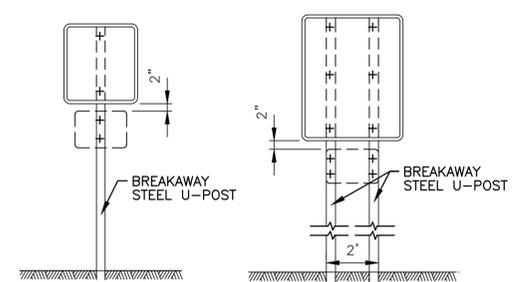
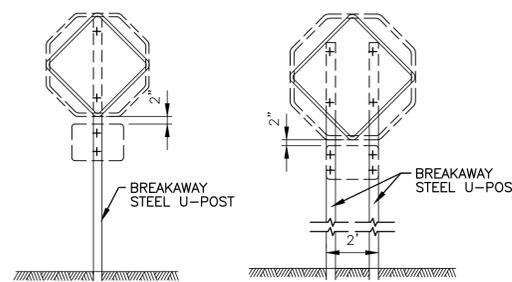


**SIGN POST EXTENSION SPLICE DETAILS**  
N.T.S.



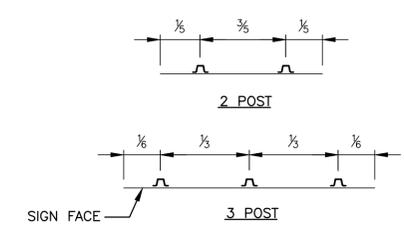
**30" x 30" OR SMALLER** TD30.01.03  
**36" x 36" OR LARGER** TD30.01.04



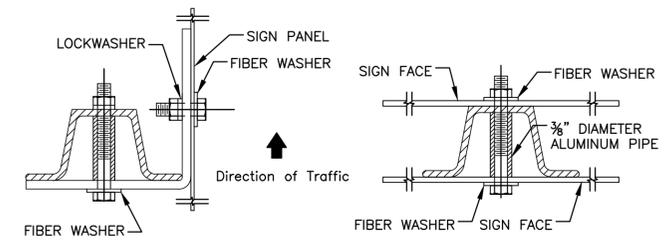
**30" x 30" OR SMALLER** TD30.01.05  
**36" x 36" OR LARGER** TD30.01.06

**NOTES:**

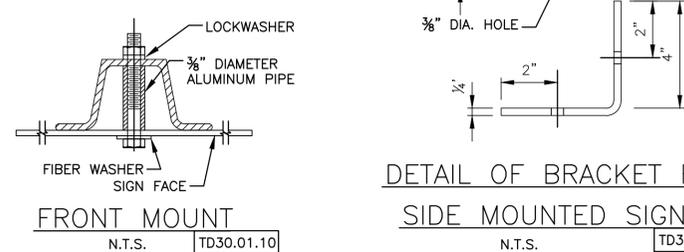
- ALL STEEL U-POSTS AND BRACKETS SHALL BE CUT, BENT AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH ASTM A123.
- ALL STEEL U-POST SIGN SUPPORTS MUST BE INSTALLED FACING THE PREDOMINANT TRAFFIC FLOW. A MOUNTING BRACKET SHALL BE USED ON SIDE MOUNTED SIGNS SUCH AS "ONE WAY" SIGNS INSTALLED IN MEDIANS.
- SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBER AS SHOWN ON POST SELECTION TABLE.
- ALL BOLTS SHOWN ON THIS SHEET SHALL NOT PROTRUDE MORE THAN 1/8" BEYOND THE NUT WHEN TIGHT AND SHALL ENGAGE ALL THREADS IN THE NUT.
- ALL SIGNS SHALL BE MOUNTED MINIMUM 7 FEET CLEARANCE FROM EDGE OF PAVEMENT TO THE BOTTOM OF THE SIGN PANEL UNLESS OTHERWISE SHOWN ON CONTRACT DRAWING.
- FOR LATERAL CLEARANCE OF SIGNS FROM ROADWAY REFER TO DRAWING TD30.07.
- EXTRUDED ALUMINUM SIGN PANELS ARE NOT PERMITTED FOR USE WITH STEEL U-POST SIGN SUPPORTS.
- STEEL U-POSTS SHALL BE PRODUCED FROM HIGH STRENGTH STEEL IN ACCORDANCE WITH ASTM A499-81, GRADE 60.
- ANCHOR POST AND TOP POST SHALL BE EQUAL WEIGHT/FT AND SAME TYPE (BOTH TYPE 1 OR BOTH TYPE 2) FOR EACH BREAKAWAY SIGN SUPPORT INSTALLATION.



**STEEL U-POST SPACING**  
N.T.S. TD30.01.08



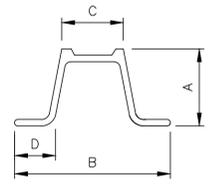
**SIDE MOUNT** N.T.S. TD30.01.09  
**BACK TO BACK MOUNTING** N.T.S. TD30.01.11



**FRONT MOUNT** N.T.S. TD30.01.10  
**DETAIL OF BRACKET FOR SIDE MOUNTED SIGNS** N.T.S. TD30.01.12

| PANEL SIZE (W x H) | # OF U-POSTS | POST SIZE (LB/FT) | PANEL SIZE (W x H) | # OF U-POSTS | POST SIZE (LB/FT) |
|--------------------|--------------|-------------------|--------------------|--------------|-------------------|
| 12" x 18"          | 1            | 2.5               | 36" x 36"          | 2            | 2.5               |
| 18" x 18"          | 1            | 2.5               | 36" x 48"          | 2            | 2.5               |
| 18" x 24"          | 1            | 2.5               | 45" x 36"          | 2            | 2.5               |
| 24" x 24"          | 1            | 2.5               | 48" x 24"          | 2            | 2.5               |
| 24" x 30"          | 1            | 2.5               | 48" x 36"          | 2            | 2.5               |
| 24" x 36"          | 1            | 2.5               | 48" x 48"          | 2            | 4.0               |
| 30" x 12"          | 1            | 2.5               | 48" x 64"          | 2            | 4.0               |
| 30" x 24"          | 1            | 2.5               | 60" x 36"          | 2            | 4.0               |
| 30" x 30"          | 1            | 2.5               | 48" x 60"          | 2            | 4.0               |
| 36" x 36"          | 2            | 2.5               | 60" x 30"          | 2            | 4.0               |
| 30" x 36"          | 1            | 4.0               |                    |              |                   |

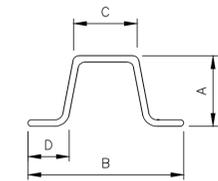
**U-POST SELECTION TABLE**  
BREAKAWAY SIGN SUPPORT TD30.01.24



**TYPE 1** N.T.S. TD30.01.19  
**TYPE 1 - STEEL U-POST PROPERTIES**

| WEIGHT *<br>LB/Ft | DIMENSIONS (in) |       |       |       | AREA<br>in <sup>2</sup> |
|-------------------|-----------------|-------|-------|-------|-------------------------|
|                   | "A"             | "B"   | "C"   | "D"   |                         |
| 2.5               | 1.516           | 3.062 | 1.278 | 0.669 | 0.760                   |
| 4.0               | 1.968           | 3.500 | 1.336 | 0.834 | 1.187                   |

\* +/- 5%



**TYPE 2** N.T.S. TD30.01.20  
**TYPE 2 - STEEL U-POST PROPERTIES**

| WEIGHT *<br>LB/Ft | DIMENSIONS (in) |       |       |       | AREA<br>in <sup>2</sup> |
|-------------------|-----------------|-------|-------|-------|-------------------------|
|                   | "A"             | "B"   | "C"   | "D"   |                         |
| 2.5               | 1.549           | 3.125 | 1.250 | 0.625 | 0.748                   |
| 4.0               | 1.845           | 3.500 | 1.625 | 0.718 | 1.190                   |

\* +/- 5%

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

| ENGINEERING DEPARTMENT |  |  |  |
|------------------------|--|--|--|
|                        |  |  |  |

**PANYNJ**  
**Traffic Standard**  
**Details**

**TRAFFIC**

| Title                |
|----------------------|
| <b>SIGN MOUNTING</b> |

**BREAKAWAY SIGN SUPPORTS AND U-POST ASSEMBLY DETAILS (1 of 2)**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

| Designed by | Drawn by | Checked by |
|-------------|----------|------------|
|             |          |            |

Date **11/01/2010**

| Contract Number |
|-----------------|
|                 |

Drawing Number **TD30.01**  
PID#

CHIEF

|     |      |          |          |
|-----|------|----------|----------|
| No. | Date | Revision | Approved |
|-----|------|----------|----------|

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title

**SIGN MOUNTING**

**BREAKAWAY SIGN  
SUPPORTS AND  
U-POST  
ASSEMBLY DETAILS  
(2 of 2)**

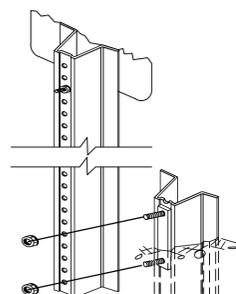
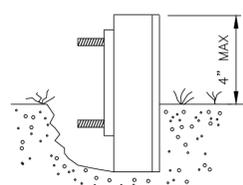
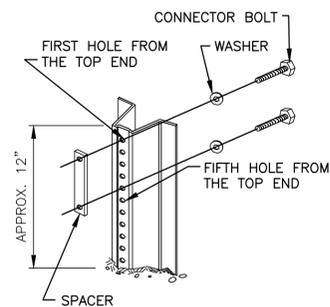
This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10017. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

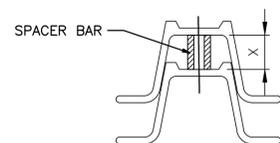
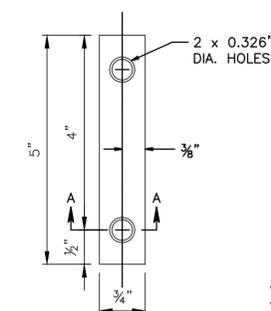
Date **11/01/2010**

Contract Number \_\_\_\_\_

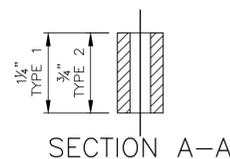
Drawing Number **TD30.01**  
PID# \_\_\_\_\_



**BREAKAWAY SIGN SUPPORT ASSEMBLY**  
N.T.S. TD30.01.02



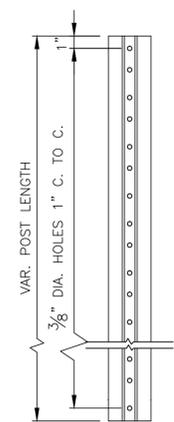
WHEN X IS GREATER THAN 3/4", USE TYPE 1 SPACER BAR  
WHEN X IS 3/4" OR LESS, USE TYPE 2 SPACER BAR



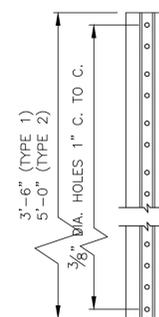
**SPACER BAR**  
N.T.S.

**NOTES:**

1. DRIVE ANCHOR POST TO WITHIN APPROXIMATELY 12" ABOVE GROUND LEVEL. PLACE BOLT AND WASHER IN FIRST AND FIFTH HOLES FROM THE TOP END, AND SECURELY TIGHTEN BOLTS ONTO THREADED SPACER.
2. DRIVE ANCHOR POST TO WITHIN A MAXIMUM OF 4" ABOVE GROUND LEVEL.
3. DIG OUT AROUND BACK OF ANCHOR POST TO ALLOW ROOM FOR TOP POST TO BE ATTACHED.
4. NEST TOP POST ONTO PROTRUDING ANCHOR POST BOLTS, THROUGH THE FIRST AND FIFTH HOLES OF THE TOP POST.
5. PLACE AND TIGHTEN A SELF-LOCKING FLANGE NUT ON EACH BOLT. WHEN INSTALLATION IS COMPLETE, TOP OF ANCHOR POST SHALL NOT EXCEED 4" ABOVE GROUND LEVEL.
6. SIZE OF CONNECTOR BOLT FOR TYPE 1, 5/8" X 1 1/2"  
SIZE OF CONNECTOR BOLT FOR TYPE 2, 5/8" X 2"
7. THE CONNECTOR BOLTS SHALL BE FULLY THREADED. EACH CONNECTOR BOLT AND NUT SHALL BE CLEARLY STAMPED WITH MANUFACTURER'S IDENTIFYING MARK.



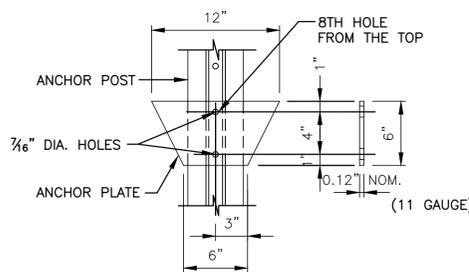
**TOP U-POST**  
N.T.S. TD30.01.13



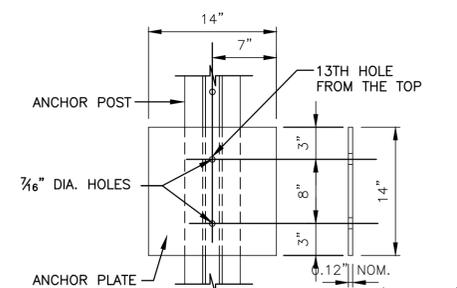
**ANCHOR U-POST**  
N.T.S. TD30.01.14

**NOTES:**

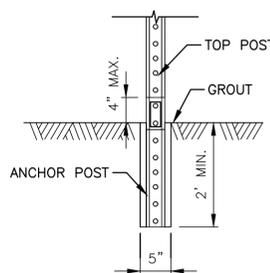
1. ANCHOR POST AND TOP POST SHALL BE OF EQUAL WEIGHT/FEET.
2. SOIL ANCHOR PLATE SHALL BE ATTACHED TO ALL ANCHOR POSTS.
3. THE MATERIAL FOR THE SOIL ANCHOR PLATES SHALL BE CARBON SHEET STEEL.
4. THE STEEL "U" POST SHALL BE GRADE 60.



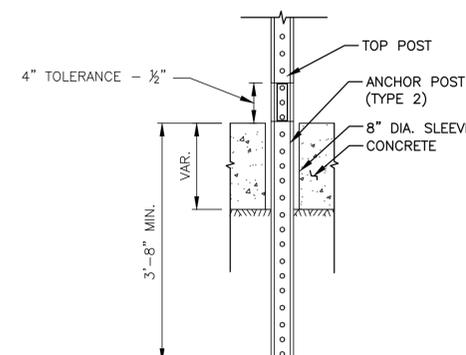
**TYPE 1  
SOIL ANCHOR PLATE ASSEMBLY**  
N.T.S. TD30.01.17  
MATERIAL: CARBON SHEET STEEL



**TYPE 2  
SOIL ANCHOR PLATE ASSEMBLY**  
N.T.S. TD30.01.18  
MATERIAL: CARBON SHEET STEEL



**ROCK INSTALLATION**  
N.T.S. TD30.01.16



**CONCRETE INSTALLATION**  
N.T.S. TD30.01.15

CHIEF

| No. | Date | Revision | Approved |
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ENGINEERING DEPARTMENT

PANYNJ  
Traffic Standard  
Details

TRAFFIC

Title  
SIGN MOUNTING

**BREAKAWAY SUPPORT  
SYSTEM  
FOR SIGN POST  
BREAK-SAFE  
MODEL AP**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the offering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

Drawing Number **TD30.02**

PID#

GENERAL NOTES:

1. BREAK-SAFE MEETS ALL REQUIREMENTS OF "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."
2. BREAK-SAFE MODEL AP IS DESIGNED TO FIT STEEL OR ALUMINUM ROUND PIPE SIGNPOSTS. SEE TABLE BELOW FOR PIPE SIZES.
3. ALL HARDWARE ITEMS ARE AMERICAN STANDARD SIZES, GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 (MECHANICALLY APPLIED).
4. FASTENERS, EXCEPT FOR SPECIAL BOLT AND COUPLING, ARE INSTALLED WITH LOCKWASHERS, AND DO NOT HAVE SPECIFIC TORQUE REQUIREMENTS. FASTENERS SHOULD BE SECURED AS TIGHT AS POSSIBLE WITH CONVENTIONAL WRENCHES, UNLESS NOTED OTHERWISE.
5. SQUARE-UP AND LEVEL INDIVIDUAL COMPONENTS, PARTICULARLY ANCHORS TO MINIMIZE THE NEED FOR SHIMMING BETWEEN THE COUPLINGS AND ANCHORS.
6. NO MORE THAN TWO SHIMS SHALL BE PLACED UNDER ANY ONE COUPLING. NO MORE THAN THREE SHIMS UNDERNEATH ANY PAIR OF COUPLINGS.
7. BREAK-SAFE MODEL AS4-H IS A PROPRIETARY SYSTEM VENDED BY TRANSPRO INDUSTRIES. FOR DETAILS OF THE SYSTEM CONTACT MANUFACTURER DIRECTLY AT 914-636-1000. CONTRACTOR MAY USE A SIMILAR SYSTEM UPON APPROVAL BY THE ENGINEER.

INSTALLATION INSTRUCTIONS

ANCHOR ASSEMBLY:

**NOTE:** PRECISE POSITIONING OF THE ANCHORS IS CRITICAL TO PROPER ASSEMBLY OF THE SYSTEM. IT IS RECOMMENDED THAT ACTUAL POSTS BE USED TO LOCATE THE CORRECT POSITION OF THE ANCHORS.

1. FABRICATE A FLAT, RIGID TEMPLATE WITH FOUR 5/8" DIAMETER HOLES LOCATED TO MATCH THE SPECIFIED ANCHOR PATTERN OF THE BREAK-SAFE BRACKETS ATTACHED TO THE SIGNPOST. SEE DIAGRAM BELOW.
2. ATTACH FOUR TRANSPRO TYPE A FEMALE ANCHORS TO THE TEMPLATE USING FOUR 5/8" DIAMETER BOLTS. ENSURE THAT EACH ANCHOR WASHER IS SNUG AGAINST THE BOTTOM OF THE TEMPLATE.
3. LOWER ANCHOR ASSEMBLY INTO FRESH CONCRETE FOUNDATION, AND VIBRATE INTO POSITION SUCH THAT THE TOPS OF THE ANCHOR WASHERS ARE FLUSH WITH THE FINISHED TOP SURFACE OF THE FOUNDATION. SUPPORT THE TEMPLATE SUCH THAT ALL ANCHORS ARE LEVEL AND IN THEIR PROPER LOCATIONS.
4. ALLOW CONCRETE TO CURE, AND THEN REMOVE THE BOLTS AND TEMPLATE FROM THE TOP OF THE FOUNDATION.

