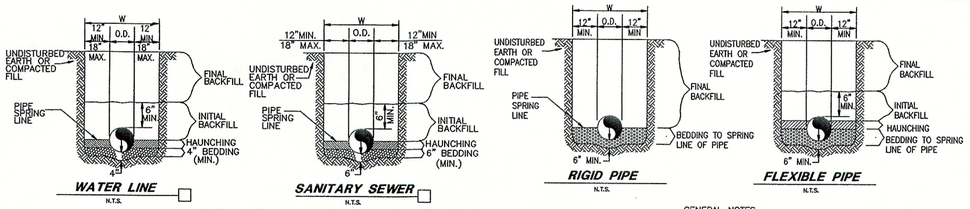



**WATER LINE** N.T.S.

**SANITARY SEWER** N.T.S.

**RIGID PIPE** N.T.S.

**FLEXIBLE PIPE** N.T.S.

GENERAL NOTES

1. BEDDING SHALL BE CLASS I–A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I–B COMPACTED TO 95% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I–A OR CLASS I–B OR CLASS II COMPACTED TO 95% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I–A WORKED BY HAND, OR CLASS I–B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV–A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–89.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.

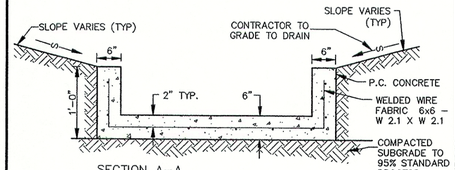
**UTILITY TRENCH AND BEDDING** N.T.S.

GENERAL NOTES

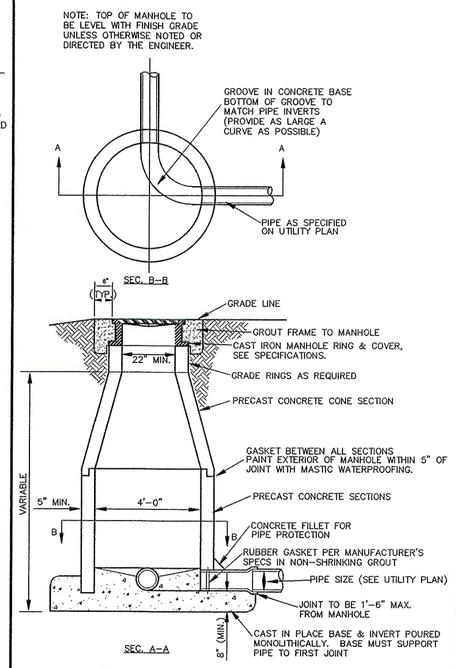
1. BEDDING SHALL BE CLASS I–A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I–B COMPACTED TO 95% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I–A OR CLASS I–B OR CLASS II COMPACTED TO 95% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I–A WORKED BY HAND, OR CLASS I–B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV–A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–LATEST EDITION.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.

