



U.S. Department
of Transportation
**Federal Highway
Administration**

New York Division

June 9, 2010

Leo W. O'Brien Federal Building
Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.FHWA@dot.gov

In Reply Refer To:
HTS-NY

John Eberl, Traffic Safety Products
Eberl Iron Works
128 Sycamore Street
Buffalo, NY 14204-1492

Dear Mr. Eberl:

This is response to your letter dated March 8, 2010, requesting Federal Highway Administration (FHWA) acceptance of your Telespar square tubular temporary (TSP) sign stand as a crashworthy traffic control device for use in work zones on the National Highway System (NHS).

Your attached drawing of the TSP Sign Stand Option 1 and Option 2 is a retrofit of your previously designed tubular sign support system. Your design nests a 2", 12 gauge x 36" long section of Grade 50 Telespar tubular perforated steel over both 1-3/4", 14 gauge, Grade 50 Telespar tubular perforated steel support legs of a 48" or 36" x 1/2" plywood sign.

In accordance with the information derived from NCHRP Report 553, as well as the referenced Michigan DOT sign support which has been successfully crash tested (per FHWA Letter WZ149), your design is found acceptable for use on the National Highway System. Your design nests 2", 12 gauge Telespar over 1-3/4" 14 gauge to achieve a more rigid sign post that would not yield on impact, but rather engage the breakaway mechanics of your design. This design will meet the requirements of National Cooperative Highway Research Program Report 350, Test Level 3 based on the research in Report 553. Retro-fitting existing single post designs using the 1-3/4", 14 gauge design using the 2" 12 gauge x 36" long nested over 1-3/4", 14 gauge is also acceptable and is found to meet the requirements of NCHRP Report 350, Test Level 3. Comparisons of the successfully crash tested sign support and the proposed sign support can be found in the enclosure.

The cross member shown in your TSP Stand is the same design used in the testing outlined in NCHRP Report 553 which is acceptable for use, and did not adversely affect the outcome of the crash test. Your device will be assigned Acceptance Letter Number **WZ-291** for future reference.



Please note that the following standard provisions apply to FHWA letters of acceptance:

- Our acceptance letter is limited to the crashworthiness of the device and does not cover their structural features, or conformity with the Manual on Uniformed Traffic Control Devices (MUTCD).
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- Traffic Safety Products will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- Traffic Safety Products should supply information to potential users that would allow them to certify that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.

Sincerely,

/s/ R. Emmett McDevitt

R. Emmett McDevitt
Transportation Safety Engineer

Enclosure

cc: Tom Melander, NYSDOT Construction (via e-mail)
Nick Artimovich, FHWA (via e-mail)

