	1	15	240	600	900	1	1	30
SUBTOTAL	350	1	15	240	600	900	1	1	30
UNASSIGNED									
TOTAL	350	1	15	240	600	900	1	1	30

ITEM NUMBER	1209801	1209802	1209809	1210105	1211001	1220011A										
ITEM	4" WHITE TYPE I EPOXY RESIN PAVEMENT MARKINGS	4" YELLOW TYPE I EPOXY RESIN PAVEMENT MARKINGS	12" WHITE TYPE I EPOXY RESIN PAVEMENT MARKINGS	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS & LEGEND	REMOVAL OF PAVEMENT MARKINGS	CONSTRUCTION SIGN TYPE III REFLECTIVE SHEETING										
UNIT	L.F.	L.F.	L.F.	S.F.	S.F.	S.F.										
	130	900	70	90	200	100										
SUBTOTAL	130	900	70	90	200	100										
UNASSIGNED																
TOTAL	130	900	70	90	200	100										

TRAFFIC CONTROL SIGNAL ITEMS

ITEM NUMBER					
ITEM					
UNIT					
SUBTOTAL					
UNASSIGNED					
TOTAL					

REV.	DATE	DESCRIPTION	SHEET NO.
REVISIONS			

DESIGNER: H. DITMAN
DRAFTER: N. ANTONUCCI
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: MILONE & MACBROOM, INC.
APPROVED BY: DATE: 10/20/10

PROJECT TITLE: TRAFFIC SIGNAL MAPLE ST. AT OLD FIREHOUSE RD.
CADD FILE: MS-DET.dwg PLOTTED: 5/18/11

TOWN: NAUGATUCK
DRAWING TITLE: DETAILED ESTIMATE SHEET

PROJECT NO.: 87-144
DRAWING NO.: DET-1
SHEET NO.: 2

FINAL SUBMISSION

NONE	PHASE 1			PHASE 2			PHASE 3			PHASE 4 (PRE-EMPT 1)			PHASE 5			PHASE 6			PHASE 7			PHASE 8 (PRE-EMPT 2)		
NTOR / FACE # / FLASH	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL				GRN	CL	CL
1 / R	←G	G ←Y	G	G	Y	R	R	R	R	R	R	R										R	R	R
2 / R	G	G	G	G	Y	R	R	R	R	R	R	R										R	R	R
3 / R	R	R	R	G	Y	R	R	R	R	R	R	R										G	Y	R
4 / R	R →	R Y→	R	R	R	R	R	R	R	G	Y→①	R→②										R	R	R
5 / R	R	R	R	R	R	R	R	R	R	G	Y	R										R	R	R
P / OFF	← DW →						WØ	← DW →														← DW →		
MIN	5	3	0	15	3	0	7/10	4	0	5	3	0												
MAX	15	5	3	50	5	3	7/20	4	0.1	30	5	3												

INTERVALS	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
MIN GRN	5	20		7				
WALK			7					
PED CLR			9 ③					
VEH EXT	1.5			1.5				
MAX 1	12	40		20				
MAX 2	12	40		20				
YELLOW	3	3	4	3				3
RED	0.5	2	0	1				2
ADD INIT			COUNTDOWN PEDESTRIAN SIGNAL					
MAX INIT								
TBR								
TTR								
MIN GAP								
MODE	NON-LOCK	MAX RECALL	NON-LOCK	NON-LOCK	OFF	OFF	OFF	ON / OMIT
INT START		THIS PHASE						

DETECTORS

IDENT	SIZE (WXL)	TURNS	MODE
D1	6' x 6'	3	PRESENCE
D4	6' x 6'	3	PRESENCE
D4A	6' x 6'	3	PRESENCE

PROGRAM

FUNCTION	TIME	DAYS
FLASH	2200 - 0600	DAILY
MAX 1	ALL OTHER TIMES	DAILY
MAX 2	FUTURE	

COORDINATION TYPE - NONE

CYCLE	OFFSET SEC	OFFSET %	PHASE SPLITS SEC / % Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	PERMIS PERIOD Ø	SEC	SYSTEM LOC
													MASTER

TECHNICAL NOTES

PRE-EMPTION TO BE INOPERATIVE DURING FLASHING OPERATION

PHASE 2 ON TO OMIT PHASE 1

① TO BE "Y" IF PHASE 2 NEXT

② TO BE "R" IF PHASE 2 NEXT

③ COUNTDOWN ONLY DURING FLASHING PEDESTRIAN CLEARANCE INTERVAL.

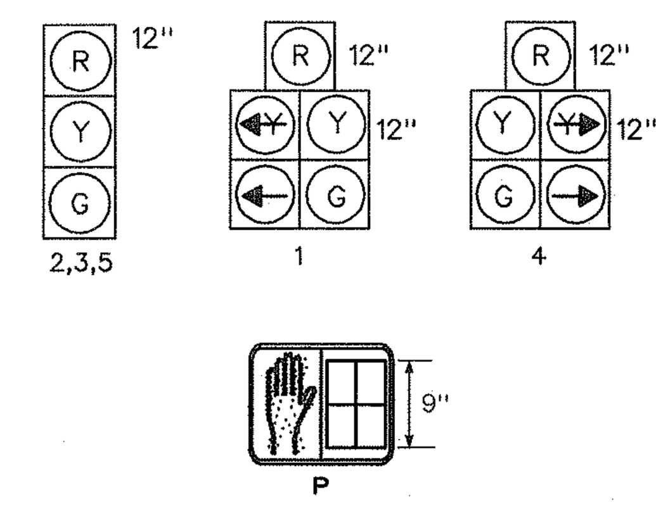
MANUAL AND INTERVAL ADVANCE TO BE DISCONNECTED DURING PHASE 3 PEDESTRIAN CLEARANCE INTERVAL.

PRE-EMPTION PHASES 4 AND 8 TO BE ACTIVATED BY PUSH BUTTONS IN FIREHOUSE.

ENERGY BY - NAUGATUCK	ADDRESS #
MAINT LEVEL -	SERVICE UNDERGROUND
UNMETERED SERVICE	

INTERSECTION #

SIGNAL FACES



ALL INDICATIONS TO BE LED LAMPS

PRE-EMPTION SETTINGS

	PRE-EMPTION 1	PRE-EMPTION 2
PRIORITY	NO	NO
DET LOCK	YES	YES
DELAY	0	0
ALT MIN GREEN	5	5
ALT YELLOW	PARENT	PARENT
ALT RED	PARENT	PARENT
ALT PED CLR	9	9
HOLD GREEN	15	15
HOLD YELLOW	3	3
HOLD RED	1	2
HOLD PHASE	4	8
EXIT PHASE	2	2
EXIT CALL	NONE	NONE

LEGEND:
R RED — ←R RED ARROW — WØ WALK/ PED. CLR
Y YELLOW — ←Y YELLOW ARROW — D.W. DON'T WALK
G GREEN — ← GREEN ARROW — FL. FLASHING

OFFICE RECORD
REVISION # __

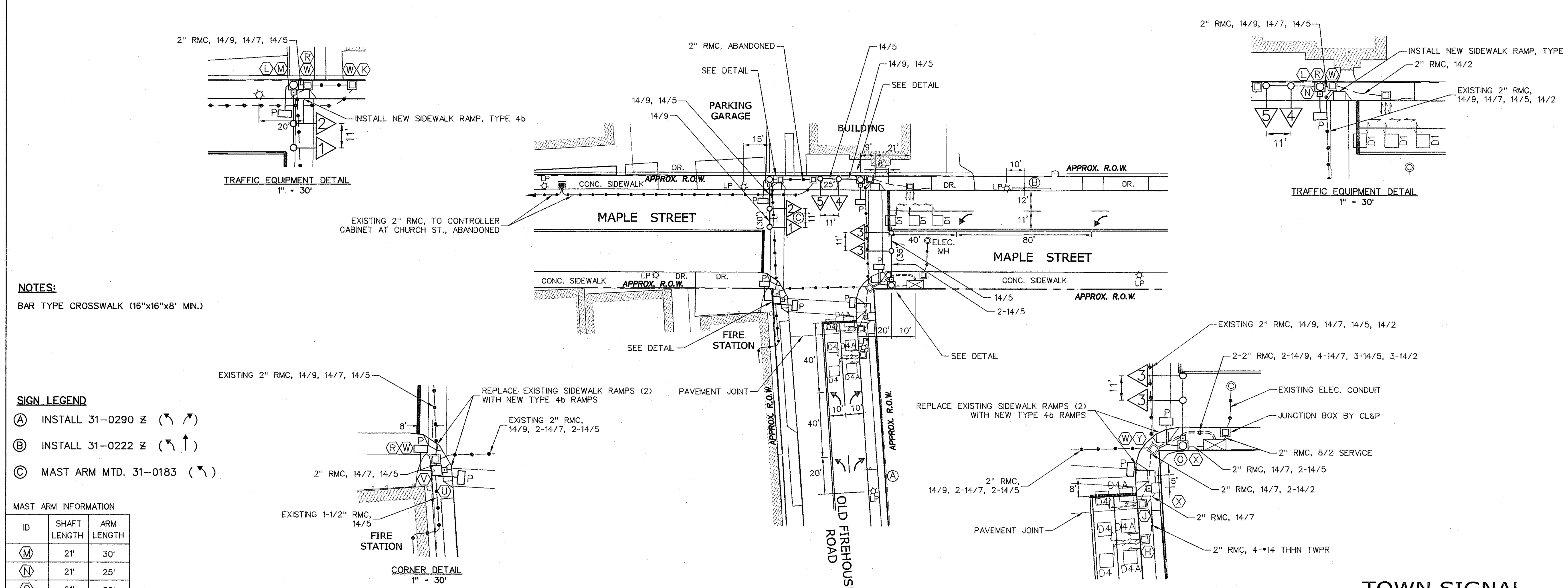
STC # 087-0912-01 SM # N/A
SIGNAL IN OPERATON
INSTALLED SIGNAL UNDER PROJECT 87-144.

TOWN SIGNAL

TOWN OF NAUGATUCK
MAPLE STREET AT
OLD FIREHOUSE ROAD

REV #	TRAFFIC	DATE	ELECTRICAL	DATE
ENGINEER				
DRAWN BY	MILONE & MACBROOM®			10/28/10
CHECKED BY				
SUBMITTED BY				
APPROVED BY				
DATE				

REV # | INTERSECTION #



NOTES:

BAR TYPE CROSSWALK (16"x16"x8' MIN.)

SIGN LEGEND

Ⓐ INSTALL 31-0290 Z (↰ ↱)

Ⓑ INSTALL 31-0222 Z (↰ ↑)

Ⓒ MAST ARM MTD. 31-0183 (↰)

MAST ARM INFORMATION

ID	SHAFT LENGTH	ARM LENGTH
Ⓜ	21'	30'
Ⓝ	21'	25'
Ⓞ	21'	35'

TOWN SIGNAL
SCALE 1" = 40'

MS-Traffic Signal.dwg

DATE PLOTTED 8/24/10

○ PROPOSED WOOD SPAN POLE
● EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
PEDESTRIAN SIGNAL FACE
AUDIBLE PEDESTRIAN SIGNAL
PROPOSED CONTROLLER
TRAFFIC SIGNAL FACE
PEDESTRIAN PUSH BUTTON & SIGN
PEDESTAL MOUNTING
PROPOSED R.M.C. (RIGID METAL CONDUIT)
EXISTING R.M.C. (RIGID METAL CONDUIT)
DET. LEADS IN SAW CUT
AUXILIARY TERMINATION CABINET
AUXILIARY EQUIPMENT CABINET
OPTICAL DETECTOR
SD SYSTEM DETECTOR
EXISTING CONTROLLER
PROPOSED HANDHOLE
EXISTING HANDHOLE
SIDEWALK RAMP
SONIC DETECTOR
GUY WIRE
LOOP DETECTOR
MAGNETIC DETECTOR
CABLE CLOSURE

DRAWN BY :

DESIGNED BY :

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

TOWN OF NAUGATUCK
MAPLE STREET AT
OLD FIREHOUSE ROAD

CONSTRUCTION NOTES :

ALL EQUIPMENT AND WIRING ARE NEW, EXCEPT AS NOTED.

ALL MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE FOLLOWING CURRENT DOT DOCUMENTS WHICH CAN BE ACCESSED ON THE DOT WEBSITE.

* STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION (FORM 816).
* SUPPLEMENTAL SPECIFICATIONS TO FORM 816.
* SPECIAL PROVISIONS TO FORM 816.
* TYPICAL INSTALLATION DRAWINGS.

STAKE ALL R.O.W. PRIOR TO EXCAVATION.

SEGMENTED LOOPS TO BE SPLICED IN SERIES.

INSTALL LOOP DETECTORS CENTERED IN LANE AND 8' APART UNLESS OTHERWISE SPECIFIED.

INSTALL HANDHOLES APPROX. 1' BEHIND CURB OR AT BACK OF SIDEWALK AS SHOWN.

INSTALL 8 PHASE CONTROLLER AND TYPE D CABINET ON A TYPE IV FOUNDATION.

CABINET DOOR TO OPEN STREET SIDE. LEAVE 3 SETS OF WIRING DIAGRAMS IN CONTROLLER CABINET.

LOOP DETECTOR SAWCUT RUNS ARE FOR ILLUSTRATION PURPOSES ONLY. PLEASE REFER TO TYPICAL INSTALLATION DETAILS.

INSTALL LOOP DETECTOR SAWCUT WIRES THROUGH HANDHOLE ⟨H⟩ (WITH NO SPLICES) AND THROUGH THE 2" RMC, THEN SPLICED TO CORRESPONDING LOOPS IN EACH LANE IN HANDHOLE ⟨J⟩. TWIST LOOP DETECTOR SAWCUT WIRES INSIDE THE 2" RMC ACCORDING TO THE TYPICAL PLAN.

⟨K⟩ REMOVE EXISTING CONTROLLER FOUNDATION AND INSTALL HANDHOLE. EXISTING CONDUIT TO REMAIN AS SHOWN.

⟨L⟩ REMOVE EXISTING PED. FOUNDATION AND INSTALL NEW MAST ARM FOUNDATION ADJACENT TO BACK OF WALK, AT LOCATION SHOWN.

⟨R⟩ INSTALL NEW HANDHOLE ADJACENT TO EXISTING PED. FOUNDATION. REDIRECT EXISTING CONDUIT INTO NEW HANDHOLE AS SHOWN.

⟨U⟩ LOCATE EXISTING WIRING THAT GOES FROM THE TWO EXISTING FIREHOUSE PRE-EMPTION BUTTONS THROUGH THE BUILDING TO THE STREET AND CONNECT TO NEW 14/5 CABLE.

⟨V⟩ INSTALL NEW PEDESTRIAN PEDESTAL ON EXISTING FOUNDATION.

⟨W⟩ INSTALL 30" X 30" HANDHOLE. ALL OTHERS TYPE II.

⟨X⟩ INSTALL FOUNDATION(S) ADJACENT TO BACK OF WALK.

⟨Y⟩ REMOVE EXISTING FOUNDATION TO A SUFFICIENT DEPTH IN ORDER TO INSTALL NEW HANDHOLE. REDIRECT EXISTING CONDUIT INTO NEW HANDHOLE AS SHOWN.

REMOVE ALL ABANDONED FOUNDATIONS IN SIDEWALKS AT LEAST 6" BELOW FINISHED GRADE.

INSTALL PAVEMENT MARKINGS AS SHOWN. REMOVE ANY CONFLICTING MARKINGS.

THE MAST ARM ASSEMBLY WORKING SHOP DRAWINGS HAVE TO BE REVIEWED AND ACCEPTED BY THE DESIGN ENGINEER OF RECORD.

THE LOCATION OF TRAFFIC SIGNAL APPURTENANCES (MAST ARMS, PEDESTALS AND HANDHOLES) WHEN IN OR ADJACENT TO SIDEWALKS SHALL BE VERIFIED PRIOR TO INSTALLATION TO PROVIDE A FREE PATH OF NOT LESS THAN 3 FEET. IF A MIN. 3 FOOT FREE PATH IS UNAVAILABLE, THE CONTRACTOR MUST CONTACT THE ENGINEER.

INSTALL SIGN 41-0820 "NEW SIGNAL IN OPERATION" ON ALL APPROACHES AND REMOVE AFTER 14 CALENDAR DAYS FROM THE DATE THE SIGNAL IS PLACED IN OPERATION.

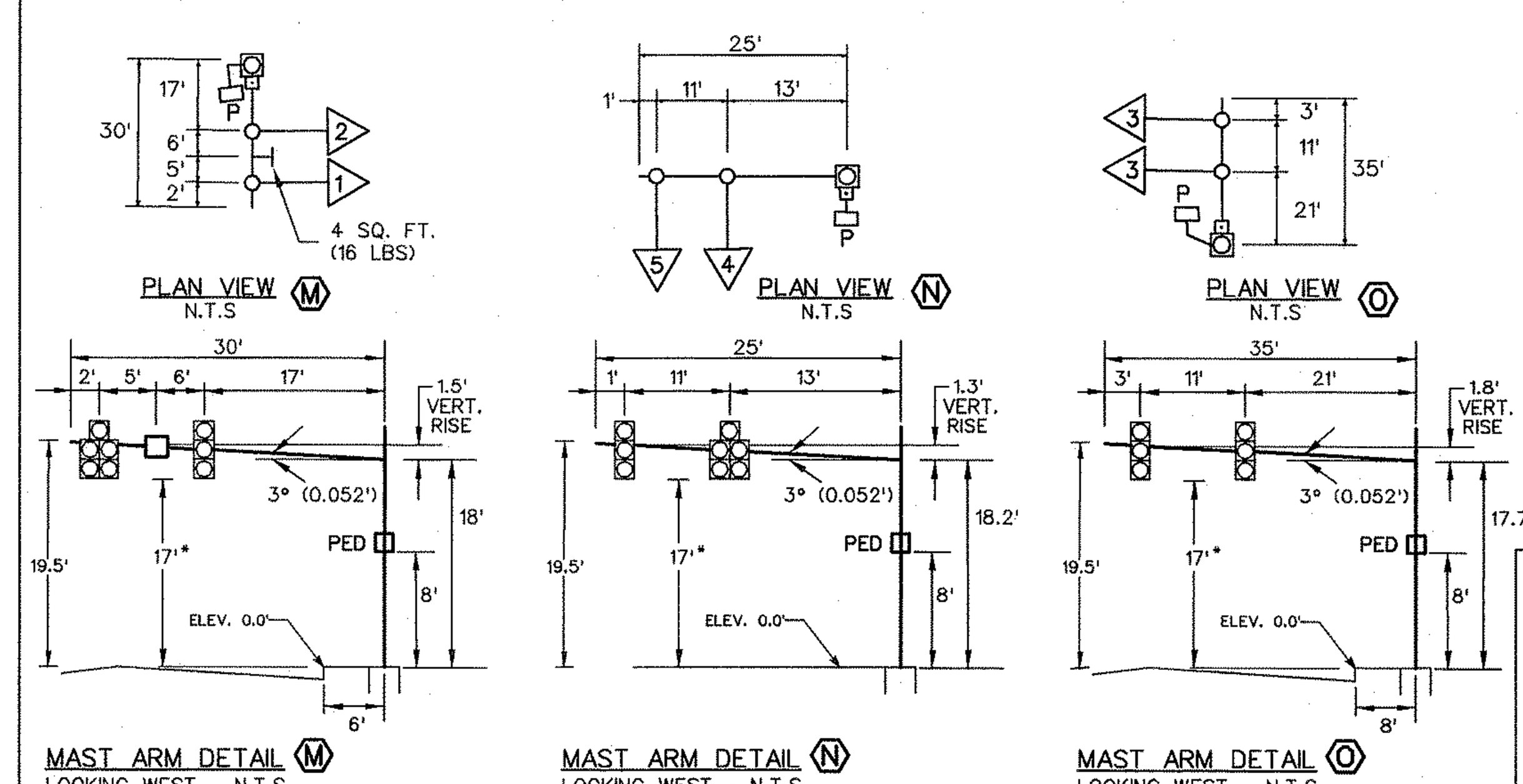
EXCEPT FOR TEST PURPOSES, KEEP SIGNALS BAGGED PRIOR TO THE FUNCTIONAL INSPECTION (FORM 816 SEC. 10.00.10). SIGNAL MAY BE PLACED IN FLASHING OPERATION NO MORE THAN 7 DAYS PRIOR TO PLACING IN NORMAL OPERATION.

CONTRACTOR TO INSTALL SIGN NO. 31-0845 AT THE PEDESTRIAN PUSHBUTTON LOCATIONS.

PRE-EMPTION PHASES ARE ACTIVATED BY TWO PUSHBUTTONS IN FIRE STATION DISPATCH ROOM.

ANY PROPOSED REVISIONS TO THE LOCATION OF THE APPURTENANCES SHOWN ON THE PLAN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE TOWN OF NAUGATUCK, DIRECTOR OF PUBLIC WORKS PRIOR TO INSTALLATION.

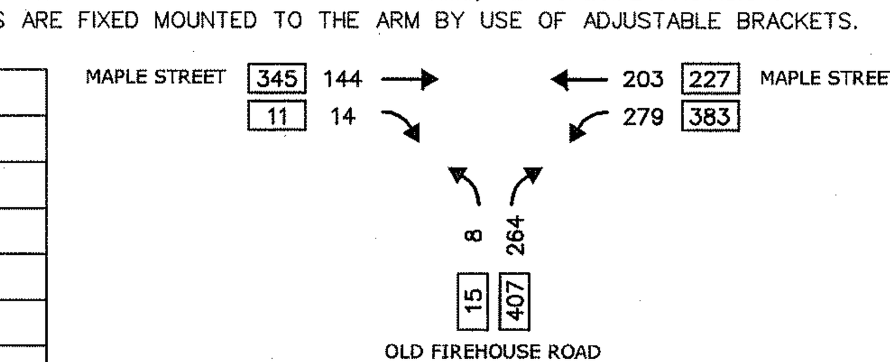
UTILITY ENGINEER CONSULTED DURING DESIGN:
CL&P REP: VINCE TATA AT 203-597-4423



* DISTANCE BETWEEN ROAD AND SIGNAL HEAD SHALL BE 17' to 18'.
CROSS SECTION IS IN LINE WITH MAST ARM.
CONTRACTOR TO VERIFY MAST ARM INFORMATION PRIOR TO ORDERING MAST ARMS, PER SPECIAL PROVISIONS.
ALL MAST ARM MOUNTED TRAFFIC SIGNALS ARE FIXED MOUNTED TO THE ARM BY USE OF ADJUSTABLE BRACKETS.