BRACKET ASSEMBLY:

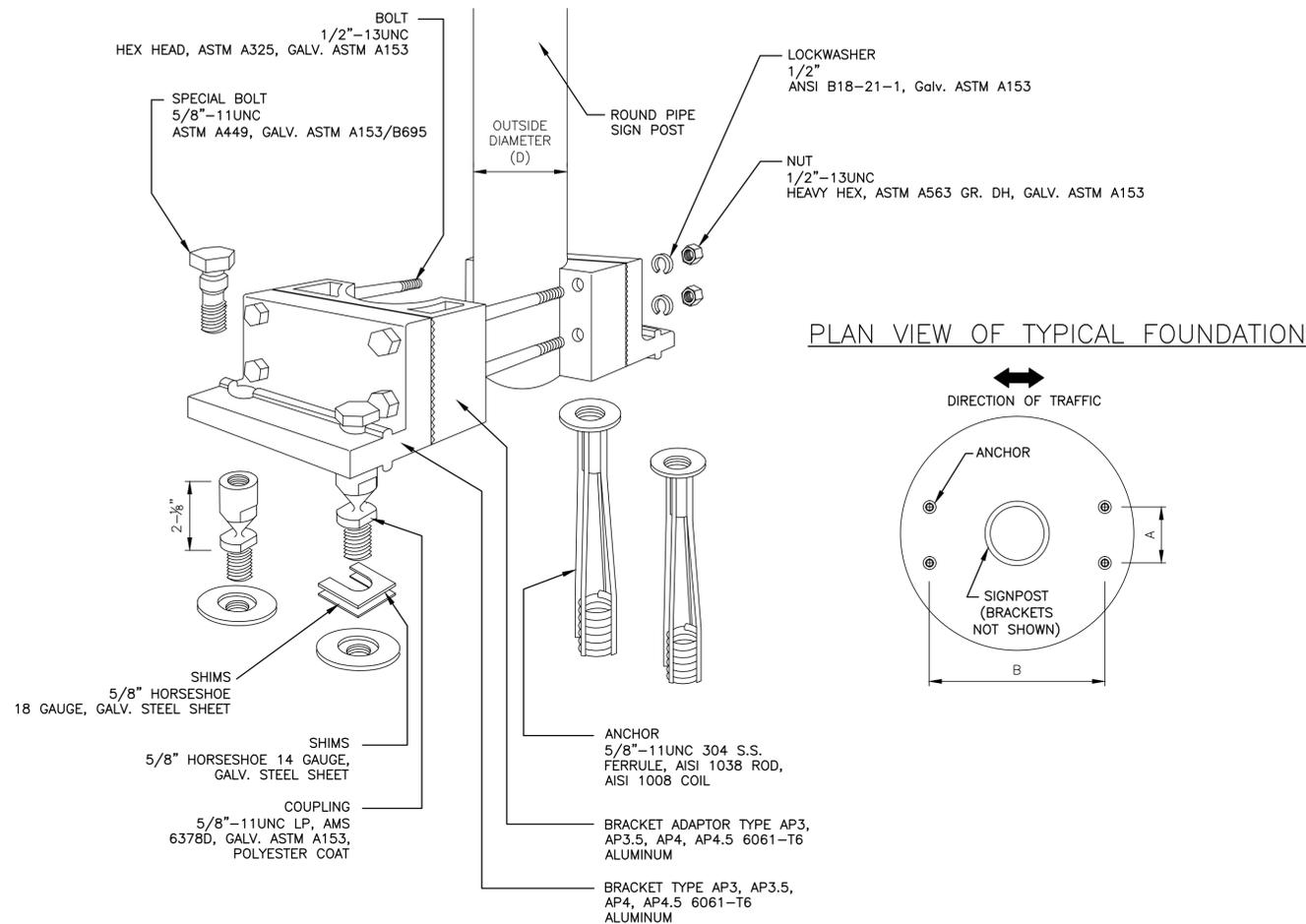
1. PLACE BRACKET ADAPTORS AND BRACKETS SQUARELY ON THE BOTTOM OF THE POST, SUCH THAT THE LOWER END OF THE POST IS FLUSH WITH THE BOTTOM OF BOTH BRACKET ADAPTORS.
2. SECURE THE BRACKET ASSEMBLY WITH BOLTS, LOCK WASHERS, AND NUTS. THEN, TIGHTEN ALL 1/2 TURN BEYOND SNUG.

COUPLING ASSEMBLY:

1. THREAD FOUR BREAK-SAFE COUPLINGS INTO ANCHORS. DO NOT TIGHTEN.
2. SUSPEND POST ASSEMBLY OVER FOUNDATION, INSERT SPECIAL BOLTS THROUGH HOLES IN THE BRACKETS, AND THREAD THEM SNUG INTO THE COUPLINGS.
3. IF POST IS NOT PLUMB, INSERT SHIMS (14g AND/OR 18g) BETWEEN THE COUPLINGS AND ANCHORS, WHERE NEEDED.
4. USE LOWER WRENCH FLATS TO TIGHTEN COUPLINGS INTO ANCHORS AS TIGHT AS POSSIBLE USING A CONVENTIONAL WRENCH. DO NOT USE A PIPE WRENCH. COUPLINGS MUST BE SEATED SQUARELY.
5. TIGHTEN SPECIAL BOLTS WHILE HOLDING COUPLINGS BY THE UPPER WRENCH FLATS WITH AN ADDITIONAL WRENCH TO PREVENT AN INDUCED TORQUE STRESS ACROSS THE NECKED PORTION OF THE COUPLING. ALL SPECIAL BOLTS SHALL ALSO BE TIGHTENED AS TIGHT AS POSSIBLE USING CONVENTIONAL WRENCHES.

SIGN PANEL ASSEMBLY:

1. AFTER ALL SIGNPOSTS ARE SECURED IN PLACE, ATTACH SIGN PANEL ASSEMBLY TO POSTS IN ACCORDANCE WITH THE SIGN MANUFACTURER'S RECOMMENDATIONS.



BREAK-SAFE MODEL AP ANCHOR SPACING

| BREAK-SAFE MODEL * | POST OUTSIDE DIAMETER (D) | NOMINAL PIPE SIZE | A      | B        |
|--------------------|---------------------------|-------------------|--------|----------|
| AP3                | 3"                        |                   | 2-1/4" | 7-7/16"  |
| AP3.5              | 3-1/2"                    | 3"                | 2-3/4" | 7-15/16" |
| AP4                | 4"                        | 3-1/2"            | 3-1/4" | 8-15/16" |
| AP4.5              | 4-1/2"                    | 4"                | 3-1/4" | 8-15/16" |

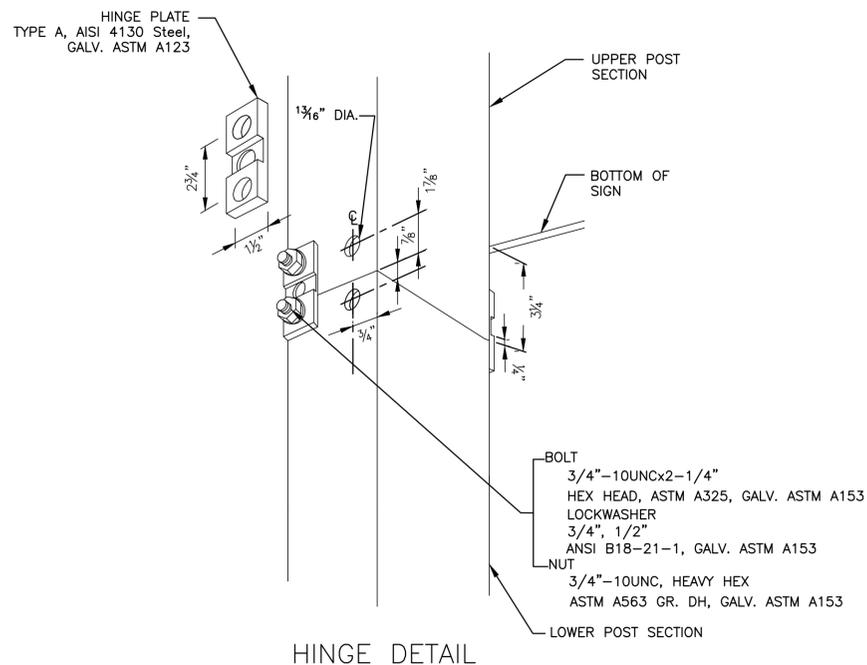
\* SEE NOTE 7

BREAK-SAFE MODEL AP SELECTION TABLE

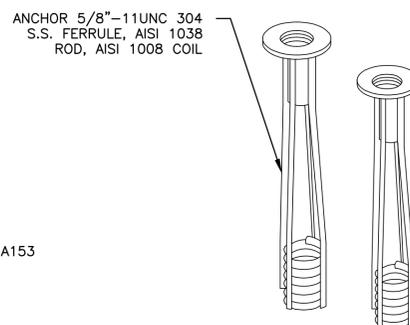
| BREAK-SAFE MODEL * | OUTSIDE PIPE DIAMETER (D) | NOMINAL SCH. 40 PIPE SIZE |
|--------------------|---------------------------|---------------------------|
| AP3                | 3"                        | -                         |
| AP3.5              | 3-1/2"                    | 3"                        |
| AP4                | 4"                        | 3-1/2"                    |
| AP4.5              | 4-1/2"                    | 4"                        |

\* SEE NOTE 7

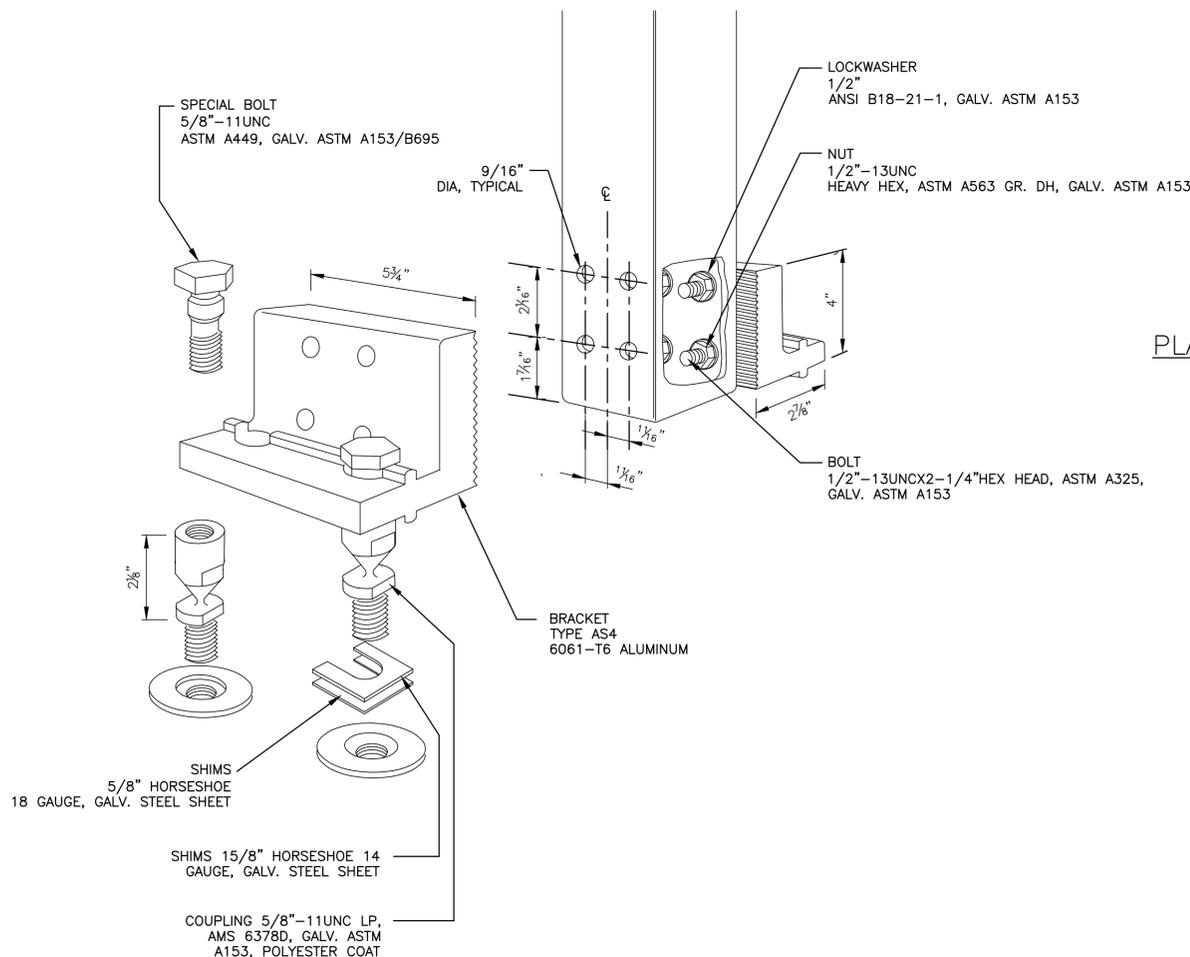
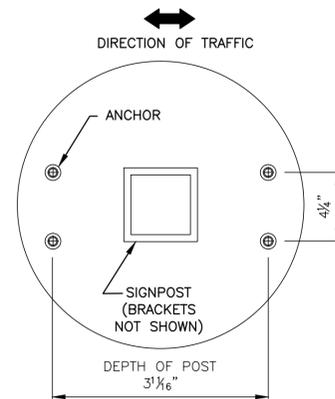
CHIEF



HINGE DETAIL



PLAN VIEW OF TYPICAL FOUNDATION



GENERAL NOTES:

1. BREAK-SAFE MEETS ALL REQUIREMENTS OF "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."
2. BREAK-SAFE MODEL AS4 IS DESIGNED TO FIT 3-1/2" AND 4" STEEL OR ALUMINUM SQUARE TUBE SIGNPOSTS.
3. ALL HARDWARE ITEMS ARE AMERICAN STANDARD SIZES, GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 (MECHANICALLY APPLIED).
4. FASTENERS, EXCEPT FOR SPECIAL BOLT AND COUPLING, ARE INSTALLED WITH LOCKWASHERS, AND DO NOT HAVE SPECIFIC TORQUE REQUIREMENTS. FASTENERS SHOULD BE SECURED AS TIGHT AS POSSIBLE WITH CONVENTIONAL WRENCHES, UNLESS NOTED OTHERWISE.
5. SQUARE-UP AND LEVEL INDIVIDUAL COMPONENTS, PARTICULARLY ANCHORS TO MINIMIZE THE NEED FOR SHIMMING BETWEEN THE COUPLINGS AND ANCHORS.
6. NO MORE THAN TWO SHIMS SHALL BE PLACED UNDER ANY ONE COUPLING. NO MORE THAN THREE SHIMS UNDERNEATH ANY PAIR OF COUPLINGS.
7. BREAK-SAFE MODEL AS4-H IS A PROPRIETARY SYSTEM VENDED BY TRANSPRO INDUSTRIES. FOR DETAILS OF THE SYSTEM CONTACT MANUFACTURER DIRECTLY AT 914-636-1000. CONTRACTOR MAY USE A SIMILAR SYSTEM UPON APPROVAL BY THE ENGINEER.

INSTALLATION INSTRUCTIONS

ANCHOR ASSEMBLY:

NOTE: PRECISE POSITIONING OF THE ANCHORS IS CRITICAL TO PROPER ASSEMBLY OF THE SYSTEM. IT IS RECOMMENDED THAT ACTUAL POSTS BE USED TO LOCATE THE CORRECT POSITION OF THE ANCHORS.

1. FABRICATE A FLAT, RIGID TEMPLATE WITH FOUR 5/8" DIAMETER HOLES LOCATED TO MATCH THE SPECIFIED ANCHOR PATTERN OF THE BREAK-SAFE BRACKETS ATTACHED TO THE SIGNPOST. SEE DIAGRAM BELOW.
2. ATTACH FOUR TRANSPRO TYPE A FEMALE ANCHORS TO THE TEMPLATE USING FOUR 5/8" DIAMETER BOLTS. ENSURE THAT EACH ANCHOR WASHER IS SNUG AGAINST THE BOTTOM OF THE TEMPLATE.
3. LOWER ANCHOR ASSEMBLY INTO FRESH CONCRETE FOUNDATION, AND VIBRATE INTO POSITION SUCH THAT THE TOPS OF THE ANCHOR WASHERS ARE FLUSH WITH THE FINISHED TOP SURFACE OF THE FOUNDATION. SUPPORT THE TEMPLATE SUCH THAT ALL ANCHORS ARE LEVEL AND IN THEIR PROPER LOCATIONS.
4. ALLOW CONCRETE TO CURE, AND THEN REMOVE THE BOLTS AND TEMPLATE FROM THE TOP OF THE FOUNDATION.

BRACKET ASSEMBLY:

1. DRILL EIGHT 9/16" DIAMETER HOLES IN THE BOTTOM END OF THE POST SECTION AS SHOWN.
2. PLACE BRACKETS SQUARELY ON OUTER SURFACE OF THE POST, AND SECURE WITH BOLTS, LOCK WASHERS, AND NUTS. THEN, TIGHTEN ALL 1/2 TURN BEYOND SNUG.

COUPLING ASSEMBLY:

1. THREAD FOUR BREAK-SAFE COUPLINGS INTO ANCHORS. DO NOT TIGHTEN.
2. SUSPEND POST ASSEMBLY OVER FOUNDATION, INSERT SPECIAL BOLTS THROUGH HOLES IN THE BRACKETS, AND THREAD THEM SNUG INTO THE COUPLINGS.
3. IF POST IS NOT PLUMB, INSERT SHIMS (14g AND/OR 18g) BETWEEN THE COUPLINGS AND ANCHORS, WHERE NEEDED.
4. USE LOWER WRENCH FLATS TO TIGHTEN COUPLINGS INTO ANCHORS AS TIGHT AS POSSIBLE USING A CONVENTIONAL WRENCH. DO NOT USE A PIPE WRENCH. COUPLINGS MUST BE SEATED SQUARELY.
5. TIGHTEN SPECIAL BOLTS WHILE HOLDING COUPLINGS BY THE UPPER WRENCH FLATS WITH AN ADDITIONAL WRENCH TO PREVENT AN INDUCED TORQUE STRESS ACROSS THE NECKED PORTION OF THE COUPLING. ALL SPECIAL BOLTS SHALL ALSO BE TIGHTENED AS TIGHT AS POSSIBLE USING CONVENTIONAL WRENCHES.

SIGN PANEL ASSEMBLY:

1. AFTER ALL SIGNPOSTS ARE SECURED IN PLACE, ATTACH SIGN PANEL ASSEMBLY TO POSTS IN ACCORDANCE WITH THE SIGN MANUFACTURER'S RECOMMENDATIONS.

