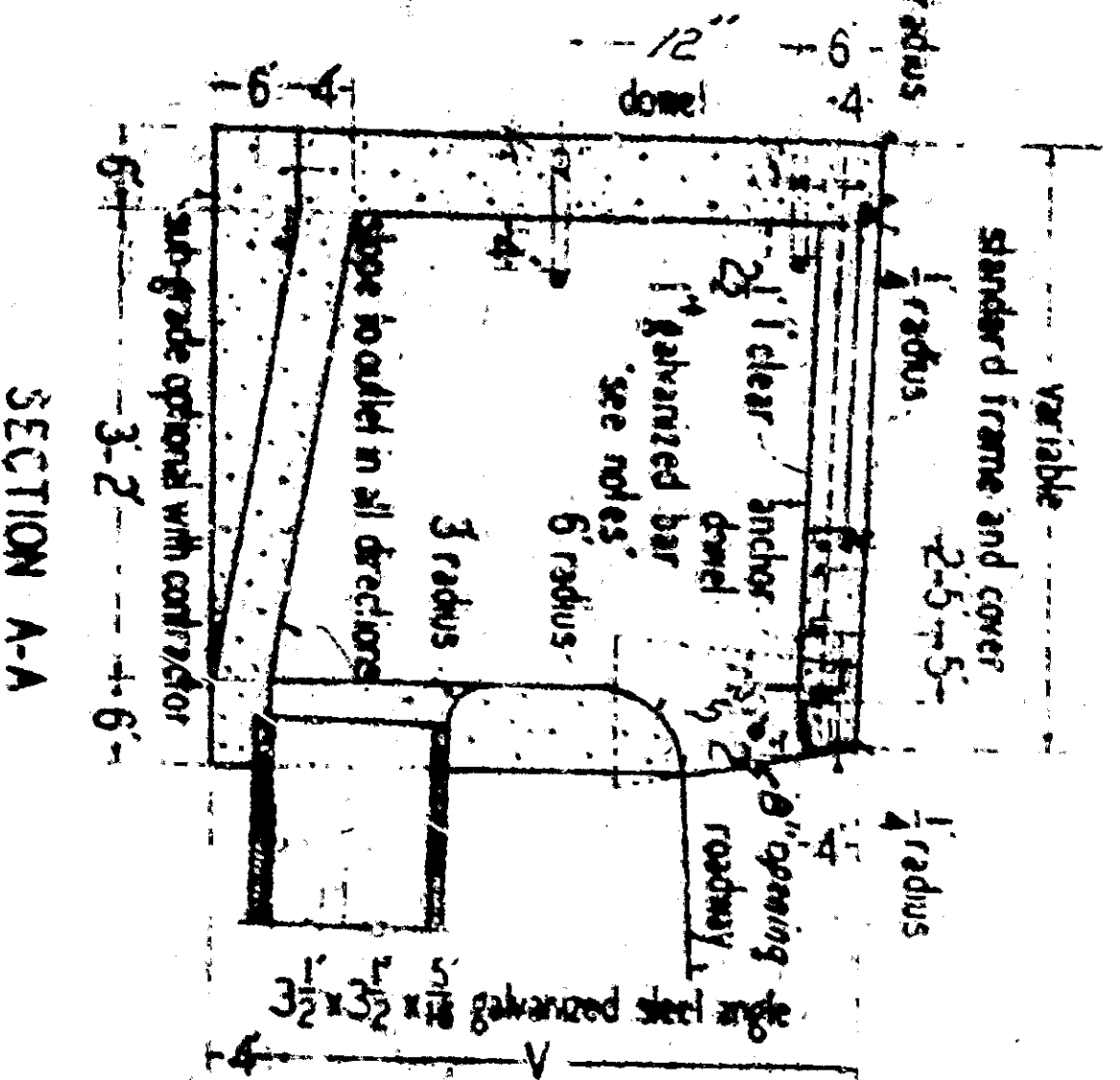
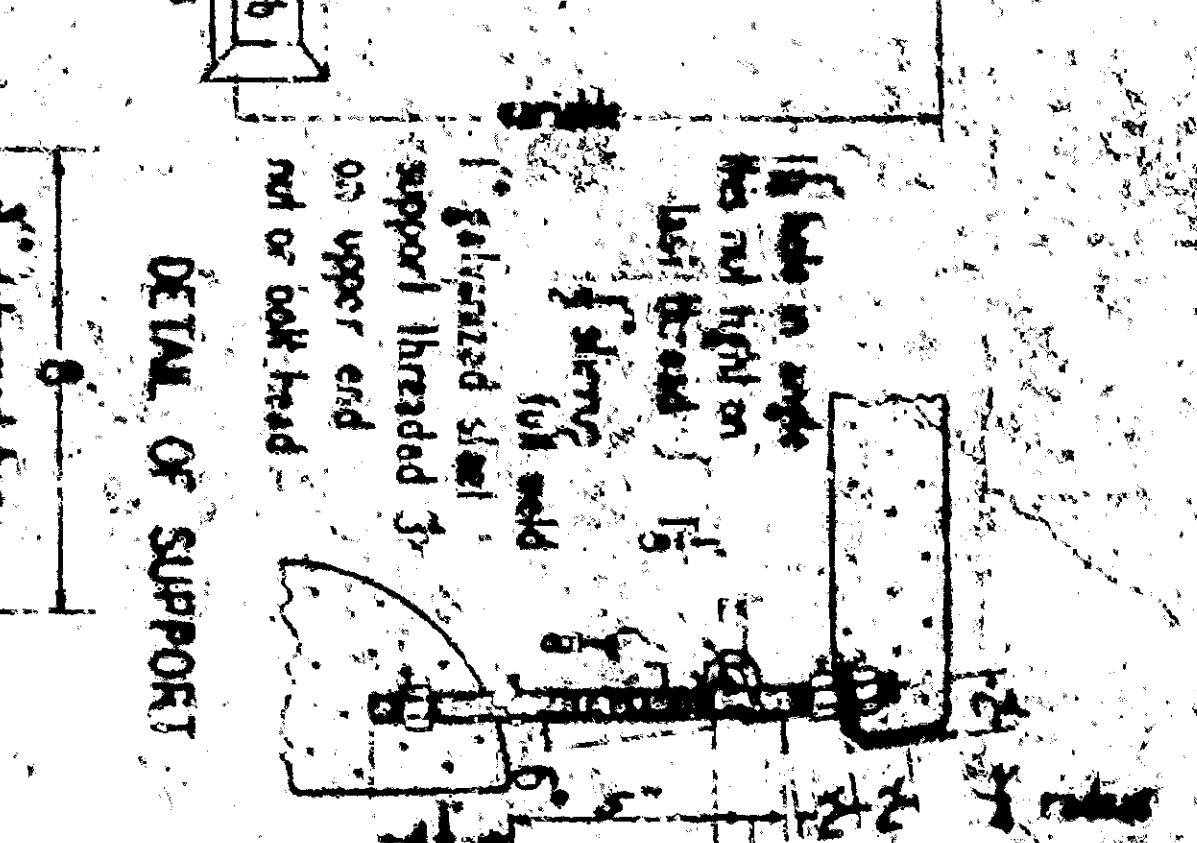
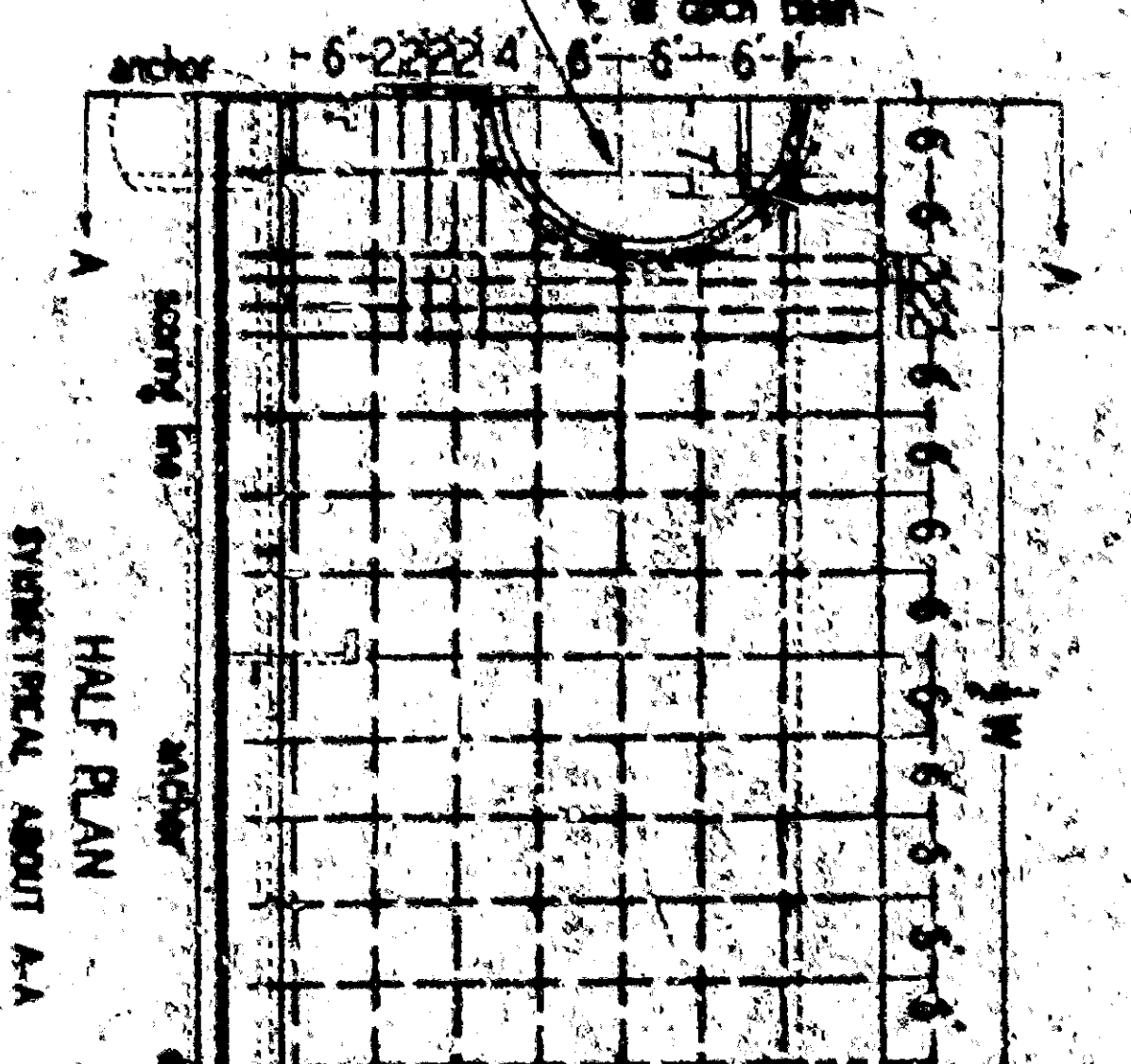
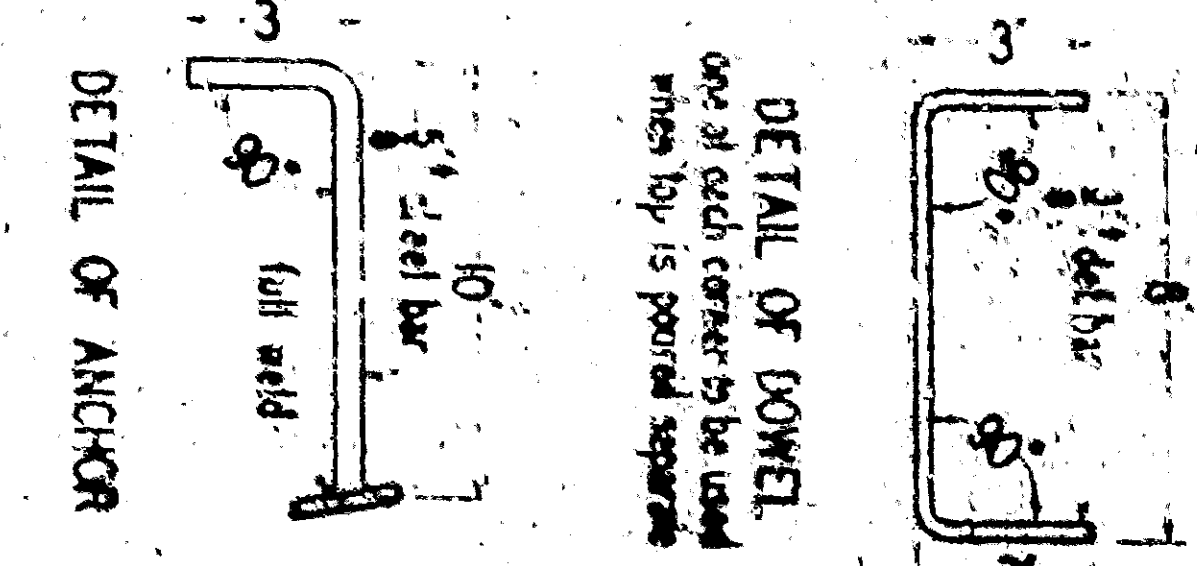
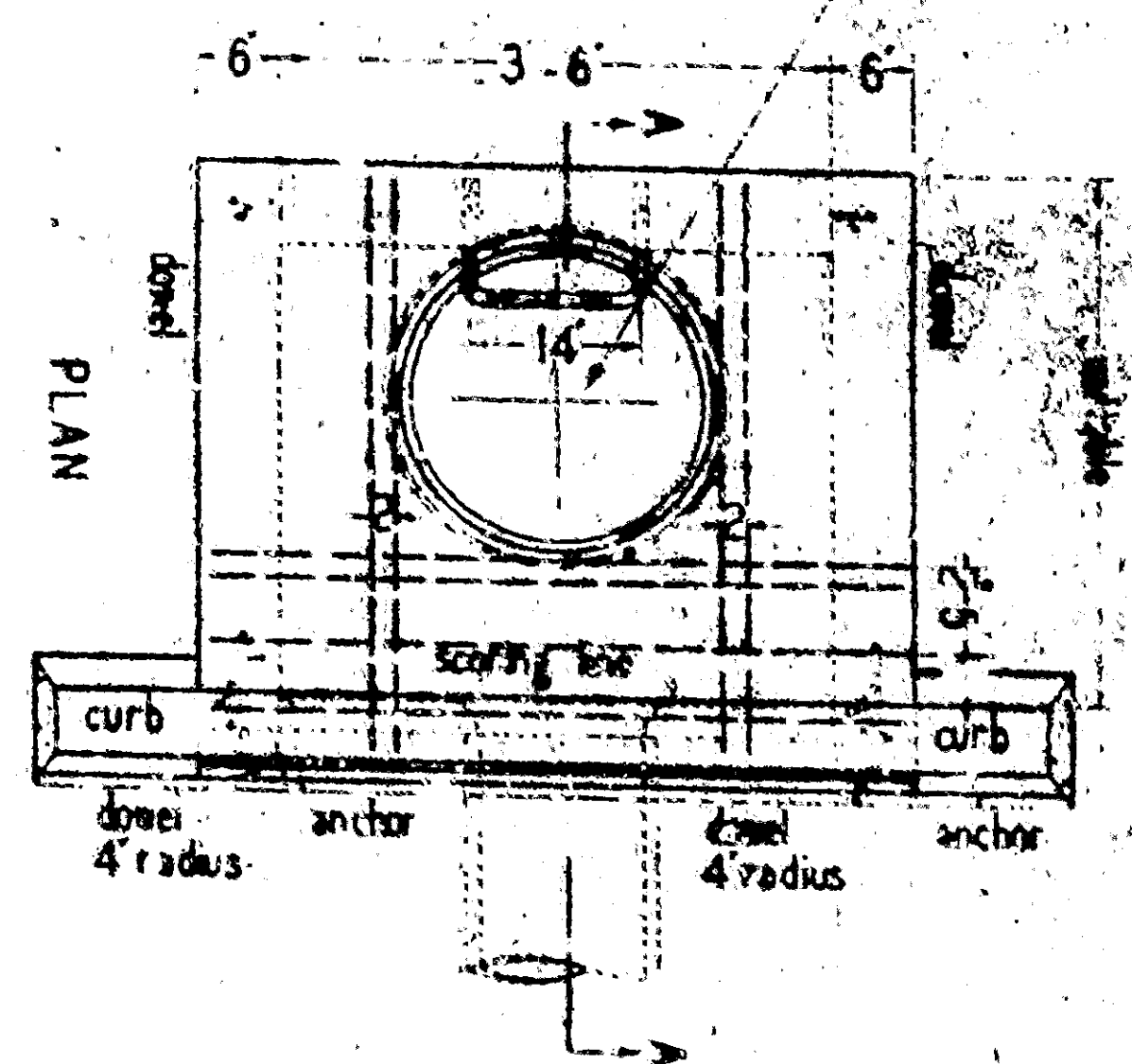


GENERAL NOTES

CATCH BASINS

- CONCRETE** used in catch basins shall be in accordance with General Specifications of the City of San Bernardino.
- CONNECTION PIPES** may be placed in any position around the walls provided they point in the proper direction and the position is otherwise consistent with the improvement plan.
- CURVATURE** of the lip and sidewalks of gutter opening shall be formed by curved forms and shall not be made by plastering.
- FLOOR** of basins shall be given a steel frame finish and shall slope from all directions to the outlet. For type B catch basin slope of floor panhole shall be placed along back wall near outlet.
- OUTLET** pipe shall be trimmed to the final shape and length before concrete is poured.
- PROTECTION BARS:** horizontal plain round galvanized steel protection bars shall be used when curb is 5.5 inches or more. Bars shall be embedded 5 inches of each end.
- REINFORCING STEEL** shall be 3/8 inch round deformed bars. Clearance shall be 1 inch from bottom of slab.
- STEPS:** 3/4 inch plain round galvanized steel steps (1/2 inches apart) required when V is greater than 4 feet 6 inches. The top step shall be 6 inches below the surface and shall be 2 1/2 inches from the wall. Only one step required if V is 5 feet 6 inches or less. Steps shall be anchored not less than 5 inches in wall of the basin.
- SUPPORTS:** 1 inch plain round galvanized steel supports shall be placed 7 feet apart. Supports shall be welded 1/2 inch to support when curb rise is 15 inches or more.