NO.	DATE	INIT.	DESCRIPTION

REVISIONS



2016 PEAK HOUR TRAFFIC VOLUMES
XX = AM [XX] = PM

REV #
INTERSECTION #

TOWN: TOWN OF NAUGATUCK

DRAWING TITLE: TRAFFIC CONTROL SIGNAL PLAN

PROJECT NO. 87-144

DRAWING NO.

SHEET NO. 3

FINAL SUBMISSION

ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT # 123-1234

	SHEET NO.	TITLE	APPROVAL DATE
✓	TR-1000_01	GENERAL CLAUSES (TEST PROCEDURES) [7]	09/01/09
✓	TR-1001_01	TRENCHING & BACKFILLING, ELECTRICAL CONDUIT [3]	09/01/09
✓	TR-1002_01	TRAFFIC CONTROL FOUNDATIONS [5]	09/01/09
✓	TR-1010_01	CONCRETE HANDHOLE [4]	09/01/09
	TR-1101_01	POLE ANCHOR, CONTROL CABLE AND MESSENGER & SPAN WIRE [13]	09/01/09
✓	TR-1102_01	PEDESTALS, PEDESTRIAN SIGNALS [9]	01/2010
	TR-1103_01	SPAN POLE, ALTERNATE FLASHING SIGNALS FOR WARNING SIGNS [14]	09/01/09
✓	TR-1105_01	TRAFFIC SIGNALS AND CABLE ASSIGNMENTS [11]	09/01/09
✓	TR-1107_01	PEDESTRIAN PUSH BUTTON [10]	09/01/09
	TR-1107_02	AUDIBLE PEDESTRIAN SIGNAL, "Y" CLAMP, SIGN HANGER [12]	09/01/09
✓	TR-1108_01	CONTROLLERS [10A]	09/01/09
✓	TR-1111_01	LOOP VEHICLE DETECTOR AND SAWCUT [6]	09/01/09
	TR-1111_02	VEHICLE DETECTION SYSTEMS [8]	09/01/09
	TR-1116_01	OVERHEAD ILLUMINATED "STOP AHEAD" SIGN & INTERNALLY ILLUMINATED SIGN [15]	09/01/09

	SHEET NO.	TITLE	APPROVAL DATE
	TR-1205_01	DELINEATION, DELINEATOR AND OBJECT MARKER DETAILS [7]	01/2010
✓	TR-1208_01	SIGN SUPPORT AND SIGN PLACEMENT DETAILS, GORE EXIT SIGN [8]	09/01/09
✓	TR-1208_02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS [9]	09/01/09
	TR-1210_01	PAVEMENT MARKINGS (DURABLE MARKINGS) FOR DIVIDED HIGHWAYS [21A]	09/01/09
	TR-1210_02	PAVEMENT MARKINGS (DURABLE MARKINGS) FOR DIVIDED HIGHWAYS [22A]	09/01/09
✓	TR-1210_03	SPECIAL DETAILS & TYPICAL PAVEMENT MARKINGS FOR TWO-WAY HIGHWAYS [25]	09/01/09
✓	TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS [23]	09/01/09
✓	TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES [23A]	09/01/09

STANDARD SHEETS SHALL BE USED WITH STANDARD SPECIFICATIONS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/28/2010

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-STD_INDEX

SUBMITTED BY: NAME-DATE/TIME

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

TRAFFIC STANDARD SHEET INDEX

STANDARD SHEET NO.:

TR-STD_INDEX

DOCUMENT ALL LOOP DETECTOR VALUES BOTH CALCULATED AND MEASURED.

DEFINITIONS:

LOOP: #14 AWG WIRE IN SAWCUT, TERMINATED IN HANDHOLE, IMSA SPEC 51-7.
LEAD-IN: 14/2 SHIELDED TWISTED PAIR CABLE FROM HANDHOLE TO CONTROLLER, IMSA SPEC 50-2.
LOOP CIRCUIT: LOOP SAWCUT WIRE SPLICED TO 14/2 LEAD-IN CABLE.
AMPLIFIER: ELECTRONIC DEVICE CONNECTED TO LOOP CIRCUIT. SENSES CHANGE IN RESONANT FREQUENCY AND CREATES AN OUTPUT TO THE CONTROLLER.
MEGOHMETER: INSTRUMENT SPECIFICALLY DESIGNED TO TEST THE INSULATION RESISTANCE OF A CIRCUIT. COMMON MANUFACTURARS: AMEC©, AMPROBE®, FLUKE®, MEGGER®.

1: RESISTANCE:

1a: INSULATION RESISTANCE: PERFORM A 600 VOLT (MINIMUM) MEGOHMETER TEST ON LOOP CIRCUIT. THE LOOP AMPLIFIER MUST BE DISCONNECTED FROM THE LOOP CIRCUIT OR THE LOOP AMPLIFIER WILL BE DAMAGED. THE RESISTANCE OF THE LOOP WIRE TO GROUND MUST BE GREATER THAN 100 MEG OHMS.

1b: WIRE RESISTANCE: MEASURE THE DC RESISTANCE OF THE LOOP CIRCUIT. THE LOOP CIRCUIT MUST BE DISCONNECTED FROM THE AMPLIFIER. USING AN OHMETER CONNECTED ACROSS THE LOOP CIRCUIT, MEASURE THE DC RESISTANCE OF THE CONDUCTORS. THE RESISTANCE SHOULD BE LESS THAN 4 OHMS.

NOTE: ALL TESTS SHALL BE DONE AT THE CONTROLLER ASSEMBLY (CA), HOWEVER IT IS RECOMMENDED TO PERFORM A PRELIMINARY MEGOHMETER TEST AT THE HANDHOLE PRIOR TO SEALING THE SAWCUT AND SPLICING TO THE LEAD-IN. IF A DEFECTIVE LOOP WIRE IS FOUND, IT MAY BE EASILY REPLACED.

2: LOOP CIRCUIT INDUCTANCE:

2a: CALCULATE INDUCTANCE OF LOOP (L_{LOOP}) AND LEAD-IN CABLE ($L_{14/2}$).

LOOP INDUCTANCE (ENGLISH)

$L_{LOOP} = (P/4)(N^2 + N)$

LEAD-IN INDUCTANCE

$L_{14/2} = (0.24\,\mu H/FT)(D)$

LOOP INDUCTANCE (METRIC)

$L_{LOOP} = (3.28P/4)(N^2 + N)$

LEAD-IN INDUCTANCE

$L_{14/2} = (0.78\,\mu H/m)(D)$

WHERE:

L_{LOOP} = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS IN MICROHENRIES (μH).
$L_{14/2}$ = INDUCTANCE OF LEAD-IN CABLE.
P = PERIMETER OF INDIVIDUAL LOOP SEGMENT, IN FEET OR METERS.
N = NUMBER OF TURNS.
D = LENGTH OF LEAD-IN CABLE FROM SPLICE IN HANDHOLE TO CONTROLLER, IN FEET OR METERS.

$L_T = L_1 + L_2 + L_3$ etc.,
(TOTAL INDUCTANCE OF SEGMENTED LOOP SPLICED IN SERIES.)

$L_T = 1 / [(1 / L_1) + (1 / L_2) + (1 / L_3) + \text{etc.}]$,
(TOTAL INDUCTANCE OF SEGMENTED LOOP SPLICED IN PARALLEL.

WHERE:

L_T = TOTAL INDUCTANCE OF THE SEGMENTED ARRANGEMENT.
L_1, L_2, L_3 = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS.

EXAMPLE: (IN ENGLISH)

6' x 6', 4 TURNS, APPROXIMATELY 300' FROM THE CONTROLLER

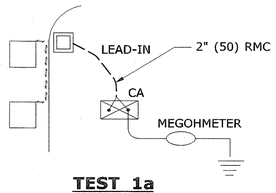
$L_{LOOP} = (24/4)(4^2 + 4)$
$L_{LOOP} = (6)(20)$
$L_{LOOP} = 120\,\mu h$

$L_{14/2} = (0.24\,\mu h/FT)(300)$
$L_{14/2} = (0.24)(300)$
$L_{14/2} = 72\,\mu h$

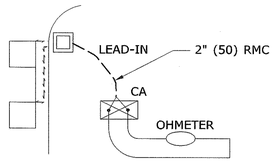
2b: MEASURE INDUCTANCE OF LOOP AND LEAD-IN AT CONTROLLER. USE INSTRUMENT DESIGNED TO MEASURE LOOP CIRCUIT INDUCTANCE.

3: POWER INTERUPTION:

AFTER THE AMPLIFIER HAS TUNED AND IS OPERATING, DISCONNECT POWER BY REMOVING FUSE OR HARNESS CONNECTOR. RETURN POWER TO THE AMPLIFIER AND CONFIRM IT RE-TUNES AUTOMATICALY WITHOUT ANY MANUAL ADJUSTMENTS.



TEST 1a



TEST 1b

PROJECT:
TOWN:
LOCATION:

LOOP NUMBER	RESISTANCE OHMS		INDUCTANCE MICROHENRIES (μH)		AMPLIFIER POWER INTERRUPTION
	TO GROUND (1a)	LOOP WIRE (1b)	CALCULATED (2a)	MEASURED (2b)	PASS/FAIL (3)
D1 FRONT					
D1 REAR					
D2A					
D2B					
D4A FRONT					
D4B REAR					
D5					
D6A					
D6B					

LOOP CIRCUIT TEST DATA (EXAMPLE)

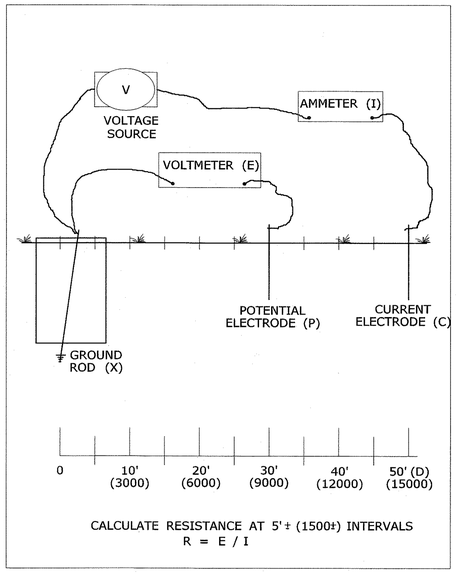
TEST PROCEDURE:

- INSERT ELECTRODE (C) A DISTANCE (D) FROM THE FOUNDATION. RECOMMEND A MINIMUM 50'.
- CONNECT A VOLTAGE SOURCE AND AMMETER BETWEEN THE FOUNDATION GROUND ROD (X) AND C.
- MEASURE THE CURRENT FLOW (I) BETWEEN X AND C.
- INSERT POTENTIAL ELECTRODE (P) AT 5'(1500) INTERVALS IN A STRAIGHT LINE TO ELECTRODE C.
- MEASURE VOLTAGE (E) AT EACH LOCATION OF P.
- CALCULATE RESISTANCE (R) AT EACH LOCATION OF P USING THE FORMULA R=E/I.
- PLOT THE VALUES ON A RxD GROUND RESISTANCE CHART.
- THE ACTUAL GROUND RESISTANCE IS WHERE THE PLOTTED CURVE IS RELATIVELY FLAT, USUALLY AT 62%± OF D. SEE EXAMPLE CHART: CURVE FLATTENS OUT AT 10 OHMS, APPROXIMATELY 30' (9000) FROM FOUNDATION.
- IF GROUND RESISTANCE IS GREATER THAN 10 OHMS, PERFORM CORRECTIVE ACTION AND RE-TEST.

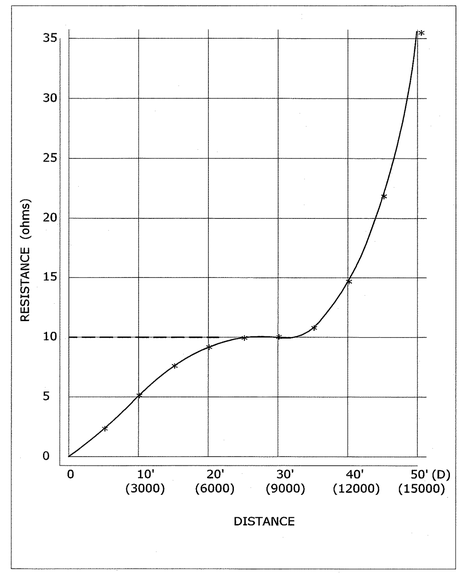
SUGGESTED CORRECTIVE ACTION:

A. INSTALL ADDITIONAL 10' (3000) GROUND ROD(S).
REFER TO NESC SECTION 09, RULE 94.B.2.
DRIVE ADDITIONAL GROUND RODS NO CLOSER TO FOUNDATION THAN 6' (1800). IF MORE THAN ONE IS NEEDED, SPACE MINIMUM 6' (1800) APART.
BONDS TO ADDITIONAL GROUND ROD(S) SHALL BE MADE BY A CLAMP DESIGN FOR DIRECT BURIAL OR BY EXOTHERMIC WELDING TECHNIQUE.
TOP OF ADDITIONAL GROUND ROD(S) SHALL BE 6" (150) BELOW GRADE.

B. IN AREAS OF SHALLOW BEDROCK, INSTALL A GROUND GRID OR ARRAY CONSISTING OF BURIED WIRE, RODS, STRIPS OR PLATES.
REFER TO NESC SECTION 09, RULE 94.B.3.
REFER TO NEC SECTION 250.
MINIMUM DEPTH OF 18" (450).
GRID CONNECTIONS AND BONDS ON GROUND GRID SHALL BE MADE BY CLAMPS DESIGNED FOR DIRECT BURIAL OR BY EXOTHERMIC WELDING TECHNIQUE.



3 POINT GROUND RESISTANCE TEST CIRCUIT



GROUND RESISTANCE CHART (EXAMPLE)

INDUCTIVE LOOP TEST PROCEDURE

PIN	COLOR	FUNCTION
A	WHITE	110 VAC Neutral
B	BROWN	Output Relay Common (moving contact)
C	BLACK	110 VAC (Fused)
D	RED	Loop
E	ORANGE	Loop
F	YELLOW	Output Relay Contact (Closes with moving contact when detecting vehicle)
G	BLUE	Output Relay Contact (Closes with moving contact when detecting vehicle)
H	GREEN	Chassis Ground
J	GREY	110 VAC Delay/Extend Override
Shell		Ground (shall be connected to pin H in the connector)

DETECTOR AMPLIFIER PIN DESIGNATION

NOTES:

1. DURING THE TEST, THE GROUND ROD SHOULD NOT BE BONDED TO ANY RMC IN THE FOUNDATION.
2. THE VOLTAGE SOURCE, VOLTMETER, AMMETER, ELECTRODES P AND C, AND CONNECTING CABLES ARE AVAILABLE AS A SPECIALIZED TEST INSTRUMENT.
3. REFER TO NATIONAL ELECTRICAL SAFETY CODE (NESC) SECTION 09, GROUNDING METHODS FOR ELECTRIC SUPPLY AND COMMUNCATIONS FACILITIES.
4. REFER TO NATIONAL ELECTRICAL CODE (NEC) CHAPTER 2, ARTICLE 250, GROUNDING.

3 POINT FALL-OF-POTENTIAL GROUND RESISTANCE TEST

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- INDUCTIVE LOOP DETECTOR
- SAW CUT
- RIGID METAL CONDUIT
- HANDHOLE

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1000_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.09.15 08:09:00 -04'00'

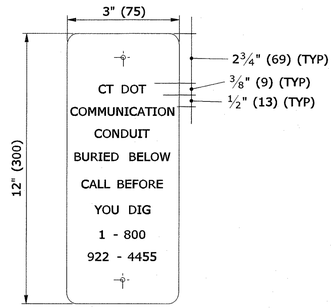
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.09.16 08:16:38 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
GENERAL CLAUSES (TEST PROCEDURES)

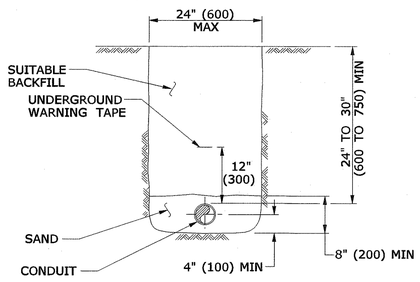
STANDARD SHEET NO.:
TR-1000_01



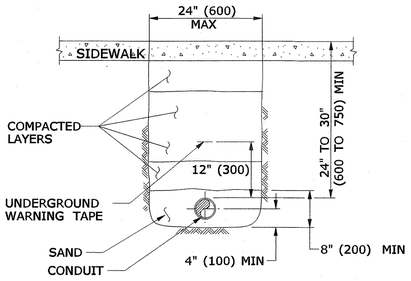
SIGN FACE DETAIL

NOTES:

1. SIGN COLORS: BACKGROUND - ORANGE (REFLECTORIZED) LETTERING - BLACK (OPAQUE).



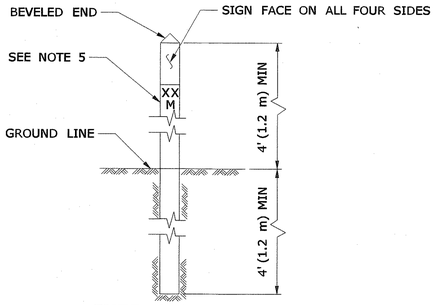
CONDUIT IN EARTH



CONDUIT UNDER SIDEWALK

NOTE:

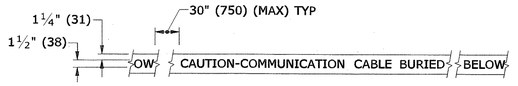
1. COMPACT BACKFILL IN 6"± (150±) LAYERS, IN ACCORDANCE WITH SECTION 9.21.03.



INTERCONNECT CONDUIT IDENTIFICATION POST DETAIL

NOTES:

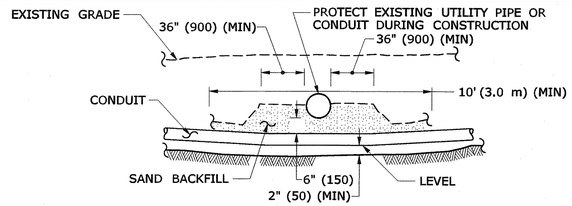
1. 4" x 4" (100 x 100) NOMINAL, PRESSURE TREATED WOOD POST.
2. ATTACH SIGN (41-4669) TO POST WITH ¼" x 1¼" (6 x 31) STAINLESS STEEL LAG SCREW WITH NYLON WASHER ON FACE OF SIGN.
3. INSTALL POST APPROX 24" (600) FROM RMC IN VICINITY OF EACH PULL BOX.
4. INSTALL POSTS BETWEEN PULL BOXES, APPROX 10' (3.0 m) OFF CURB. SPACE POSTS 1500'± (460 m±) APART.
5. PERMANENTLY ATTACH STAINLESS STEEL NUMBERS INDICATING DISTANCE TO TRENCH IN FEET (METERS) CONTAINING COMMUNICATION CABLE. ATTACH NUMBERS TO SIDE OF POST FACING CONDUIT. INCLUDE "M" SUFFIX IF METERS.



INTERCONNECT CONDUIT UNDERGROUND DETECTABLE WARNING TAPE

NOTES:

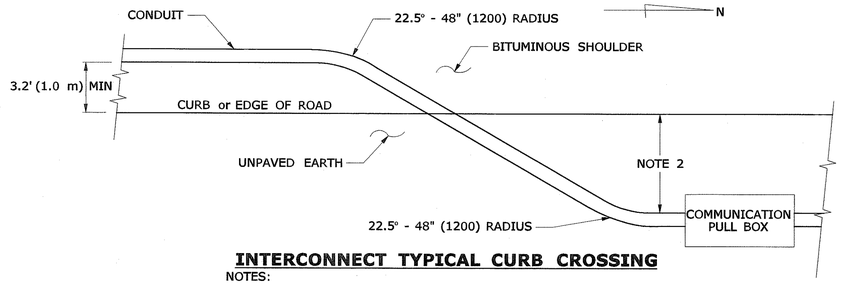
1. TAPE COLORS: BACKGROUND - ORANGE; LETTERS - BLACK.
2. PLACE WARNING TAPE IN TRENCH OVER CONDUIT AS SHOWN ON THE TRENCH DETAILS.



INTERCONNECT CONDUIT CROSSING UNDER EXISTING UTILITY

NOTE:

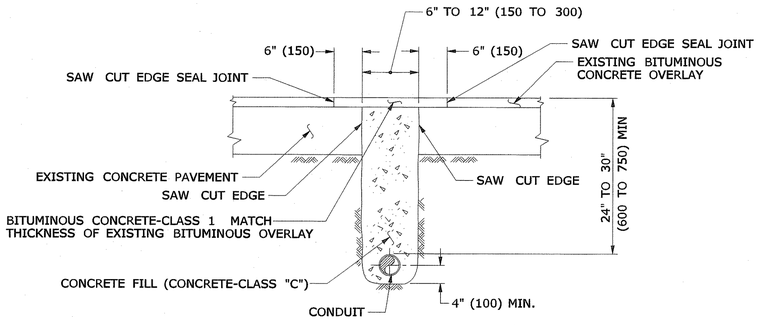
1. INSTALL CONDUIT UNDER EXISTING UTILITY CONDUIT ENCOUNTERED AT APPROXIMATELY SAME DEPTH.



INTERCONNECT TYPICAL CURB CROSSING

NOTES:

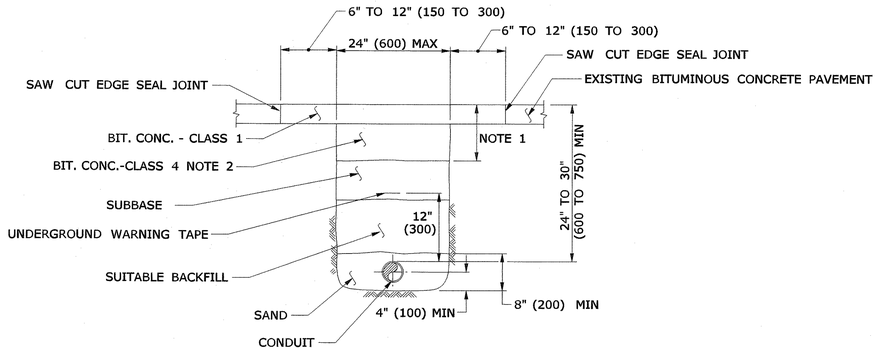
1. RESTORE AREAS DISTURBED BY TRENCH TO ORIGINAL CONDITION.
2. INSTALL PULL BOX A MINMUM OF 10' (3.0 m) FROM CURB UNLESS OTHERWISE SHOWN ON PLANS OR DIRECTED BY ENGINEER.



