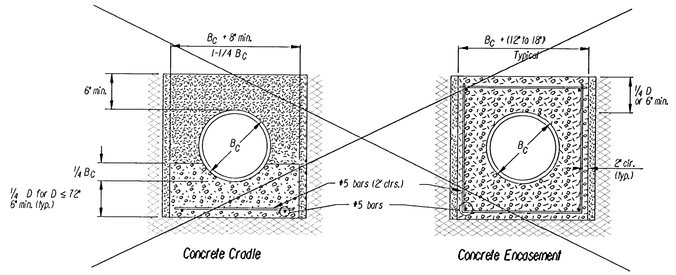
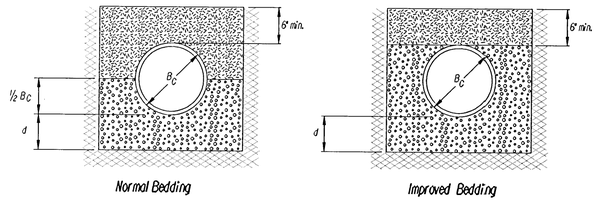
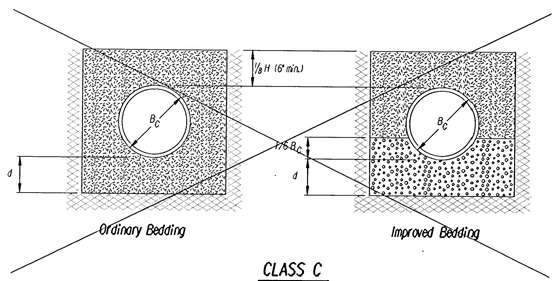
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
618-34	1998	62	169



CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

B_C = Outside Pipe Diameter

H = Backfill from Top of Pipe to Existing Ground

D = Inside Pipe Diameter

d = Depth of Bedding Material Below Pipe

= Granular Bedding Material or Sand-Gravel Bedding

= Compacted Embedment

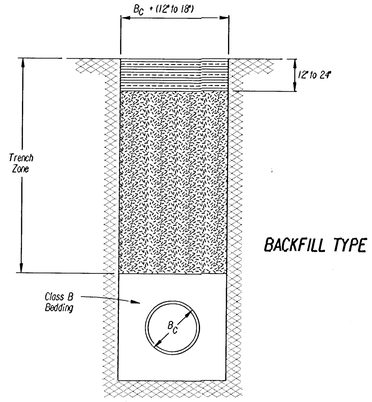
= Concrete

Depth of Bedding Material Below Pipe		
D	d(min) Soil	d(min) Rock
27" & smaller	4"	6"
30" to 60"	5"	9"
66" & larger	6"	12"

Granular Bedding Material shall be an approved material consisting of durable crushed rock conforming with the requirements of the latest revision of ASTM C-33 Size No. 67 (3/4" to No. 4); to be placed in not more than 6" layers and compacted by slicing with a shovel or vibrating. Soundness, abrasion, and absorption limits shall be as required for coarse aggregates in Subsection 1108 of the specifications.

Sand-Gravel Bedding Material - sand-gravel mix meeting Type UD-1 of the 1990 Kansas Standard Specifications for State Road and Bridge Construction.

Compacted Embedment shall be an approved sand material free from debris, organic material, and stones with 100% passing the 1/4" sieve to be placed in uniform layers not more than 6" thick and compacted to 98 percent density as determined by ASTM D698. Granular Bedding Material may be substituted for all or part of Compacted Embedment Materials.



BACKFILL TYPE I

B_C = Outside Pipe Diameter

= Compacted Granular Backfill

= Compacted Earth Backfill

Compacted Granular Backfill material shall be an approved sand material free from debris, organic material and stones with 100% passing the 3/4" sieve and not more than 15% passing a No. 200 sieve; to be jetted and mechanically vibrated into place and compacted to 98% density as determined by ASTM D698.

Compacted Earth Backfill shall consist of material existing prior to trenching or selected material as directed by the Engineer, and shall be compacted to 98% density as determined by ASTM D698.

All storm sewer and drainage conduits shall be compacted to either Type I or Type III compaction requirements. This work shall be Subsidiary to the various conduit bid items.

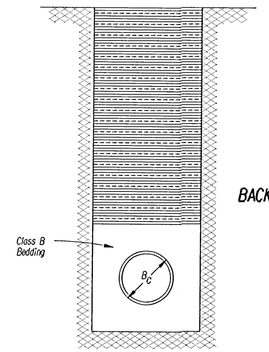
Backfill: Backfill material and compaction requirements shall conform to either Type I or Type III. One years maintenance will be required on all backfill.

Backfilling Through Rock: Backfilling through rock shall be performed as specified in the paragroph Backfill above, except that the Pipe Zone is increased to provide eighteen (18) inches of cover over the pipe. When approved by the Engineer the remainder of the backfill may be excavated rock provided the excavated rock has been broken up so that earth and rock will thoroughly mix and not result in voids around the larger pieces of rock. Any excess rock remaining after the trench has been backfilled shall be removed or wasted as directed by the Engineer.

Backfilling Under Pavement: Backfilling under existing or proposed pavement shall be performed as Backfill Type I or Type III to a level of two (2) feet from the bottom of the pavement. The remainder of the trench shall be backfilled with selected material, sufficiently damp to be properly compacted in layers not exceeding six (6) inches in depth. Compaction shall be performed with mechanical tampers and continued until a relative density of 98 percent of standard density, in conformance with ASTM D698 is attained.

Backfilling Under Gravel Streets: Where the trench crosses or is in existing gravel surfaced streets, the backfill shall be compacted as provided in the paragroph "Backfilling Under Pavement".

Note: All storm sewer conduits on this project installed under proposed pavement shall be backfilled with Low Strength Flowable Fill to a depth of two (2) feet from the bottom of the pavement.



BACKFILL TYPE III

TRENCH ZONE BACKFILLING

No.	Revisions	By	Date
1			

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES

STORM SEWER BACKFILL DETAILS

PROJECT NO. 618-34 SEDGWICK COUNTY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	WDH	Checked by	WDH
Drawn by	DJW/MAF	Date JULY 1997	Job No. 95297-2

i:/1995/95297/002/standard/backfill.dgn
Plotted by: DJW 11-5-97