- SURFACE** of all exposed concrete shall conform in shape, grade, color, finish, and scoring to existing or proposed curbs and walk adjacent to the basin.

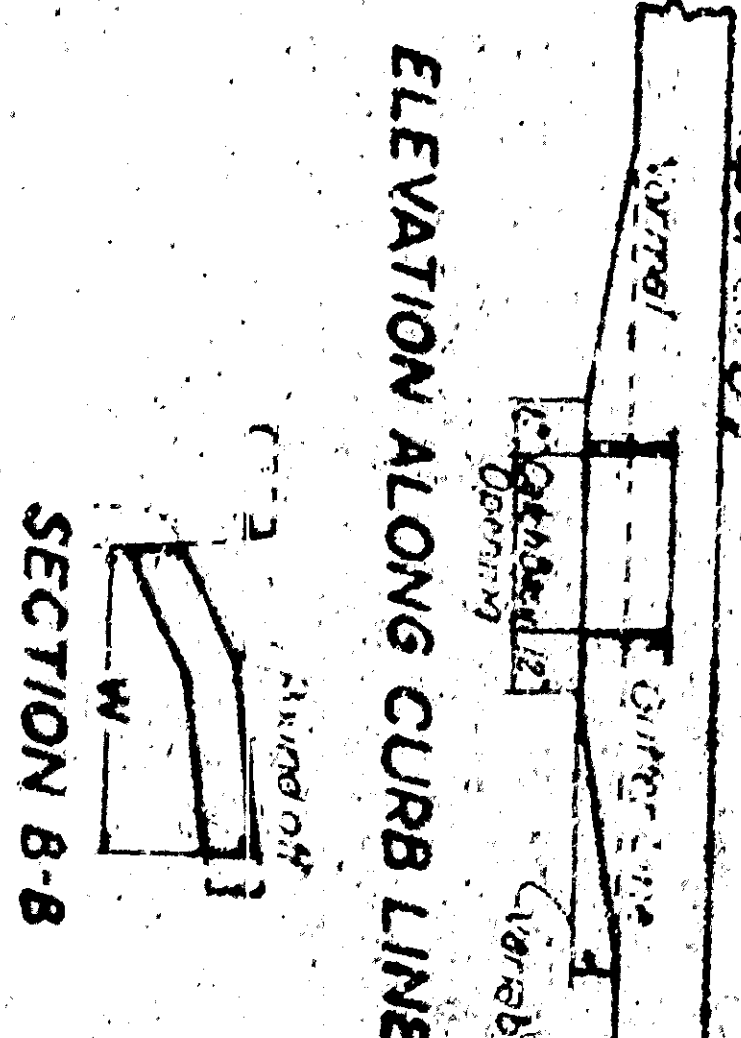
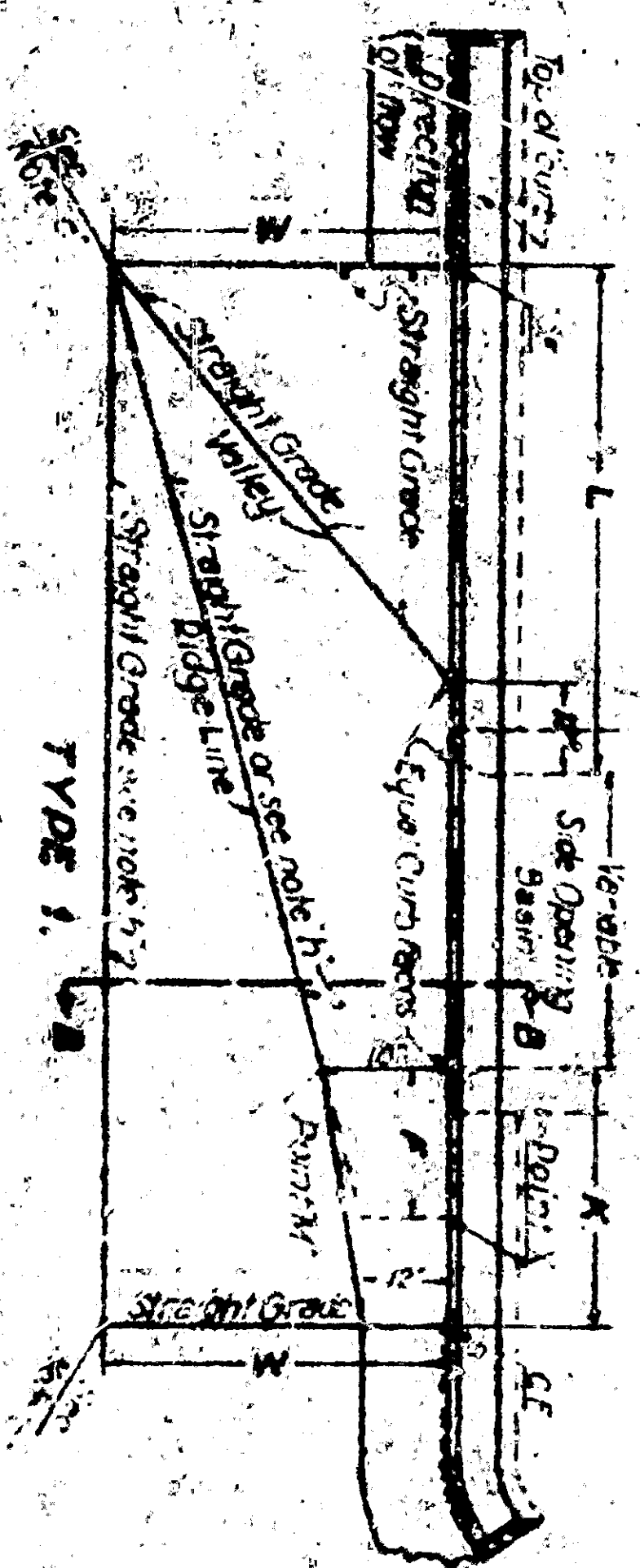


| Item | Description | Quantity |
|------|-------------|----------|
| 1 | 6 #4 bars | 6 |
| 2 | 3 #4 bars | 3 |
| 3 | 4 #4 bars | 5 |
| 4 | 1 #4 bar | 1 |
| 5 | 1 #4 bar | 1 |
| 6 | 1 #4 bar | 1 |
| 7 | 1 #4 bar | 1 |
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| Item | Description | Quantity |
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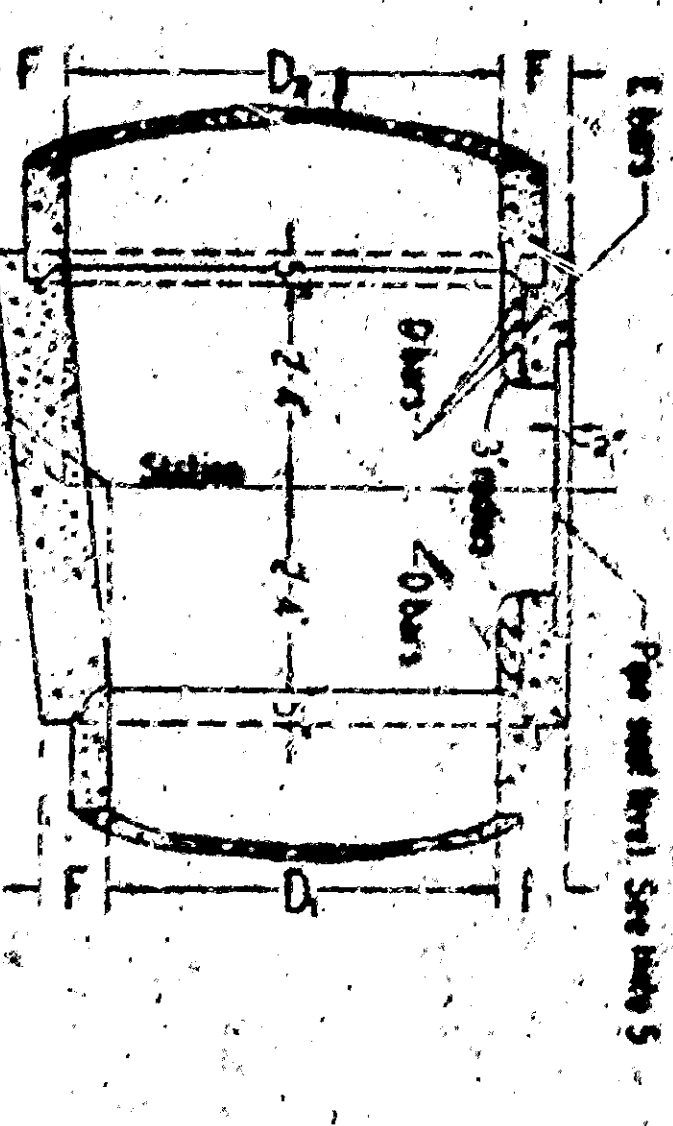
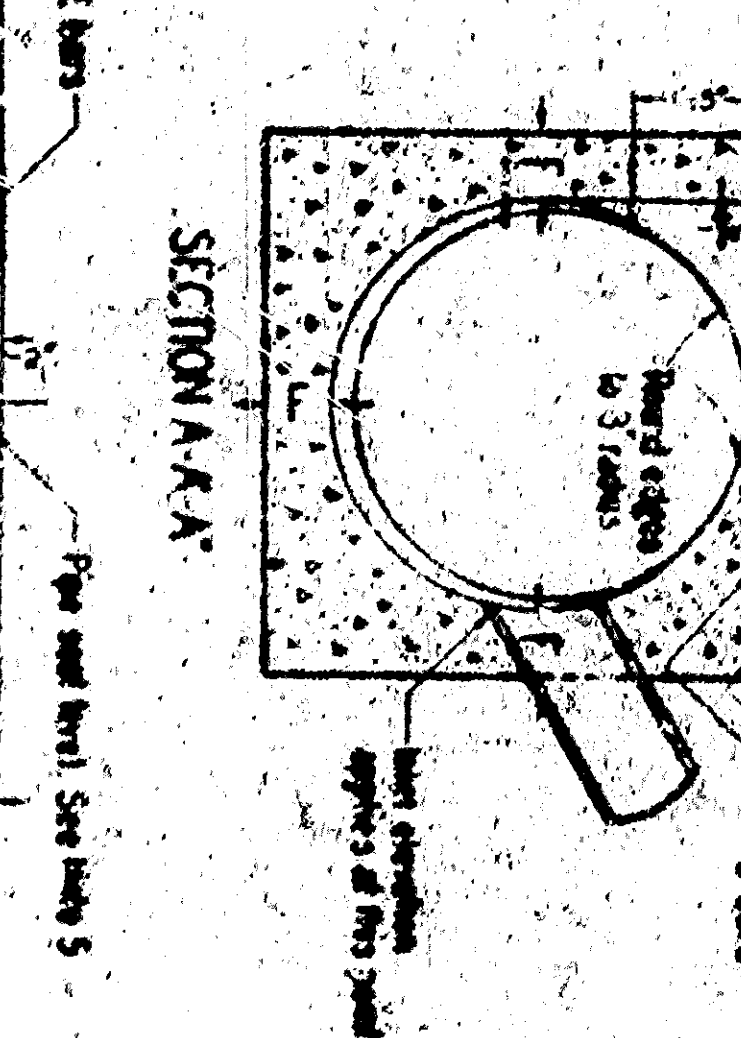
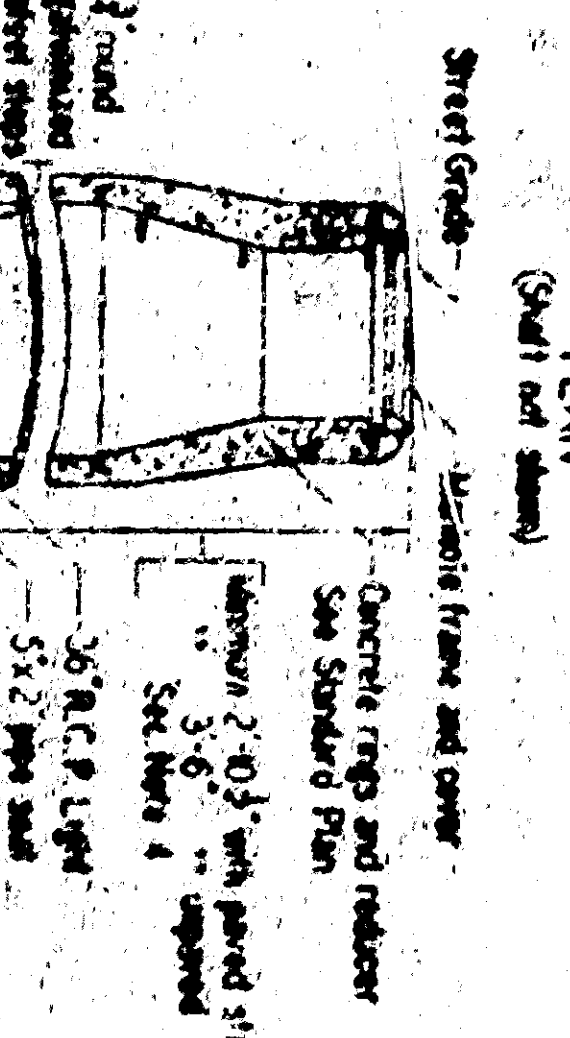
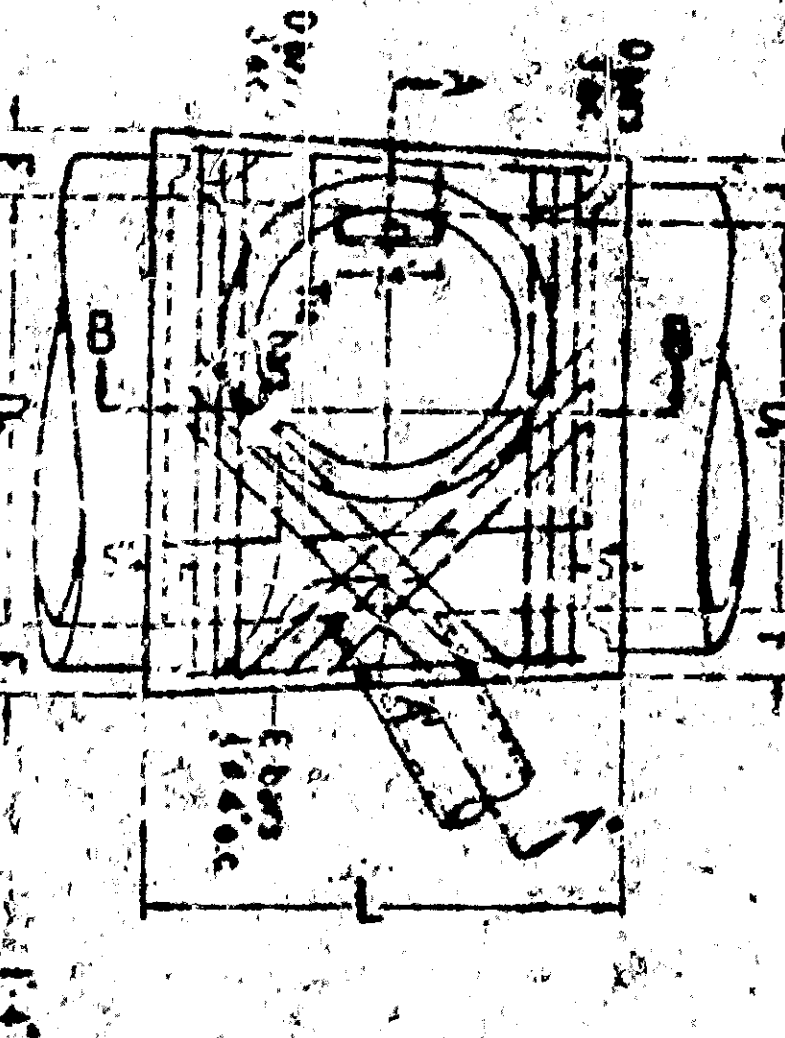
CATCH BASIN "A"