CONDUIT UNDER BITUMINOUS CONCRETE OVERLAYED CONCRETE PAVEMENT

GENERAL NOTES:

1. WHERE AN EXISTING CONCRETE SIDEWALK SLAB IS DAMAGED OR CUT DURING CONDUIT INSTALLATION, THE ENTIRE SECTION SHALL BE REPLACED. ALL CONCRETE SIDEWALK REPLACED DUE TO CONDUIT INSTALLATION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "CONCRETE SIDEWALK".
2. TOP OF CONDUIT TO BE A MINIMUM OF 24" (600) BELOW SURFACE.



CONDUIT UNDER BITUMINOUS CONCRETE PAVEMENT

NOTES

1. MATCH EXISTING BASE COURSE AND TOP COURSE DEPTH.
2. BITUMINOUS CONCRETE CLASS 1 MAY BE SUBSTITUTED FOR BITUMINOUS CONCRETE CLASS 4.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:

—·— RMC (RIGID METAL CONDUIT)

REV.	DATE	REVISION DESCRIPTION
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Plotted Date: 10/16/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1001_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.10.16 10:50:30 -04'00'

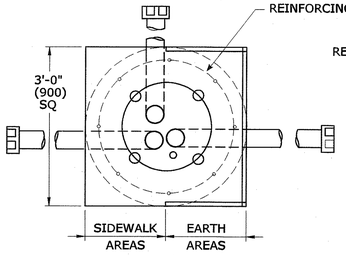
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.10.19 13:35:23 -04'00'

CTDOT STANDARD SHEET

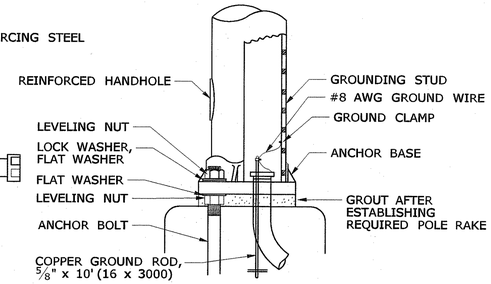
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TRENCHING & BACKFILLING, ELECTRICAL CONDUIT

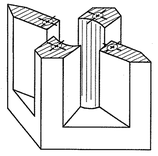
STANDARD SHEET NO.:
TR-1001_01



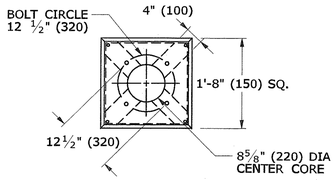
PLAN VIEW

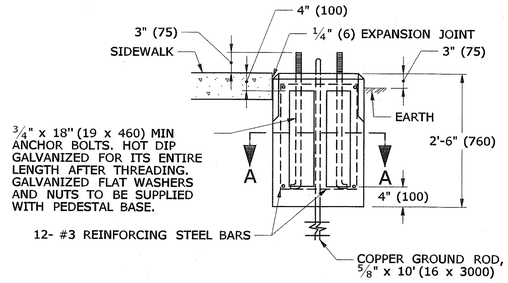


STEEL POLE INSTALLATION DETAIL



PICTORIAL SECTION A-A

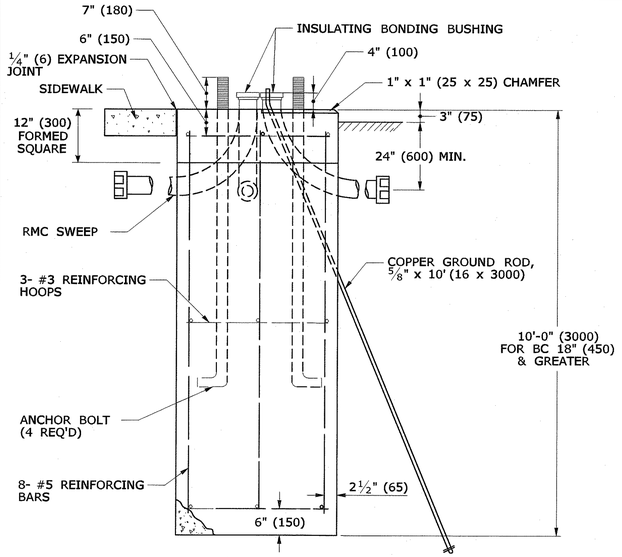




TRAFFIC CONTROL FOUNDATION PEDESTAL - TYPI - PRECAST

NOTES:

PLACE NO. 6 CRUSHED STONE IN CENTER OPENING AFTER CONDUITS AND GROUND ROD HAVE BEEN INSTALLED.



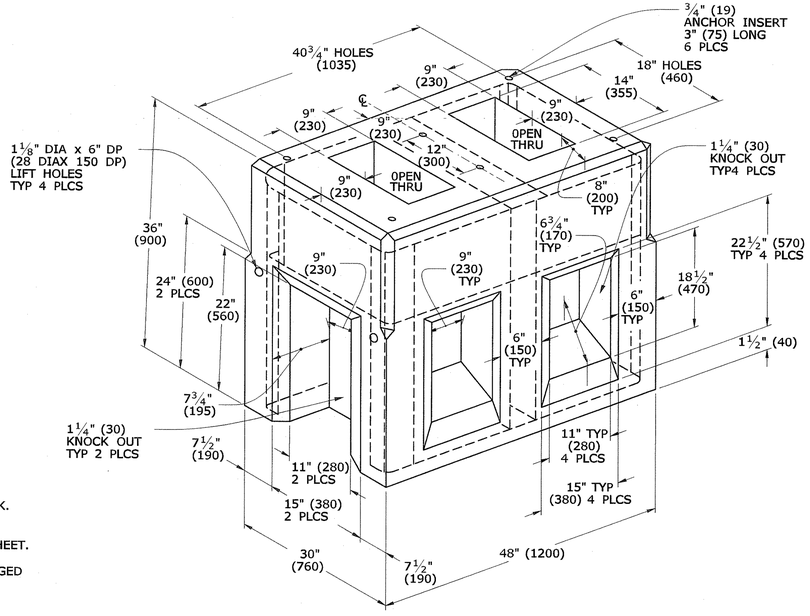
ELEVATION VIEW

TRAFFIC CONTROL FOUNDATION SPAN POLE

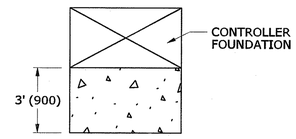
NOTES:

INSTALL A MINIMUM OF TWO RMC SWEEPS IN ALL FOUNDATIONS.
INSTALL A MINIMUM OF ONE SPARE 2" (50) RMC SWEEP IN ALL FOUNDATIONS.
EXTEND SPARE SWEEP MINMUM 24" (600) FROM SIDE.
FORM EXPOSED EDGES WITH 1" x 1" (25 x 25) CHAMFER.
WHEN AUGERED, AND POURED IN PLACE, OR CYLINDRICAL FORM IS USED, FORM ONLY THE TOP OF FOUNDATION TO SQUARE.
MATCH TOP OF SPAN POLE AND PEDESTAL FOUNDATION WITH CROSS SLOPE OF ADJACENT SIDEWALK.
FINISH EXPOSED AREAS WITH WOOD FLOAT AND BRUSH.
BOND ALL POLES, PEDESTALS AND CONDUITS TO GROUND ROD.
ORIENT SPAN POLE ANCHOR BOLTS WITH RESPECT TO LOAD AS SHOWN ON TYPICAL SPAN POLE SHEET.
ANCHOR BOLT LENGTH INCLUDES BEND.
WHERE AN EXISTING CONCRETE SIDEWALK SLAB ABUTTING A FOUNDATION OR HANDHOLE IS DAMAGED OR CUT DURING INSTALLATION, REPLACE THE ENTIRE SECTION.
PROVIDE A CLEAR PATH NOT LESS THAN 3'(0.9 m) IN SIDEWALK AREAS FOR HANDICAP ACCESS.
WHEN REQUESTED BY THE ENGINEER, MEASURE RESISTANCE-TO-GROUND OF GROUND ROD AT TRAFFIC CONTROL FOUNDATIONS. SEE FALL-OF-POTENTIAL METHOD. IF LESS THAN 10 ohms, INSTALL SUPPLEMENTAL ELECTRODES AS REQUIRED. NEC ARTICLE 250.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- PROPOSED CONTROLLER
- EXISTING CONTROLLER
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE

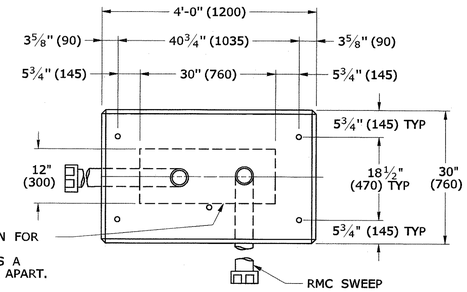


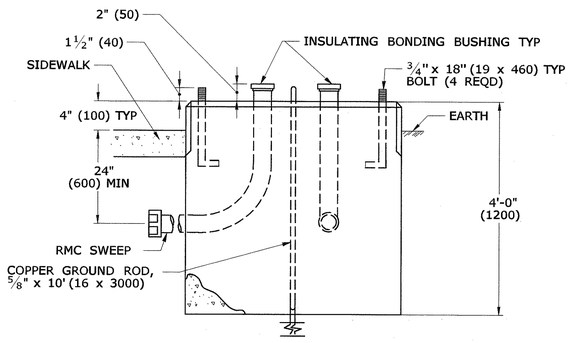
TRAFFIC CONTROL FOUNDATION CONTROLLER - TYPE IV - PRECAST



INSTALL PRECAST OR CAST IN PLACE CONCRETE SIDEWALK ON CABINET DOOR SIDE OF CONTROLLER FOUNDATION.
MINMUM 3" (75) THICK SLAB.
MINMUM 6" (150) GRAVEL OR MISC AGG BASE, COMPACTED.
PITCH SIDEWALK 1/4" PER FOOT (20 PER METER) AWAY FROM THE CONTROLLER FOUNDATION.

TYPICAL CONCRETE SIDEWALK AT CONTROLLER FOUNDATION





TRAFFIC CONTROL FOUNDATION CONTROLLER - TYPE IV - CAST IN PLACE

NOTES:

INSTALL FOUNDATION ON 6" (150) OF COMPACTED GRAVEL IN ACCORDANCE WITH SECTION 2.14.
LEVEL FOUNDATION WITH A PROJECTION OF 4" (100) ABOVE FINISHED GRADE.
INSTALL COPPER GROUND ROD: 5/8" x 10 (16 x 3000).
PLACE NO. 6 CRUSHED STONE IN THE CENTER OPENINGS AFTER THE CONDUITS AND GROUND ROD HAVE BEEN INSTALLED. THE OPENINGS SHALL BE CAPPED WITH A 2" (50) GROUT LEVEL WITH THE TOP OF THE FOUNDATION AND NEATLY FINISHED. THE GROUT SHALL CONFORM WITH THE REQUIREMENTS OF ARTICLE M.3.01-12.
CONCRETE: CLASS "A" CONFORMIN TO ARTICLE M.03.01.
#4 REBAR 2" (50) MIN COVER AROUND ALL OPENINGS, 3-#4 REBARS IN EACH CORNER.
CONDUITS SHALL NOT PROJECT MORE THAN 2" (50) ABOVE FOUNDATION.

REV.	DATE	REVISION DESCRIPTION

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Plotted Date: 10/16/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1002_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.10.16 14:15:50 -04'00'

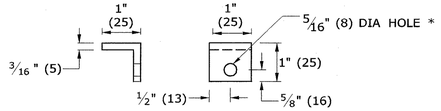
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.10.16 15:03:03 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

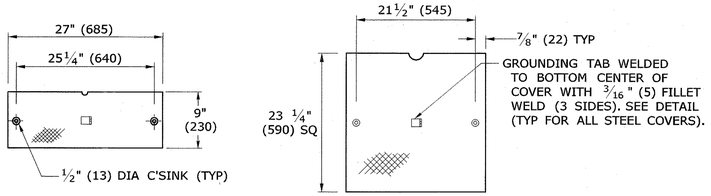
STANDARD SHEET TITLE:
TRAFFIC CONTROL FOUNDATIONS

STANDARD SHEET NO.:
TR-1002_01

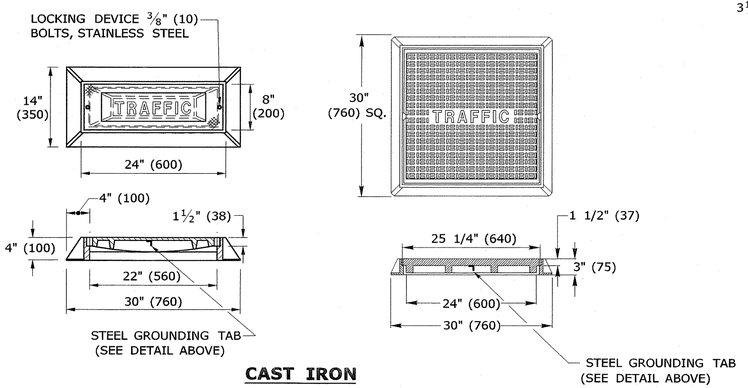


* ATTACH 6' (2 m) LENGTH OF NO. 8 GROUND WIRE TO GROUNDING TAB WITH ONE HOLE LUG, 1/4"-20 x 3/4" (M6 x 20) LG SST HEX HEAD BOLT, AND SST FLAT WASHER. ATTACH FREE END OF GROUND WIRE TO CONDUIT BONDING BUSHING IN HANDHOLE.

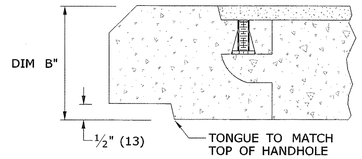
STEEL GROUNDING TAB



NON SKID FLOOR PLATE GALVANIZED STEEL, 3/8" (10)



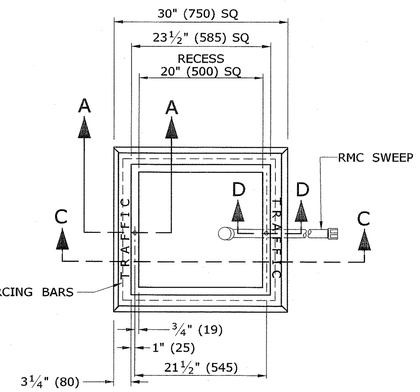
CAST IRON HANDHOLE COVERS



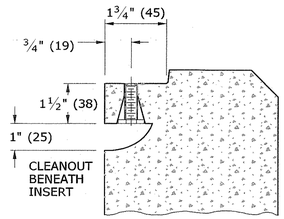
DIM. "B" CHART	
ENGLISH HEIGHT	METRIC HEIGHT
2"	50
4" SHOWN	100
6"	150
12"	300

SECTION A-A HANDHOLE EXTENSIONS

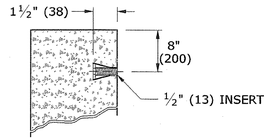
12 - #8 REINFORCING BARS REQ'D



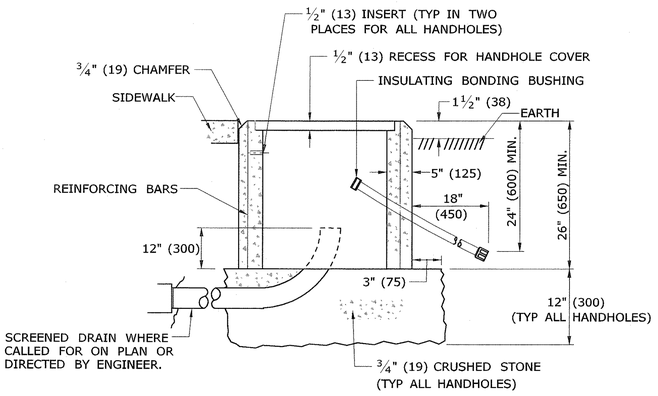
PLAN VIEW



SECTION D-D

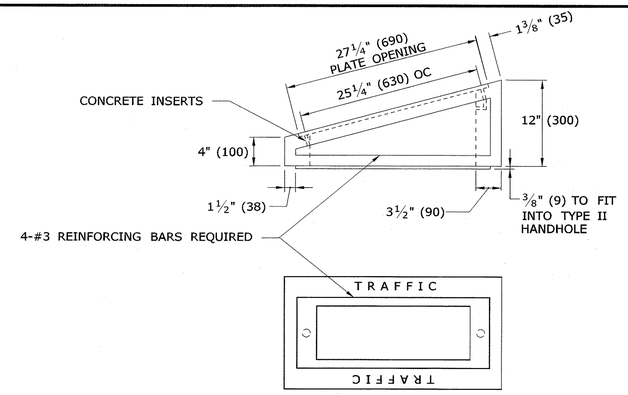


INSERT DETAIL



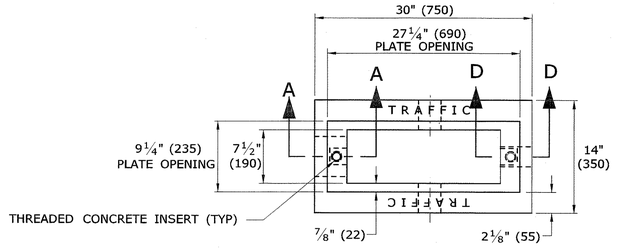
SECTION C-C

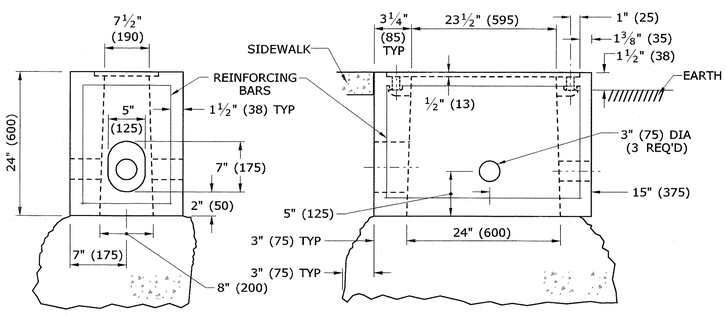
CONCRETE HANDHOLE CLASS "A" CONCRETE



TOP VIEW DIMENSIONS AND SECTION VIEWS SAME AS CONCERETE HANDHOLE.

CONCRETE HANDHOLE TYPE II BANK ADAPTER





CONCRETE HANDHOLE TYPE II CLASS "C" CONCRETE

NOTES:

1. BLOCK UNUSED OPENINGS OF HANDHOLE ON THE OUTSIDE WITH PRESSURE TREATED PLYWOOD.
2. GROUT AROUND ALL CONDUITS.
3. USE 1 1/2" x 3/8" (38 x 10) CONCRETE INSERT. STANDARD THREAD, STAINLESS STEEL, FLAT HEAD BOLT, RECESSED IN PLATE COVER. INSERTS TO HAVE CLEANOUTS.
4. TYPE II HANDHOLE 30" (760) SIDE INSTALLED PARALLEL TO ROAD UNLESS OTHERWISE NOTED.
5. CAST THE WORD "TRAFFIC" INTO TOP EDGE OF HANDHOLE, 1 1/2" (38) LETTERS.
6. WHERE AN EXISTING CONCRETE SIDEWALK SLAB ABUTTING A HANDHOLE IS DAMAGED OR CUT DURING INSTALLATION, THE ENTIRE SECTION SHALL BE REPLACED.
7. 12-#3 REINFORCING BARS REQUIRED FOR ALL HANDHOLES. (8 HORIZONTAL, 4 VERTICAL)

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- PROPOSED HANDHOLE
- EXISTING HANDHOLE

REV.	DATE	REVISION DESCRIPTION
-		

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1010_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.09.15 08:06:39 -04'00'

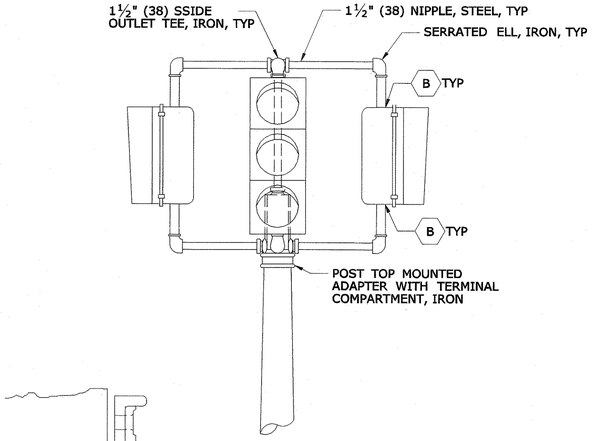
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.09.16 08:20:29 -04'00'