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

PANYNJ  
Traffic Standard  
Details

TRAFFIC

Title

SIGN MOUNTING

**BREAKAWAY SUPPORT  
SYSTEM  
FOR SIGN POST  
BREAK-FREE  
MODEL AS4-H**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

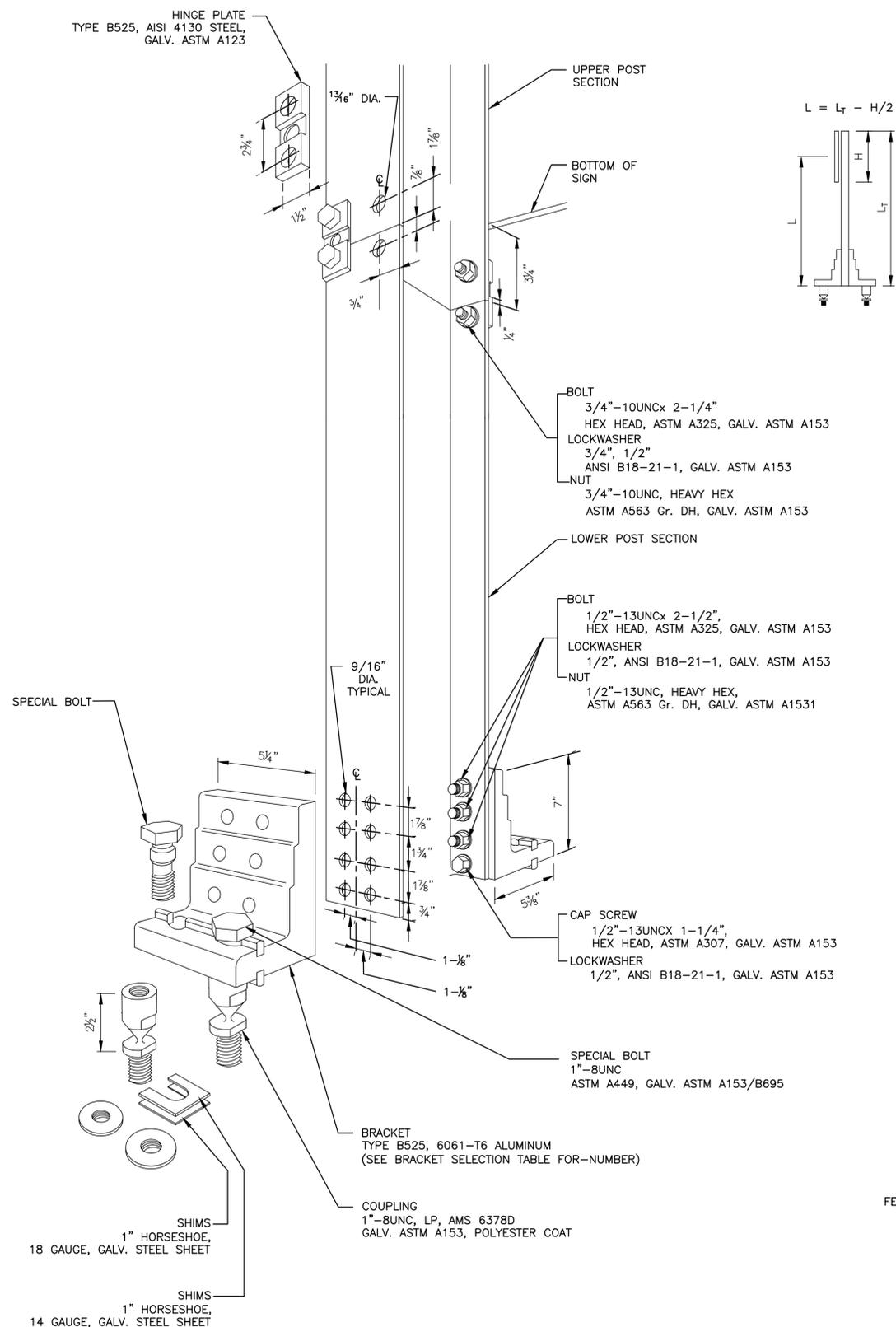
Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

Drawing Number **TD30.03**

PID#

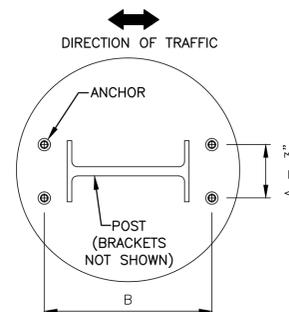


**BRACKET SELECTION TABLE**

SELECT CORRECT BREAK-SAFE BRACKET NUMBER FROM TABLE, USING 'L' VALUE FROM THE LONGEST POST. USE FIGURE TO THE LEFT TO DETERMINE 'L'.

| POST SIZE | BRACKET No. 1 |          | BRACKET No. 2 |          | BRACKET No. 3 |          |
|-----------|---------------|----------|---------------|----------|---------------|----------|
|           | Min. 'L'      | Max. 'L' | Min. 'L'      | Max. 'L' | Min. 'L'      | Max. 'L' |
| 6"        | 12'           | 29'      | 9'            | 12'      | 0             | 9'       |
| 8"        | 14'           | 29'      | 10'           | 14'      | 0             | 10'      |

**PLAN VIEW OF TYPICAL FOUNDATION**



B (BRACKET NO. 1) = DEPTH OF POST + 7-15/16"  
B (BRACKET NO. 2) = DEPTH OF POST + 8-1/16"  
B (BRACKET NO. 3) = DEPTH OF POST + 8-1/8"

**GENERAL NOTES:**

- BREAK-SAFE MEETS ALL REQUIREMENTS OF "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."
- BREAK-SAFE MODEL B525 IS DESIGNED TO FIT 6" AND 8" WIDE FLANGE I-BEAM, AND 5" AND 6" SQUARE TUBE SIGNPOSTS.
- SELECT PROPER BRACKET NUMBER BY REFERRING TO BRACKET SELECTION TABLE.
- ALL HARDWARE ITEMS ARE AMERICAN STANDARD SIZES, GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 (MECHANICALLY APPLIED).
- FASTENERS, EXCEPT FOR SPECIAL BOLT AND COUPLING, ARE INSTALLED WITH LOCKWASHERS, AND DO NOT HAVE SPECIFIC TORQUE REQUIREMENTS. FASTENERS SHOULD BE SECURED AS TIGHT AS POSSIBLE WITH CONVENTIONAL WRENCHES, UNLESS NOTED OTHERWISE.
- SQUARE-UP AND LEVEL INDIVIDUAL COMPONENTS, PARTICULARLY ANCHORS TO MINIMIZE THE NEED FOR SHIMMING BETWEEN THE COUPLINGS AND ANCHORS.
- NO MORE THAN TWO SHIMS SHALL BE PLACED UNDER ANY ONE COUPLING. NO MORE THAN THREE SHIMS UNDERNEATH ANY PAIR OF COUPLINGS.
- BREAK-SAFE MODEL B525 IS A PROPRIETARY SYSTEM VENDED BY TRANSPRO INDUSTRIES. FOR DETAILS OF THE SYSTEM CONTACT MANUFACTURER DIRECTLY AT 914-636-1000. CONTRACTOR MAY USE A SIMILAR SYSTEM UPON APPROVAL BY THE ENGINEER.

**INSTALLATION INSTRUCTIONS**

**ANCHOR ASSEMBLY:**

**NOTE:** PRECISE POSITIONING OF THE ANCHORS IS CRITICAL TO PROPER ASSEMBLY OF THE SYSTEM. IT IS RECOMMENDED THAT ACTUAL POSTS BE USED TO LOCATE THE CORRECT POSITION OF THE ANCHORS.

- DETERMINE PROPER BREAK-SAFE BRACKET NUMBER FROM THE BRACKET SELECTION TABLE. ALL POSTS WITHIN A SIGN STRUCTURE SHALL USE THE SAME BRACKET NUMBER, DETERMINED BY THE LENGTH OF THE LONGEST POST.
- FABRICATE A FLAT, RIGID TEMPLATE WITH FOUR 1" DIAMETER HOLES LOCATED TO MATCH THE SPECIFIED ANCHOR PATTERN OF THE BREAK-SAFE BRACKETS ATTACHED TO THE SIGNPOST. SEE DIAGRAM BELOW.
- ATTACH FOUR TRANSPRO TYPE B FEMALE ANCHORS TO THE TEMPLATE USING FOUR 1" DIAMETER BOLTS. ENSURE THAT EACH ANCHOR WASHER IS SNUG AGAINST THE BOTTOM OF THE TEMPLATE.
- LOWER ANCHOR ASSEMBLY INTO FRESH CONCRETE FOUNDATION, AND VIBRATE INTO POSITION SUCH THAT THE TOPS OF THE ANCHOR WASHERS ARE FLUSH WITH THE FINISHED TOP SURFACE OF THE FOUNDATION. SUPPORT THE TEMPLATE SUCH THAT ALL ANCHORS ARE LEVEL AND IN THEIR PROPER LOCATIONS.
- ALLOW CONCRETE TO CURE, AND THEN REMOVE THE BOLTS AND TEMPLATE FROM THE TOP OF THE FOUNDATION.

**HINGE ASSEMBLY:**

- BUTT UPPER AND LOWER POST SECTIONS TOGETHER ON A FLAT SURFACE.
- DRILL EIGHT 13/16" HOLES IN THE FLANGES OF THE POST SECTIONS AS SHOWN.
- PLACE HINGE PLATES ON OUTER SURFACE OF THE POST FLANGES AND SECURE WITH BOLTS, LOCK WASHERS, AND NUTS. ENSURE THAT UPPER AND LOWER POST SECTIONS ARE IN ALIGNMENT, AND THEN TIGHTEN ALL NUTS 1/2 TURN BEYOND SNUG.

**BRACKET ASSEMBLY:**

- DRILL 16 9/16" DIAMETER HOLES IN THE FLANGES OF THE LOWER POST SECTION AS SHOWN.
- PLACE BRACKETS SQUARELY ON OUTER SURFACE OF THE POST FLANGES, AND SECURE WITH BOLTS, LOCK WASHERS, NUTS, AND CAP SCREWS. THEN, TIGHTEN ALL 1/2 TURN BEYOND SNUG.

**COUPLING ASSEMBLY:**

- THREAD FOUR BREAK-SAFE COUPLINGS INTO ANCHORS. DO NOT TIGHTEN.
- SUSPEND POST ASSEMBLY OVER FOUNDATION, INSERT SPECIAL BOLTS THROUGH HOLES IN THE BRACKETS, AND THREAD THEM SNUG INTO THE COUPLINGS.
- IF POST IS NOT PLUMB, INSERT SHIMS (14g AND/OR 18g) BETWEEN THE COUPLINGS AND ANCHORS, WHERE NEEDED.
- USE LOWER WRENCH FLATS TO TIGHTEN COUPLINGS INTO ANCHORS AS TIGHT AS POSSIBLE USING A CONVENTIONAL WRENCH. DO NOT USE A PIPE WRENCH. COUPLINGS MUST BE SEATED SQUARELY.
- TIGHTEN SPECIAL BOLTS WHILE HOLDING COUPLINGS BY THE UPPER WRENCH FLATS WITH AN ADDITIONAL WRENCH TO PREVENT AN INDUCED TORQUE STRESS ACROSS THE NECKED PORTION OF THE COUPLING. ALL SPECIAL BOLTS SHALL ALSO BE TIGHTENED AS TIGHT AS POSSIBLE USING CONVENTIONAL WRENCHES.

**SIGN PANEL ASSEMBLY:**

- AFTER ALL SIGNPOSTS ARE SECURED IN PLACE, ATTACH SIGN PANEL ASSEMBLY TO POSTS IN ACCORDANCE WITH THE SIGN MANUFACTURER'S RECOMMENDATIONS.

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

PANYNJ  
Traffic Standard  
Details

TRAFFIC

Title  
SIGN MOUNTING

**BREAKAWAY SUPPORT  
SYSTEM  
FOR SIGN POST  
BREAK-SAFE  
MODEL B525**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

Designed by Drawn by Checked by

Date 11/01/2010

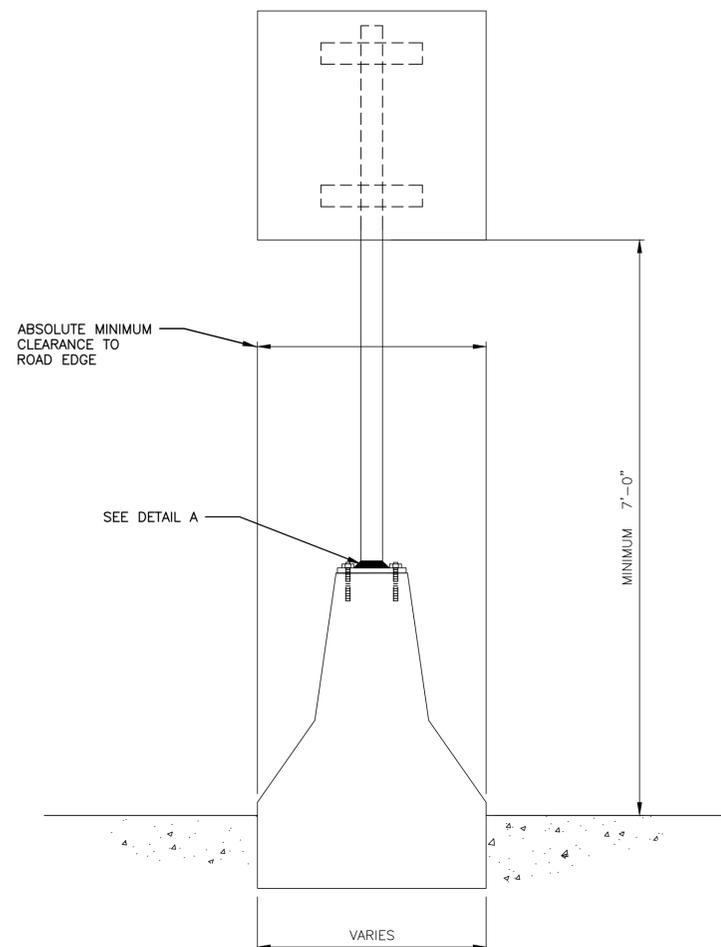
Contract Number

Drawing Number **TD30.04**

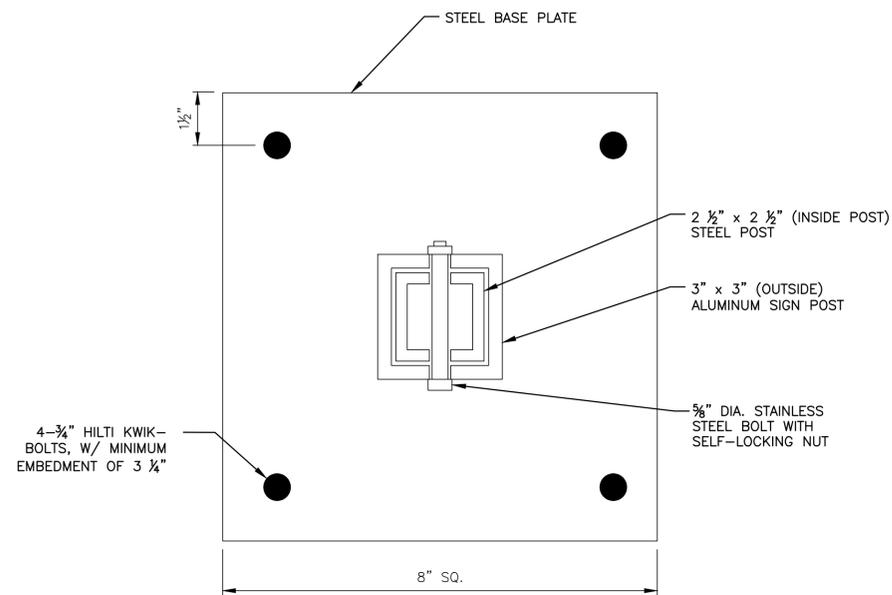
PID#

NOTES:  
TD30.12.01

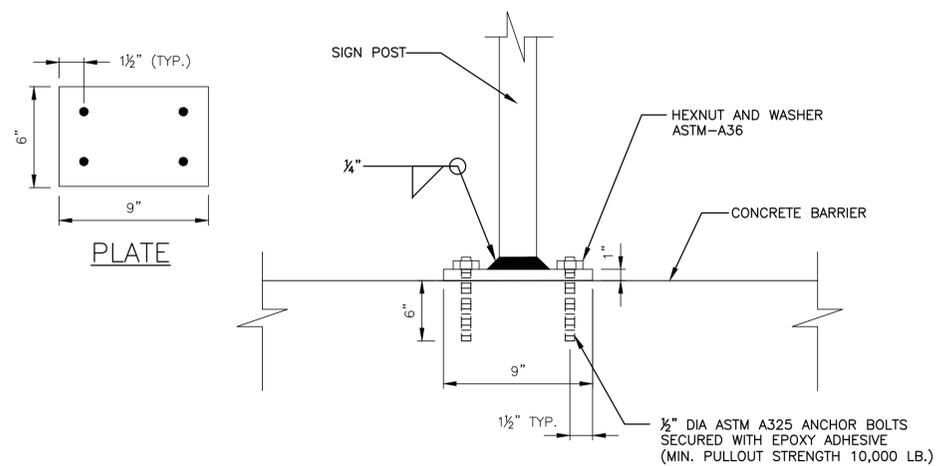
1. DIMENSIONS PROVIDED ARE APPROXIMATE AND MAY BE SLIGHTLY MODIFIED BY THE MANUFACTURER.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS FOR THIS ASSEMBLY/INSTALLATION TO THE ENGINEER FOR APPROVAL.



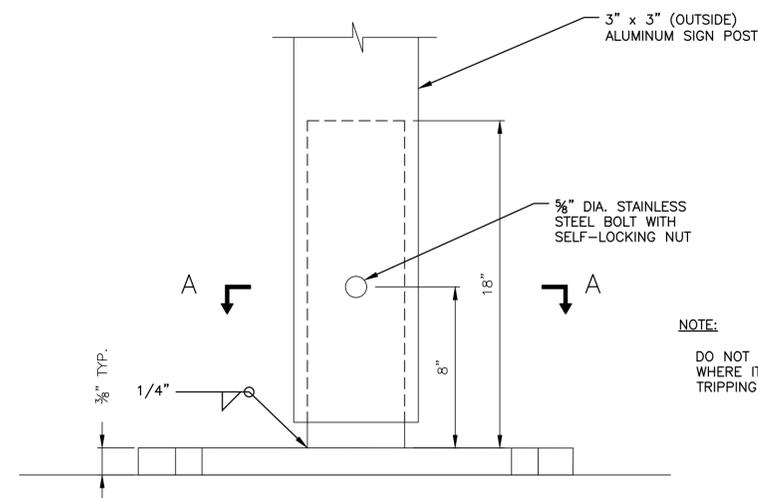
**SIGN MOUNTED ON CONCRETE BARRIER**  
N.T.S. TD30.05.01



**SECTION A-A**  
N.T.S.



**DETAIL A - POST**  
N.T.S. TD30.05.04  
(SIGN MOUNTING TO CONCRETE BARRIER)



NOTE:  
DO NOT USE THIS DETAIL WHERE IT MAY PRESENT A TRIPPING HAZARD.