OPTION 1: 1/4" FLAT PLATE CROSS BRACE

BASE DESIGN

- 1 1/2" 14 Ga 48" LONG TELES PAR
- TL 132 W/ A36 HARDWARE

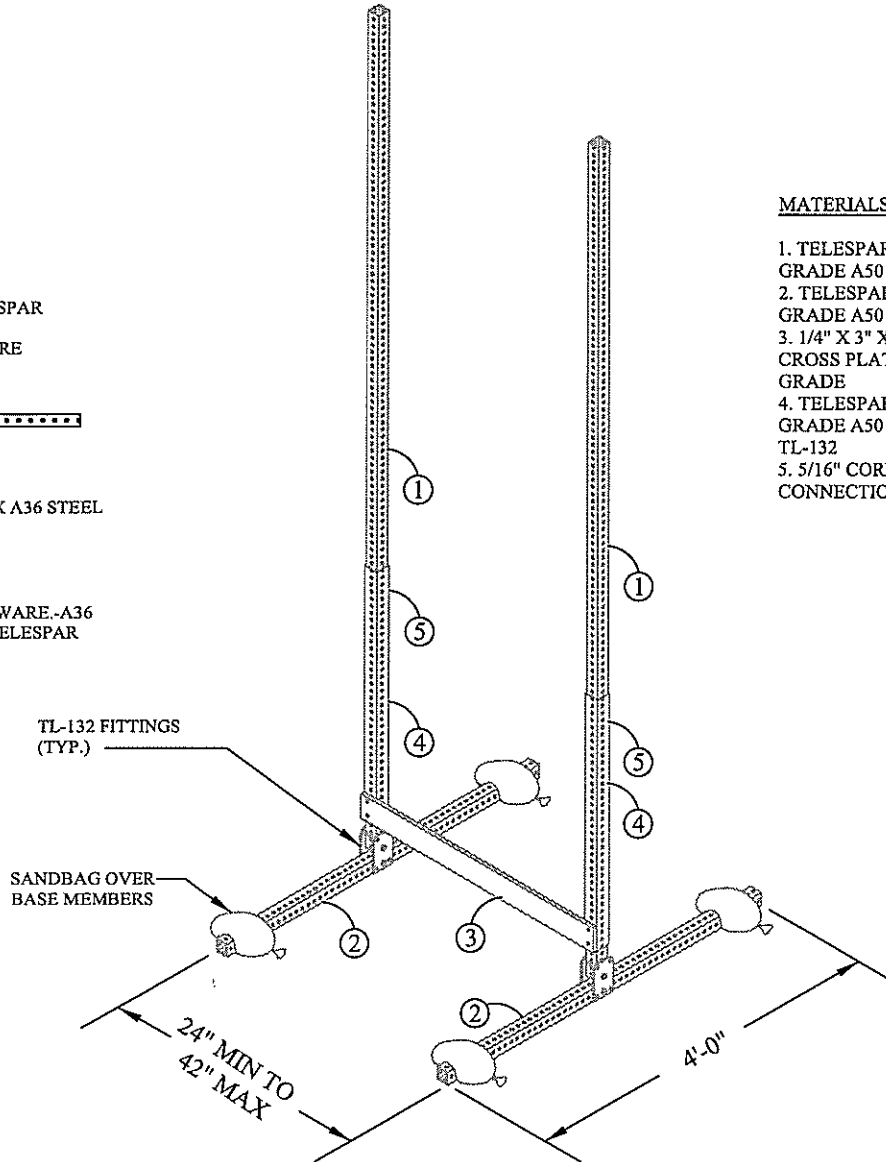


CROSS BRACE

- 1/4" X 3" X 24" MIN - 42" MAX A36 STEEL CROSS PLATE
- HOLES TO FIT 5/16" HARDWARE - A36 GRADE SPACED TO FIT TELES PAR

MATERIALS LIST

1. TELES PAR 1-3/4" 14 GAUGE TUBING GRADE A50 STEEL
2. TELES PAR 1-3/4" 14 GAUGE TUBING GRADE A50 STEEL
3. 1/4" X 3" X 24" MIN - 42" MAX A36 STEEL CROSS PLATE NO MORE THAN 2' ABOVE GRADE
4. TELES PAR 2" X 3' 12 GAUGE TUBING GRADE A50 STEEL STARTING 6" ABOVE TL-132
5. 5/16" CORNER BOLT AND JAM NUT CONNECTION



TYPICAL 10'/12' TELES PAR YIELDING BREAKAWAY ASSEMBLY WITHOUT SIGN

DUAL POST SIGN STAND FOR 36"/48" PLYWOOD, ALUMINUM AND CHLOROPLAST CONSTRUCTION SIGNS



A Division of Eberl Iron Works, Inc.

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Tel: 716-854-7633 • 1-800-285-3056 • Fax: 716-854-1184