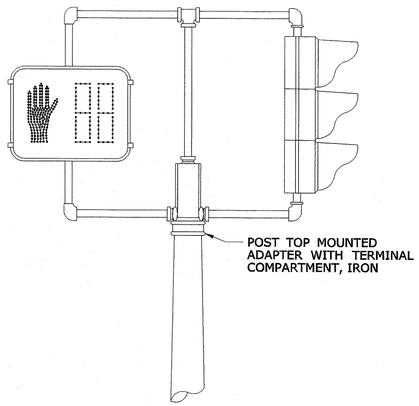
CTDOT STANDARD SHEET

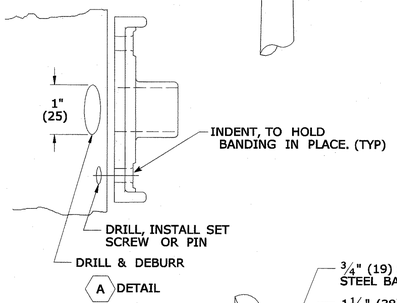
OFFICE OF ENGINEERING

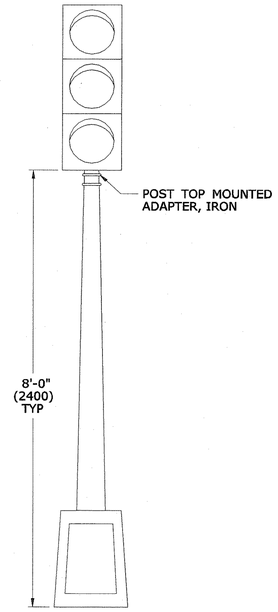
STANDARD SHEET TITLE:
CONCRETE HANDHOLE

STANDARD SHEET NO.:
TR-1010_01

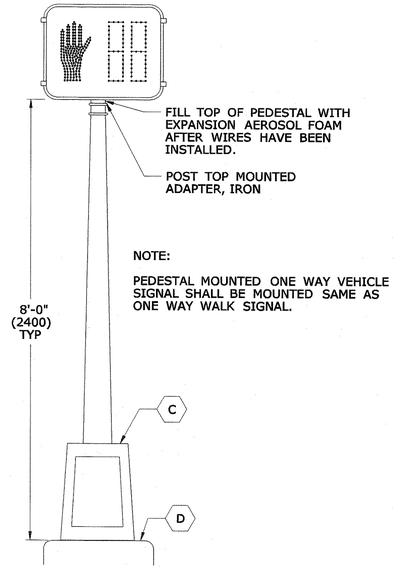




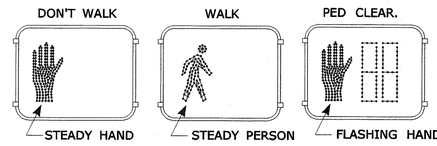




ONE WAY TRAFFIC SIGNAL PEDESTAL MOUNTED

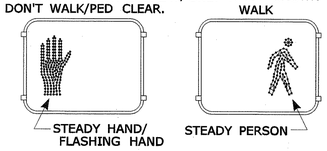


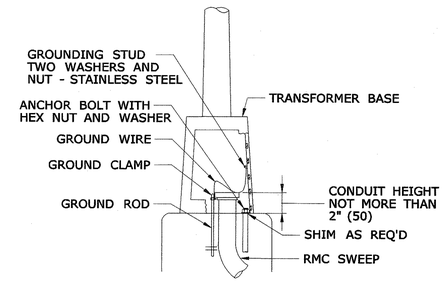
ONE WAY WALK SIGNAL PEDESTAL MOUNTED



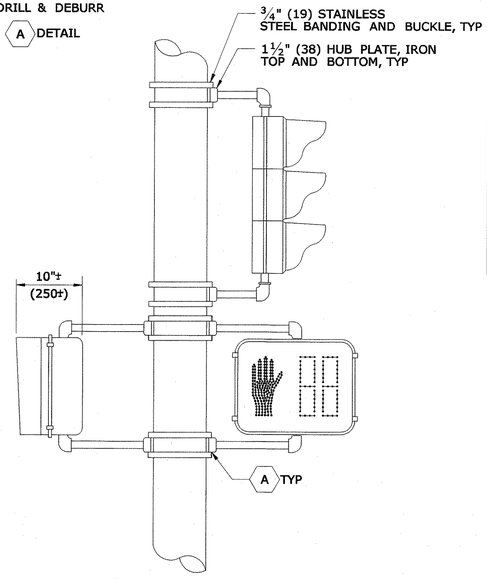
TYPICAL INDICATION WHEN LIT

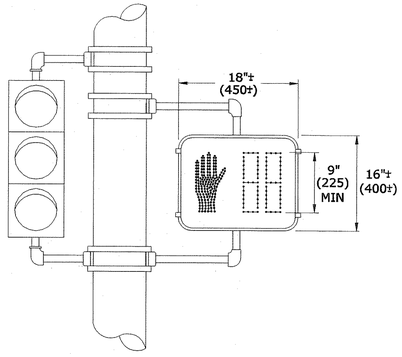
NON-COUNTDOWN DISPLAY, ONLY WHEN SHOWN ON PLAN.

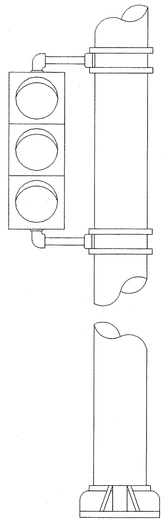




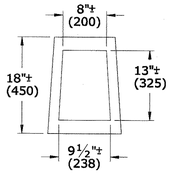
ALUMINUM PEDESTAL INSTALLATION DETAIL



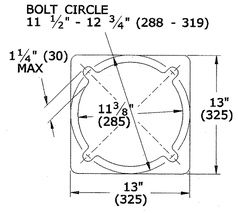




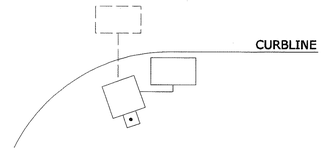
ONE WAY TRAFFIC SIGNAL POLE MOUNTED



ALUMINUM PEDESTAL DOOR OPENING DETAIL



PEDESTAL BASE PLAN



WHEN PEDESTALS OR SPAN POLES ARE INSTALLED CLOSE TO THE CURB, SIDE MOUNT PEDESTRIAN OR TRAFFIC SIGNALS TO AVOID VISOR DAMAGE FROM TURNING VEHICLES.

NOTES:

A SECURE LOWER HUB PLATE WITH STAINLESS STEEL SET SCREW OR PIN PRIOR TO BANDING TO PREVENT MOVEMENT. INSTALL CABLE THROUGH BOTTOM OF HUB PLATE.

B REFER TO CTDOT TRAFFIC STANDARD SHEET, TR-1105_01, TRAFFIC SIGNALS & CABLE ASSIGNMENTS.

C IF THREADED, MIN 1" (25) THREADED INTO BASE, SECURED WITH STAINLESS STEEL SET SCREWS.

D BASE DESIGNED AS BREAK-AWAY.

INCANDESCENT WALK SIGNAL LAMPS ARE 67 WATTS, RATED AT 8000 HOURS LAMP LIFE. LED WALK SIGNAL LAMPS ARE MAXIMUM 15 WATTS, WARRANTEED AT 5 YEAR LIFE.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:

- STEEL SPAN POLE, MAST ARM ASSEMBLY SHAFT
- ALUMINM PEDESTAL
- TRAFFIC SIGNAL
- PEDESTRIAN SIGNAL
- PEDESTAL MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS
- POLE MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS

REV.	DATE	REVISION DESCRIPTION
-		

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Plotted Date: 1/28/2010

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1102_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2010.01.28 15:06:41 -05'00'

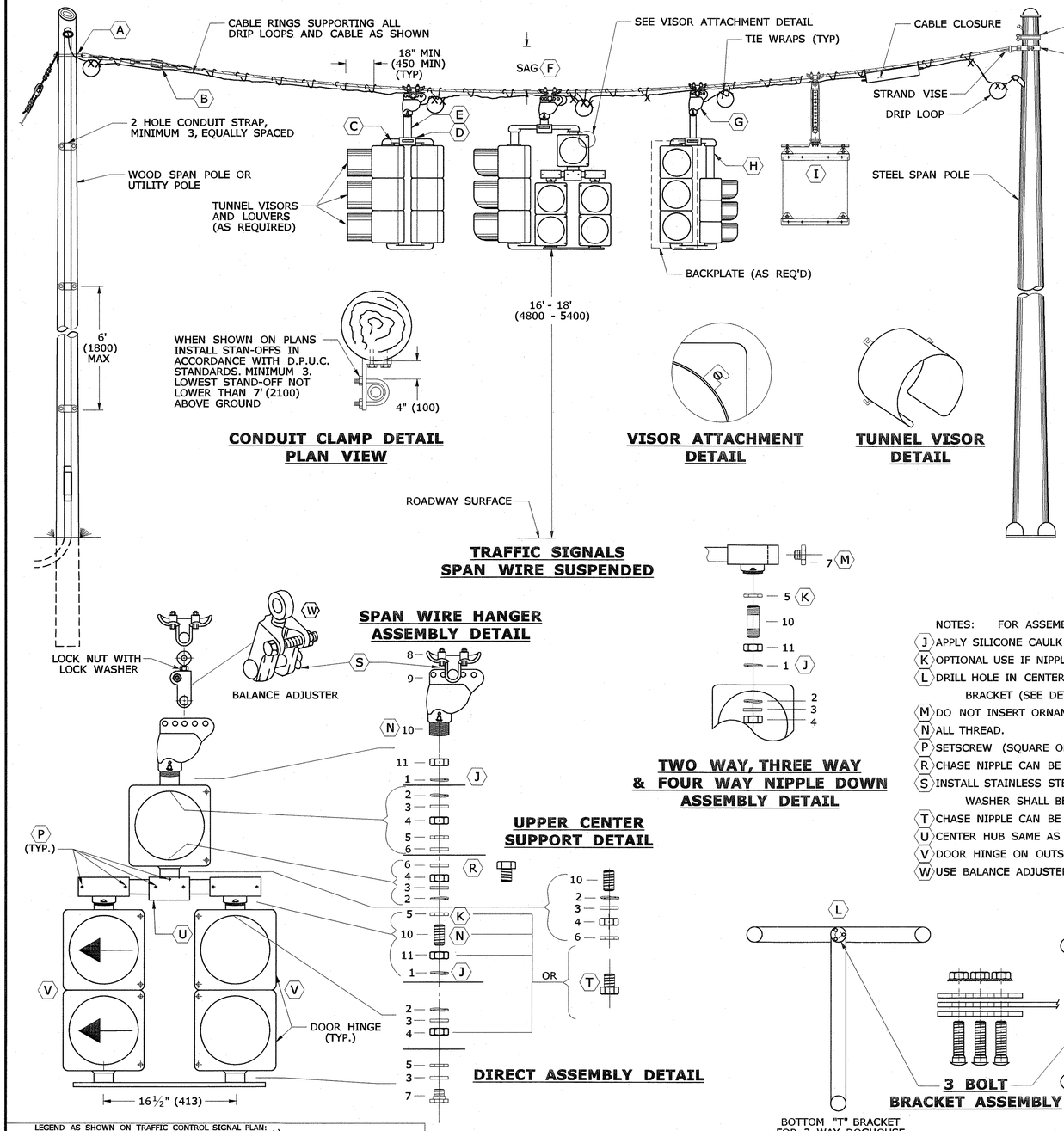
APPROVED BY: NAME/DATE/TIME:
Digitally signed by John F. Carey Date: 2010.01.28 15:26:03 -05'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PEDESTALS, PEDESTRIAN SIGNALS

STANDARD SHEET NO.:
TR-1102_01



ITEM DESCRIPTION, FOR ASSEMBLY DETAILS

1 - SERRATED TABBED LOCKRING, ALUMINUM (TAB MUST BE FULL WIDTH OF RING)
2 - GASKET, NEOPRENE
3 - WASHER, STEEL
4 - HEX NUT, STEEL
5 - CONDUIT LOCKNUT, STEEL
6 - BUSHING PLASTIC (ONLY IN JUNCTION BOX OR NIPPLED DOWN TRAFFIC SIGNAL)
7 - OCTAGONAL CAP, ALUMINIUM
8 - SPAN WIRE CLAMP
9 - WIRE OUTLET BODY, STEEL, FEMALE ONLY
10 - NIPPLE, STEEL
11 - HEX NUT, STEEL, NOTCHED W/SETSCREWS

NOTES: FOR ASSEMBLY DETAILS

(J) APPLY SILICONE CAULK BETWEEN OR AROUND SERRATED LOCKRING AND HOUSING.
(K) OPTIONAL USE IF NIPPLE THREADS TOO FAR INTO ELBOW.
(L) DRILL HOLE IN CENTER OF 2 WAY BOTTOM BRACKET - INSTALL 3 BOLT BRACKET (SEE DETAIL).
(M) DO NOT INSERT ORNAMENTAL CAP PAST DOTTED LINE.
(N) ALL THREAD.
(P) SETSCREW (SQUARE OR ALLEN) ON ALL FITTINGS.
(R) CHASE NIPPLE CAN BE SUBSTITUTED FOR THE COMBINATION OF ITEMS 6, 5 AND 10.
(S) INSTALL STAINLESS STEEL WASHER ON INSIDE OF COTTER PIN. COTTER PIN AND WASHER SHALL BE ON SIDE OF HANGER AWAY FROM SIGNAL CABLES.
(T) CHASE NIPPLE CAN BE SUBSTITUTED FOR COMBINATION 4, 5, 10 AND 11.
(U) CENTER HUB SAME AS (D) EXCEPT TOP OPENING MAY BE THREADED.
(V) DOOR HINGE ON OUTSIDE OF SIDE BY SIDE ASSEMBLY.
(W) USE BALANCE ADJUSTER TO PLUMB SIGNAL ASSEMBLIES AS REQUIRED.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:

- PROPOSED WOOD SPAN POLE
- EXISTING WOOD SPAN POLE
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE
- PROPOSED UTILITY POLE
- EXISTING UTILITY POLE
- POLE ANCHOR & GUY
- STRAIN INSULATOR
- CABLE CLOSURE
- SPAN MOUNTED SIGN
- SPAN MOUNTED TRAFFIC SIGNAL

TRAFFIC SIGNAL CABLE COLOR ASSIGNMENTS

SIGNAL ASSEMBLY & CABLE USED	SIGNAL FUNCTION	ARTERY 1	ARTERY 2	SIDE STREET 1	SIDE STREET 2
2 - WAY 9 CONDUCTOR	RED	RED		BLACK	
	YELLOW	ORANGE		WHITE \ BLACK	
	GREEN	GREEN		BLUE	
	SPARE	GREEN\BLACK		RED \ BLACK	
	NEUTRAL	WHITE			
3 - WAY 12 CONDUCTOR	RED	RED	RED \ BLACK	BLACK	
	YELLOW	ORANGE	ORANGE \ BLACK	WHITE \ BLACK	
	GREEN	GREEN	GREEN \ BLACK	BLUE	
	SPARE	BLUE\BLACK	BLACK \ WHITE		
	NEUTRAL	WHITE			
4 - WAY 15 CONDUCTOR	RED	RED	RED \ BLACK	BLACK	RED \ WHITE
	YELLOW	ORANGE	ORANGE \ BLACK	WHITE \ BLACK	BLACK \ WHITE
	GREEN	GREEN	GREEN \ BLACK	BLUE	GREEN \ WHITE
	SPARE	BLUE\BLACK		BLUE \ WHITE	
	NEUTRAL	WHITE			

PEDESTRIAN SIGNAL CABLE COLOR ASSIGNMENTS

SIGNAL ASSEMBLY & CABLE USED	SIGNAL FUNCTION	WIRE COLOR
WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR	DON'T WALK	RED
	WALK	GREEN
	NEUTRAL FOR WALK SIGNAL	WHITE
	PEDESTRIAN PUSHBUTTON	BLACK
	NEUTRAL FOR PUSHBUTTON	ORANGE
	SPARE CONDUCTOR	WHITE \ BLACK
	SPARE CONDUCTOR *	BLUE \ BLACK
WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR	RED	RED
	YELLOW	ORANGE
	GREEN	GREEN
	NEUTRAL FOR TRAFFIC SIGNAL	WHITE
	PEDESTRIAN PUSHBUTTON	BLACK
	NEUTRAL FOR PUSHBUTTON	WHITE \ BLACK
	SPARE CONDUCTOR *	BLUE \ BLACK

* IF 14/7 FEEDS MORE THAN ONE BUTTON, SPLIT THE BUTTONS AND USE BLUE WITH BLACK TRACER FOR THE ADDITIONAL BUTTON.

TABLE NOTES:

1. INSTALL SEPARATE CABLE BETWEEN CLOSURE AND EACH TRAFFIC SIGNAL ASSEMBLY. WIRE EACH TRAFFIC SIGNAL SECTION SEPARATELY BACK TO CABLE CLOSURE. JUMPERS BETWEEN TERMINALS ARE NOT ALLOWED EXCEPT ON NEUTRAL CONDUCTORS.
2. WIRE ALL SIGNALS, SAME DIRECTION FROM CONTROLLER, SEPARATELY WITH CONDUCTORS IN 21 CONDUCTOR CABLE, EVEN IF INDICATIONS ARE IDENTICAL.
3. CABLES THAT FEED PEDESTRIAN INDICATIONS, PUSH BUTTONS, AND DETECTORS BYPASS CABLE CLOSURE.
4. REFER TO INTERCONNECT CABLE INSTALLATION DETAIL SHEET FOR CABLE CLOSURE - TYPE A.

NOTES:

SERVICE CONDUCTORS: THW, THWN OR XHHW. INDIVIDUAL WIRES MAY BE USED IN LIEU OF MULTI-CONDUCTOR CABLE.

ALL WORK ON UTILITY POLES MUST COMPLY WITH CURRENT DPUC REGULATIONS AND NESC RULES.

(A) ATTACH SPAN AT LEAST 12" (300) BELOW LOWEST POWER COMPANY ATTACHMENT, AND AT LEAST 40" (1000) ABOVE HIGHTEST COMMUNICATIONS ATTACHMENT, UNLESS OTHERWISE DIRECTED ON PLANS.
(B) INSTALL STRAIN INSULATOR APPROX 3' (900) FROM UTILITY POLE.
(C) ELBOW OR "T" FITTING MUST HAVE NOTCH FOR SERRATED TABBED LOCKRING.
(D) TOP BRACKET CENTER HUB SHALL BE MIN 4" (100) ROUND AND 3" (75) DEEP OR EQUAL VOLUME. SERRATION CAST IN HUB OR TABBED OR SERRATED LOCKRING, TOP OPENING NOT THREADED.
(E) NIPPLE LENGTH DEPENDS ON SPAN HEIGHT.
(F) SAG OF SPAN TO BE 5%± LENGTH, UNLESS OTHERWISE ALLOWED BY ENGINEER.
(G) FACE ALL ENTRANCE FITTINGS TOWARD CABLE CLOSURE UNLESS SIGNAL ASSEMBLY IS UNBALANCED AND A BALANCE ADJUSTER IS USED.
(H) INSTALL EXTENSION NIPPLE ON TOP OF SIGNAL HOUSING SO BOTTOM OF ALL SIGNALS ARE EVEN.
(I) REFER TO TYPICAL "SIGN FACE SHEET ALUMINUM, R-SERIES SIGNS", AND RELATED SIGN APPURTANCES. MAXIMUM SIGN SIZE 24" x 24" (600 x 600). ALL STAINLESS STEEL HARDWARE.

SECURE LOUVERS TO TUNNEL VISORS WITH 3 STAINLESS STEEL SCREWS.

REV.	DATE	REVISION DESCRIPTION
-		

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Plotted Date: 10/16/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1105_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.10.16 10:52:44 -04'00'

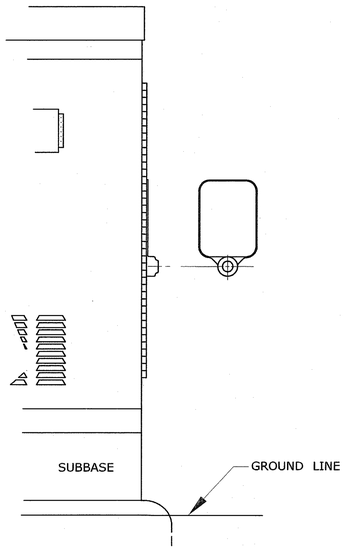
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.10.16 11:40:51 -04'00'

CTDOT STANDARD SHEET

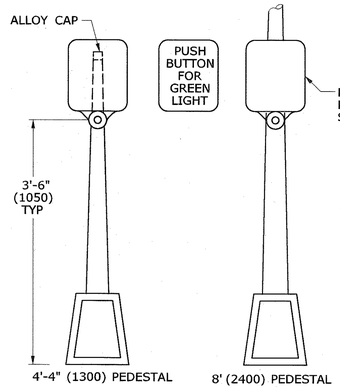
OFFICE OF ENGINEERING

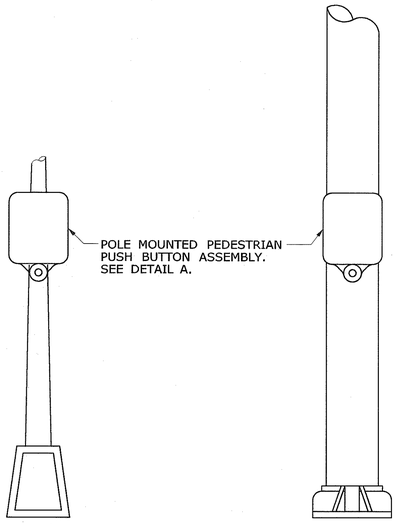
STANDARD SHEET TITLE:
TRAFFIC SIGNALS, & CABLE ASSIGNMENTS

STANDARD SHEET NO.:
TR-1105_01



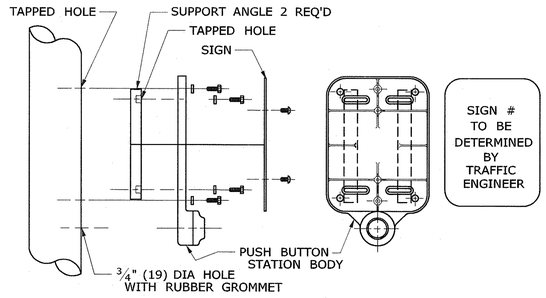
SURFACE MOUNTED





PEDESTAL MOUNTED

SPAN POLE/MAST ARM MOUNTED



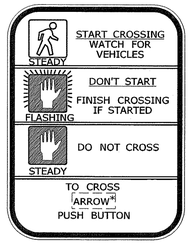
DETAIL A

GENERAL NOTES:

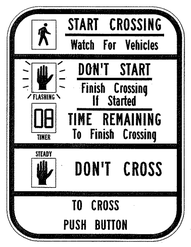
3'-6" (1050) FROM FINISHED GRADE SUCH AS SIDEWALK TO CENTER OF PUSH BUTTON.
PUSH BUTTON INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), SECTION 14.2.5, CROSSING CONTROLS.
4'4" (1300) PEDESTAL TO INCLUDE ALLOY CAP SECURED WITH STAINLESS STEEL SET SCREW.
INSTALL PUSH BUTTON ON SIDE OF CONTROLLER CABINET, PEDESTAL, OR POLE SO IT IS MOST ACCESSIBLE TO PEDESTRIANS.