**GROUND MOUNTING & POSTS DETAILS ON SIDEWALK**  
N.T.S. TD30.12.02

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title  
**SIGN MOUNTING**

**SIGN MOUNTED ON CONCRETE BARRIER AND SIDEWALK**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent. All recipients of Contract documents, including bidders and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with refuse handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

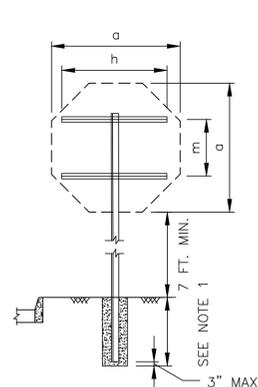
Designed by Drawn by Checked by

Date 11/01/2010

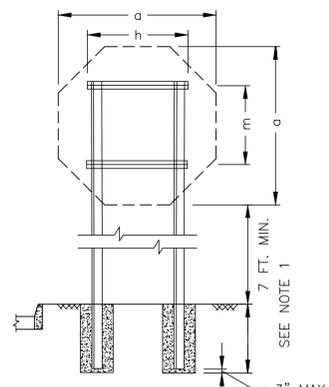
Contract Number

Drawing Number **TD30.05**

PID#



**SINGLE POST**  
(24" OR 30" SIZE PANEL)



**TWO POSTS**  
(42" SIZE PANEL)

| DIMENSIONS            |   |           |         |     |         |                       |
|-----------------------|---|-----------|---------|-----|---------|-----------------------|
| SIGN PANEL DIMENSIONS |   | H-MEMBERS |         |     | POSTS   |                       |
|                       |   | H-LENGTHS | SPACING | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b | h         | m       |     |         |                       |
| 24                    | - | 14        | 14      | 1   | -       | 2                     |
| 30                    | - | 18        | 18      | 1   | -       | 3                     |
| 42                    | - | 26        | 26      | 2   | 22      | 8                     |

(\* - NOT APPLICABLE)

TD30.06.02

| POST TYPE | POST SIZE           |
|-----------|---------------------|
|           | ALUMINUM TUBE       |
| 1         | 2.25 x 2.25 x 0.120 |
| 2         | 3.00 x 3.00 x 0.188 |
| 3         | 3.00 x 3.00 x 0.188 |
| 4         | 3.00 x 3.00 x 0.188 |
| 5         | 2.50 x 2.50 x 0.120 |
| 6         | 3.00 x 3.00 x 0.120 |
| 7         | 3.00 x 3.00 x 0.120 |
| 8         | 3.00 x 3.00 x 0.219 |
| 9         | 3.00 x 3.00 x 0.120 |
| 10        | 3.00 x 3.00 x 0.219 |

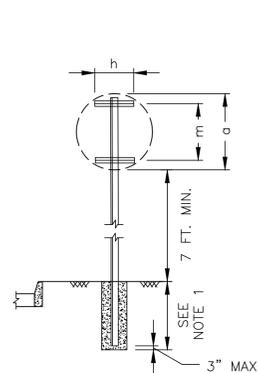
TD30.06.31

**NOTES:**

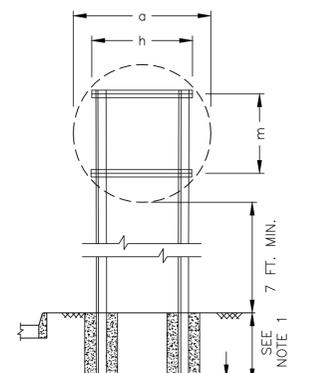
TD30.06.30

- FOR DEPTH OF FOUNDATION REFER TO FOUNDATION DRAWINGS (TD30.01.15 AND TD30.01.16)
- ALL STEEL POSTS TO BE HOT DIP GALVANIZED AFTER FABRICATION FOR FULL LENGTH AND TOTAL AREA AS PER ASTM A123 OR ASTM A153.
- UNLESS OTHERWISE SHOWN, ALL H-MEMBERS, HORIZONTAL Z BARS AND POSTS SHALL BE CENTERED ON THE SIGN PANELS. FOR VERTICAL SPACING, THE H-MEMBERS SHALL BE CENTERED BASED ON THE LOCATION OF THE H-MEMBER-SIGN PANEL CONNECTIONS
- POST SPACING GIVEN IN DIMENSION TABLE IS CENTER TO CENTER SPACING.
- ZINC CHROMATE SHALL BE APPLIED TO ALL ALUMINUM POSTS A MINIMUM OF 4'-0" FROM THE BOTTOM OF THE POST PRIOR TO EMBEDMENT IN CONCRETE.
- THESE DETAILS TO BE USED ONLY WHERE GUIDERAIL OR OTHER TRAFFIC BARRIER PROTECTS SIGN SUPPORT POSTS.

**STANDARD OCTAGONAL SIGN ASSEMBLY DETAIL**  
TD30.06.01



**SINGLE POST**  
(30" DIAM. PANEL)

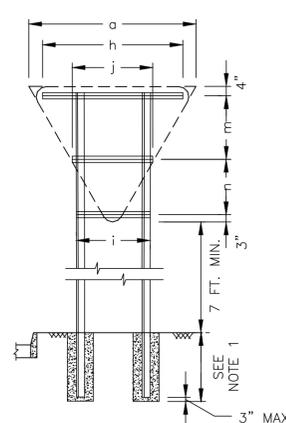


**TWO POSTS**  
(36" DIAM. PANEL)

| DIMENSIONS            |   |           |         |     |         |                       |
|-----------------------|---|-----------|---------|-----|---------|-----------------------|
| SIGN PANEL DIMENSIONS |   | H-MEMBERS |         |     | POSTS   |                       |
|                       |   | H-LENGTHS | SPACING | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b | h         | m       | n   |         |                       |
| 30                    | - | 8         | 24      | -   | 1       | 3                     |
| 36                    | - | 23        | 22      | -   | 2       | 5                     |

(\* - NOT APPLICABLE)

TD30.06.06



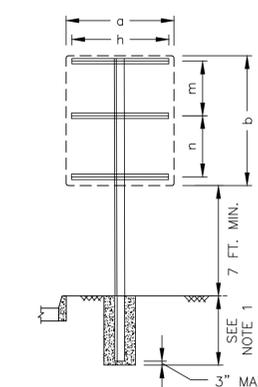
(36", 48" or 60" size panel)

| DIMENSIONS            |   |           |         |     |         |                       |
|-----------------------|---|-----------|---------|-----|---------|-----------------------|
| SIGN PANEL DIMENSIONS |   | H-MEMBERS |         |     | POSTS   |                       |
|                       |   | H-LENGTHS | SPACING | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b | h         | i       | j   | m       | n                     |
| 36                    | - | 26        | 23      | -   | -       | 1                     |
| 48                    | - | 38        | 23      | 24  | 16      | 2                     |
| 60                    | - | 48        | 23      | 28  | 20      | 2                     |

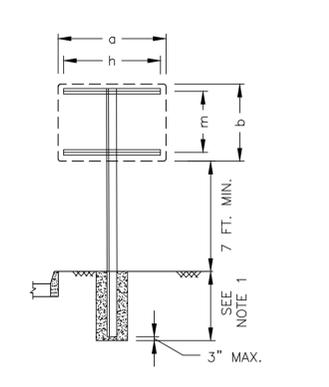
(\* - NOT APPLICABLE)

TD30.06.04

**STANDARD TRIANGULAR SIGN ASSEMBLY DETAIL**  
TD30.06.03



(6 - 10 S.F.)



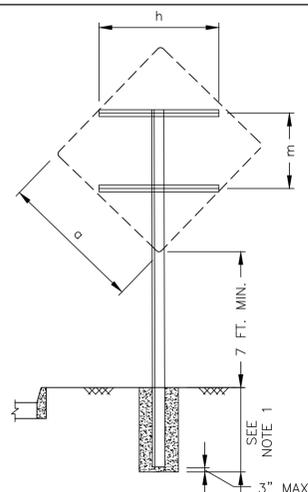
(2 - 6.25 S.F.)

| DIMENSIONS            |    |           |         |     |         |                       |
|-----------------------|----|-----------|---------|-----|---------|-----------------------|
| SIGN PANEL DIMENSIONS |    | H-MEMBERS |         |     | POSTS   |                       |
|                       |    | H-LENGTHS | SPACING | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b  | h         | m       | n   |         |                       |
| 24                    | 30 | 18        | 24      | -   | 1       | 3                     |
| 24                    | 12 | 18        | 6       | -   | 1       | 2                     |
| 30                    | 12 | 24        | 6       | -   | 1       | 2                     |
| 24                    | 18 | 18        | 12      | -   | 1       | 2                     |
| 24                    | 18 | 24        | 12      | -   | 1       | 2                     |
| 30                    | 24 | 18        | 18      | -   | 1       | 2                     |
| 24                    | 24 | 24        | 18      | -   | 1       | 2                     |
| 30                    | 36 | 18        | 16      | 16  | 1       | 4                     |
| 24                    | 36 | 24        | 16      | 16  | 1       | 4                     |
| 24                    | 42 | 18        | 18      | 20  | 1       | 4                     |
| 30                    | 42 | 24        | 18      | 20  | 1       | 4                     |
| 24                    | 48 | 18        | 22      | 22  | 1       | 4                     |
| 30                    | 48 | 24        | 22      | 22  | 1       | 4                     |

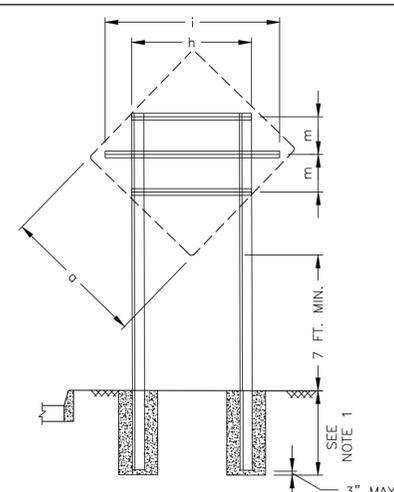
(\* - NOT APPLICABLE)

TD30.06.10

**STANDARD RECTANGULAR SINGLE POST SIGN ASSEMBLY DETAIL**  
TD30.06.09



**SINGLE POST**  
(4 - 6.25 S.F.)



**TWO POST**  
(9 - 16 S.F.)

| DIMENSIONS           |    |           |         |     |         |                       |
|----------------------|----|-----------|---------|-----|---------|-----------------------|
| SIGN PANEL DIMENSION |    | H-MEMBERS |         |     | POSTS   |                       |
|                      |    | H-LENGTHS | SPACING | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                    | h  | i         | m       |     |         |                       |
| 24                   | 14 | -         | 12      | 1   | -       | 2                     |
| 30                   | 22 | -         | 16      | 1   | -       | 4                     |
| 36                   | 23 | 44        | 12      | 2   | 22      | 7                     |
| 42                   | 23 | 52        | 16      | 2   | 22      | 10                    |
| 48                   | 23 | 60        | 20      | 2   | 22      | 10                    |

(\* - NOT APPLICABLE)

TD30.06.21

**STANDARD DIAMOND SIGN ASSEMBLY DETAIL**  
TD30.06.20

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title  
**SIGN MOUNTING**

**STANDARD SIGN ASSEMBLY DETAILS (1 OF 3)**

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Designed by Drawn by Checked by

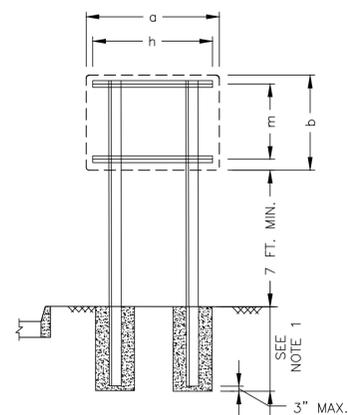
Date 11/01/2010

Contract Number

Drawing Number **TD30.06**

PID#

CHIEF

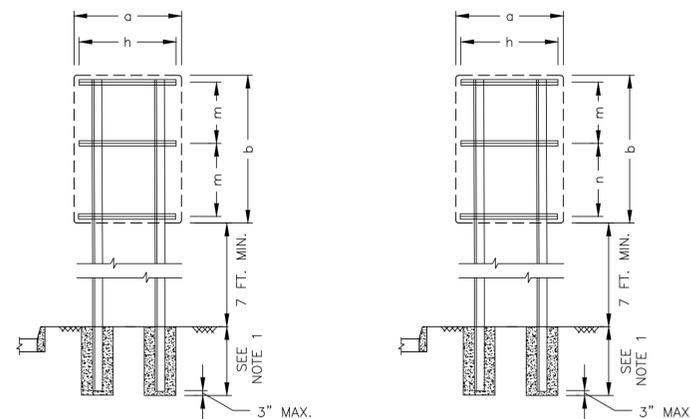


(4.5 - 10 S.F.)

STANDARD TWO POST REGULATORY AND GUIDE SIGN ASSEMBLY DETAIL  
TD30.06.22

| DIMENSIONS            |    |           |         |       |         |                       |
|-----------------------|----|-----------|---------|-------|---------|-----------------------|
| SIGN PANEL DIMENSIONS |    | H-MEMBERS |         | POSTS |         |                       |
|                       |    | H-LENGTHS | SPACING | NO.   | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b  | h         | m       |       |         |                       |
| 48                    | 24 | 42        | 28      | 2     | 26      | 6                     |
| 48                    | 30 | 42        | 24      | 2     | 26      | 7                     |
| 48                    | 18 | 42        | 12      | 2     | 26      | 5                     |
| 60                    | 24 | 54        | 18      | 2     | 30      | 6                     |
| 36                    | 18 | 30        | 12      | 2     | 22      | 5                     |
| 42                    | 18 | 36        | 12      | 2     | 22      | 5                     |
| 36                    | 24 | 30        | 18      | 2     | 22      | 5                     |
| 42                    | 24 | 36        | 18      | 2     | 22      | 5                     |
| 36                    | 30 | 30        | 24      | 2     | 22      | 7                     |
| 42                    | 30 | 36        | 24      | 2     | 22      | 7                     |

TD30.06.23



(12 - 20 S.F.)

(9 - 20 S.F.)

STANDARD RECTANGULAR TWO POST SIGN ASSEMBLY DETAIL  
TD30.06.07

| DIMENSIONS            |    |           |         |    |       |         |                       |
|-----------------------|----|-----------|---------|----|-------|---------|-----------------------|
| SIGN PANEL DIMENSIONS |    | H-MEMBERS |         |    | POSTS |         |                       |
|                       |    | H-LENGTHS | SPACING |    | NO.   | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b  | h         | m       | n  |       |         |                       |
| 48                    | 60 | 42        | 28      | -  | 2     | 26      | 10                    |
| 48                    | 36 | 42        | 16      | -  | 2     | 26      | 10                    |
| 48                    | 48 | 42        | 22      | -  | 2     | 26      | 10                    |
| 36                    | 36 | 30        | 16      | 16 | 2     | 22      | 8                     |
| 42                    | 36 | 36        | 16      | 16 | 2     | 22      | 8                     |
| 36                    | 42 | 30        | 18      | 20 | 2     | 22      | 8                     |
| 42                    | 42 | 36        | 18      | 20 | 2     | 22      | 8                     |
| 36                    | 48 | 30        | 22      | 22 | 2     | 22      | 10                    |
| 42                    | 48 | 36        | 22      | 22 | 2     | 22      | 10                    |

('-' NOT APPLICABLE)

TD30.06.08

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title

SIGN MOUNTING

**STANDARD SIGN  
ASSEMBLY DETAILS  
(2 OF 3)**

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and those who do not bid and their prospective subcontractors and suppliers who may receive all or a part of the Contract documents or copies thereof, shall make every effort to ensure the secure and appropriate disposal of the Contract documents to prevent further disclosure of the information contained in the documents. Secure and appropriate disposal includes methods of document destruction such as shredding or arrangements with release handlers that ensure that third persons will not have access to the documents' contents either before, during, or after disposal. Documents may also be returned for disposal purposes to the Contract Desk on the 3rd Floor, 3 Gateway Center, Newark NJ 07102 or the office of the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10010. It is a violation of law for any person to alter a document in any way, unless acting under the direction of a licensed professional engineer or registered architect. If this document bearing the seal of an engineer/architect is altered, the altering engineer/architect shall affix to the document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

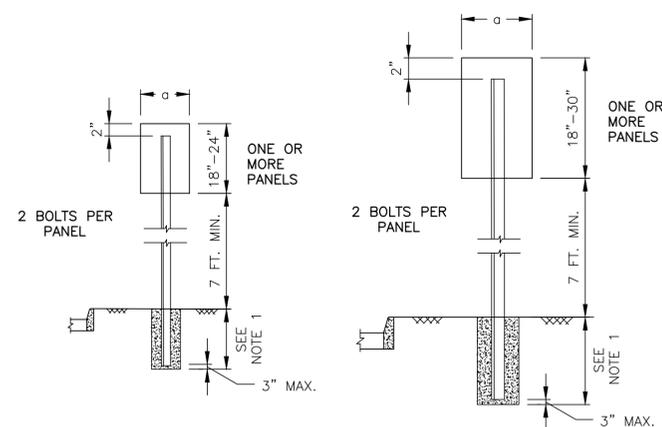
Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

Drawing Number **TD30.06**

PID#



(1.5 - 2 S.F.)

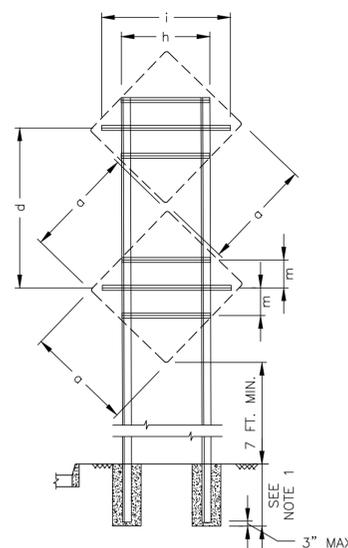
(1.50 - 3.75 S.F.)