OPTION 2: 1-3/4" TUBULAR CROSS BRACE

BASE DESIGN



- 1 1/2" 14 Ga 48" LONG TELES PAR
- TL 132 W/ A36 HARDWARE

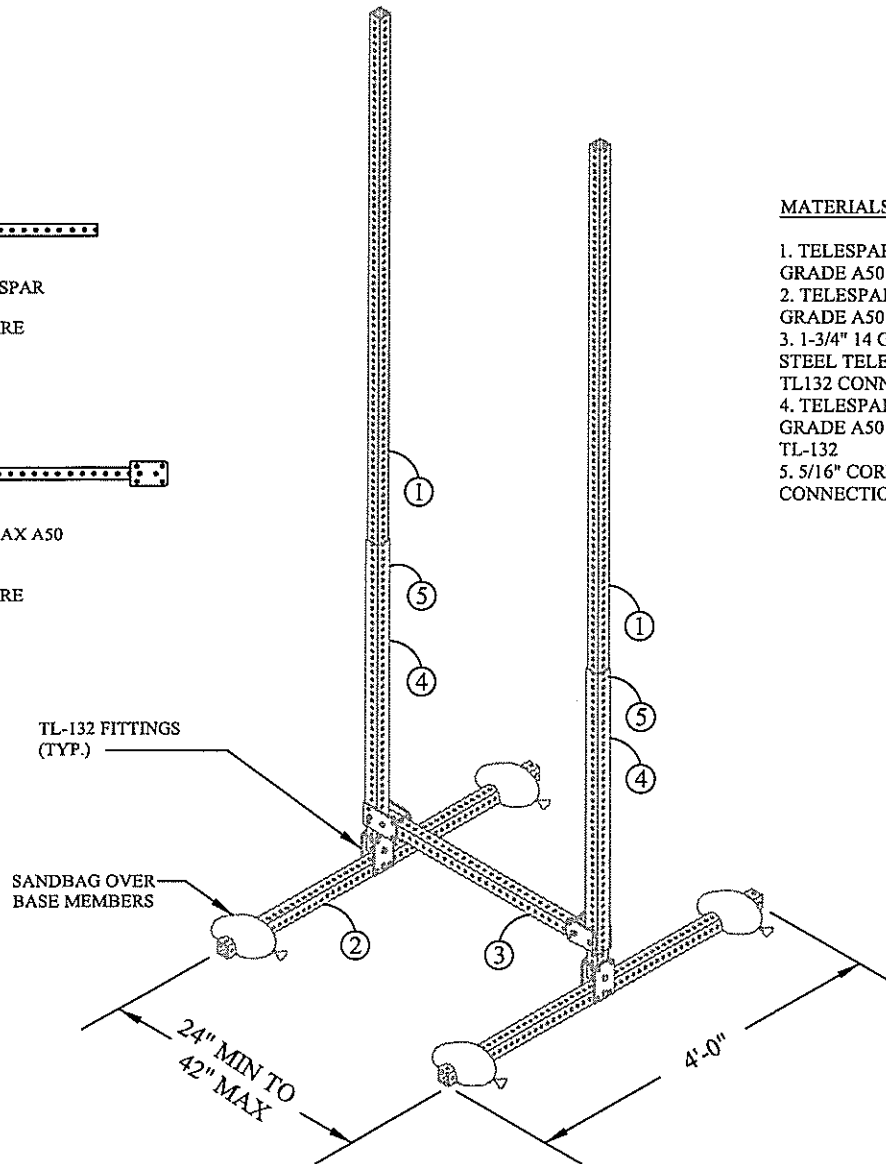
CROSS BRACE



- 1 3/4" 14 GA 24" MIN - 42" MAX A50 STEEL TELES PAR
- TL 132 W/ A36 HARDWARE

MATERIALS LIST

1. TELES PAR 1-3/4" 14 GAUGE TUBING GRADE A50 STEEL
2. TELES PAR 1-3/4" 14 GAUGE TUBING GRADE A50 STEEL
3. 1-3/4" 14 GA 24" MIN - 42" MAX A50 STEEL TELES PAR CROSS BRACE WITH TL132 CONNECTION.
4. TELES PAR 2" X 3' 12 GAUGE TUBING GRADE A50 STEEL STARTING 6" ABOVE TL-132
5. 5/16" CORNER BOLT AND JAM NUT CONNECTION