SIGN # 31-0833
* VARIABLE ARROW

SIGN # 31-0835



SIGN # 31-0838
* VARIABLE ARROW



SIGN # 31-0845

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN PUSH BUTTON, PEDESTAL MOUNTED
- PEDESTRIAN PUSH BUTTON, POLE MOUNTED

REV.	DATE	REVISION DESCRIPTION
-		

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1107_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.09.15 08:11:27 -04'00'

APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.09.16 08:23:15 -04'00'

CTDOT STANDARD SHEET

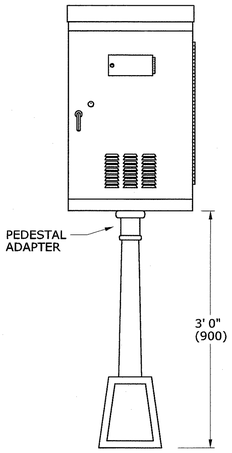
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

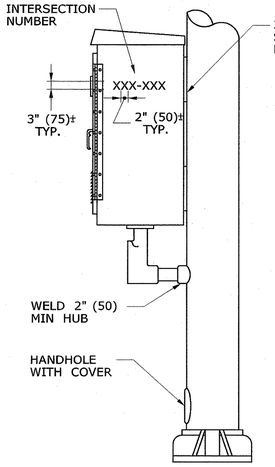
PEDESTRIAN PUSH BUTTONS

STANDARD SHEET NO.:

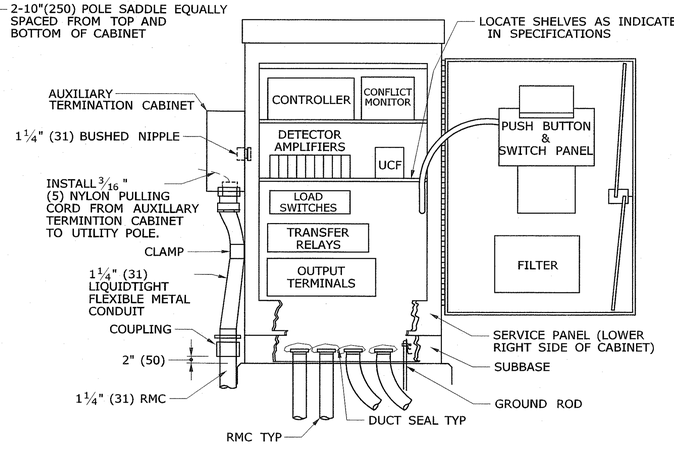
TR-1107_01



PEDESTAL MOUNTED TRAFFIC CONTROLLER (TYPE A)

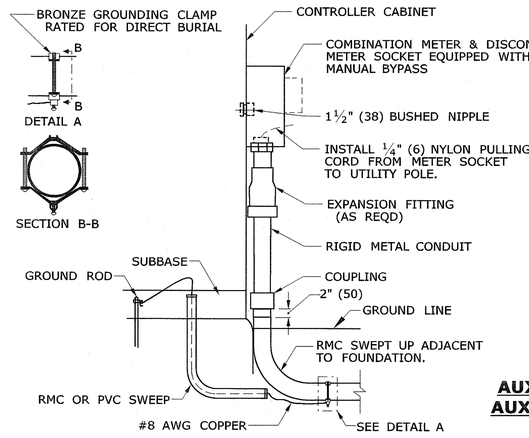


POLE MOUNTED CONTROLLER

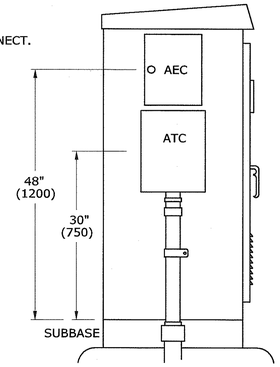


PROVIDE A MINMUM CLEARANCE OF 6" (150) FROM THE CABINET BASE TO ALL COMPONENTS AND TERMINALS.

TYPICAL BASE MOUNTED CONTROLLER ON TYPE IV FOUNDATION

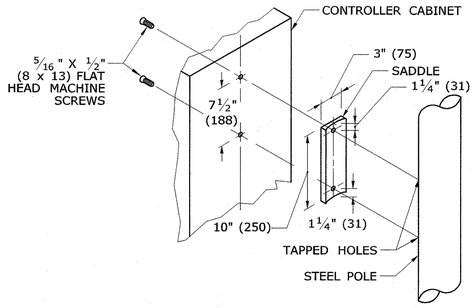


CONTROLLER CABINET WITH METERED SERVICE



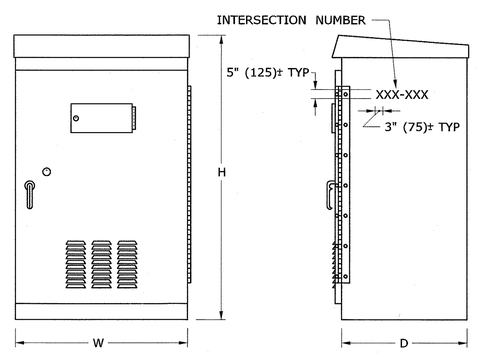
AUXILIARY EQUIPMENT CABINET (AEC)
AUXILIARY TERMINTION CABINET (ATC)

CABINET TYPE	HEIGHT	WIDTH	DEPTH
ATC	16"(400)	12"(300)	6"(150)
AEC	14"(350)	11"(275)	11"(275)

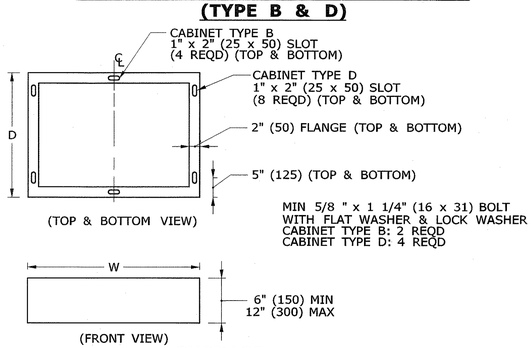


POLE MOUNTING DETAIL FOR CONTROLLER

CABINET TYPE	DEPTH MIN	DEPTH MAX	WIDTH MIN	WIDTH MAX	HEIGHT MIN	HEIGHT MAX
A	14" (350)	16" (400)	19" (475)	23" (575)	35" (875)	38" (950)
B	17" (425)	19" (475)	30" (750)	34" (850)	52" (1300)	56" (1400)
D	25" (625)	27" (675)	42" (1050)	45" (1125)	54" (1350)	59" (1475)



BASE MOUNTED TRAFFIC CONTROLLER (TYPE B & D)



SUBBASE

GENERAL NOTES:

GROUT ALL BASES AFTER MOUNTING ON FOUNDATIONS, WHERE NECESSARY.
3'-0" (900) FROM SIDEWALK TO BOTTOM OF CONTROLLER.
INSTALL PEDESTALS AND POLES SO THAT DOORS AND COVERS ARE ON THE SIDE AWAY FROM THE STREET, UNLESS OTHERWISE SPECIFIED.
INSTALL CABINET SO THAT DOOR OPENS FIELD SIDE UNLESS OTHERWISE NOTED ON PLANS.
CAULK SEAM BETWEEN SUBBASE AND FOUNDATION.
STENCIL SIX DIGIT INTERSECTION NUMBER, USING BLACK PAINT ON SIDE, FRONT OR BACK OF CABINET MOST VISIBLE FROM THE ROAD.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- ☒ CONTROLLER ASSEMBLY
- ☒ AUXILIARY EQUIPMENT CABINET
- ☑ AUXILIARY TERMINTION CABINET

REV.	DATE	REVISION DESCRIPTION
-		

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Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1108_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2009.09.15 08:11:48 -04'00'

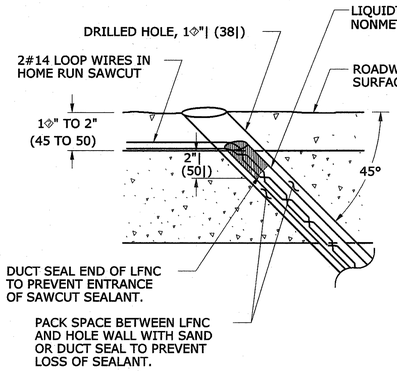
APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.09.16 08:24:27 -04'00'

CTDOT STANDARD SHEET

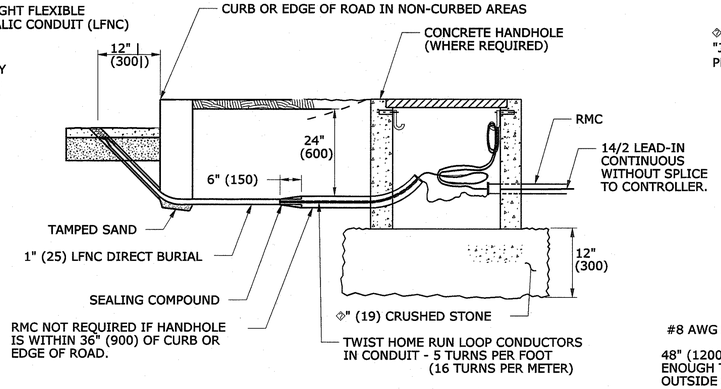
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
CONTROLLERS

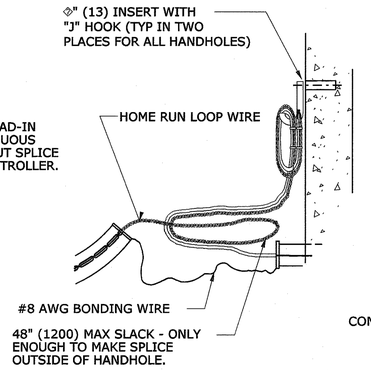
STANDARD SHEET NO.:
TR-1108_01



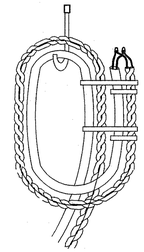
DETAIL "A"



TYPICAL ELEVATION VIEW
LOOP DETECTOR SAWCUT AND LEAD-IN

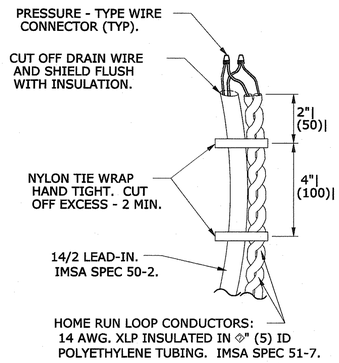


DETAIL "B"

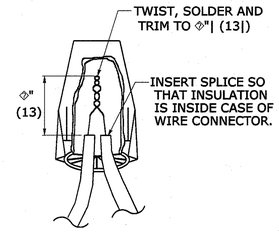


TIE WRAP SO WIRE CONNECTORS ARE POINTED UP.

DETAIL "C"
FRONT VIEW



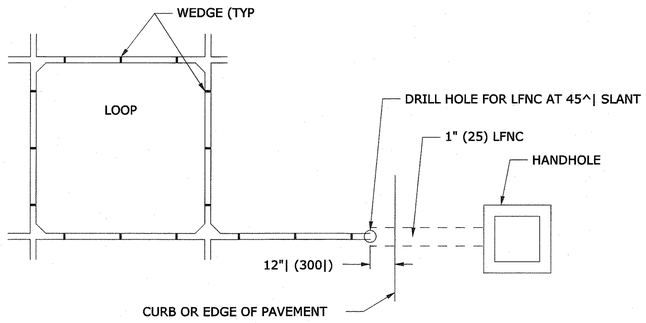
DETAIL "D"

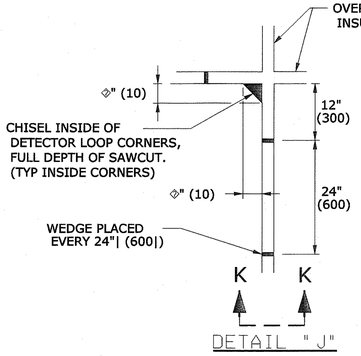


NOTE:

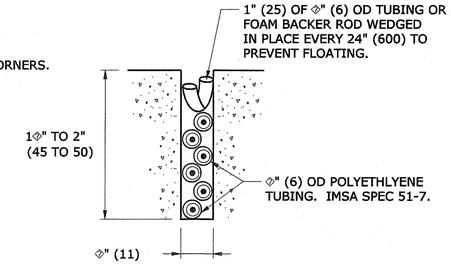
WATER RESISTANT CONNECTOR DESIGNED FOR WET, DAMP AND CORROSIVE APPLICATIONS. ONE TIME USE ONLY. DISCARD ALL REMOVED CONNECTORS.

DETAIL "E"

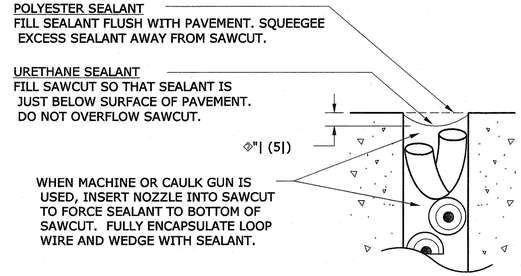




DETAIL "J"

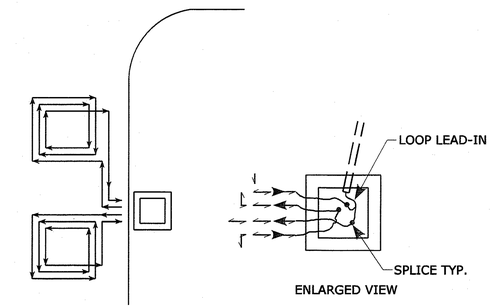


DETAIL "K"



DETAIL "L"

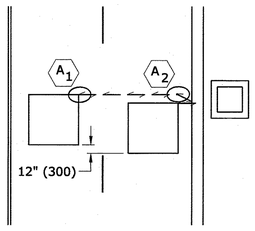
NOTES:
ONLY USE POLYESTER COMPOUND AS SEALANT, UNLESS OTHER TYPE IS APPROVED BY ENGINEER.
REFER TO STANDARD SPECIFICATIONS, SECTION 11-11.
WET SAW UNLESS DRY SAW IS APPROVED BY ENGINEER.
RECOMMENDED SAW BLADE: 14" x ◇" (350 x 10) PRODUCES ◇" (11) SLOT.

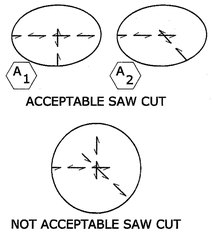


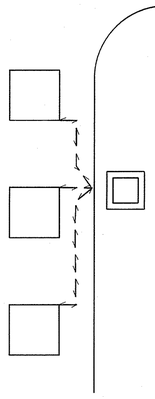
TYPICAL WINDING
SEGMENTED LOOPS, 3 TURNS EACH

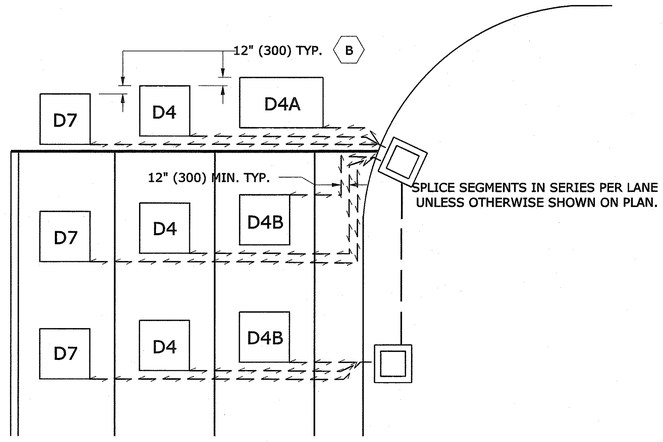
NOTE:

TO CREATE A UNIFORM MAGNETIC FIELD, WIND ADJACENT LOOPS IN OPPOSITE DIRECTIONS.









A DO NOT OVERLAP MORE THAN TWO SAWCUTS.

B OFFSET ADJACENT INSIDE LANE(S) LOOP SEGMENTS 12" (300) | SO THAT SAWCUT FROM CORNER OF LOOP TO CURB IS STRAIGHT.

LOOP NUMBERS AND PLACEMENT ARE FOR EXAMPLE ONLY.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- INDUCTIVE LOOP DETECTOR
- SAW CUT
- RIGID METAL CONDUIT
- HANDHOLE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-			

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Plotted Date: 8/24/2010

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: $FILES$ Model: $MODELNAME$

SUBMITTED BY: NAME-DATE/TIME

APPROVED BY: NAME-DATE/TIME

CTDOT STANDARD SHEET

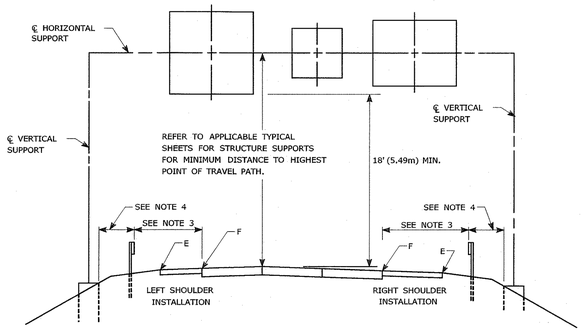
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

LOOP VEHICLE DETECTOR AND SAWCUT

STANDARD SHEET NO.:

TR-1111_01



GUIDE RAIL PLACEMENT FOR SIGN SUPPORTS

NOTES:

1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
2) BARRIER SYSTEM IS REQUIRED FOR BOTH SIDES OF MEDIAN SUPPORTS IN NARROW MEDIANS.
3) AT LOCATIONS WHERE IMPACT PROTECTION IS NOT REQUIRED FOR ROADSIDE ELEMENTS, FACE OF GUIDE RAIL SHALL BE PLACED 30' (9.1m) FROM EDGE OF TRAVELWAY.
4) OFFSETS OF FOUNDATIONS FROM BARRIER SYSTEMS SHALL BE AS SHOWN ELSEWHERE ON THE CONTRACT PLANS.
5) ALL SIGNS ARE TO BE HORIZONTAL, REGARDLESS OF CAMBER IN SUPPORT.

FOR MAXIMUM EFFECTIVENESS AND TO ELIMINATE OR MINIMIZE GLARE, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 93° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES:

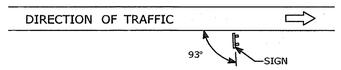


DIAGRAM "A"

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

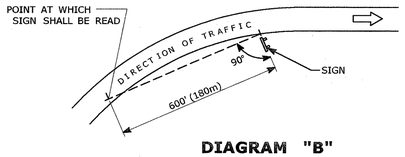
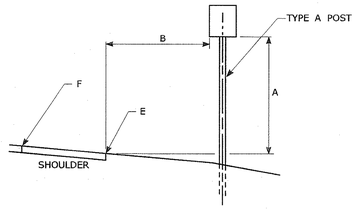
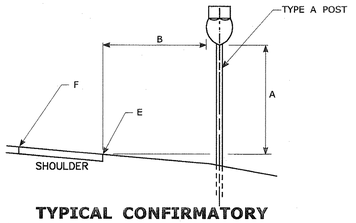


DIAGRAM "B"

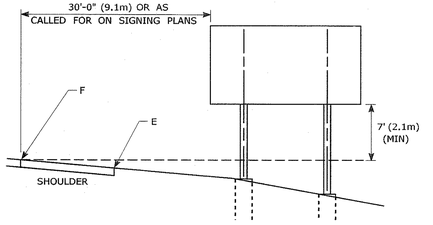
SIGN ORIENTATION DETAILS



TYPICAL REGULATORY & WARNING SIGN PLACEMENT



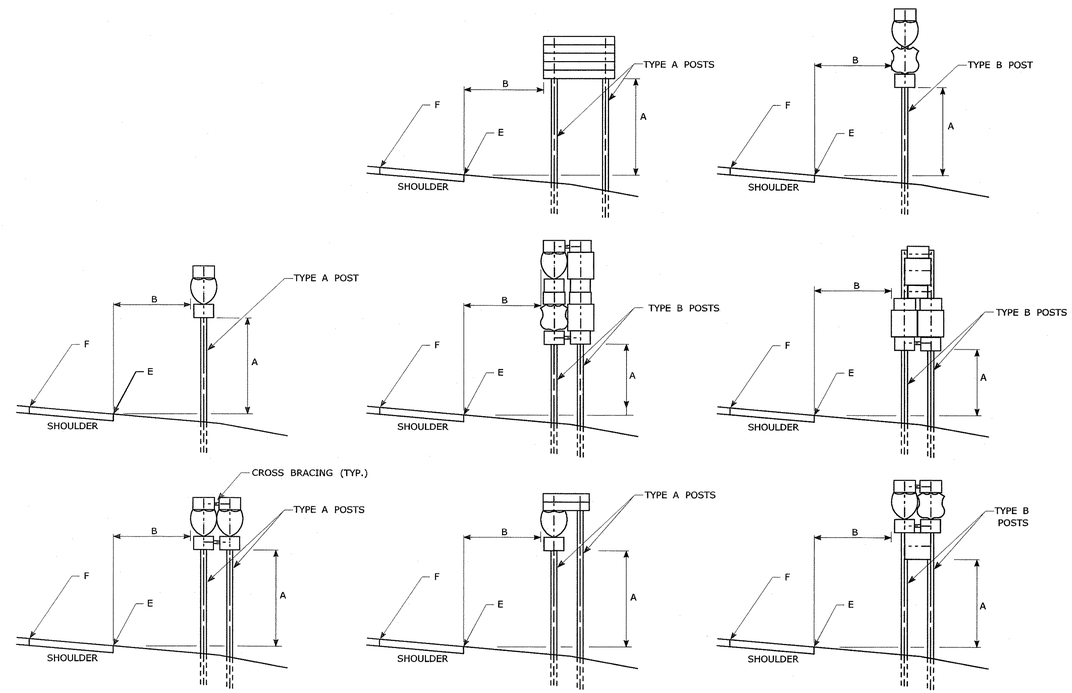
TYPICAL CONFIRMATORY ROUTE MARKER PLACEMENT



TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 8'-6" (2.6m).
2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' (1.8m) MIN. FROM POINT "E".
4) IF 30'-0" (9.1m) MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.



TYPICAL SIGN PLACEMENT AND POST SELECTION

NOTES:

ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY
2 POST ASSEMBLIES SHALL BE PROVIDED WITH 3" X ¼" (75 X 6) GALVANIZED STEEL BAR CROSS BRACING.
REFER TO TRAFFIC TYPICAL SHEET "TYPICAL METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS.