STANDARD SINGLE POST SIGN ASSEMBLY DETAIL  
TD30.06.24

| DIMENSIONS            |   |           |         |       |         |                       |
|-----------------------|---|-----------|---------|-------|---------|-----------------------|
| SIGN PANEL DIMENSIONS |   | H-MEMBERS |         | POSTS |         |                       |
|                       |   | H-LENGTHS | SPACING | NO.   | SPACING | TYPE (SEE TD30.06.31) |
| a                     | b | h         | m       |       |         |                       |
| 12                    | - | -         | -       | -     | 1       | 1                     |
| 18                    | - | -         | -       | -     | 1       | 3                     |

('-' NOT APPLICABLE)

TD30.06.25



30" AND 36" SIZE PANELS

DUAL SIGN ASSEMBLY DETAIL  
TD30.06.11

| DIMENSIONS            |    |           |         |                            |       |         |                       |
|-----------------------|----|-----------|---------|----------------------------|-------|---------|-----------------------|
| SIGN PANEL DIMENSIONS |    | H-MEMBERS |         | PANEL MOUNTING VERT. SPACE | POSTS |         |                       |
|                       |    | H-LENGTHS | SPACING |                            | NO.   | SPACING | TYPE (SEE TD30.06.31) |
| a                     | h  | i         | m       | d                          |       |         |                       |
| 30                    | 22 | -         | 8       | 44                         | 2     | 22      | 7                     |
| 36                    | 23 | 42        | 12      | 52                         | 2     | 22      | 10                    |

('-' NOT APPLICABLE)

TD30.06.12

CHIEF

|     |      |          |          |
|-----|------|----------|----------|
| No. | Date | Revision | Approved |
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ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title  
**SIGN MOUNTING**

**STANDARD SIGN  
ASSEMBLY DETAILS  
(3 OF 3)**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date **11/01/2010**

Contract Number \_\_\_\_\_

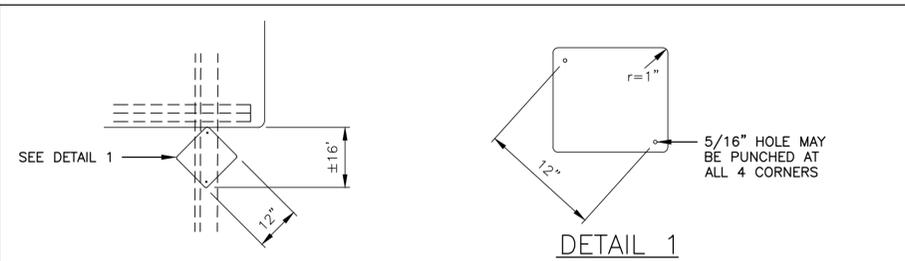
Drawing Number **TD30.06**

PID#

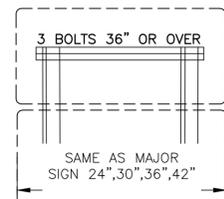
| DIMENSIONS                  |    |           |    |    |    |                             |    |           |    |                        |     |         |                       |
|-----------------------------|----|-----------|----|----|----|-----------------------------|----|-----------|----|------------------------|-----|---------|-----------------------|
| LOWER PANEL                 |    |           |    |    |    | UPPER PANEL                 |    |           |    | POSTS                  |     |         |                       |
| LOWER SIGN PANEL DIMENSIONS |    | H-MEMBERS |    |    |    | UPPER SIGN PANEL DIMENSIONS |    | H-MEMBERS |    | UPPER PANEL VERT SPACE | NO. | SPACING | TYPE (SEE TD30.06.31) |
| a                           | b  | i         | j  | m  | n  | a'                          | h' | i'        | m' | d                      |     |         |                       |
| 30                          | 30 | 24        | -  | 24 | -  | 30                          | 22 | -         | 16 | 26                     | 2   | 22      | 9                     |
| 36                          | 12 | 30        | -  | 6  | -  | 36                          | 23 | 44        | 12 | 26                     | 2   | 22      | 6                     |
| 24                          | 18 | 18        | -  | 12 | -  | 30                          | 22 | -         | 16 | 26                     | 2   | 22      | 6                     |
| 24                          | 24 | 18        | -  | 18 | -  | 30                          | 22 | -         | 16 | 14                     | 1   | -       | 4                     |
| 36                          | 12 | 30        | -  | 6  | -  | 24                          | 14 | -         | 12 | 14                     | 1   | -       | 4                     |
| 30                          | 24 | 24        | -  | 18 | -  | 24                          | 14 | -         | 12 | 30                     | 2   | 22      | 10                    |
| 36                          | 24 | 30        | -  | 18 | -  | 36                          | 23 | 44        | 12 | 30                     | 2   | 22      | 10                    |
| 36                          | 26 | 30        | 30 | 32 | 16 | 36                          | 23 | 44        | 12 | 30                     | 2   | 22      | 10                    |
| 36                          | 12 | 30        | -  | 6  | -  | 36                          | 23 | 44        | 12 | 30                     | 2   | 22      | 8                     |
| 36                          | 36 | 30        | 30 | 32 | 16 | 48                          | 23 | 60        | 20 | 38                     | 2   | 26      | 10                    |
| 42                          | 30 | 36        | -  | 26 | -  | 48                          | 23 | 60        | 20 | 38                     | 2   | 26      | 10                    |
| 48                          | 36 | 42        | 42 | 32 | 16 | 48                          | 23 | 60        | 20 | 38                     | 2   | 26      | 10                    |
| 36                          | 12 | 30        | -  | 6  | -  | 48                          | 23 | 60        | 20 | 38                     | 2   | 22      | 10                    |
| 36                          | 36 | 30        | 30 | 32 | 16 | 42                          | 23 | 52        | 16 | 34                     | 2   | 22      | 10                    |
| 36                          | 12 | 30        | -  | 6  | -  | 42                          | 23 | 52        | 16 | 34                     | 2   | 22      | 10                    |

(\* - NOT APPLICABLE)

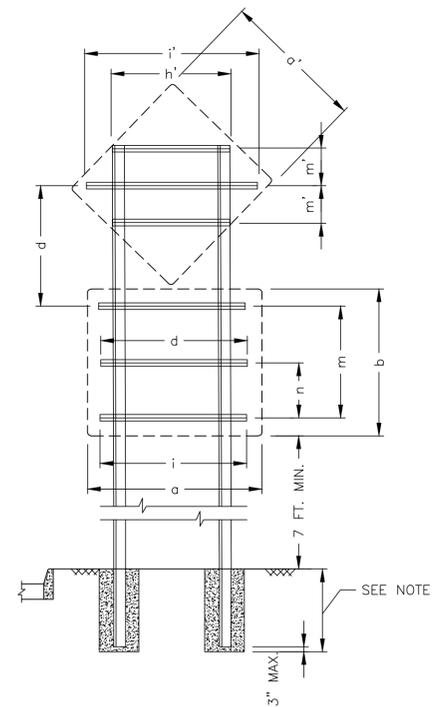
TD30.06.27



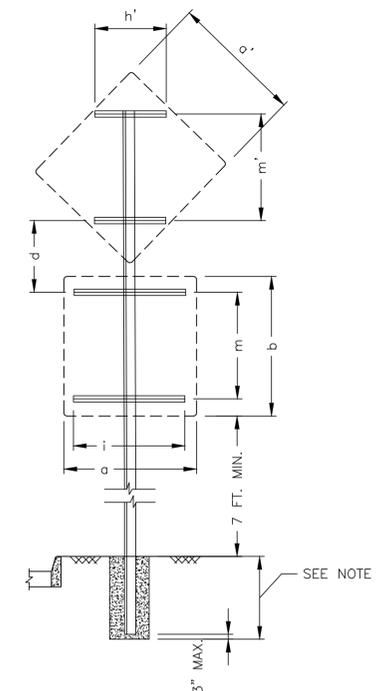
SUPPLEMENTARY SIGN PANEL  
AT BOTTOM OF LARGE SIGN



SUPPLEMENTARY SIGN PANEL  
(TOP OR BOTTOM)



TWO POST MOUNT  
(12 - 28) S.F.



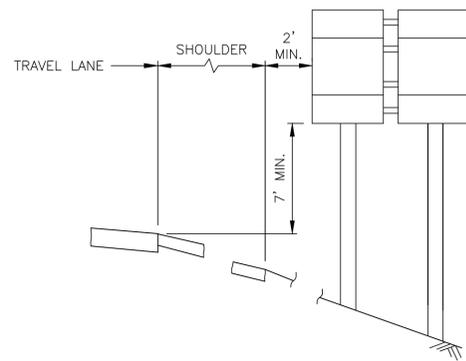
SINGLE POST MOUNT  
(7 - 10.25) S.F.

COMBINATION SIGN ASSEMBLY DETAIL  
TD30.06.26

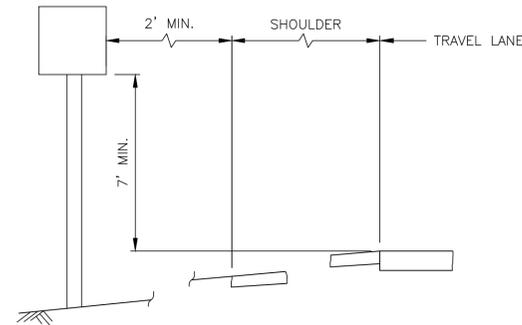
CHIEF

NOTES:  
TD30.07.01

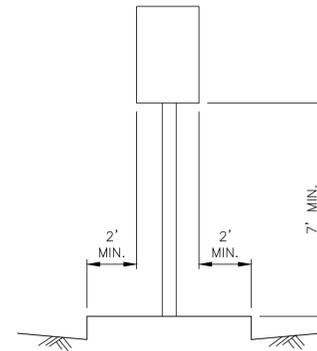
1. 2 FEET MINIMUM LATERAL CLEARANCE UNLESS OTHERWISE SHOWN ON CONTRACT DRAWINGS.
2. 7 FEET VERTICAL DISTANCE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE SHOWN ON CONTRACT DRAWINGS.
3. SIGNS ALONG BICYCLE PATHS MINIMUM LATERAL CLEARANCE 3 FEET MAXIMUM 6 FEET FROM THE EDGE OF THE PATH AND A HEIGHT TO THE BOTTOM OF THE PANEL MINIMUM 4 FEET MAXIMUM 5 FEET ABOVE THE PATH.



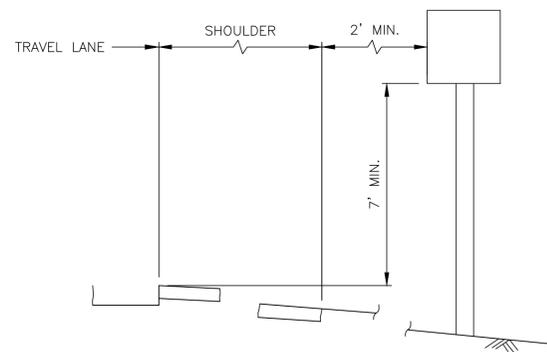
ROUTE MARKER  
TD30.07.02



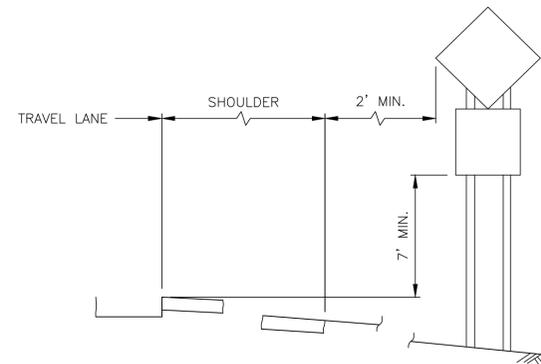
MEDIAN  
TD30.07.03



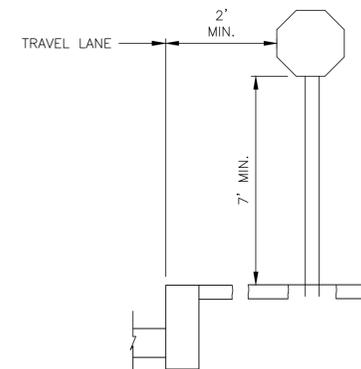
NARROW MEDIAN  
TD30.07.04



STANDARD  
TD30.07.05



STANDARD WITH  
SUPPLEMENTARY PANEL  
TD30.07.06



CURBED SECTION  
TD30.07.07

STANDARD HEIGHT AND LATERAL LOCATION FOR TRAFFIC SIGNS

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

PANYNJ  
Traffic Standard  
Details

TRAFFIC

Title

SIGN MOUNTING

STANDARD HEIGHT  
AND  
LATERAL LOCATION  
FOR TRAFFIC SIGN  
ASSEMBLY

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Designed by Drawn by Checked by

Date 11/01/2010

Contract Number

Drawing Number TD30.07

PID#

CHIEF

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title

SIGN MOUNTING

**J-CHANNEL AND  
H-CHANNEL DETAILS**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

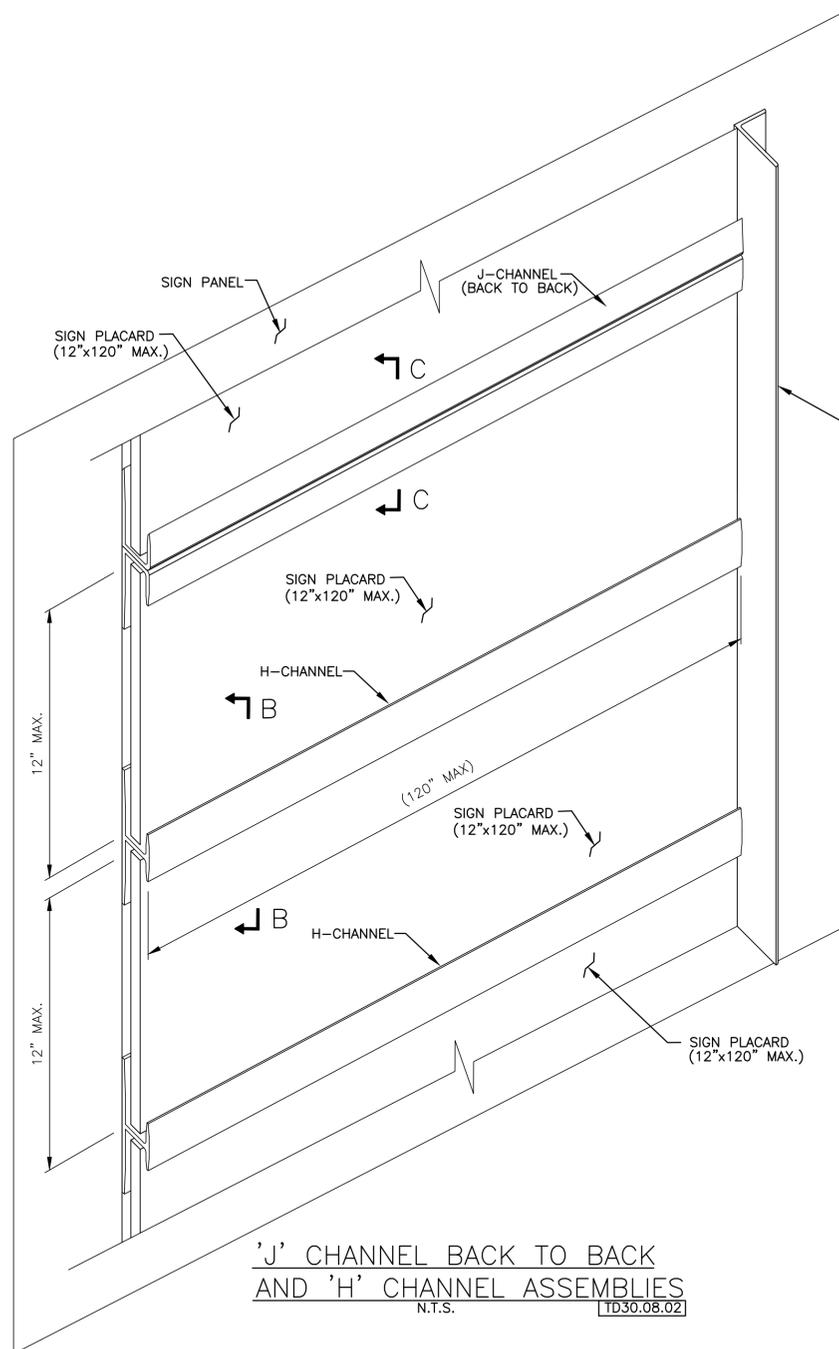
Contract Number \_\_\_\_\_

Drawing Number **TD30.08**

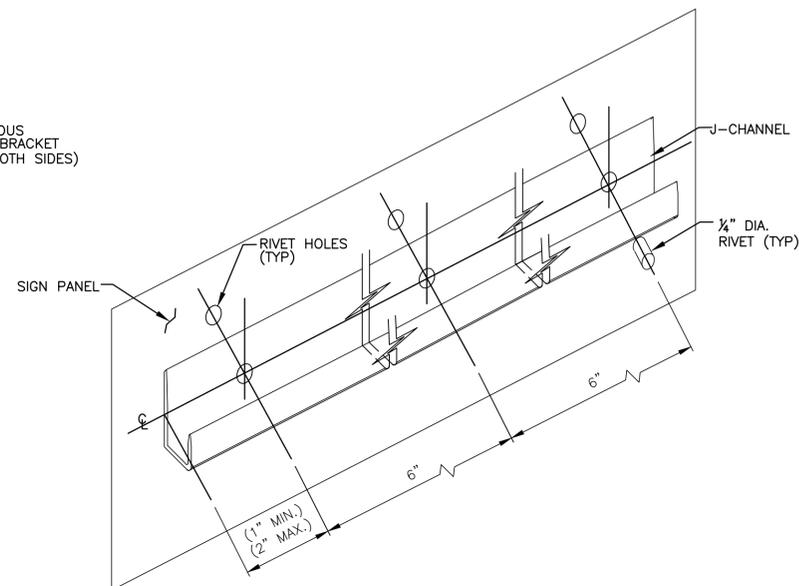
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**NOTES:**  
TD30.08.01

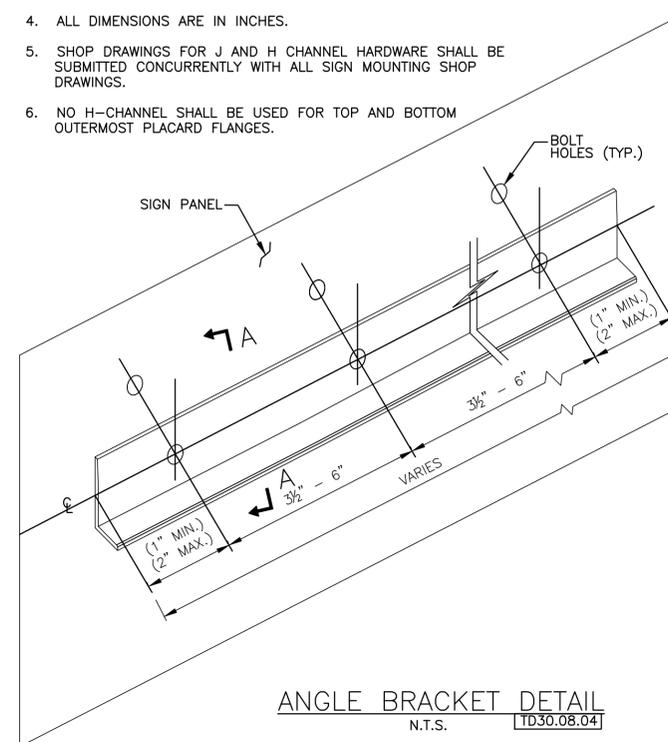
- MINOR MANUFACTURING VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.
- ANGLE BRACKET SHALL BE BOLTED TO SIGN BASE WITH TORQUE WRENCH AT TORQUE SETTING APPROVED BY THE ENGINEER.
- PROVIDE A MINIMUM OF 1" OFFSET BETWEEN RIVETS FOR ADJACENT J OR H CHANNELS THAT HOLD SAME PLACARD.
- ALL DIMENSIONS ARE IN INCHES.
- SHOP DRAWINGS FOR J AND H CHANNEL HARDWARE SHALL BE SUBMITTED CONCURRENTLY WITH ALL SIGN MOUNTING SHOP DRAWINGS.
- NO H-CHANNEL SHALL BE USED FOR TOP AND BOTTOM OUTERMOST PLACARD FLANGES.