TYPICAL 10'/12' TELES PAR YIELDING BREAKAWAY ASSEMBLY WITHOUT SIGN

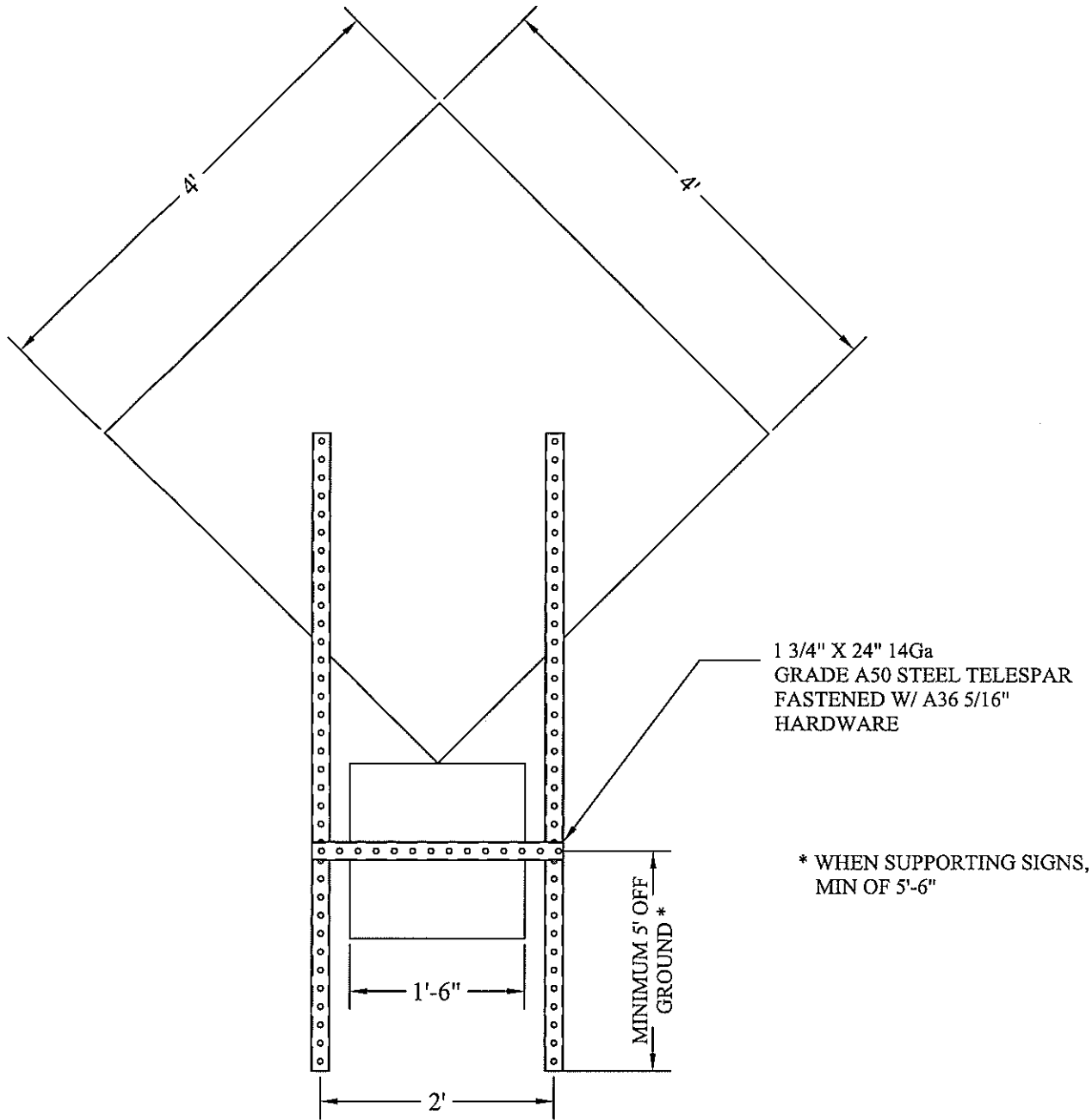
DUAL POST SIGN STAND FOR 36"/48" PLYWOOD, ALUMINUM AND CHLOROPLAST CONSTRUCTION SIGNS