**STORM SEWER TRENCH AND BEDDING** N.T.S.

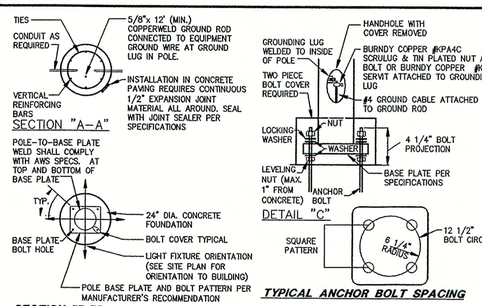
| CLASS | TYPE | SOIL GROUP SYMBOL D2487 | DESCRIPTION |
|---|---|---|---|
| 1A | MANUFACTURED AGGREGATES; OPEN–GRADED, CLEAN | NONE | ANGULAR,CRUSHED STONE OR ROCK, CRUSHED GRAVEL, BROKEN CORAL, CRUSHED SLAG, CINDERS OR SHELLS; LARGE VOID CONTENT, CONTAIN LITTLE OR NO FINES |
| 1B | MANUFACTURED, PROCESSED AGGREGATES; DENSE–GRADED, CLEAN. | NONE | ANGULAR,CRUSHED STONE (OR OTHER CLASS 1A MATERIALS) AND STONE/SAND MIXTURES WITH GRADATIONS SELECTED TO MINIMIZE MIGRATION OF ADJACENT SOILS; CONTAIN LITTLE OR NO FINES (SEEX1.8) |
| II | COARSE–GRAINED SOILS CLEAN | GW | WELL–GRADED GRAVELS AND GRAVEL–SAND MIXTURES; LITTLE OR NO FINES |
| | | GP | POORLY–GRADED GRAVELS AND GRAVEL–SAND MIXTURES; LITTLE OR NO FINES |
| | | SW | WELL–GRADED SANDS AND GRAVELY SANDS; LITTLE OR NO FINES |
| | | SP | POORLY–GRADED SANDS AND GRAVELY SANDS; LITTLE OR NO FINES |
| | COARSE–GRAINED SOILS BORDERLINE CLEAN TO W/ FINES | e.g. GW–GC, SP–SM | SANDS AND GRAVELS WHICH ARE BORDERLINE BETWEEN CLEAN AND WITH FINES |
| III | COARSE–GRAINED SOILS WITH FINES | GM | SILTY GRAVELS, GRAVEL–SAND–SILT MIXTURES |
| | | GC | CLAYEY GRAVELS, GRAVEL–SAND–CLAY MIXTURES |
| | | SM | SILTY SANDS, SAND–SILT MIXTURES |
| | | SC | CLAYEY SANDS, SAND–CLAY MIXTURES |
| IV–A | FINE–GRAINED SOILS (INORGANIC) | ML | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY |
| | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| IV–B | FINE–GRAINED SOILS (INORGANIC) | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS |
| | | CH | INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS. |
| V | ORGANIC SOILS | OL | ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | | OH | ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS |
| | HIGHLY ORGANIC | PT | PEAT AND OTHER HIGH ORGANIC SOILS. |




