

CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

STREET IMPROVEMENTS

HARRY COURT
N. L. HARRY STREET TO AND INCL. CUL-DE-SAC
(SPRING LAKE ADDITION)

PROJ. NO. 472-76-245-80964-000-000-001

APRIL, 1985

INDEX OF SHEETS

- 1 Title Sheet
- 2 Typical Section
- 3 Street Plan Sheet
- 4 Storm Sewer Plan & Profile - RCP Alternate
- 5 Storm Sewer Plan & Profile - CMP Alternate
- 6 Standard Drive Entrances
- 7 Standard Type 1A Curb Inlet (10'-0")
- 8 Standard Type 1A Curb Inlet (5'-0")
- 9 Special Type "B" Manhole
- 10 Manhole Frame & Cover Details
- 11 R.C. Headwall & Riprap Details
- 12-13 Cross Sections

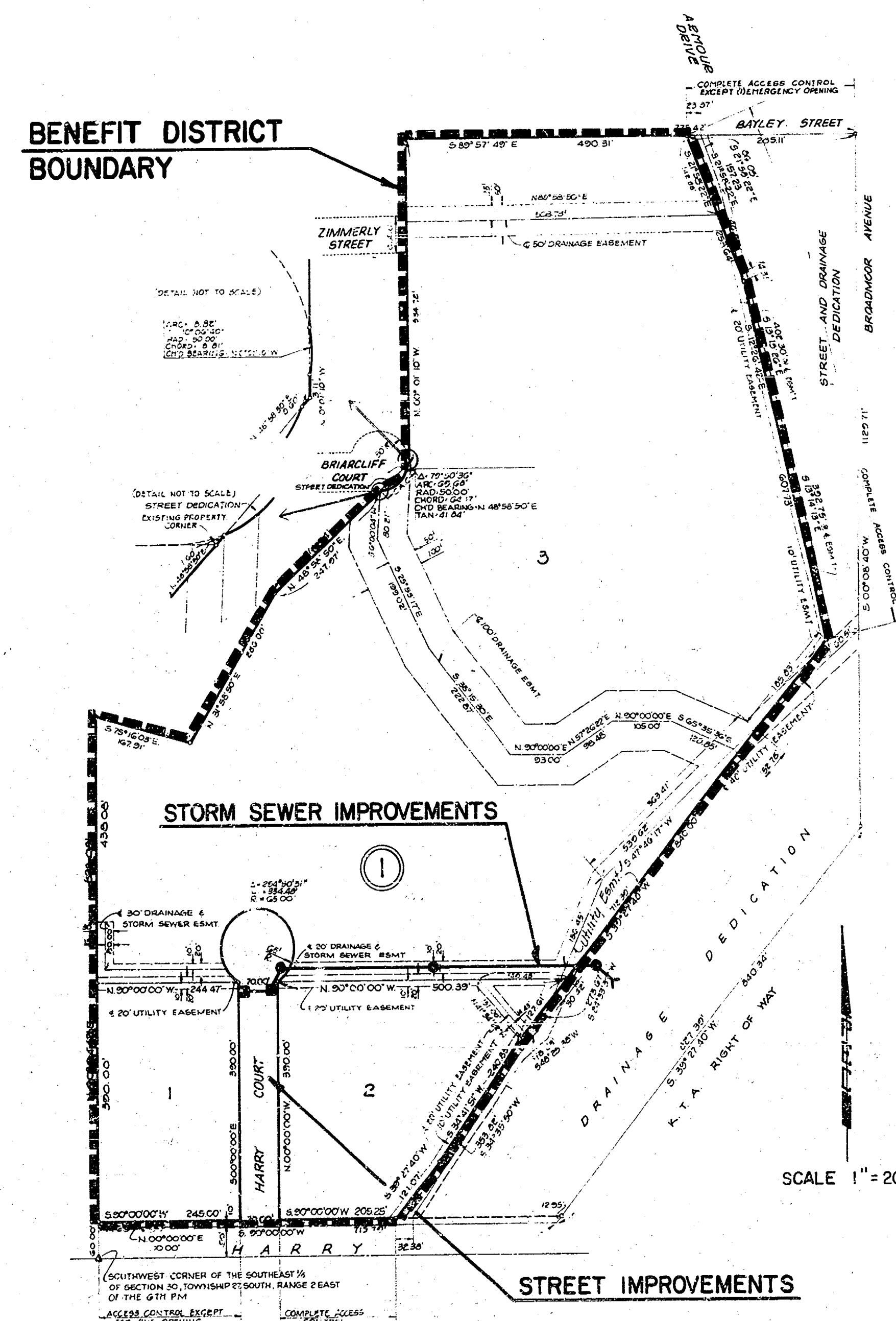
BENCH MARKS
BM #1 - N. Bolt FH. @ N.E. Cor. Harry Ct. & Harry St. Elev. = 141.75