DIMENSIONS: V-3 feet 6 inches unless otherwise specified.



CATCH BASIN "B"

DIMENSIONS: T=6 inches if V is 4 feet or less. T=8 inches if V is between 4 feet and 5 feet. T=10 inches if V is 6 feet or more. V=4 feet unless otherwise specified. W=1/4 feet unless otherwise specified.



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MANHOLES

- CONCRETE** as specified for catch basins.
- CENTER OF MANHOLE SHAFT** shall be located over center line of storm drain when diameter D is 48" or less; in which case above E bars shall be 5'-6" unless shown otherwise in improvement plan. If option of Contractor is to be increased or location of manhole shifted to meet pipe entry.
- DETAIL "M":** When depth of manhole from street grade to top of box is less than 2'-10 1/2" for poured shafts or 3'-6" for upgrades shafts, construction manhole shall be as per Detail "M". The Contractor shall have the option of constructing shaft as per Detail "M" for any depth of manhole. When diameter D is 48" or less, center of shaft shall be located as per Note - Center of Manhole Shaft.
- THICKNESS OF DECK** shall vary when necessary to provide level pipe seat, but shall not be less than tubular holes for "S" shown on manhole plan.
- REINFORCING STEEL** shall be round deformed bars 1/2" clear from face of concrete unless shown otherwise. Sizes and lengths are shown in table below.
- STEPS** shall be 3/4" round galvanized steel and anchored not less than 6 inches in the walls of structure. Unless otherwise shown in spacing above improvement plan. The lowest step shall be not more than 2'-6" above finished ground.
- RINGS, REDUCER, AND PIPE** for access shafts shall be set in manhole and neatly pointed or grouted inside the shaft.
- STATIONS** of manholes shown on improvement plan apply at center of shaft. Elevations shown at stations refer to prolonged vertical grade lines.
- FLOOR** of manhole shall be steel-troweled to finishing line.
- BODY** of manhole shall be poured in one continuous operation, except that the Contractor shall have the option of placing of the springing line a construction joint with a longitudinal keyway.

STEEL TABLE FOR MANHOLES

| D bars | E bars | D bars | E bars |
|--------|--------|--------|--------|
| Depth | Length | Depth | Length |
| 36" | 4'-0" | 36" | 4'-0" |
| 42" | 4'-6" | 42" | 4'-6" |
| 48" | 5'-0" | 48" | 5'-0" |
| 54" | 5'-6" | 54" | 5'-6" |
| 60" | 6'-0" | | |