**CONCRETE FLUME** N.T.S.



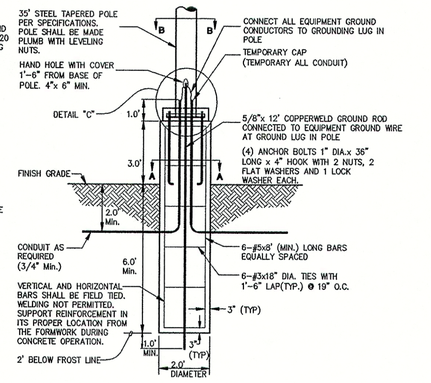

**PRE-CAST SANITARY SEWER MANHOLE** N.T.S.



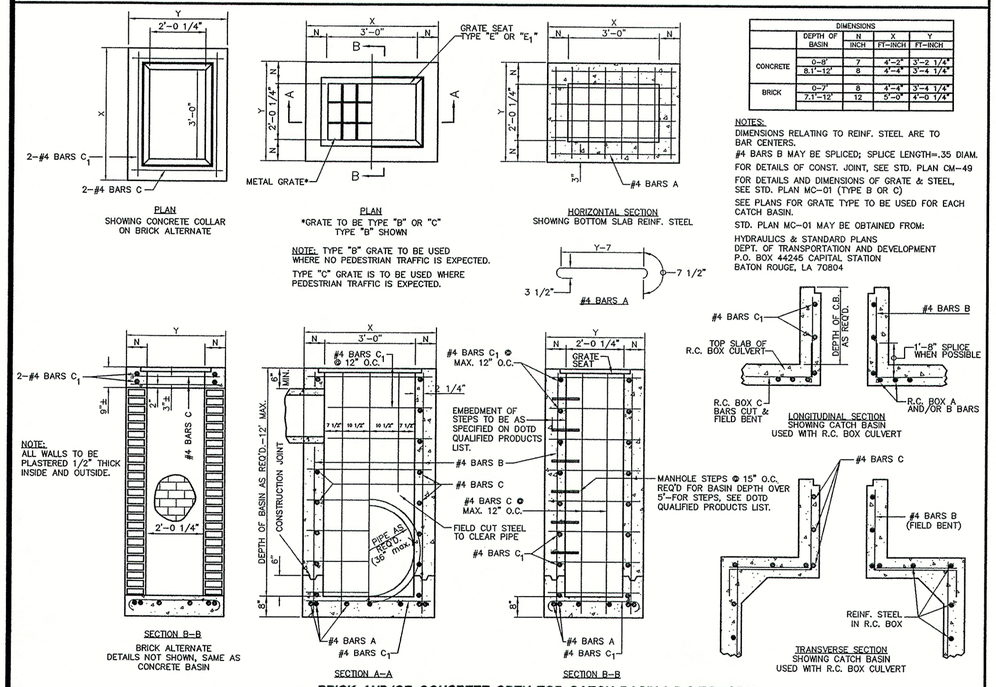

**SECTION "B-B"**




**TYPICAL ANCHOR BOLT SPACING**




**TYPICAL LIGHTING POLE BASE DETAIL** N.T.S.

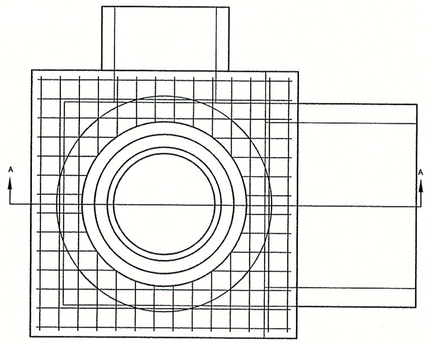


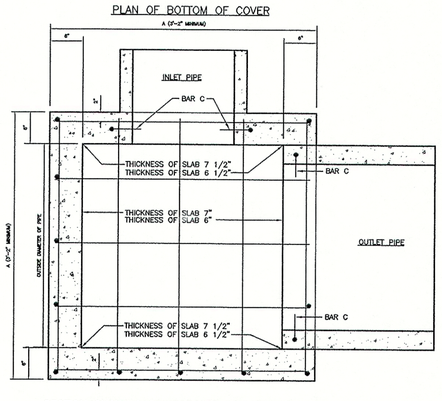

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | DEPTH OF BASIN | N INCH | X FT–INCH | Y FT–INCH |
| CONCRETE | 0'–8" | 7 | 4'–2" | 3'–2 1/4" |
| | 8.1'–12' | 8 | 4'–4" | 3'–4 1/4" |
| BRICK | 0'–7' | 8 | 4'–4" | 3'–4 1/4" |
| | 7.1'–12' | 12 | 5'–0" | 4'–0 1/4" |

NOTES:
DIMENSIONS RELATING TO REINF. STEEL ARE TO BAR CENTERS.
#4 BARS B MAY BE SPLICED; SPLICE LENGTH=.35 DIAM.
FOR DETAILS OF CONST. JOINT, SEE STD. PLAN CM–49
FOR DETAILS AND DIMENSIONS OF GRATE & STEEL, SEE STD. PLAN MC–01 (TYPE B OR C)
SEE PLANS FOR GRATE TYPE TO BE USED FOR EACH CATCH BASIN.
STD. PLAN MC–01 MAY BE OBTAINED FROM:
HYDRAULICS & STANDARD PLANS
DEPT. OF TRANSPORTATION AND DEVELOPMENT
P.O. BOX 44245 CAPITAL STATION
BATON ROUGE, LA 70804

