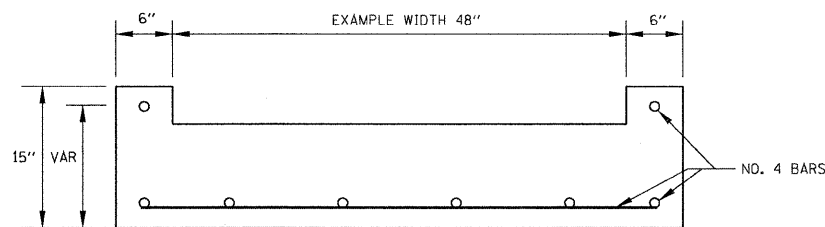


PLAN VIEW FOR HANDRAIL INSTALLATION ON CONCRETE STEPS



STEP CROSS SECTION

HANDRAIL GENERAL NOTES

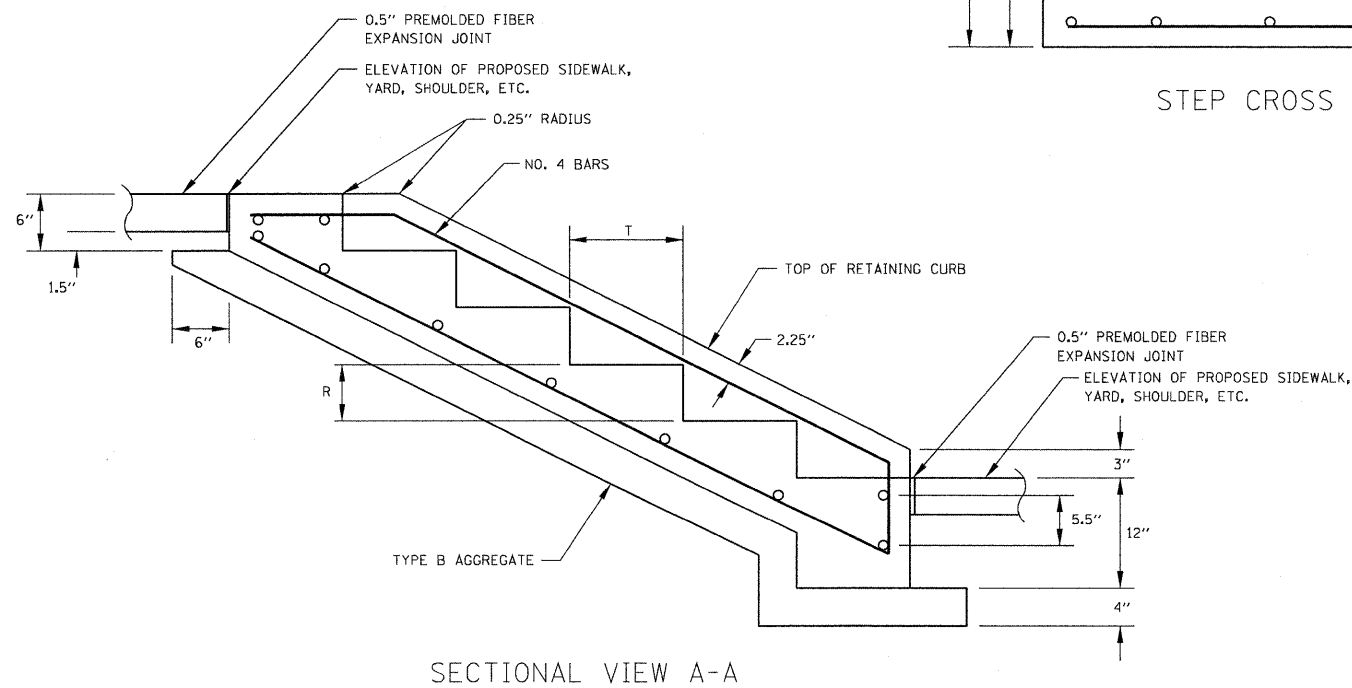
- PIPE HANDRAIL IS TO BE PAINTED BLACK IN COLOR AND ADHERE TO FEDERAL SPECIFICATION TT-E-489H
- THIS PIPE HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO VEHICULAR IMPACT. FOR VEHICULAR PROTECTION STANDARD GUARD RAIL SHOULD BE USED.
- THE PIPE HANDRAIL SHALL BE REQUIRED WITH FOUR OR MORE STEPS AND WILL MEET THE FOLLOWING CONDITIONS:
  - ON STEPS LESS THAN 44 INCHES WIDE HAVING BOTH SIDES ENCLOSED, AT LEAST ONE HANDRAIL PREFERABLY ON THE RIGHT SIDE DESCENDING.
  - ON STEPS LESS THAN 44 INCHES WIDE HAVING ONE SIDE OPEN, ONE HANDRAIL ON EACH SIDE.
  - ON STEPS LESS THAN 44 INCHES WIDE HAVING BOTH SIDES OPEN, ONE HANDRAIL ON EACH SIDE.
  - ON STEPS MORE THAN 44 INCHES WIDE BUT LESS THAN 88 INCHES WIDE, ONE HANDRAIL ON EACH SIDE.
  - ON STEPS 99 OR MORE INCHES, ONE HANDRAIL ON EACH SIDE, AND ONE INTERMEDIATE HANDRAIL LOCATED APPROXIMATELY MIDWAY OF THE WIDTH.

CONCRETE STEP GENERAL NOTES

- FOR SPECIFICATIONS SEE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.
- CONCRETE STEPS MAY BE CAST IN PLACE OR PRECAST. ALL CONCRETE CAST IN PLACE TO BE CLASS "A". ALL PRECAST TO BE 4000 POUNDS PER SQUARE INCH.
- ALL EXPOSED EDGES ARE TO BE ROUNDED USING A QUARTER INCH RADIUS.
- THE TREAD IS TO BE ELEVEN TO FIFTEEN INCHES DEEP. THE RISER HEIGHT IS TO BE VARIED SO AS TO CONFORM TO THE PROPOSED SLOPE. A MAXIMUM RISER HEIGHT OF SEVEN INCHES IS NOT TO BE EXCEEDED.
- CONCRETE JOINT MATERIAL TO BE 0.5" PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF THE STANDARD SPECIFICATIONS. COST OF JOINT MATERIAL WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- ALL REINFORCING STEEL TO ADHERE TO SPECIFICATION ASTM A 615. ALL REINFORCING STEEL TO BE NO. 4 BARS.
- THE COST OF EXCAVATION BELOW LEVEL ON PROPOSED SLOPE TO BE INCLUDED IN THE COST OF OTHER ITEMS.

LEGEND

H: 34" MIN, 38" MAX  
R: 4" MIN, 7" MAX  
T: 11" MIN, 15" MAX



FILE NAME = P:\Projects\513501\CA00\DCN\0876830-shd	USER NAME = default details.dgn	DESIGNED - DRAWN -	REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STANDARD CONCRETE STEPS AND PIPE HANDRAILS DETAILS</b>	F.A.P. RTE. 600	SECTION 60-(30,31,128)-1	COUNTY MADISON/ST. CLAIR	TOTAL SHEETS 399	SHEET NO. 240		
PLOT SCALE = 20.0000' / IN.	CHECKED -	REVISED -	SCALE: N/A			SHEET NO. 1 OF 2 SHEETS	STA. N/A TO STA. N/A	CONTRACT NO. 76830				
PLOT DATE = 10/12/2009	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									