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**OPTIONAL TUBULAR UPPER CROSS
BRACE FOR TUBULAR SIGN STAND**

DUAL POST SIGN STAND FOR 36"/48" PLYWOOD, ALUMINUM
AND CHLOROPLAST CONSTRUCTION SIGNS

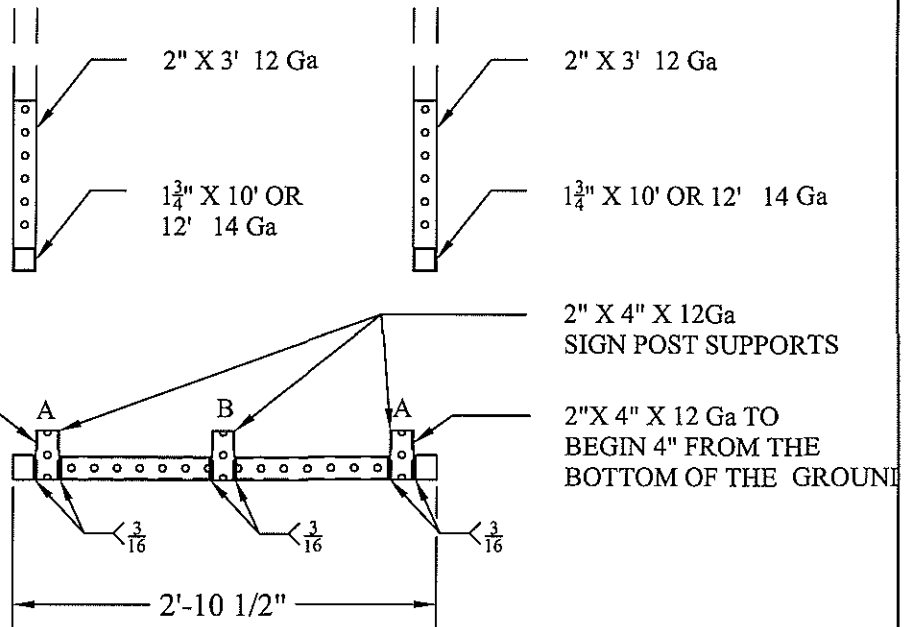


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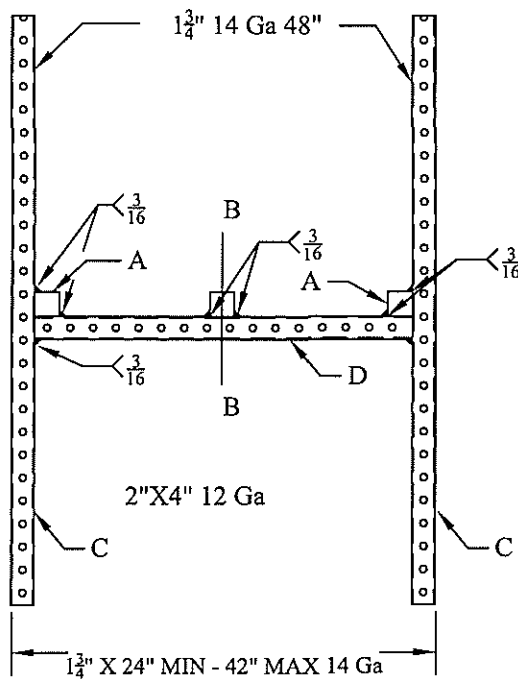
WELDED TUBULAR
SIGN SKID STAND
AND UPRIGHT POSTS