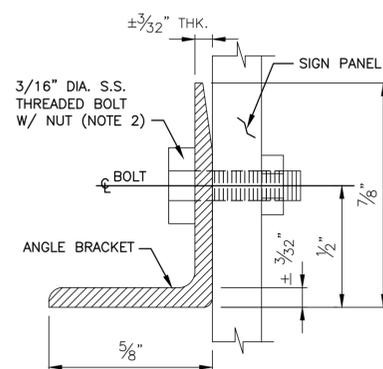
**'J' CHANNEL BACK TO BACK  
AND 'H' CHANNEL ASSEMBLIES**  
N.T.S. TD30.08.02



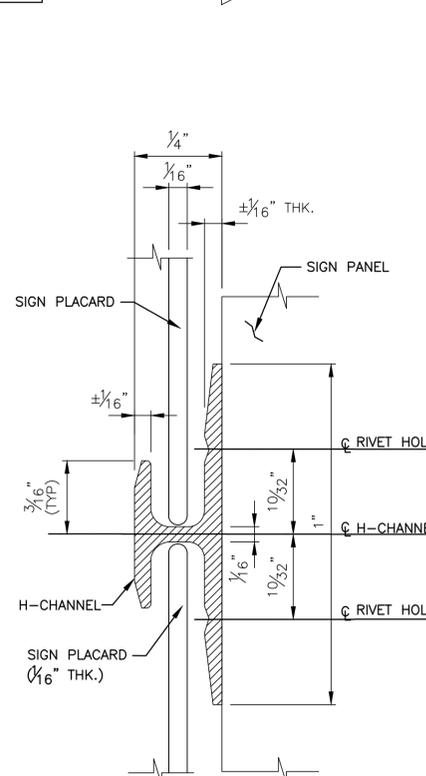
**J/H CHANNEL RIVET HOLE LAYOUT**  
N.T.S. (SEE NOTE 3) TD30.08.03



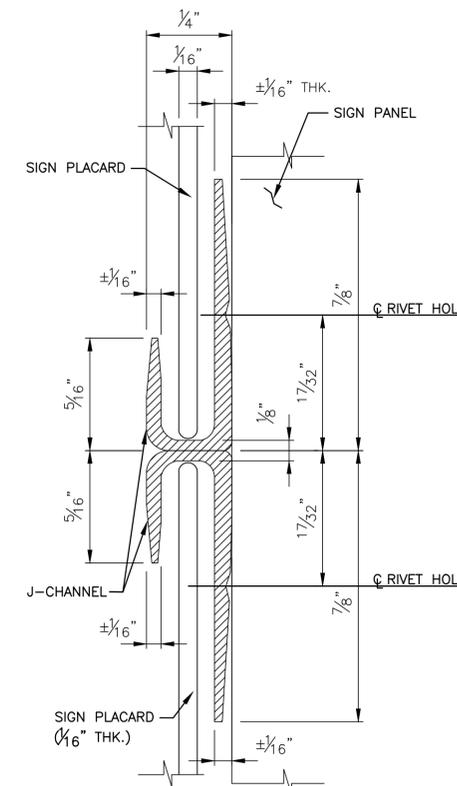
**ANGLE BRACKET DETAIL**  
N.T.S. TD30.08.04



**SECTION A-A**  
N.T.S. TD30.08.05



**SECTION B-B**  
N.T.S. TD30.08.06



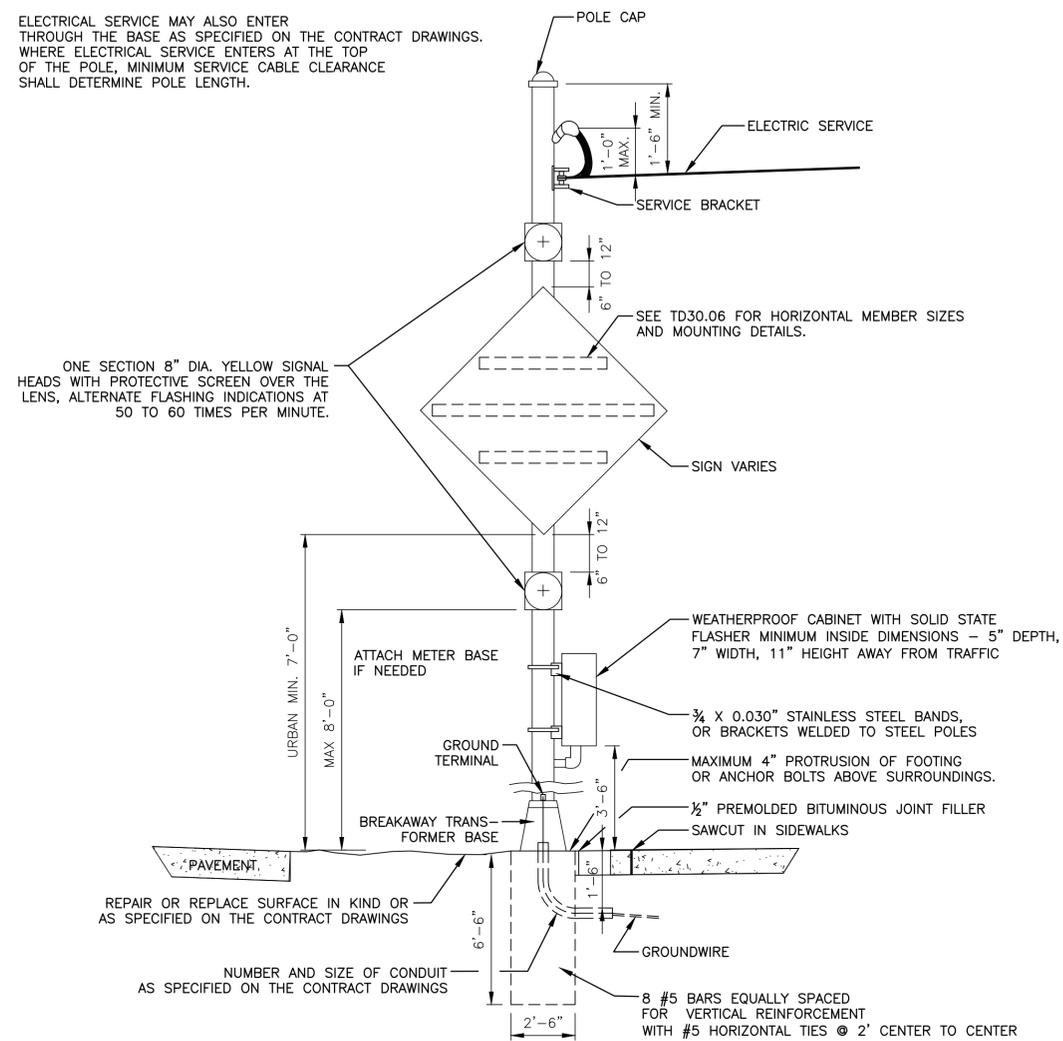
**SECTION C-C**  
N.T.S. TD30.08.07

NOTES:

TD30.10.01

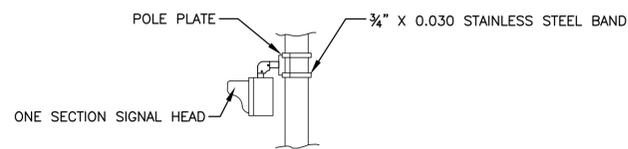
- UNLESS LOCATED BEHIND GUIDERAIL THIS SIGN ASSEMBLY SHALL BE EQUIPPED WITH AN APPROVED BREAKAWAY TRANSFORMER BASE SUITABLE FOR USE WITH THE SIGN AND POST ASSEMBLY WEIGHT.
- FOOTINGS FOR FLASHING BEACON SIGN ASSEMBLIES MAY BE EITHER CIRCULAR OR SQUARE.

ELECTRICAL SERVICE MAY ALSO ENTER THROUGH THE BASE AS SPECIFIED ON THE CONTRACT DRAWINGS. WHERE ELECTRICAL SERVICE ENTERS AT THE TOP OF THE POLE, MINIMUM SERVICE CABLE CLEARANCE SHALL DETERMINE POLE LENGTH.



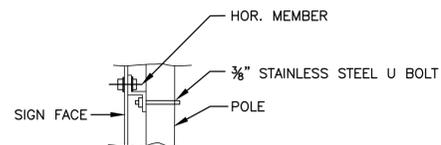
FLASHING BEACON SIGN ASSEMBLY

TD30.10.02



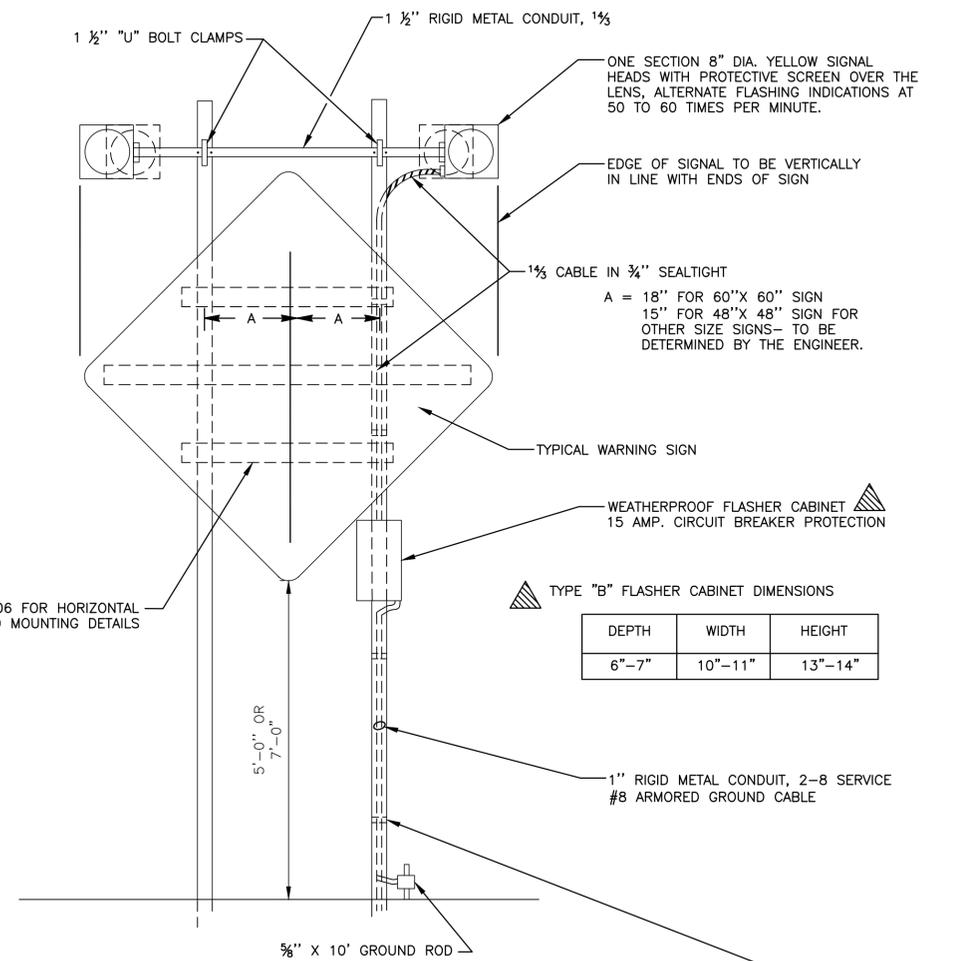
BEACON MOUNTING

TD30.10.03



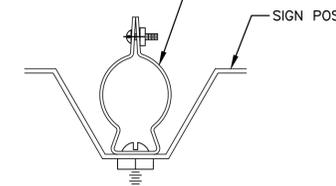
SIGN MOUNT

TD30.10.04



ALTERNATE FLASHING BEACON  
SIGN ASSEMBLY

TD30.10.05



| No. | Date | Revision | Approved |
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ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
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TRAFFIC

Title

SIGN MOUNTING

**FLASHING BEACON  
SIGN ASSEMBLY**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

Drawing Number **TD30.10**

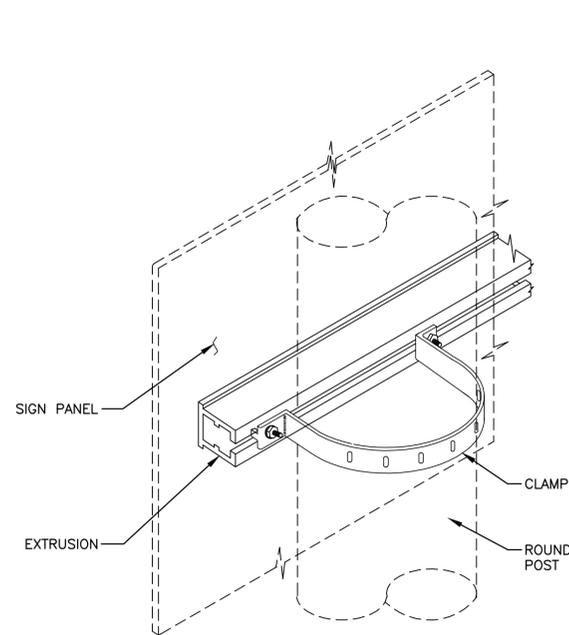
PID# \_\_\_\_\_

CHIEF

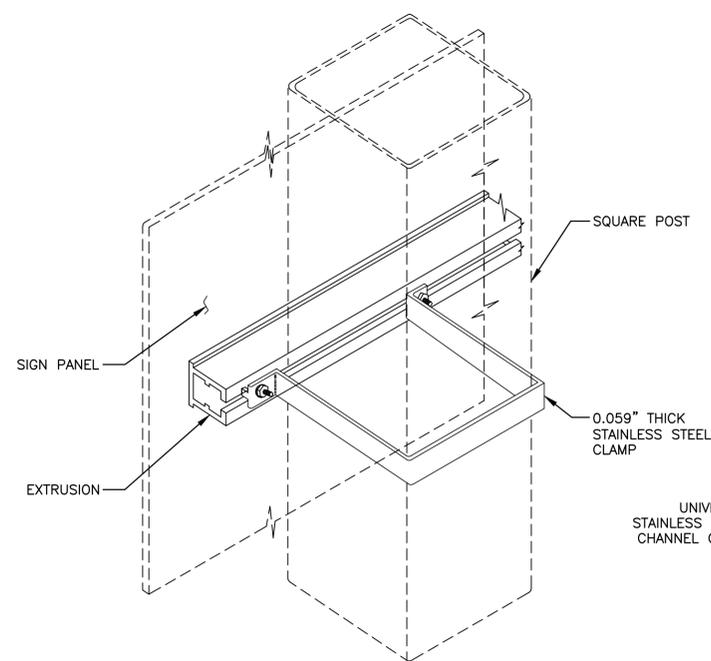
**NOTES:**

TD30.11.01

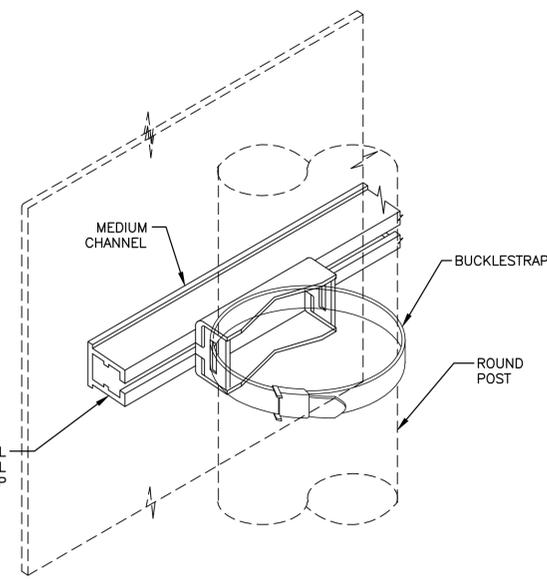
1. ALL CANTILEVER ARMS ARE USED IN PAIRS
2. ALL PARTS STAINLESS STEEL UNLESS NOTED OTHERWISE.
3. MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.
4. PROPRIETARY SYSTEM VENDED BY BAND-IT. FOR DETAILS OF THE CLAMPING SYSTEM, APPLICATION TO VARIOUS POST DIAMETER AND INSTALLATION CRITERIA CONTACT MANUFACTURER DIRECTLY AT (215) 245 7290. CONTRACTOR MAY USE A SIMILAR SYSTEM UPON APPROVAL BY THE ENGINEER.