DIM."A"	DIM."B" △1	ASSEMBLY LOCATION
7' (2.1m)	6' (1.8m) 12' (3.6m) △2	RURAL DISTRICTS & EXPRESSWAYS
7' (2.1m)	2' (0.6m)	BUSINESS & RESIDENTIAL DISTRICTS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
8'-6" (2.6m)	1' (0.3m)	SIDEWALKS △3

△1 OR AS DIRECTED BY THE ENGINEER
△2 6' FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6' WIDE
12' FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6' WIDE.
△3 A CLEAR PATH OF NOT LESS THAN 3 FT (0.9m) SHALL BE PROVIDED IN SIDEWALK AREAS.
"E" DENOTES EDGE OF SHOULDER OR FACE OF CURB
"F" DENOTES EDGE OF TRAVELWAY

REV.	DATE	REVISION DESCRIPTION
-		

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Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1208_01

SUBMITTED BY: NAME/DATE/TIME:
Charles S. Harlow 2009.09.11 14:54:55 -04'00'

APPROVED BY: NAME/DATE/TIME:
John F. Carey 2009.09.16 08:30:41 -04'00'

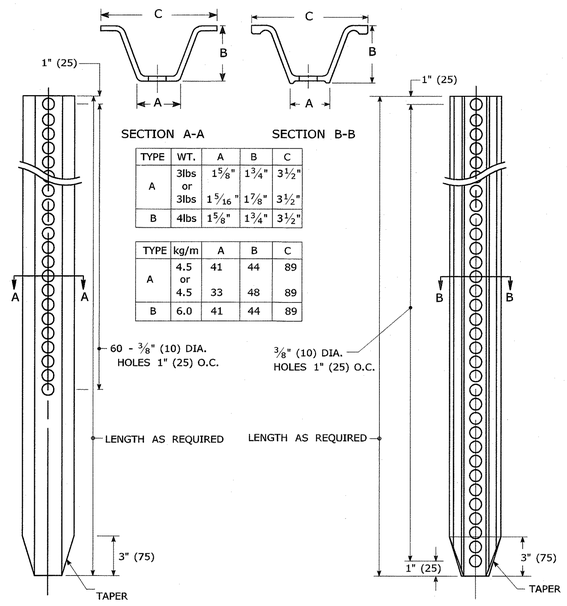
CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
SIGN SUPPORT AND SIGN PLACEMENT DETAILS, GORE EXIT SIGN

STANDARD SHEET NO.:
TR-1208_01

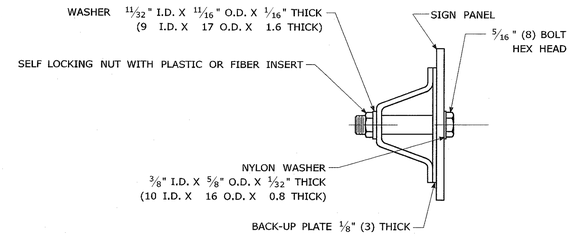
TYPICAL METAL SIGN POSTS



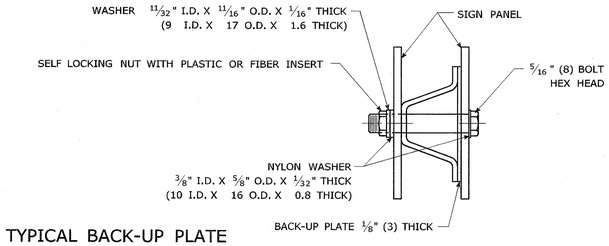
TYPE	WT.	A	B	C
A	3lbs or 3lbs	1 5/8"	1 3/4"	3 1/2"
		1 5/16"	1 7/8"	3 1/2"
B	4lbs	1 5/8"	1 3/4"	3 1/2"

TYPE	kg/m	A	B	C
A	4.5 or 4.5	41	44	89
		33	48	89
B	6.0	41	44	89

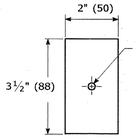
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



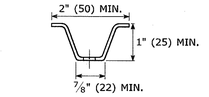
TYPICAL BACK-UP PLATE



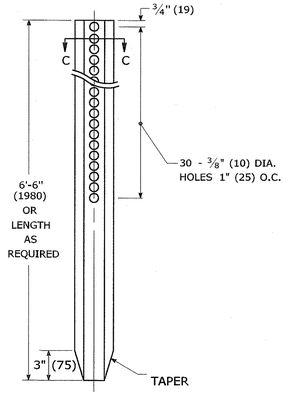
BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

METAL DELINEATOR POST

WT./FT. = 1.12 LBS. MIN.
(MASS/m = 1.67 kg/m MIN.)



SECTION C-C



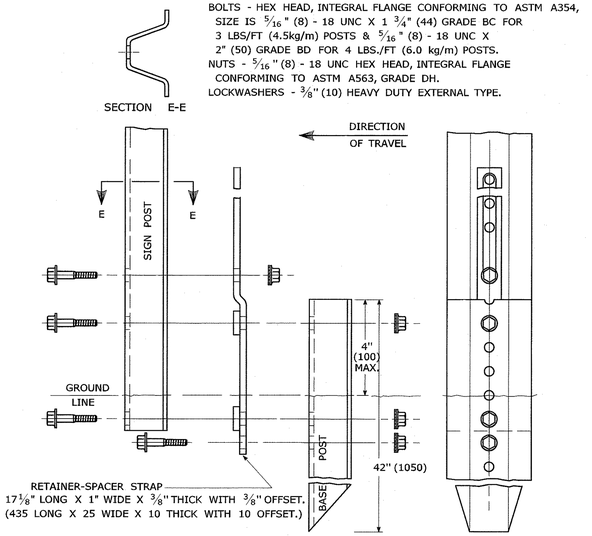
GENERAL NOTES:

1. STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36/A36(m) STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91lbs. (45 kg.) OR GREATER PER LINEAR YARD (METER).
2. AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123/A123(m).
3. WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
4. ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153/A153(m).
5. ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 mph (97 km/h) WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
6. TYPE A POSTS - 3 lbs/ft (4.5 kg/m) TYPE B POSTS - 4 lbs/ft (6 kg/m).

BREAKAWAY TYPE I INSTALLATION

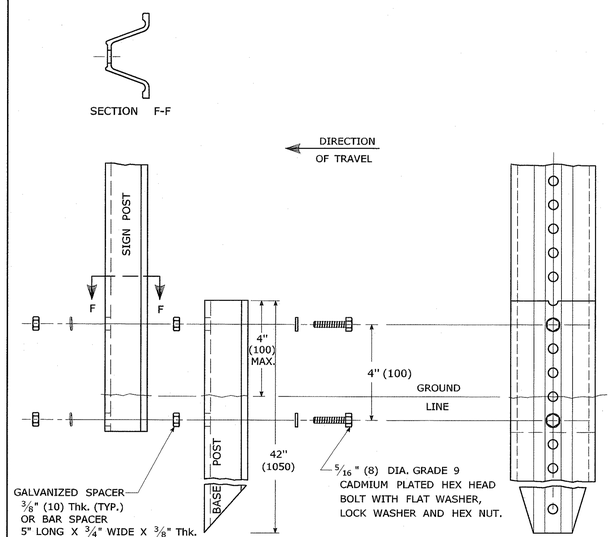
FOR 3 & 4 LB. POSTS
(FOR 4.5 & 6.0 kg/m POSTS)

BOLTS - HEX HEAD, INTEGRAL FLANGE CONFORMING TO ASTM A354, SIZE IS 5/16" (8) - 18 UNC X 1 3/4" (44) GRADE BC FOR 3 LBS/FT (4.5kg/m) POSTS & 5/16" (8) - 18 UNC X 2" (50) GRADE BD FOR 4 LBS./FT (6.0 kg/m) POSTS.
NUTS - 5/16" (8) - 18 UNC HEX HEAD, INTEGRAL FLANGE CONFORMING TO ASTM A563, GRADE DH.
LOCKWASHERS - 3/8" (10) HEAVY DUTY EXTERNAL TYPE.

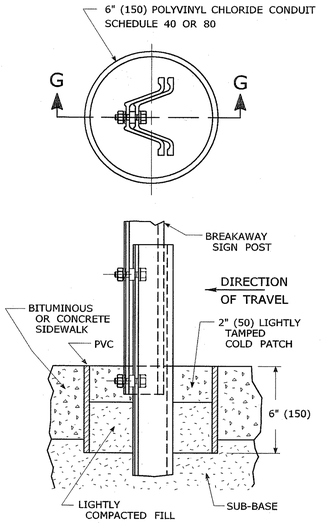


BREAKAWAY TYPE II INSTALLATION

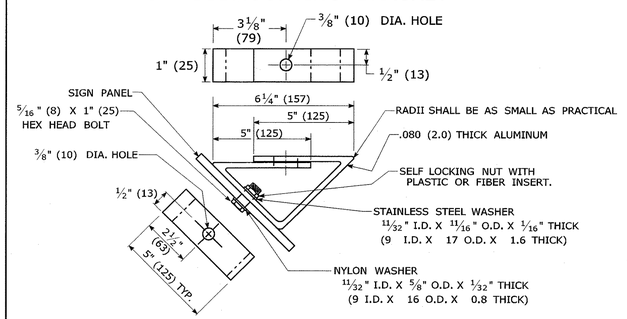
FOR 3 & 4 LB. POSTS
(FOR 4.5 & 6.0 kg/m POSTS)



TYPICAL SLEEVE FOR PAVED AREAS



45° SUBMOUNTING BRACKET



REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1208_02

SUBMITTED BY: NAME/DATE/TIME:
Charles S. Harlow
2009.09.11 14:55:41 -04'00'
Joseph C. Cancelliere
2009.09.14 13:24:27 -04'00'
APPROVED BY: NAME/DATE/TIME:
John F. Carey
2009.09.16 08:31:12 -04'00'

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

METAL SIGN POSTS AND SIGN MOUNTING DETAILS

STANDARD SHEET NO.:

TR-1208_02

E5 - SERIES

E5-1

COPY & BORDER - WHITE
BACKGROUND - GREEN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	51-6147	2

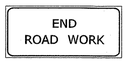
16 - SERIES

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-M	5.0	30X24	80-1613	1
16-H	17.5	60X42	80-1608	2
16-E	35.0	84X60	80-1605	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-S	10.0	48X30	80-1619	2

G20 - SERIES

G20-2a



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	8.0	48X24	80-9612	2

VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	90.0	120X108	80-9728	

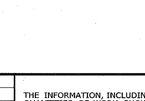
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9711	1
	16.0	48	80-9712	2

VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	7.0	72X14	80-9720	

VARIABLE ARROW
COPY & BORDER - WHITE
BACKGROUND - BLUE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	50-5934	1



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	40.0	96X60	50-5925	2
	15.0	60X36	50-5935	1

M4 - SERIES

M4-8

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9707	1

M4-9b

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9703	1

M4-8a

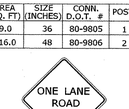
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	24X18	80-9708	1

M4-9b

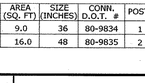
VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30X30	80-9706	1

M4-10



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.0	48X18	80-9701R	2
	6.0	48X18	80-9702L	2



VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9710	2

R1 - SERIES

R1-1

*
COPY & BORDER - WHITE
BACKGROUND - RED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.19	30	31-0552	1
	13.30	48	31-0557	2

R1-2

*
COPY & BORDER - RED
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.90	36	31-0523	1
	10.83	60	31-0528	2

R4 - SERIES

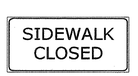
R4-7

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	24X30	31-1526	1

R9 & R11 - SERIES

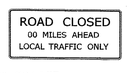
R9-9



COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.75	30X18	80-9076	1

R11-3a



VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

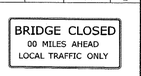
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9077	2

R9-11

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9074	1

R11-3b



VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

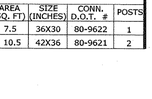
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9078	2

R9-11a

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9075	1

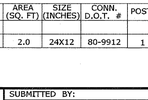
R11-3b



COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9081	2

R11-2



COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.0	48X30	80-9080	2

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	14.0	48X42	31-1906	2
	22.5	60X54	31-1907	2
	30.0	72X60	31-1908	2

W1 - SERIES

W1-4

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9432L	1
	9.0	36	80-9431R	1
	16.0	48	80-9452L	2
	16.0	48	80-9451R	2

W1-6

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.5	36X18	80-9422	1
	8.0	48X24	80-9424	2

W1-8

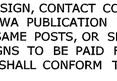
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	1.5	12X18	80-9402	1
	5.0	24X30	80-9403	1
	7.5	30X36	80-9404	1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9433L	2
	16.0	48	80-9435R	2

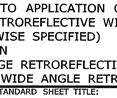
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9483L	2
	25.0	60	80-9485R	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9434L	2
	16.0	48	80-9436R	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9484L	2
	25.0	60	80-9486R	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9443L	2
	25.0	60	80-9445R	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9444L	2
	25.0	60	80-9446R	2

W3 - SERIES

W3-1

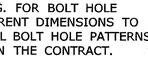
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9808	1

W3-1a

OCTAGON - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9050	1
	16.0	48	80-9051	2

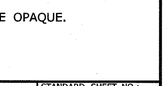
W3-2a



TRIANGLE - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9054	1
	16.0	48	80-9055	2

W3-3



TOP CIRCLE - RED
MIDDLE CIRCLE - YELLOW
BOTTOM CIRCLE - GREEN
COPY & BORDER - BLACK
BACKGROUND - ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9052	1
	16.0	48	80-9053	2

W4-W6 - SERIES

W4-2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9918L	2
	16.0	48	80-9917R	2

W6-3

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9945	2

W8-W9 - SERIES

W8-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9901	1
	16.0	48	80-9902	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9801	1
	16.0	48	80-9802	2

W9-2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9910L	2
	16.0	48	80-9911R	2

W13 - SERIES

W13-1

SUBPLATE
VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.25	18	80-9568	1
	4.0	24	80-9569	1

VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9506	1
	16.0	48	80-9508	2

VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.0	72X24	80-9519	2

W20 - SERIES

W20-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30	80-9602	1
	9.0	36	80-9603	1
	16.0	48	80-9604	2

W20-1

VARIABLE DISTANCE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9614	1
	16.0	48	80-9615	2

W20-2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9805	1
	16.0	48	80-9806	2

W20-4

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9834	1
	16.0	48	80-9835	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9836	2
(R)	16.0	48	80-9839	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9837	2
(R)	16.0	48	80-9838	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9847	2
(R)	16.0	48	80-9848	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9846	2
(R)	16.0	48	80-9849	2

W20-7a

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9803	1
	16.0	48	80-9804	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	32.0	96X48	80-9815	

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	1.66	30X8	80-9829	

W21 - SERIES

W21-6

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9607	1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9912	1

W22 - SERIES

W22-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9620	1
	16.0	48	80-9625	2

W22-2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.5	42X36	80-9623	2

W22-3

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	7.5	36X30	80-9622	1
	10.5	42X36	80-9621	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.17	60X10	80-9913	2
	12.0	96X18	80-9914	2
	3.33	48X10	80-9916	2

BLANK OR
VARIABLE LEGEND

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9933	1
	16.0	48	80-9934	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9928	2
	24.0	72X48	80-9929	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9951	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9956	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(1)	16.0	48	80-9957	2
(2)	9.0	36	80-9958	1
(2)	16.0	48	80-9959	2

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	41-0820	

STOP-SLOW PADDLE

SIDE A
BACKGROUND - RED
COPY & BORDER - WHITE
SIDE B
BACKGROUND - ORANGE
COPY & BORDER - BLACK PLAIN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.51	19	80-9950	PADDLE

METRIC CONVERSION CHART
(1" = 25mm)

ENGLISH	METRIC	ENGLISH	METRIC
12"	300	60"	1500
18"	450	66"	1650
24"	600	72"	1800
30"	750	78"	1950
36"	900	84"	2100
42"	1050	90"	2250
48"	1200	96"	2400
54"	1350		

NOTES:

FOR METRIC SEE CONVERSION CHART.
1. R1-SERIES SIGN THE LEGEND "S.T.C." SHALL APPEAR.
2. POSTS - SEE TYPICAL SHEET (SHT #9) - "TYPICAL METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
3. POSTS - TYPE A (EXCEPT WHERE NOTED WITH A "B" FOR TYPE B)
4. ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE TYPICAL SHEET (SHT #9)
5. FOR TEMPORARY SUPPORTS SEE TYPICAL SHEET (SHT #23A) - "TYPICAL CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
6. FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
7. ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
8. MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS

MATERIALS:
SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3). ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100 EXCEPT SIGN #s. 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125, PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2 " EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

ALL COLORS SHALL BE RETROREFLECTIVE WITH THE EXCEPTION OF BLACK WHICH SHALL BE OPAQUE.

COLORS: (UNLESS OTHERWISE SPECIFIED)
LEGEND - BLACK PLAIN
BACKGROUND - ORANGE RETROREFLECTIVE

* SIGNS TO BE "BRIGHT WIDE ANGLE RETROREFLECTIVE SHEETING.

REV.	DATE	REVISION DESCRIPTION
-		

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1220_01

SUBMITTED BY: NAME/DATE/TIME:
Charles S. Harlow
2009.09.11 14:58:43 -04'00'

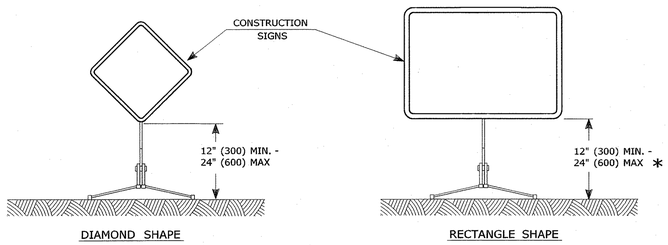
APPROVED BY: NAME/DATE/TIME:
John F. Carey
2009.09.16 08:33:54 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS

STANDARD SHEET NO.:
TR-1220_01

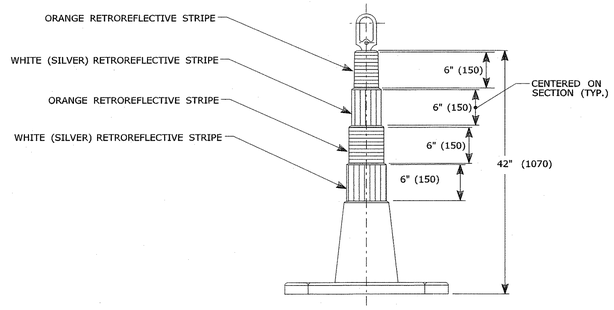


CONSTRUCTION SIGNS

NOTES FOR PORTABLE SIGN SUPPORTS:

1. SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" (300) AND A MAXIMUM OF 24" (600). SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3).

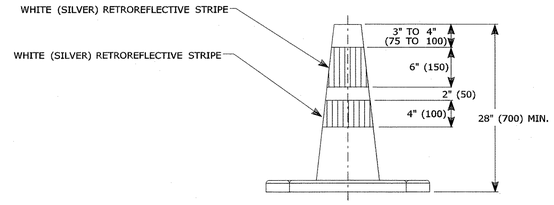
* FOR EXIT SIGNS, USE MIN. 72" (1800).



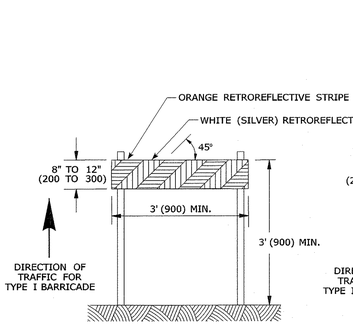
42" (1m) TRAFFIC CONE

NOTES:

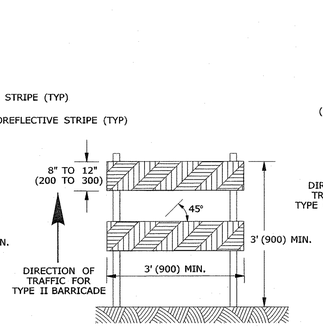
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.



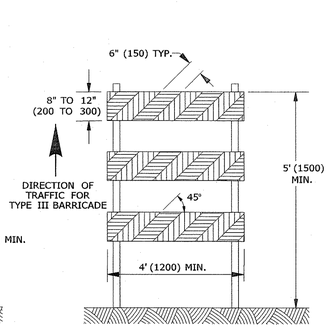
TRAFFIC CONE



TYPE I BARRICADE



TYPE II BARRICADE

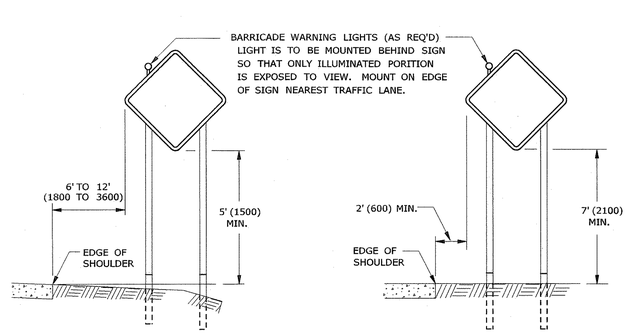


TYPE III BARRICADE

CONSTRUCTION BARRICADES

NOTES:

1. CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" (150) WIDE STRIPES SHALL BE USED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. RAILS FOR TYPE I AND TYPE II BARRICADES SHALL BE RETROREFLECTIVE ON BOTH SIDES. WHERE TRAFFIC PASSES ONLY IN ONE DIRECTION OF TRAVEL, ONLY THE SIDE FACING TRAFFIC SHALL BE RETROREFLECTIVE.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
6. SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.

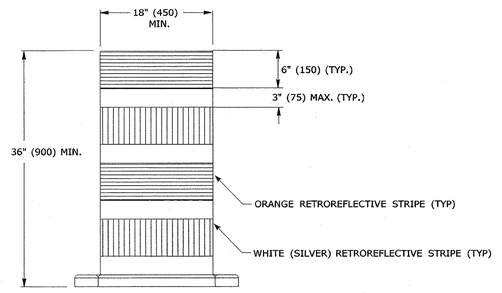


PLACEMENT OF CONSTRUCTION SIGNS TYPICAL LONG TERM INSTALLATION

NOTES:

SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.