2" X 4" X 12 Ga TO
BEGIN 4" FROM THE
BOTTOM OF THE GROUND

2" X 4" X 12Ga
SIGN POST SUPPORTS

2" X 4" X 12 Ga TO
BEGIN 4" FROM THE
BOTTOM OF THE GROUND



A. DOUBLE SIGN POST
SUPPORTS
2" 12 GA X 4" HIGH GRADE
A50 STEEL TELESPAR
B. SINGLE POST SUPPORTS

BOTH W/ 1 3/4" 14 Ga POST W/
12 Ga 2" X 36" NESTED TO
REINFORCE UPRIGHTS

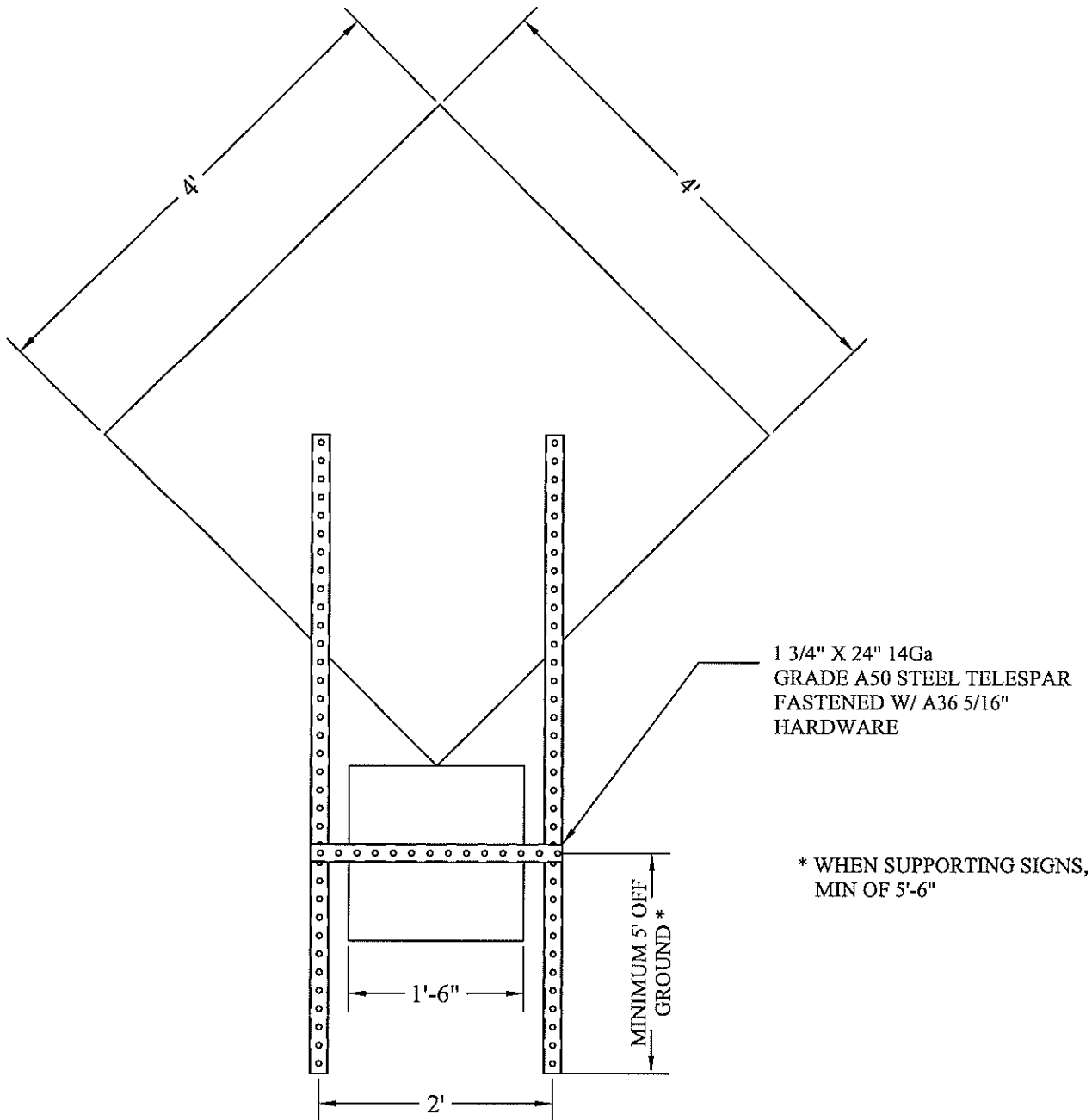
C. 1-3/4" 14 GA X 48" GRADE A50
STEEL TELESPAR H FRAME SUPPORT
D. 1-3/4" 14 GA X 24" MIN - 42" MAX
GRADE A50 STEEL



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OPTIONAL TUBULAR UPPER CROSS BRACE FOR TUBULAR SIGN STAND

DUAL POST SIGN STAND FOR 36"/48" PLYWOOD, ALUMINUM
AND CHLOROPLAST CONSTRUCTION SIGNS



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16F12 TUBING (TYP.)