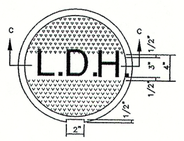


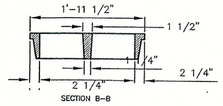

**BRICK AND/OR CONCRETE OPEN TOP CATCH BASIN L.D.O.T.D. CB-01** N.T.S.



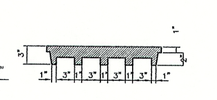




**STANDARD PLAN RC MANHOLES L.D.O.T.D. R-CB-11** N.T.S.
36" MAXIMUM PIPE CONNECTION

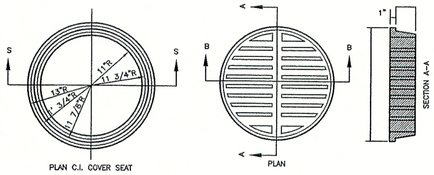


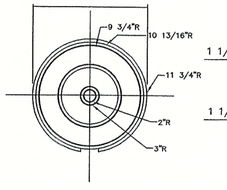



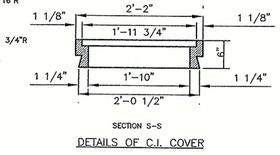

DETAILS OF (H20–44) C.I. GRATE TYPE COVER




DETAILS OF C.I. COVER

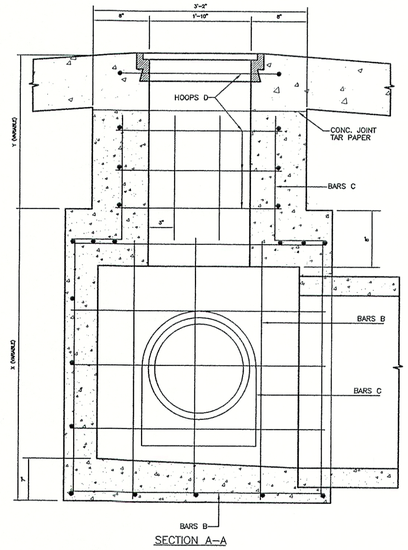



DETAILS OF C.I. COVER

| BILL OF MATERIALS FOR ONE MANHOLE | | | | X = 4'–2" (AS DETAILED) | |
|---|---|---|---|---|---|
| MARK | SIZE | SPACING | NO. REQUIRED | UNIT LENGTH | UNIT LENGTH |
| BARS A | 1/2" | APPROX. 11" | 10 | A–3" | LONGITUDINAL AND TRANSVERSE IN BOTTOM SLAB |
| BARS A | 1/2" | APPROX. 11" | DEPENDING ON WIDTH & SIZE OF PIPES | A–3" | LONGITUDINAL AND TRANSVERSE IN WALLS OF BOX |
| BARS A | 1/2" | 3" | DEPENDING ON WIDTH & SIZE OF PIPES | A–3" | LONGITUDINAL AND TRANSVERSE IN TOP SLAB OF BOX |
| BARS B | 1/2" | APPROX. 11" | DEPENDING ON WIDTH & SIZE OF PIPES | SEE BENDING DIAGRAM | VERTICAL IN WALLS OF BOX |
| HOOPS C | 1/2" | | 1 EACH PIPE | SEE BENDING DIAGRAM | AROUND EACH PIPE AS SHOWN |
| HOOPS D | 1/2" | 9" MIN. | 9 MIN. | 3'–7" | HOOPS IN WALLS OF CYLINDER |
| BARS E | 1/2" | 30" RADIUS | 12 | Y + 4 1/2" – PVL THICKNESS | VERTICAL IN WALLS OF CYLINDER |
| 1 CAST IRON COVER SEAL WEIGHING APPROXIMATELY 161 POUNDS | | | | | |
| 1 CAST IRON COVER WEIGHING APPROXIMATELY 205 POUNDS | | | | | |





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CITY OF BOUTTE
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FOR THE SPECTRA GROUP, INC.
MEMPHIS ,TENNESSEE

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| CHECKED | THB |
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| SCALE | AS SHOWN |
| PROJECT NO. | 07-205 |
| FILE: | 07-205 D1 |
| SHEET | C-8 |

# DETAIL SHEET