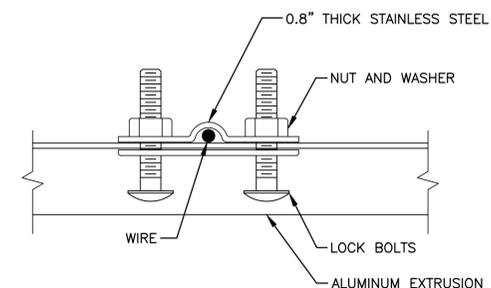
**TYPICAL ANTI-ROTATIONAL  
2-BOLT "D" CLAMP ASSEMBLY**  
N.T.S. TD30.11.03



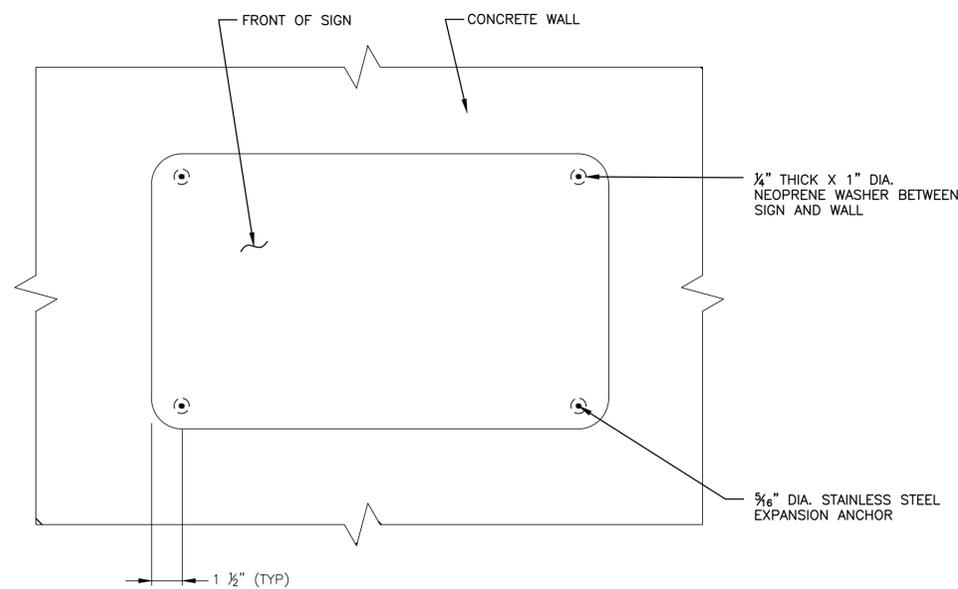
**RHS CLAMP ASSEMBLY**  
N.T.S. TD30.11.05



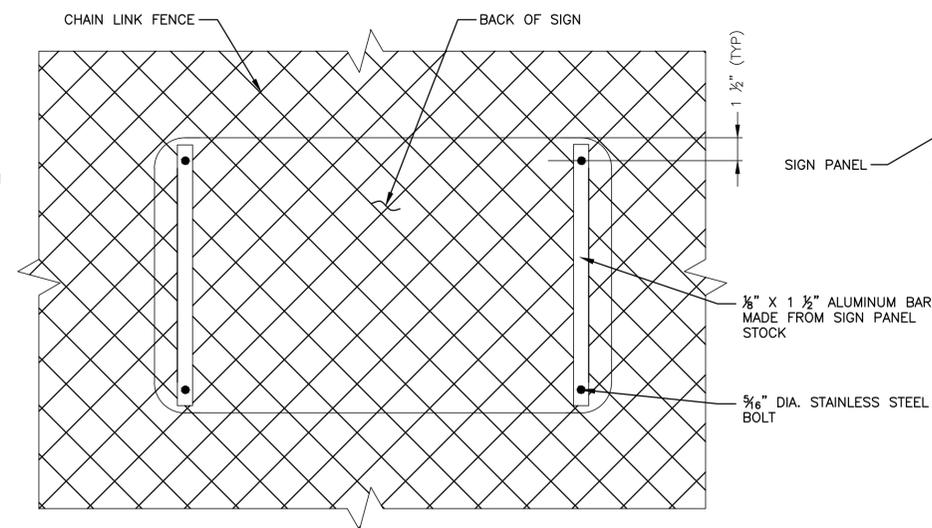
**BUCKLESTRAP AND CHANNEL  
CLAMP ASSEMBLY**  
N.T.S. TD30.11.04



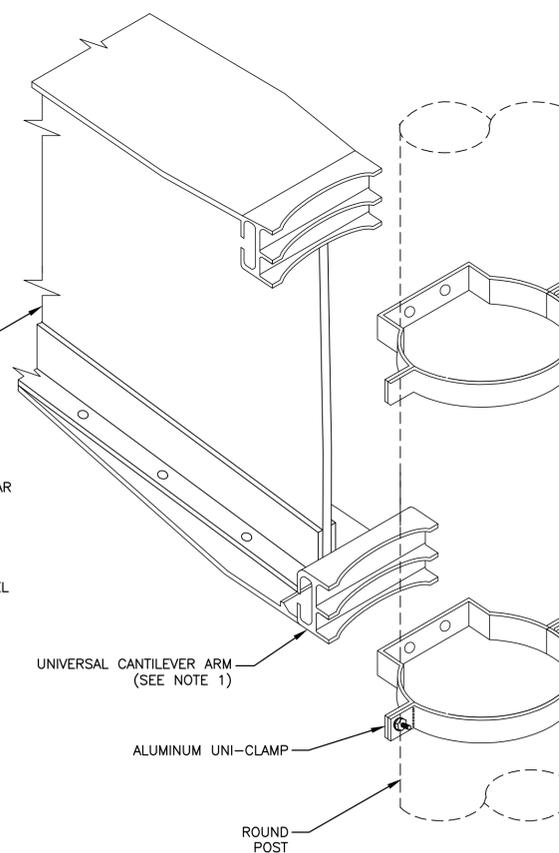
**SPAN WIRE CLIP DETAIL**  
N.T.S. TD30.11.06



**CONCRETE WALL SIGN MOUNTING DETAIL**  
N.T.S. TD30.11.02



**CHAIN LINK AND PICKET FENCE  
SIGN MOUNTING DETAIL**  
N.T.S. TD30.11.01



**TYPICAL CANTILEVER ARM  
ASSEMBLY**  
N.T.S. TD30.11.07

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title  
**SIGN MOUNTING**

**BUCKLESTRAP,  
CLAMP AND CLIP  
MOUNTING DETAIL**

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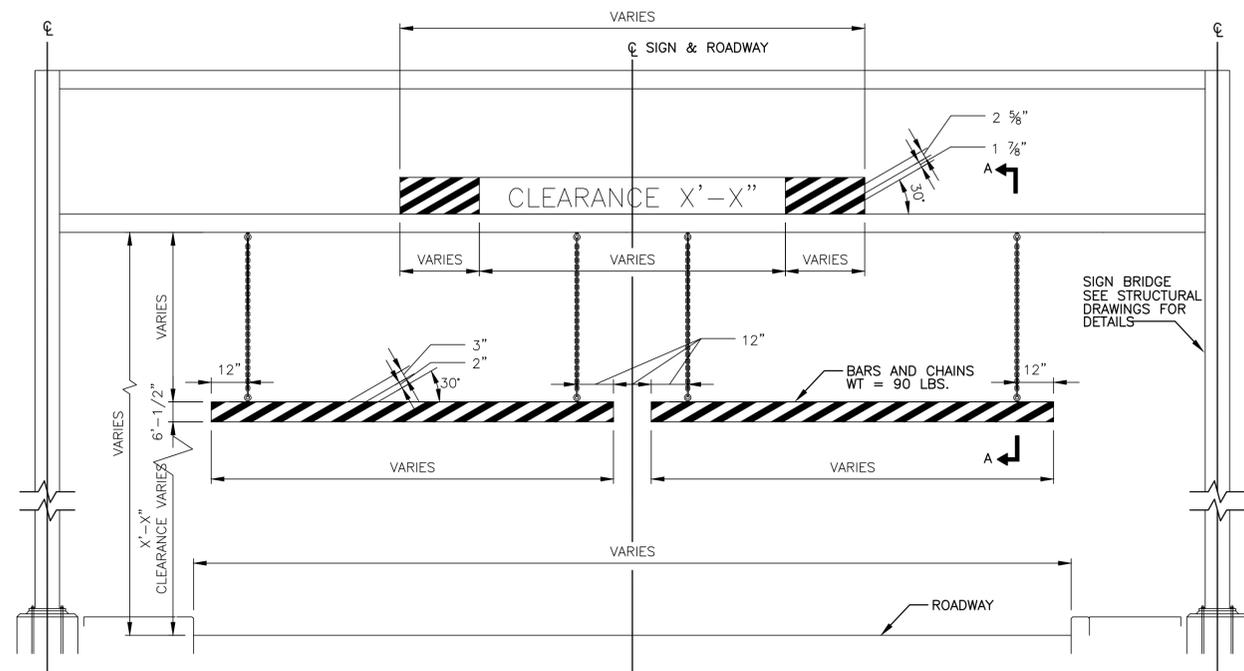
Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_  
Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

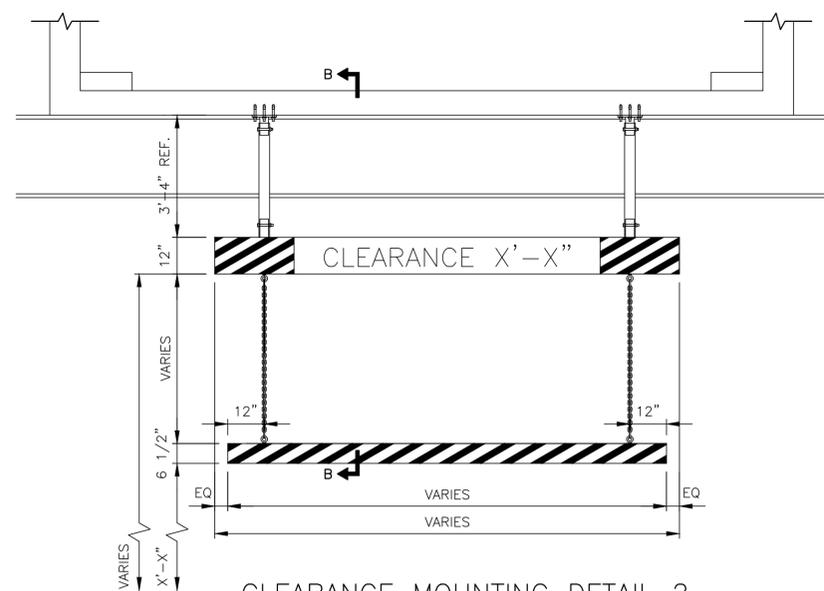
Drawing Number **TD30.11**  
PID#



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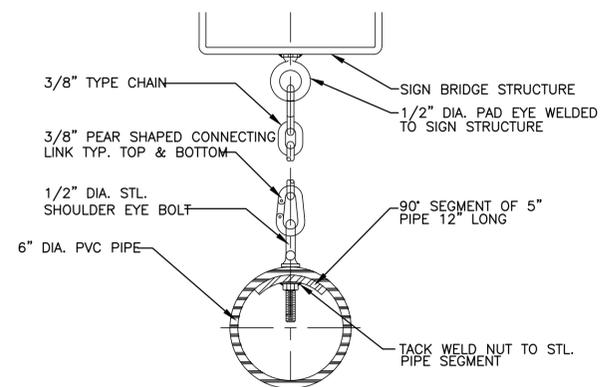


**OVERHEAD SIGN  
CLEARANCE MOUNTING DETAIL 1**  
N.T.S. TD30.17.01

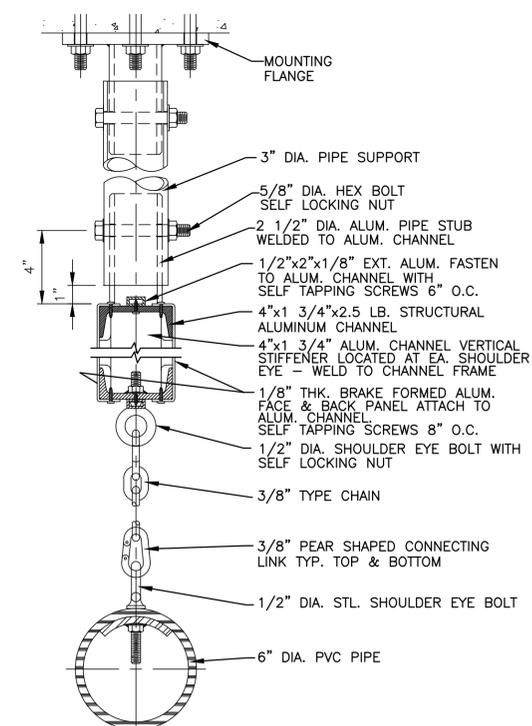


**CLEARANCE MOUNTING DETAIL 2**  
N.T.S. TD30.17.02

**NOTES:**  
HORIZONTAL AND VERTICAL DIMENSIONS WILL CHANGE  
DEPENDING ON INSTALLATION REQUIREMENTS.



**SECTION A-A**  
N.T.S.



**SECTION B-B**  
N.T.S.

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title

SIGN MOUNTING

**OVERHEAD  
CLEARANCE  
MOUNTING  
DETAILS**

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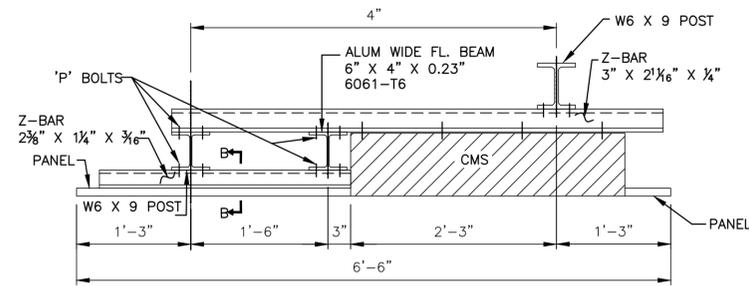
Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

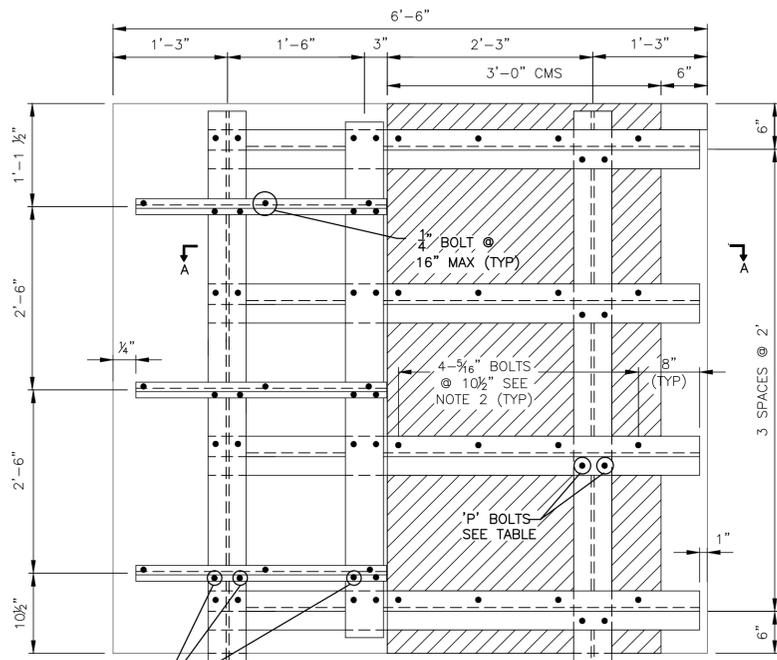
Drawing Number **TD30.17**

PID#

CHIEF



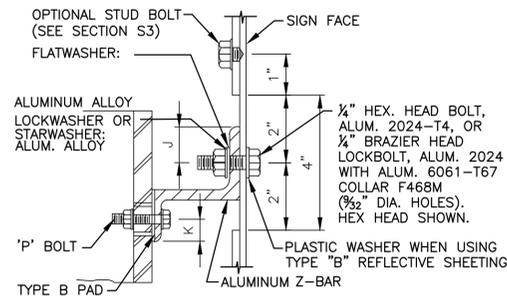
SECTION A-A  
N.T.S.



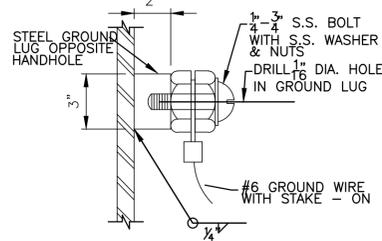
CMS SIGN  
DETAIL N.T.S. TD30.19.0P

| Z-BAR                   | J      | K      | P (BOLT)                          |
|-------------------------|--------|--------|-----------------------------------|
| 2 3/8" X 1 1/4" X 3/16" | 1 1/2" | 1 1/2" | 3/8" ALUM BOLT IN 7/16" DIA. HOLE |
| 3" X 2 1/16" X 1/4"     |        |        |                                   |

| FOOTING       |              |              |           | NOTES |
|---------------|--------------|--------------|-----------|-------|
| SIGN LOCATION | POST SECTION | FOOTING (FT) |           |       |
|               |              | DIAMETER     | EMBEDMENT |       |
|               | W6 X 9       | 2'-6"        | 5'-0"     | © CMS |



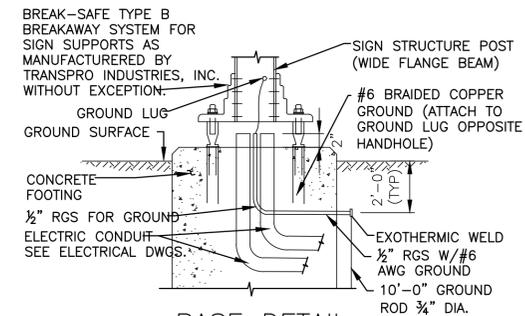
SECTION B-B  
N.T.S.



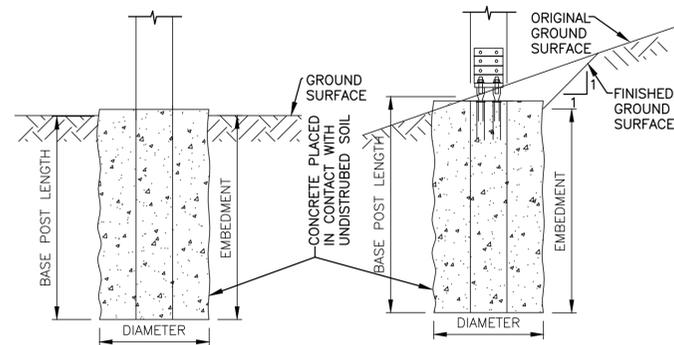
GROUND LUG  
DETAIL N.T.S.

**NOTES:**

1. THE CONTRACTOR SHALL PRIOR TO INSTALLATION SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
2. CMS BOX SHALL BE ATTACHED WITH 5/8" S.S. BOLTS (ASTM F593) AND 5/8" HEX HEAD NUTS (ASTM F594). HOLES FOR THE BOLTS SHALL BE 3/8" DIA.



BASE DETAIL  
N.T.S.



CONCRETE FOOTING DETAILS  
N.T.S.