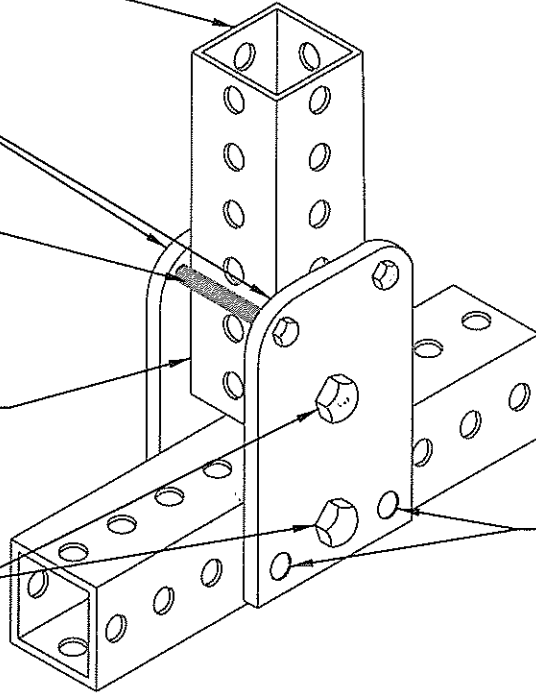
2 PCS. #TL-132
SHEAR PIN
PLATE FITTINGS

2 PCS. 1/4" x 2 1/2" LG. HEX
HEAD CAP SCREW "SHEAR
PINS" WITH NUTS - LOCATE
ON EITHER SIDE OF
VERTICAL

CUT TELESPAR VERTICAL
MEMBER BETWEEN HOLES
AND ASSEMBLE TO ALLOW
ADEQUATE PIVOT
CLEARANCE

2 PCS. 3/8" x 2 3/4" LG. HEX
HEAD CAP SCREWS WITH NUTS
AND FLAT WASHERS - 1 PC.
THRU HORIZONTAL AND 1 PC.
THRU VERTICAL, WHICH ACTS
AS THE PIVOT PIN

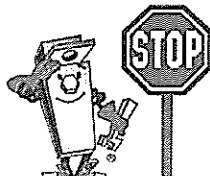
2 TELESPAR LUGS - LOCATE
IN ADJACENT HOLES NEXT
TO THRU HOLE FOR BOLT IN
HORIZONTAL MEMBER



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CUSTOMER	SCALE
CUSTOMER ORDER NO.	DATE
JOB	DRAWING NO.
SHOP ORDER NO.	

TSP and Michigan DOT Tubular Sign Stand Materials 4-6-10

	Michigan DOT	TSP Sign Stand Option 1	TSP Sign Stand Option 2
Uprights			
1-3/4" 14 gauge Telespar** upright 10' or 12'	X	X	X
2" 14 gauge Telespar 3' nesting support (as written in 553 report)	X		
2" 12 gauge Telespar 3' nesting support *	X	X	X
5/16" corner bolt and nut connection for 2" and 1-3/4" nesting		X	X
Cross Brace			
1-3/4" 14 gauge Telespar Cross Brace (per 553 design Figure 8.6 on pg 78)	X		X
1/4" plate x 3" A36 Cross brace (found on TSP option 1)		X	
5/16" bolt nut and washer for cross brace plate (4 bolts total)		X	
5/16" x 4" Bolt nut and washer @ crossbrace (2 bolts total)	X		
TL-132 Breakaway Plate connection at cross brace (2 connections total)			X
2" 14 gauge 6" Telespar single post support for non Test level 3 use		X	X
Footer Connection			
TL-132 Breakaway Plate connection at post and footer (2 connections total)		X	X
1-3/4" 14 gauge Telespar x 4' footer		X	X
2" 12 gauge Telespar x 4" stub support (welded to 2" 12 gauge 5' footer)	X		
2" 12 gauge Telespar 5' footer	X		

* 12 gauge is 3/32" thicker than 14 gauge material. 2" 12 gauge was used in the Michigan report although the 553 report calls out 2" 14 gauge. The TSP design used 12 gauge to mirror what was in the Michigan Acceptance letter.

** Telespar is manufactured out of ASTM A1011 Grade 50 steel (50,000 PSI) . The 553 report calls out for ASTM A-446 (33,000psi) Michigan referenced Telespar in their stand detail.