SEE TYPICAL SHEETS:
"TYPICAL SIGN SUPPORT AND SIGN PLACEMENT DETAILS-GORE EXIT SIGN"
"TYPICAL METAL SIGN POSTS AND SIGN MOUNTING DETAILS"



TRAFFIC DRUM FRONT VIEW

NOTES:

1. TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) AND THE LATEST EDITION OF THE MUTCD.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
4. THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

REV.	DATE	REVISION DESCRIPTION
-		

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Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1220_02

SUBMITTED BY:	NAME/DATE/TIME:
Charles S. Harlow	Charles S. Harlow 2009.09.11 14:59:23 -04'00'
APPROVED BY:	NAME/DATE/TIME:
John F. Carey	John F. Carey 2009.09.16 08:34:26 -04'00'

CTDOT STANDARD SHEET

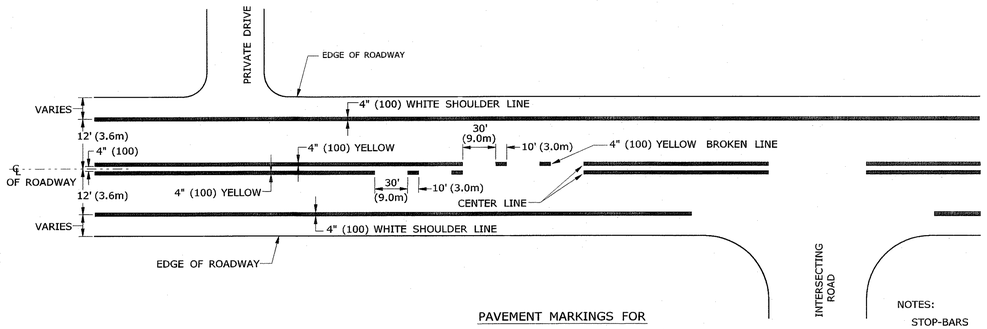
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

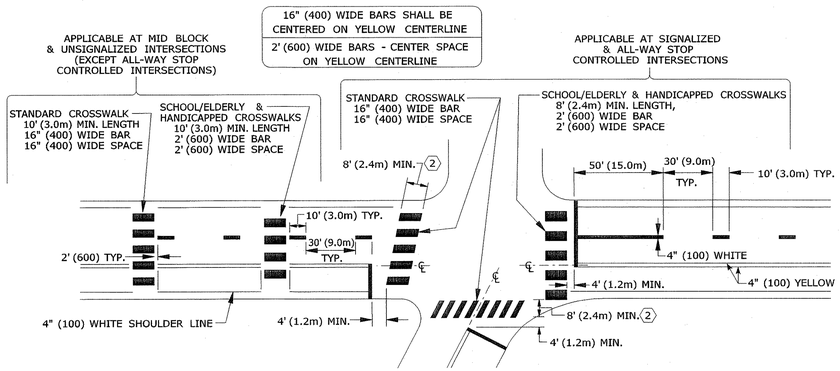
CONSTRUCTION SIGN SUPPORTS & CHANNELIZING DEVICES

STANDARD SHEET NO.:

TR-1220_02



PAVEMENT MARKINGS FOR
CENTERLINE AND SHOULDER LINE



PAVEMENT MARKINGS FOR
STOP BARS AND CROSSWALKS

NOTES:

STOP-BARS

1. STOP BARS SHALL BE WHITE.
2. STOP BARS SHALL BE 12" (300) MIN. UNLESS OTHERWISE NOTED ON PLANS.
3. STOP BARS TO BE MARKED A MINIMUM OF 4' (1.2m) IN ADVANCE OF NEAREST EDGE OF CROSSWALK.
4. IN ABSENCE OF MARKED CROSSWALK THE STOP BAR SHALL BE PLACED AT THE DESIRED STOPPING POINT. NO MORE THAN 30' (9.0m) LESS THAN 5' (1.5m) FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY AND 90° TO THE CENTERLINE OF ROADWAY.
5. THE STOP BAR SHALL ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE STOP SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP BAR SHOULD BE PLACED AT THE STOPPING POINT.
6. STOP BARS AND CENTERLINE (WHEN SIDE STREET WIDTHS ARE 16' (4.8m) OR MORE) ARE TO BE MARKED ON SIDE STREETS WITHIN THE LIMITS OF CONSTRUCTION UNLESS, OTHERWISE INDICATED, OR AS DIRECTED BY THE ENGINEER.

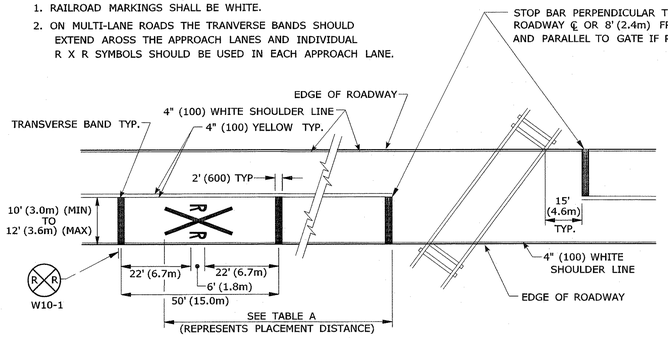
CROSSWALKS

1. CROSSWALK MARKINGS SHALL BE WHITE.
2. AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO ℄ AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.
3. SCRAMBLE WALKS TO BE MARKED WITH ONE 24" WIDE LINE ACROSS EACH APPROACH.
4. BARS SHALL NORMALLY BE NO CLOSER THAN 2' FROM CURB LINE/EDGE OF ROAD. WHERE EXCESS SPACE MAY DEVELOP THIS DISTANCE MAY BE DECREASED TO 1'.
5. ONLY FULL LENGTH BARS ARE TO BE INSTALLED AT CORNERS.

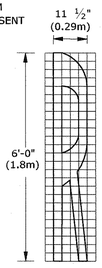
NOTES:

RAILROAD GRADE CROSSINGS

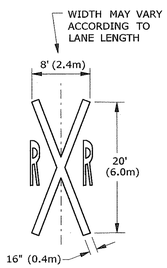
1. RAILROAD MARKINGS SHALL BE WHITE.
2. ON MULTI-LANE ROADS THE TRANVERSE BANDS SHOULD EXTEND AROSS THE APPROACH LANES AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.



PAVEMENT MARKINGS FOR
RAILROAD GRADE CROSSINGS



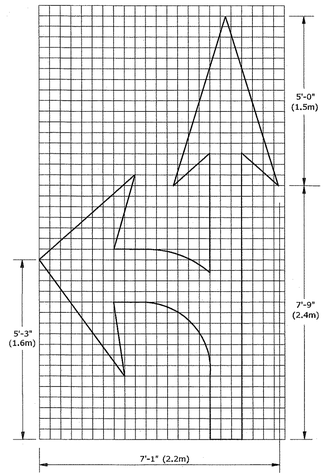
5.75 S.F.
(0.6m²)



67.5 S.F.
(6.3m²)

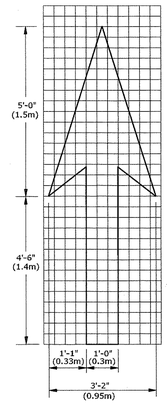
TABLE A	
POSTED OR 85 PERCENTILE SPEED M.P.H.	DISTANCE FT. (m)
20	*
25	*
30	100 (30)
35	150 (46)
40	225 (69)
45	300 (91)
50	375 (114)
55	450 (137)
60	550 (168)
65	650 (198)

* NO SUGGESTED MINIMUM DISTANCE, AT THESE SPEEDS, SIGN LOCATION DEPENDS ON PHYSICAL CONDITIONS AT SITE, HOWEVER SHOULD NOT BE LESS THAN 50' (15m).

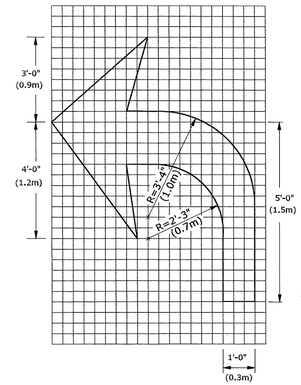


REFER TO ADJACENT VIEWS FOR DIMENSIONING

27.0 S.F.
(2.5m²)



12.5 S.F.
(1.2m²)



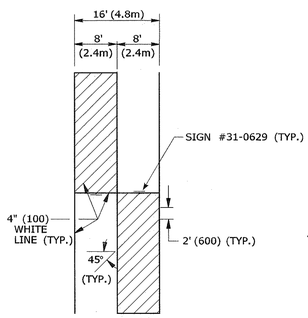
15.5 S.F.
(1.4m²)

27.0 S.F.
(2.5m²)
LEFT & RIGHT
ARROW COMBO

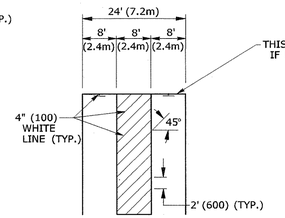
38.5 S.F.
(3.6m²)
3 WAY ARROW
COMBO

PAVEMENT ARROW DETAILS
(WHITE)

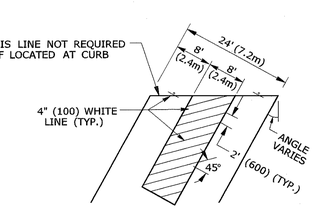
ARROWS SHALL BE CENTERED IN TRAVEL LANE



(PIGGY BACK STYLE)



(SIDE BY SIDE STYLE)
(SHARED AISLE)



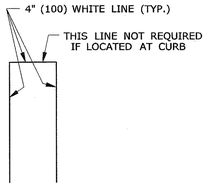
(ANGLED SIDE BY SIDE STYLE)
(SHARED AISLE)

PARKING STALLS FOR HANDICAPPED

NOTES:

PAVEMENT MARKING

1. FOR PAVEMENT MARKINGS ON A CLIMBING LANE SEE DETAIL "H". ON TRAFFIC TYPICAL SHEET "TYPICAL PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS".
2. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
3. EXIT RAMP PAVEMENT ARROW SHOULD BE BETWEEN THE GORE AND THE FIRST SET OF WRONG WAY SIGNS. THE EXACT LOCATION TO BE DETERMINED BY THE ENGINEER FOR THE OPTIMUM VISIBILITY (CONSIDER RAMP CURVATURE AND PROFILE).
4. EXIT RAMP PAVEMENT ARROW TO BE OMITTED IF LANE USE CONTROLS ARE USED, UNLESS OTHERWISE SPECIFIED.
5. RIGHT TURN PAVEMENT MARKINGS ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.
6. SHARED AISLES MAY NOT BE USED WHERE CONNECTICUT BUILDING CODE GOVERNS



STANDARD
PARKING STALL

REV.	DATE	REVISION DESCRIPTION
-		

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1210_03

SUBMITTED BY: NAME/DATE/TIME: Charles S. Harlow 2009.09.11 14:57:57 -04'00'

APPROVED BY: NAME/DATE/TIME: John F. Carey 2009.09.16 08:32:41 -04'00'

CTDOT
STANDARD SHEET

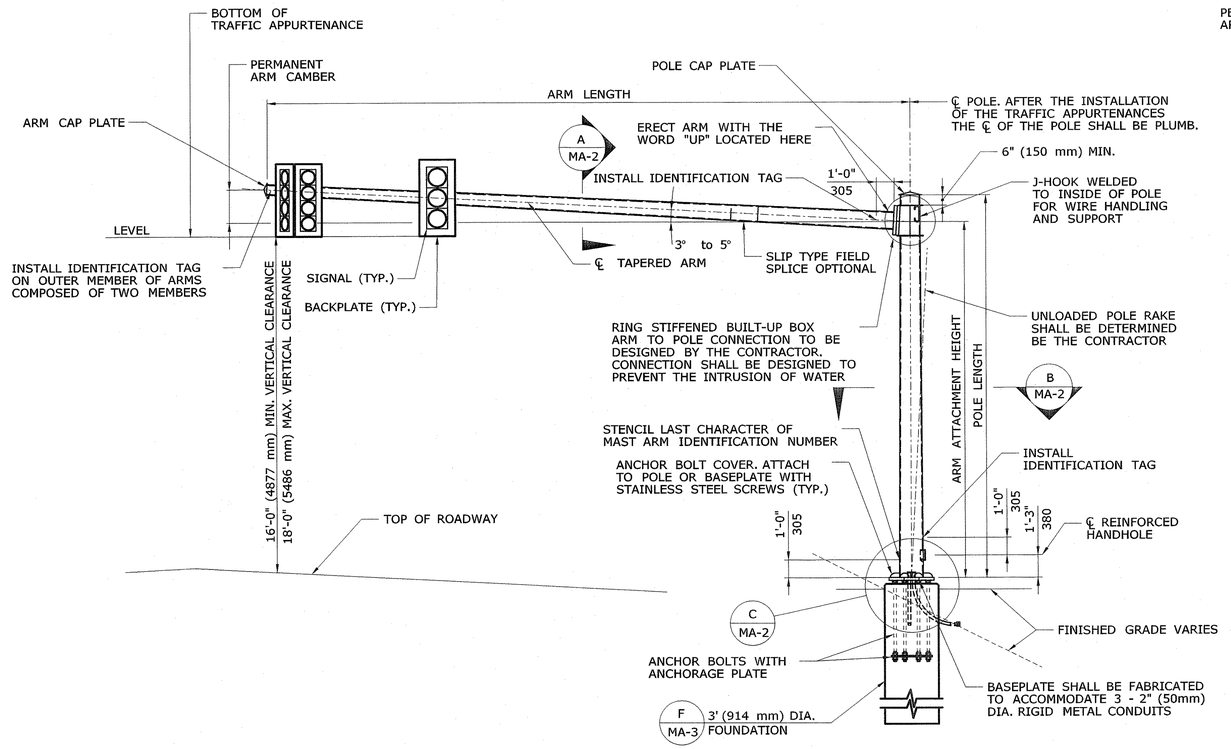
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

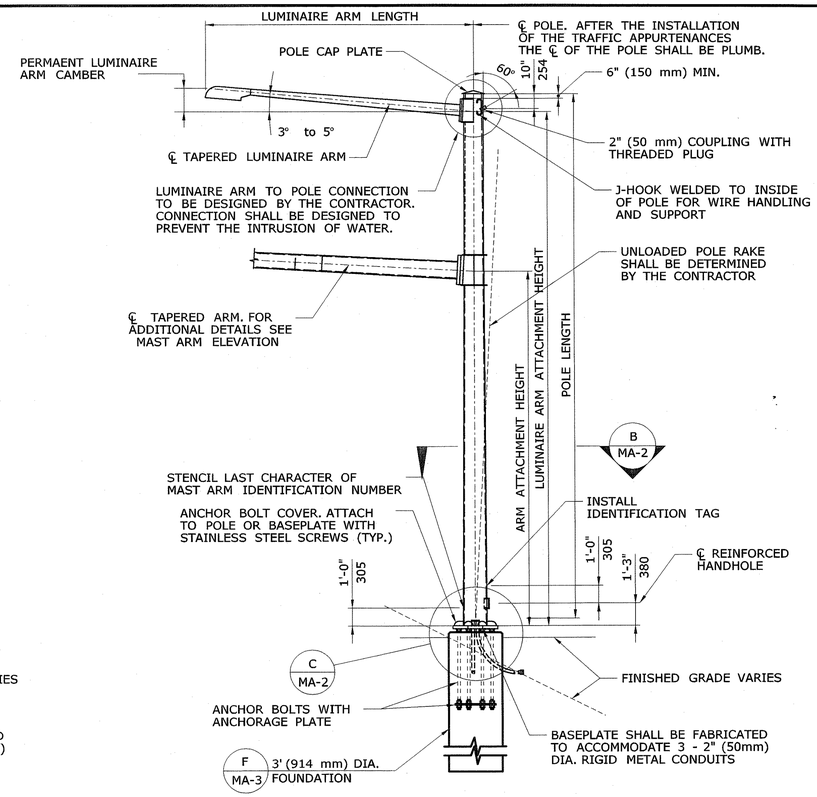
SPECIAL DETAILS AND PAVEMENT MARKINGS FOR TWO-WAY HIGHWAYS

STANDARD SHEET NO.:

TR-1210_03



ELEVATION
MAST ARM
SCALE: ¼" = 1'-0"



ELEVATION
COMBINATION MAST ARM
SCALE: ¼" = 1'-0"

MAST ARM ASSEMBLY NOTES

THE MAST ARM, INCLUDING THE ANCHORAGE TO THE FOUNDATION, SHALL BE DESIGNED, FABRICATED AND INSTALLED BY THE CONTRACTOR, OF THE SPAN SPECIFIED, IN ACCORDANCE WITH THE SPECIAL PROVISION "XX STEEL MAST ARM ASSEMBLY" OR "XX STEEL COMBINATION MAST ARM ASSEMBLY".

THE DIMENSIONS OF THE MAST ARM ASSEMBLY AND DETAILS OF THE TRAFFIC APPURTENANCES SUPPORTED BY THE MAST ARM ASSEMBLY ARE SHOWN ON THE TRAFFIC SIGNAL PLANS, ELEVATIONS, CROSS-SECTIONS OR IN THE SPECIAL PROVISIONS. THE ARM AND POLE LENGTHS AND THE ATTACHMENT HEIGHTS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THE FINISHED GRADE AT THE SITE, TOP OF FOUNDATION ELEVATION, THE LOCATIONS OF OVERHEAD UTILITY CABLES AND THE TRAFFIC APPURTENANCE MOUNTING HEIGHTS. IF EITHER THE ARM OR POLE LENGTH IS INADEQUATE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

THE MAST ARMS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, INCLUDING THE LATEST INTERIM SPECIFICATIONS, AS AMENDED BY THE AS SPECIAL PROVISION "XX STEEL MAST ARM ASSEMBLY" OR "XX STEEL COMBINATION MAST ARM ASSEMBLY".

THE MAST ARM SHALL BE DESIGNED FOR THE LOAD EFFECTS DUE TO THE ACTUAL TRAFFIC APPURTENANCES (SIGNALS, SIGNS, LUMINAIRES, CAMERAS, ETC.). THE MAST ARMS SHALL ALSO BE DESIGNED FOR THE EFFECTS OF TRAFFIC APPURTENANCES DURING ALL STAGES OF CONSTRUCTION THAT MAY EXIST DURING THE PROJECT UNDER WHICH THE MAST ARMS ARE INSTALLED.

THE MAST ARMS SHALL BE DESIGNED TO SUPPORT TRAFFIC APPURTENANCES WITH PROPERTIES NO LESS THAN THOSE SHOWN IN THE TABLE ENTITLED "TRAFFIC APPURTENANCE PROPERTIES - MINIMUM DESIGN VALUES".

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/14/2010

DESIGNER/DRAFTER: -
CHECKED BY: -
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\XXXXXX_SB_MastArm_MA1_Elev.dgn

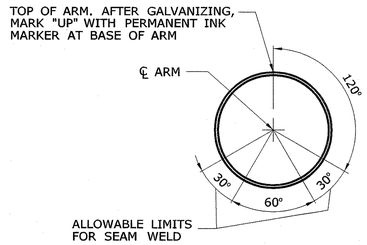
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY: DATE:

PROJECT TITLE: -

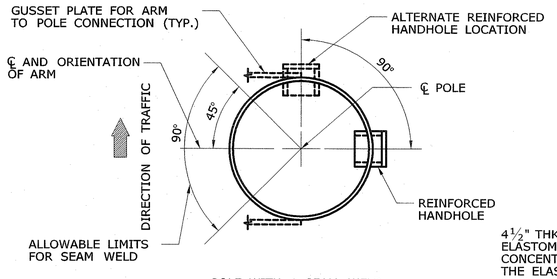
TOWN: -

DRAWING TITLE: MAST ARM ASSEMBLY ELEVATION

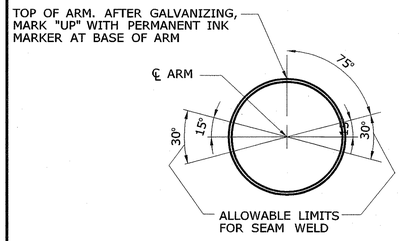
PROJECT NO. -
DRAWING NO. MA-1
SHEET NO.



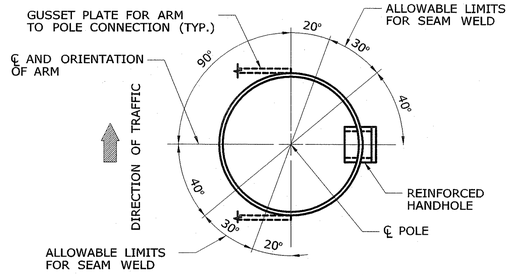
ARM WITH 1 SEAM WELD



POLE WITH 1 SEAM WELD



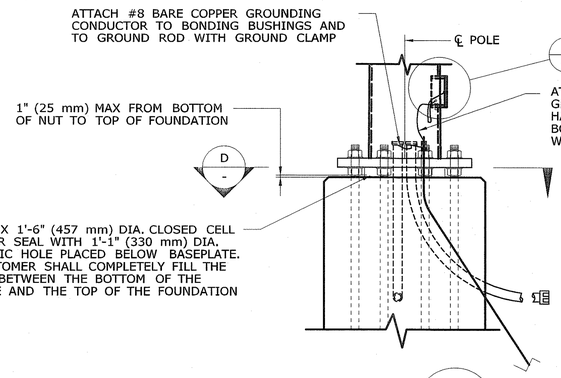
ARM WITH 2 SEAM WELDS



POLE WITH 2 SEAM WELDS

SECTION A
SCALE: 1½" = 1'-0" MA-1

SECTION B
SCALE: 1½" = 1'-0" MA-1



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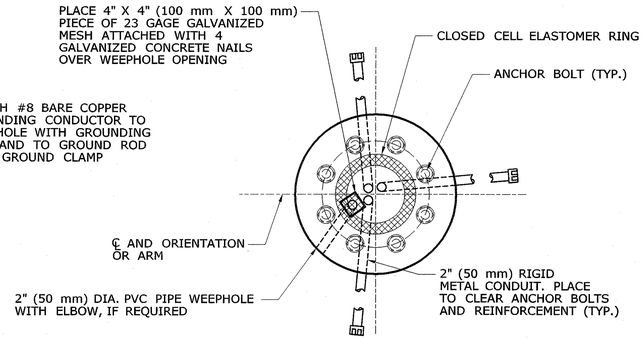
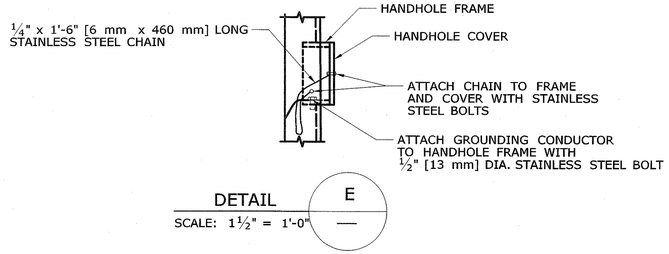
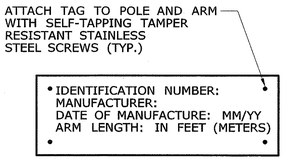


SECTION D
SCALE: ¾"=1'-0" —

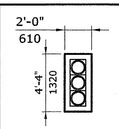
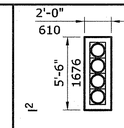
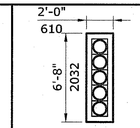
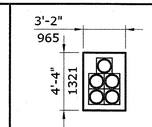
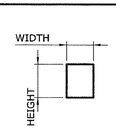


DETAIL E
SCALE: 1½" = 1'-0" —



IDENTIFICATION TAG
NTS

TRAFFIC APPURTENANCE PROPERTIES MINIMUM DESIGN VALUES

	 3 SECTION , 12" (305) DIA. TRAFFIC SIGNAL W/ BACKPLATE	 4 SECTION , 12" (305) DIA. TRAFFIC SIGNAL W/BACKPLATE	 5 SECTION , 12" (305) DIA.TRAFFIC SIGNAL W/ BACKPLATE	 5 SECTION , 12" (305) DIA.TRAFFIC SIGNAL W/ BACKPLATE	 SHEET ALUMINUM SIGN PANEL
WEIGHT, INCLUDING MOUNTING HARDWARE	65 LBS (29.48 kg)	80 LBS (36.29 kg)	95 LBS (43.09 kg)	105 LBS (47.63 kg)	4 LBS/SQ.FT. (19.53 kg/m^2)
TOTAL SURFACE AREA	28.04 SQ. FT. (2.61 m^2)	35.46 SQ. FT. (3.29 m^2)	45.16 SQ. FT. (4.20 m^2)	41.04 SQ. FT. (3.81 m^2)	BASED ON PANEL DIMENSIONS
PROJECTED AREA, FRONT FACE	8.62 SQ. FT. (0.80 m^2)	10.91 SQ. FT. (1.01 m^2)	13.34 SQ. FT. (1.24 m^2)	13.72 SQ. FT. (1.28 m^2)	BASED ON PANEL DIMENSIONS
PROJECTED AREA, BOTTOM FACE	1.18 SQ. FT. (0.11 m^2)	1.18 SQ. FT. (0.11 m^2)	1.18 SQ. FT. (0.11 m^2)	2.58 SQ. FT. (0.24 m^2)	BASED ON PANEL DIMENSIONS

NOTES:

THE TABULATED VALUES ARE THE MINIMUM VALUES THAT SHALL BE USED FOR THE DESIGN.