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title  
**SIGN MOUNTING**

**CMS SIGN MOUNTING  
DETAILS**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

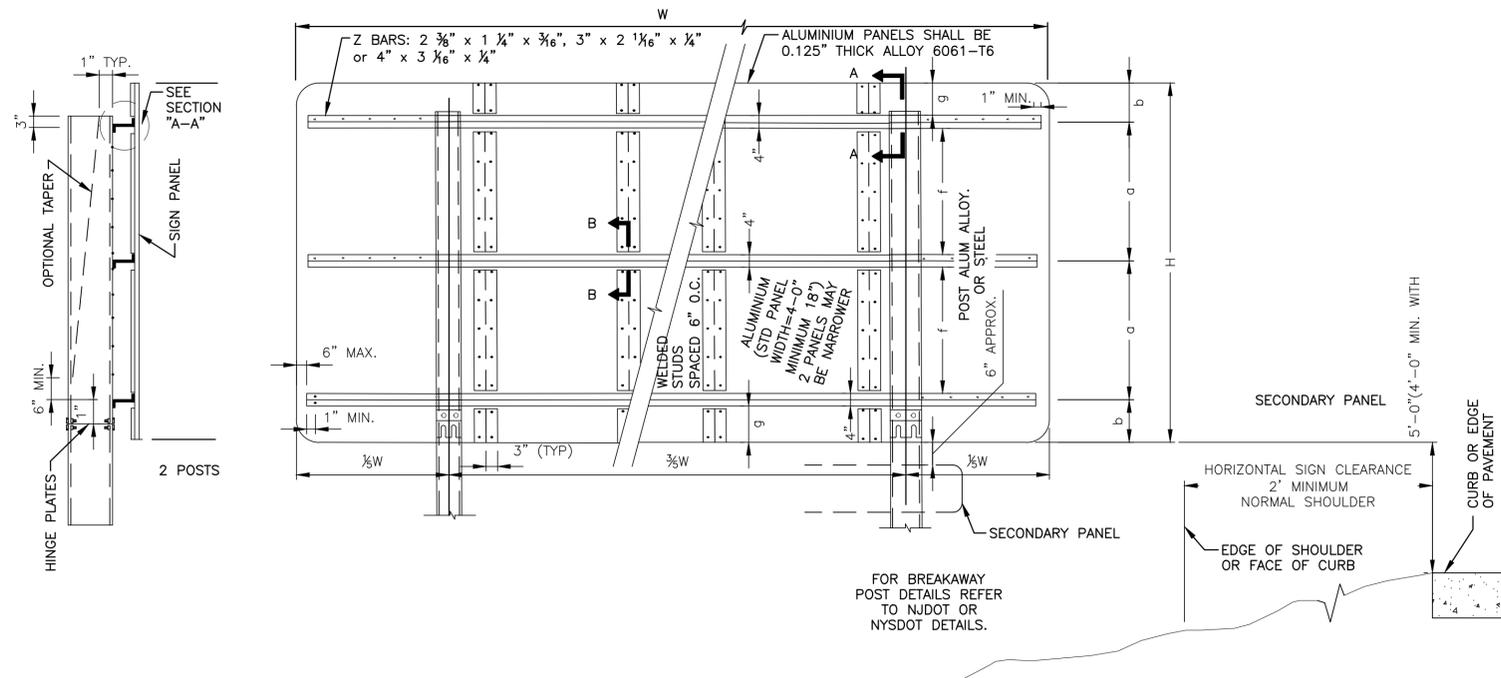
Contract Number \_\_\_\_\_

Drawing Number **TD30.19**

PID#

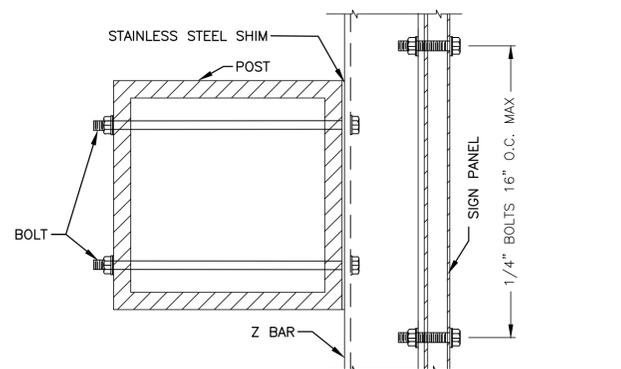
NOTES:  
TD30.21.01

1. THE ORIENTATION OF THE GUIDE SIGN SHALL BE AS SHOWN ON CONTRACT DRAWINGS.
2. WHERE SIGN POSTS ARE NOT PROTECTED FROM VEHICULAR IMPACT, BREAKAWAY SIGN POSTS SHALL BE PROVIDED. SEE NJDOT OR NYSDOT STANDARD DETAILS, OR PROVIDE PROPRIETARY TRANSPRO CORP. BREAKAWAY SIGN POSTS, OR APPROVED EQUAL.
3. COMPONENTS OF LOCKBOLTS MAY HAVE MODIFIED TEMPER IN COLD-FORMED ELEMENTS.
4. THE GROUND MOUNTED SIGNS POST SELECTION SCHEDULE IS FOR POSTS FABRICATED OF A-36 STEEL. POSTS FOR SIGNS WITH SLIP-IMPACT BASES MUST BE OF WELDABLE QUALITY.
5. STEEL POSTS SHALL BE ASTM A36 HOT DIP GALVANIZED PER ASTM A123.
6. SIGNS OVER ONE STANDARD PANEL HEIGHT (12 FT FOR ALUMINUM) MAY BE CONSTRUCTED AS TWO SEPARATE SIGNS OF APPROX. EQUAL HEIGHT WITH A HORIZONTAL CONSTRUCTION JOINT SIMILAR TO THE VERTICAL JOINTS DETAILED ON THIS SHEET; SAID HORIZONTAL JOINT TO FALL BETWEEN LINES OF MAJOR LEGEND, SECONDARY PANELS SHALL BE FABRICATED AND ERECTED IN SAME MANNER AS MAIN PANEL. THE WIDER PANEL DETERMINES HORIZ. CLEARANCE. THE LARGER PANEL DETERMINES POST SPACING. MIN. VERTICAL CLEARANCE TO BOTTOM PANEL SHALL BE 5'-0".
7. PROVIDE HORIZONTAL Z-BARS OF EQUAL SPACING (MAX. SPACING 36" C.T.O.)

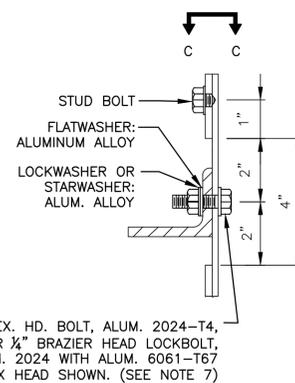


SIDE VIEW  
N.T.S. TD30.21.03

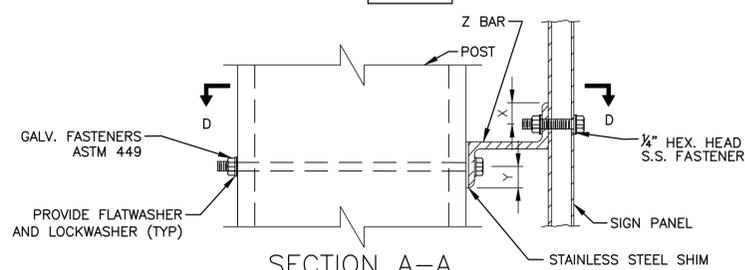
BACK VIEW  
N.T.S. TD30.21.02



SECTION D-D  
N.T.S. TD30.21.04

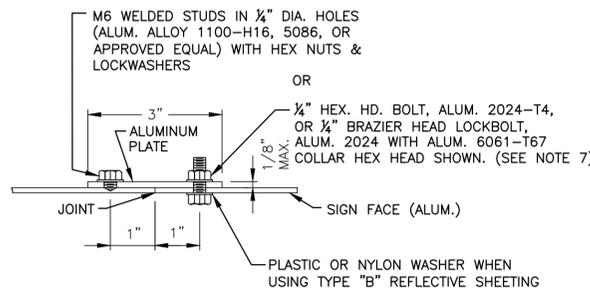


SECTION B-B  
N.T.S. TD30.21.06



SECTION A-A  
N.T.S. TD30.21.05

| Z BAR  | X    | Y    | BOLT                              |
|--------|------|------|-----------------------------------|
| 2 3/8" | 1/2" | 1/2" | 1/4" STAINLESS STEEL OR 3/8" ALUM |
| 3"     | 3/8" | 1"   | 1/2" STAINLESS STEEL OR 1/2" ALUM |
| 4"     | 3/8" | 1"   | 1/2" STAINLESS STEEL OR 1/2" ALUM |



SECTION C-C  
N.T.S. TD30.21.07

GROUND MOUNTED SIGNS POST SELECTION SCHEDULE

| GUIDE SIGN # | AREA OF SIGN IN SQ. FT. | 2-POST SIGNS POST MATERIAL & SIZE | EMBEDMENT |            | TYPE OF POSTS |
|--------------|-------------------------|-----------------------------------|-----------|------------|---------------|
|              |                         |                                   | K (DIA.)  | D* (DEPTH) |               |
|              |                         |                                   |           |            |               |

TD30.21.08

\* EMBEDMENT DEPTH (D) SHOWN IN POST SELECTION CHART TABLE IS FOR PLACEMENT IN SOIL. WHEN SOUND SOLID ROCK IS ENCOUNTERED, POSTS SHALL BE FOUNDED INTO ROCK AT A DEPTH EQUAL TO EMBEDMENT DIAMETER (K) OR TO DEPTH (D), WHICHEVER IS LESS. ANCHORAGE DIAMETER IN ROCK MAY BE REDUCED TO SUIT POST.

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

PANYNJ  
Traffic Standard  
Details

TRAFFIC

Title

SIGN MOUNTING

LARGE GUIDE SIGN  
ASSEMBLY DETAILS

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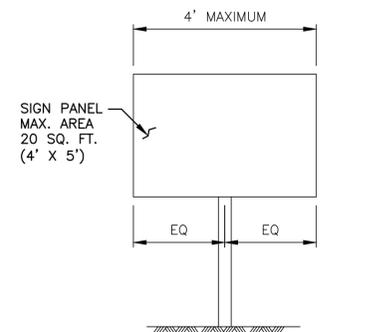
Designed by Drawn by Checked by

Date 11/01/2010

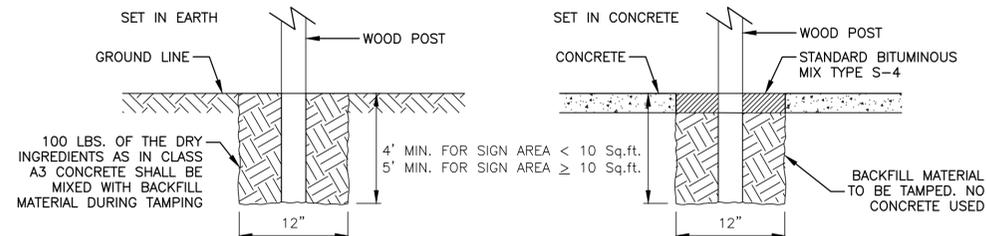
Contract Number

Drawing Number TD30.21  
PID#

CHIEF



**SINGLE POST ASSEMBLY**  
N.T.S. TD30.22.04



**INSTALLATION DETAILS**  
N.T.S. TD30.22.11

**NOTES:**

TD30.22.01

- IF THE POST LENGTH REQUIRED IS LONGER THAN WHAT IS AVAILABLE, SPLICING BY OVERLAPPING AND BOLTING 2 POSTS TOGETHER IS PERMISSIBLE WITH APPROVAL OF THE ENGINEER.

| WOOD POST |                             |
|-----------|-----------------------------|
| SIZES     | AVAILABLE LENGTHS           |
| 4"x4"     | 10', 12', AND 14'           |
| 4"x6"     | 16', 18', 20', 22', AND 24' |

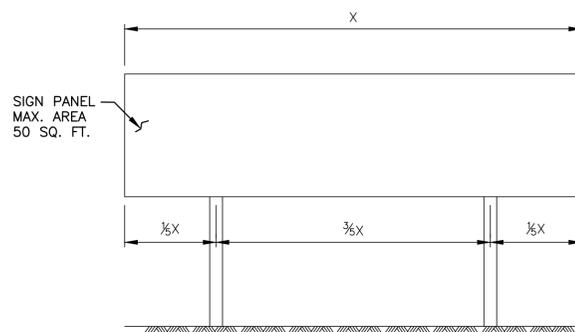
SEE NOTE 1 TD30.22.03

- ALL POST ABOVE 4x6 SIZE MUST BE BREAKAWAY TYPE WHERE TWO HOLES ARE DRILLED PERPENDICULAR TO TRAFFIC FLOW. (SEE TABLE TD30.22.02)

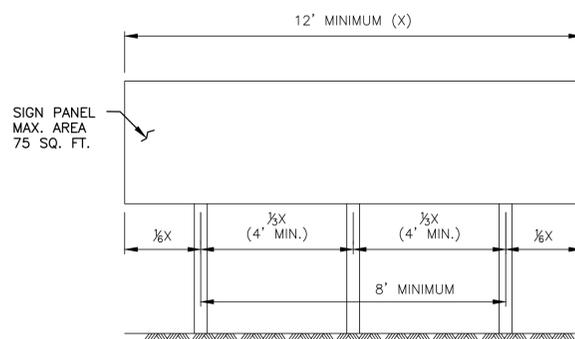
| BREAKAWAY HOLE SIZE FOR POST GREATER THAN 4"x6" |             |
|---|-------------|
| SIZES   | HOLES       |
| 6"x6"   | 2" DIAMETER |
| 6"x8"   | 3" DIAMETER |

TD30.22.02

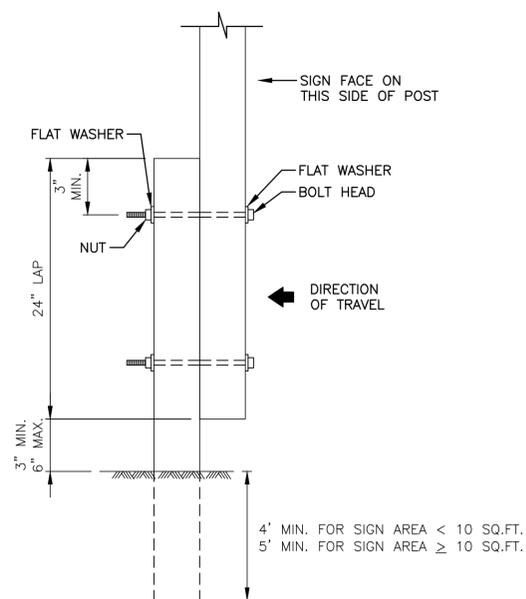
- NYLON WASHER SHALL BE 1/8" THICK MINIMUM WITH AN OUTSIDE DIAMETER OF 1" AND AN INSIDE DIAMETER OF 7/16".
- PLYWOOD SIGN PANELS, POSTS, AND FOOTINGS FOR USE IN THE CONSTRUCTION OF TEMPORARY GUIDE, WARNING AND REGULATORY ROADWAY SIGNS REFER TO SPECIFICATION: 02850 - PLYWOOD SIGN PANELS AND WOOD SIGN POSTS.
- WOOD SIGN POSTS SHALL BE PRESSURE TREATED WOOD.



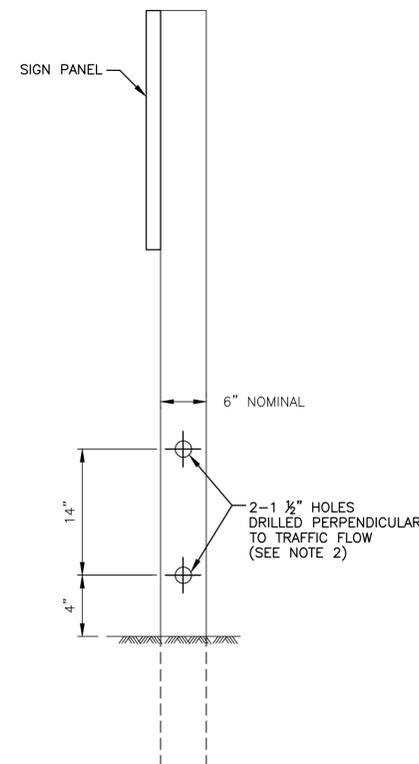
**TYPICAL 2 POST ASSEMBLY**  
N.T.S. TD30.22.05



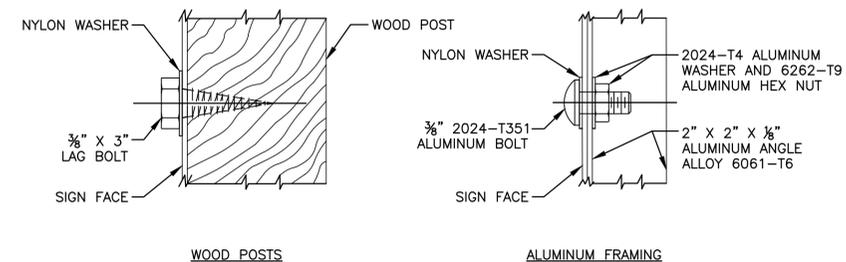
**TYPICAL 3 POST ASSEMBLY**  
N.T.S. TD30.22.06



**POST SPLICING DETAIL**  
N.T.S. TD30.22.07



**WOOD 4"x6" BREAKAWAY DETAIL**  
N.T.S. TD30.22.08



**WOOD POSTS**  
TD30.22.10.01

**ALUMINUM FRAMING**  
TD30.22.10.02

| WOOD POST SELECTION TABLE |                         |                 |
|---------------------------|-------------------------|-----------------|
| SIGN AREA                 | POST NUMBER AND SIZE    | MINIMUM SPACING |
| LESS THAN 10 SQ. FT.      | ONE OR TWO 4"x4"s       | MIN. 3'         |
| 10-20 SQ. FT.             | ONE 4"x6" OR TWO 4"x4"s | MIN. 3'         |
| 20-50 SQ. FT.             | TWO 4"x6"s              | MIN. 8'         |
| 50-75 SQ. FT.             | THREE 4"x6"s OR STEEL   | MIN. 8'         |
| GREATER THAN 75 SQ. FT.   | STEEL POSTS             | -               |

TD30.22.09

**SIGN PANEL ATTACHMENT DETAILS**  
N.T.S. TD30.22.10

| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |

ENGINEERING DEPARTMENT

**PANYNJ**  
**Traffic Standard**  
**Details**

TRAFFIC

Title

SIGN MOUNTING

**TEMPORARY  
WOOD SIGN POST  
DETAILS**

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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_ Checked by \_\_\_\_\_

Date \_\_\_\_\_ 11/01/2010

Contract Number \_\_\_\_\_

Drawing Number **TD30.22**

PID#