MAST ARMS SHALL BE DESIGNED ASSUMING ALL TRAFFIC SIGNALS ARE COMPOSED OF 12" (305 mm) DIAMETER SECTIONS WITH BACKPLATES.

THE PROJECTED FRONT FACE AREA IS IN A PLANE PARALLEL TO THE PLANE FORMED BY THE ARM AND THE POLE.

IF MULTIPLE APPURTENANCES ARE ATTACHED AT THE SAME LOCATION, THE MINIMUM DESIGN VALUE SHALL BE NO LESS THAN THE SUM OF THE CORRESPONDING TRAFFIC APPURTENANCE PROPERTIES.

FOR TRAFFIC APPURTENANCES NOT SHOWN, THE PROPERTIES SHALL BE DETERMINED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW WITH THE WORKING DRAWING SUBMITTAL.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/14/2010

DESIGNER/DRAFTER: -
CHECKED BY: -
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\XXXXXXX_SB_MastArm_MA1_Elev.dgn

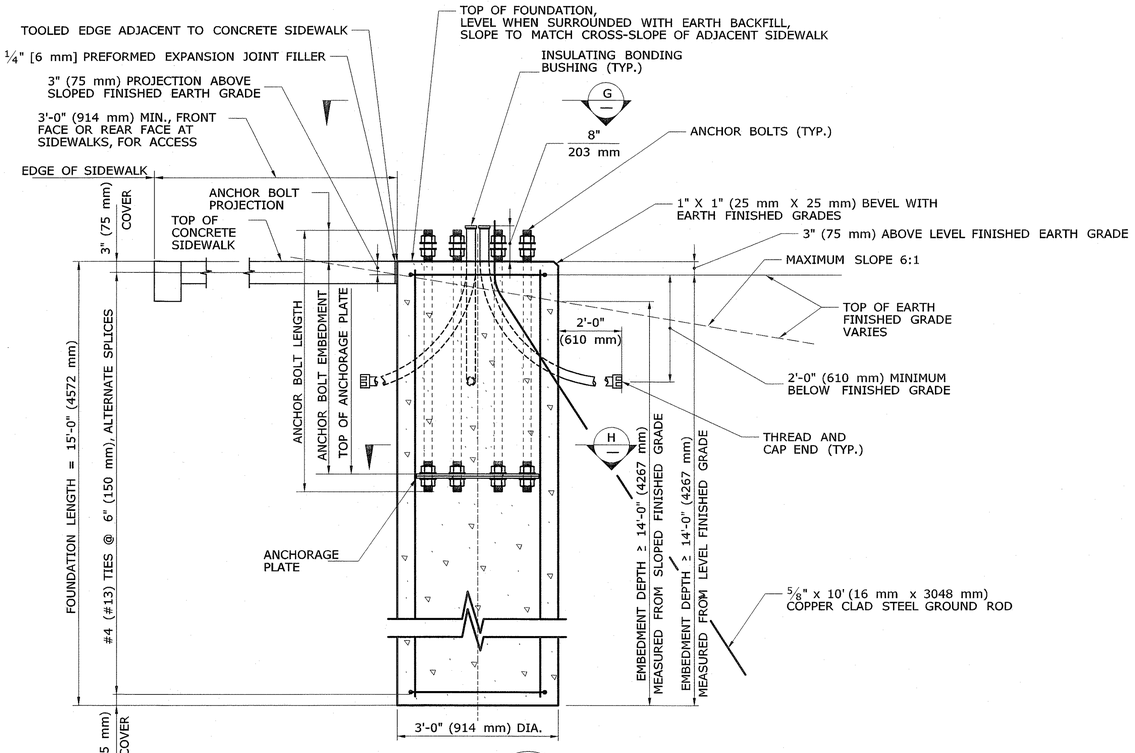
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY: DATE:

PROJECT TITLE: -

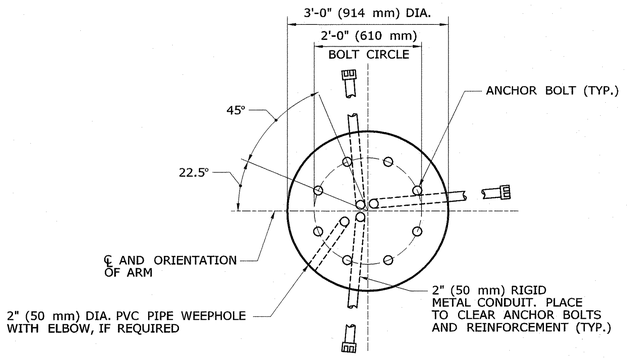
TOWN: -

DRAWING TITLE: MAST ARM ASSEMBLY DETAILS

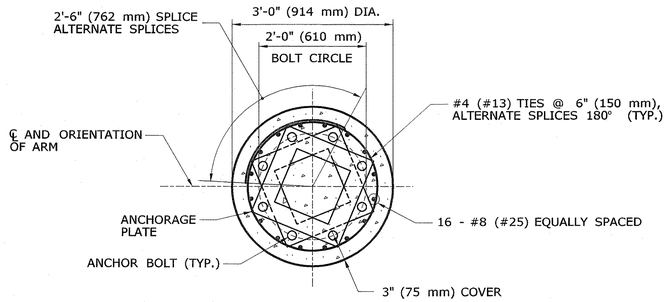
PROJECT NO. -
DRAWING NO. MA-2
SHEET NO. S



SECTION F
SCALE: ¾"=1'-0" MA-1



SECTION G
SCALE: ¾"=1'-0" —



SECTION H
Scale: ¾"=1'-0" —

FOUNDATION NOTES

THE MAST ARM FOUNDATION IS DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, WITH THE LATEST INTERIM SPECIFCATIONS.

THE FOUNDATION EMBEDMENT IS DESIGNED FOR MAXIMUM LOAD EFFECTS, APPLIED AT THE TOP OF THE FOUNDATION, NO GREATER THAN THE FOLLOWING:

AXIAL COMPRESSIVE FORCE: K (kN)

RESULTANT SHEAR FORCE: K (kN)

TORSION: FT - K (kN - m)

RESULTANT BENDING MOMENT: FT - K (kN - m)

THE USE OF THE FOUNDATION IS NOT PERMITTED IF THE COMPUTED REACTIONS FROM THE CONTRACTOR DESIGNED MAST ARM ASSEMBLY EXCEED THE ABOVE LOAD EFFECTS.

THE ENGINEER SHALL BE NOTIFIED IF THE SLOPE OF THE FINISHED GRADE AT THE FOUNDATION EXCEEDS THE MAXIMUM PERMITTED SLOPE.

THE CONCRETE FOR THE FOUNDATION SHALL CONFORM TO "CLASS "A" CONCRETE".

THE REINFORCEMENT SHALL BE UNCOATED AND CONFORM TO ASTM A615, GRADE 60 (ASTM A615M, GRADE 420). THE REINFORCEMENT SHALL BE ASSEMBLED WITH WIRE TIES. WELDING TO ASSEMBLE REINFORCEMENT IS NOT PERMITTED. ALL REINFORCEMENT SHALL HAVE 3" (75 mm) COVER, UNLESS OTHERWISE NOTED.

THE CONCRETE SHALL BE PLACED IN A AUGERED HOLE AGAINST UNDISTRURBED EARTH.

THE MAST ARM SHALL NOT BE ERECTED ON THE FOUNDATION UNTIL AFTER THE CONCRETE HAS ATTAINED A 28 DAY COMPRESSIVE STRENGTH, f'_c, GREATER THAN OR EQUAL TO 3000 PSI (21 MPa).

THE COST OF THE FOUNDATION, INCLUDING THE EXCAVATION, CONCRETE AND REINFORCEMENT, SHALL BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL FOUNDATION - MAST ARM".

ATTENTION USER:

THE USER OF THESE FOUNDATION DETAILS IS RESPOSIBLE FOR DETERMNING THE VALUES FOR THE MAXIMUM LOAD EFFECTS APPLIED AT THE TOP OF THE FOUNDATION AND ADDING THE VALUES TO THE ABOVE NOTES. THE USER SHALL ENSURE THAT THE FOUNDATION IS ONLY USED FOR MAST ARM ASSEMBLIES WITH COMPUTED REACTIONS THAT DO NOT EXCEED THESE MAXIMUM LOAD EFFECTS. THIS NOTE SHALL BE REMOVED, BY THE USER, PRIOR TO INCORPORATING THESE FOUNDATION DETAILS INTO THE CONTRACT DOCUMENTS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/14/2010

DESIGNER/DRAFTER: -

CHECKED BY: -

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\XXXXXXX_SB_MastArm_MA1_Elev.dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING

APPROVED BY: DATE:

PROJECT TITLE: -

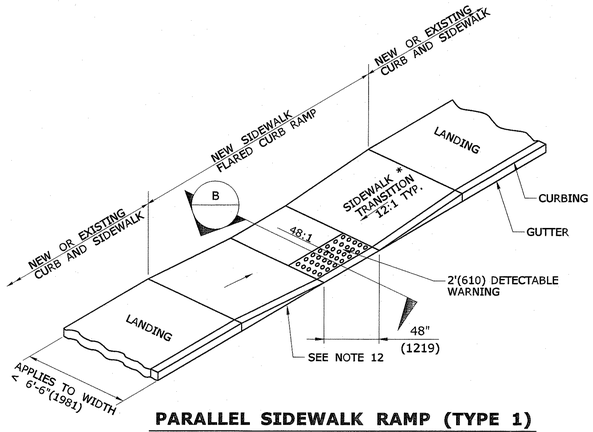
TOWN: -

DRAWING TITLE:
MAST ARM ASSEMBLY FOUNDATION DETAILS

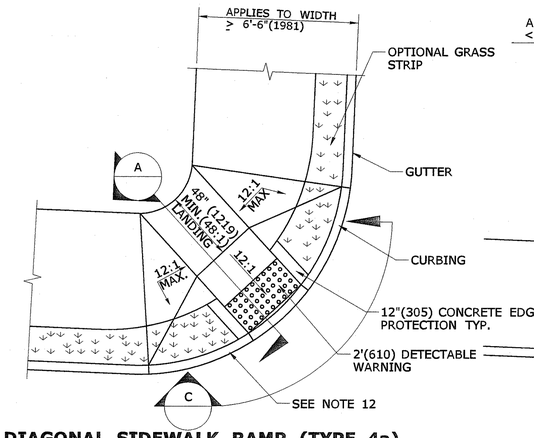
PROJECT NO. -

DRAWING NO. **MA-3**

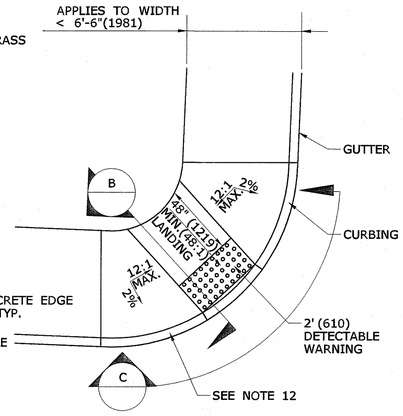
SHEET NO. **S**



PARALLEL SIDEWALK RAMP (TYPE 1)



DIAGONAL SIDEWALK RAMP (TYPE 4a)



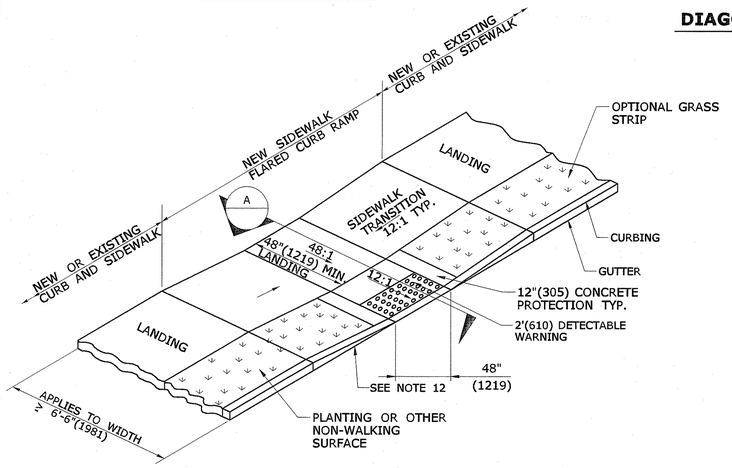
DIAGONAL/PARALLEL SIDEWALK RAMP (TYPE 4b)

GENERAL NOTES:

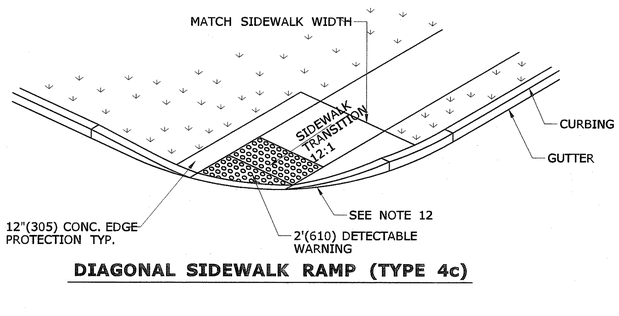
1. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE SIDEWALK RAMP OR ACCESSIBLE ROUTE SHOULD NOT EXCEED 20:1.
2. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND ABRUPT GRADE CHANGES.
3. ALL RAMPS SHALL BE CONSTRUCTED OF CLASS "C" CONCRETE IN ACCORDANCE WITH CONNECTICUT STANDARD SPECIFICATIONS ARTICLE M.03.01.

*4. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP. THE SURFACE ALONG ACCESSIBLE ROUTES SHALL BE STABLE, FIRM AND SLIP RESISTANT IN COMPLIANCE WITH ADAAG SECTION 4.7.

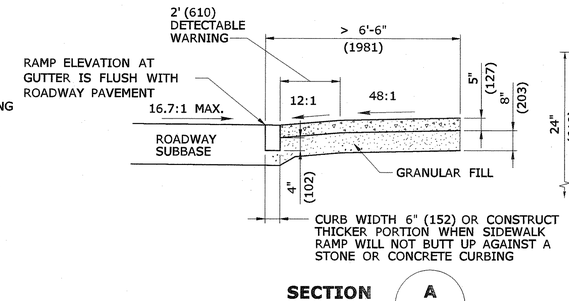
5. DIAGONAL SIDEWALK RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
6. REMOVAL OF EXISTING SIDEWALK FOR NEW RAMP INSTALLATIONS SHALL BE TO THE NEAREST EXPANSION / CONTRACTION JOINT OR DUMMY JOINT. 12:1 MAY NOT BE ACHIEVABLE DUE TO SIDEWALK GRADE. IN RECOGNITION OF THIS, A MINIMUM LIMIT OF 15' (4.57m) FOR A PARALLEL RAMP SHALL BE USED. REMOVAL SHALL NOT BE FURTHER THAN 2' (610) FROM THE PROPOSED RAMP UNLESS DIRECTED BY THE ENGINEER. SAW CUT REQUIRED FOR DUMMY JOINTS SHALL BE INCLUDED IN THE COST OF "CONCRETE SIDEWALK".
7. EXPANSION JOINTS IN CONCRETE SHALL MATCH THOSE IN ADJACENT SIDEWALKS BUT IN NO CASE SHALL THE SPACING BETWEEN EXPANSION JOINTS EXCEED 12' (3.66m) UNLESS OTHERWISE NOTED.
8. RAISED ISLANDS IN MARKED CROSSINGS SHALL HAVE SIDEWALK RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 4' (1219) LONG BETWEEN THE RAMPS. IF THIS CAN NOT BE ACHIEVED, THE RAISED ISLAND SHALL BE CUT THROUGH LEVEL WITH THE ROADWAY AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
9. SIDEWALK RAMPS SHALL BE CONSTRUCTED AND PAID FOR UNDER THE ITEM "CONCRETE SIDEWALK", INCLUDING CURBING WITHIN THE LIMITS OF THE NEW SIDEWALK RAMP AND DETECTABLE WARNING STRIPS.
10. CURBING WITHIN THE LIMITS OF THE NEW SIDEWALK RAMP SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE REQUIREMENTS OF FORM 816 SECTIONS 8.11 AND 8.13.
11. HANDICAP RAMPS CONFORMING WITH CONNECTICUT GENERAL STATUTES, SEC. 7-118a, SHALL BE INCORPORATED INTO ALL PROPOSED SIDEWALKS AT ALL STREET INTERSECTIONS, AND AT ALL OTHER LOCATIONS WHERE THE GRADE OF THE DRIVEWAY OR OTHER FACILITY TAKES PRECEDENCE OVER THE GRADE OF THE PROPOSED SIDEWALK.
12. TRANSITION TO FULL HEIGHT CURB. INSTALL STONE CURBING IF ADJACENT CURBING IS STONE. INSTALL CONCRETE CURBING IF ADJACENT CURBING IS CONCRETE OR BITUMINOUS.
13. INSTALL THE EDGE OF THE DETECTABLE WARNING STRIP 6" (152) FROM THE EDGE OF ROAD.
14. TO PERMIT WHEELCHAIR WHEELS TO ROLL BETWEEN DOMES, ALIGN DOMES ON A SQUARE GRID IN THE DIRECTION OF PEDESTRIAN TRAVEL.



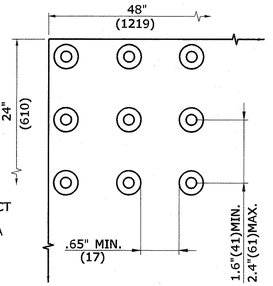
PERPENDICULAR SIDEWALK RAMP (TYPE 2)



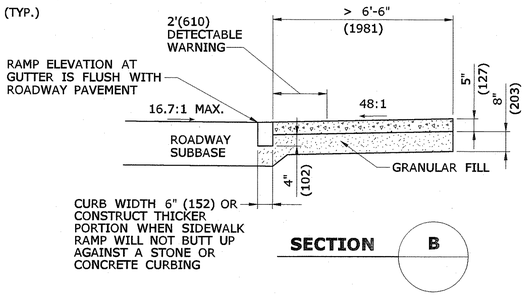
DIAGONAL SIDEWALK RAMP (TYPE 4c)



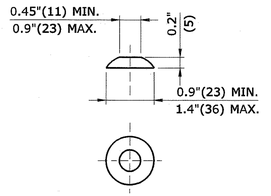
SECTION A



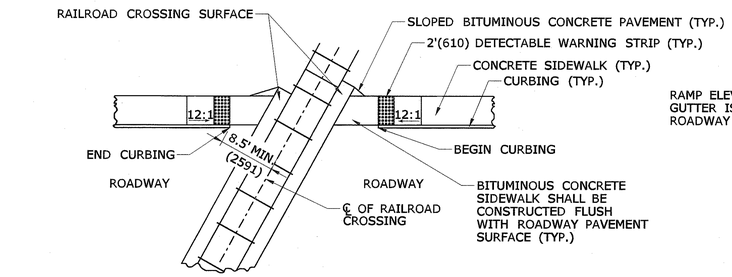
DOME SPACING



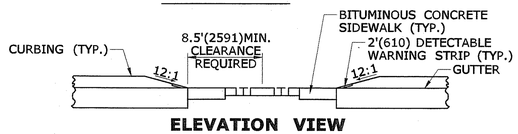
SECTION B



DOME SECTION

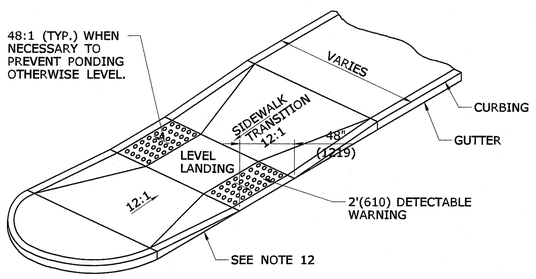


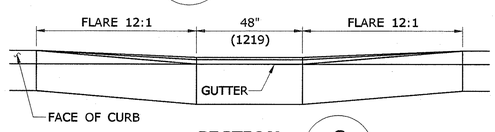
PLAN VIEW



ELEVATION VIEW

DETECTABLE WARNINGS AT RAILROAD CROSSING





SECTION C

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

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Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD.dgn Model: HW-921_02

SUBMITTED BY:	NAME/DATE/TIME:
	Timothy M. Wilson 2009.09.16 11:24:24 -04'00'
APPROVED BY:	NAME/DATE/TIME:
	James H. Norman 2009.09.18 14:30:31 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE: SIDEWALK RAMPS

STANDARD SHEET NO.: HW-921_02