CONVENTIONAL SIGNS	
SECTION LINE	_____
RIGHT-OF-WAY	_____ f. Exist. R/W
	_____ f. Prop. R/W
FENCE LINE	_____
CENTER LINE OF PROJECT	_____ 15' _____ 2'
POWER POLE	_____
UGD. TEL. CABLE	_____ Ungd. Tel. Cable M.H.
GAS LINE	_____ 8" Water Line W.V.
WATER LINE & WATER VALVE	_____ 20" Water Line W.V.
STORM SEWER & MANHOLE	_____ 5' Sewer M.H.
SAN. SEWER & MANHOLE	_____ San. Sewer M.H.
TREES	_____ 6" 0" 12"

EARTHWORK

Excavation:	
X-Section	1,475.0 C.Y.
+Borrow Lot 3	416.0 C.Y.
10%	189.1 C.Y.
Total	2,080.1 C.Y.
Compacted Fill:	
X-Section	1,016.0 C.Y.
10%	101.6 C.Y.
Total	1,117.6 C.Y.
Manipulated Fill:	
X-Section	153.0 C.Y.
10%	15.3 C.Y.
Total	168.3 C.Y.

2,781 S.Y. Manipulation



GENERAL NOTES

UTILITY SERVICE LINES, POLES, VALVE BOXES, METERS, AND ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO OR DURING CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE-FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED. SAWED JOINT TO FACILITATE REMOVAL WITHIN THREE (3) FEET OF EXISTING JOINTS WILL NOT BE PERMITTED AND FOR SUCH INSTANCES THE LIMITS OF REMOVAL SHALL EXTEND TO THE EXISTING JOINT. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE REMOVAL OF THE SURFACE OR PAVEMENT.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNGHTLY APPEARANCE WILL NOT BE APPROVED.

LIMITS OF EARTHWORK SHALL MATCH EXISTING GROUND ELEVATIONS AT THE RIGHT-OF-WAY LINE UNLESS OTHERWISE NOTED ON THE PLANS WITH A NEW FINISHED GRADE ELEVATION. WHEN A NEW FINISHED GRADE ELEVATION IS SHOWN, THE EARTHWORK SHALL EXTEND ONE FOOT BEYOND THE RIGHT-OF-WAY LINE AND THEN SLOPED UP OR DOWN USING PERMISSIBLE SLOPES TO MATCH THE EXISTING GROUND SURFACE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.

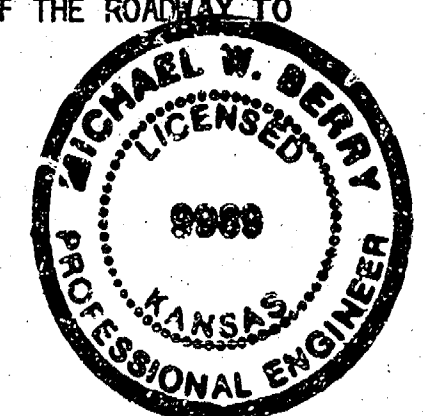
CONSTRUCTION TRAFFIC CONTROL IN CONFORMANCE WITH THE PROVISIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE PROVIDED ALONG HARRY STREET DURING CONSTRUCTION.

THE CONTRACTOR HAS THE OPTION OF BIDDING ON ONE OF TWO ALTERNATE STORM SEWER PIPE SYSTEMS: REINFORCED CONCRETE PIPE OR CORRUGATED METAL PIPE. ONLY ONE OF THESE TWO PIPE TYPES SHALL BE USED ON THE PROJECT THROUGHOUT.

ALL DISTURBED AREAS WITHIN THE DRAINAGE DEDICATION OUTSIDE THE RIPRAP LIMITS SHALL BE SEEDED, FERTILIZED, AND MULCHED. THE ESTIMATED QUANTITY OF THIS WORK IS 800 SQUARE FEET. SEEDING, FERTILIZING, AND MULCHING SHALL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER WORK ITEMS.

WIDENED GUTTER SECTION OF COMBINED CURB AND GUTTER AT INTERSECTIONS WILL NOT BE PAID FOR DIRECTLY, AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER CONTRACT PAY ITEMS OF WORK.

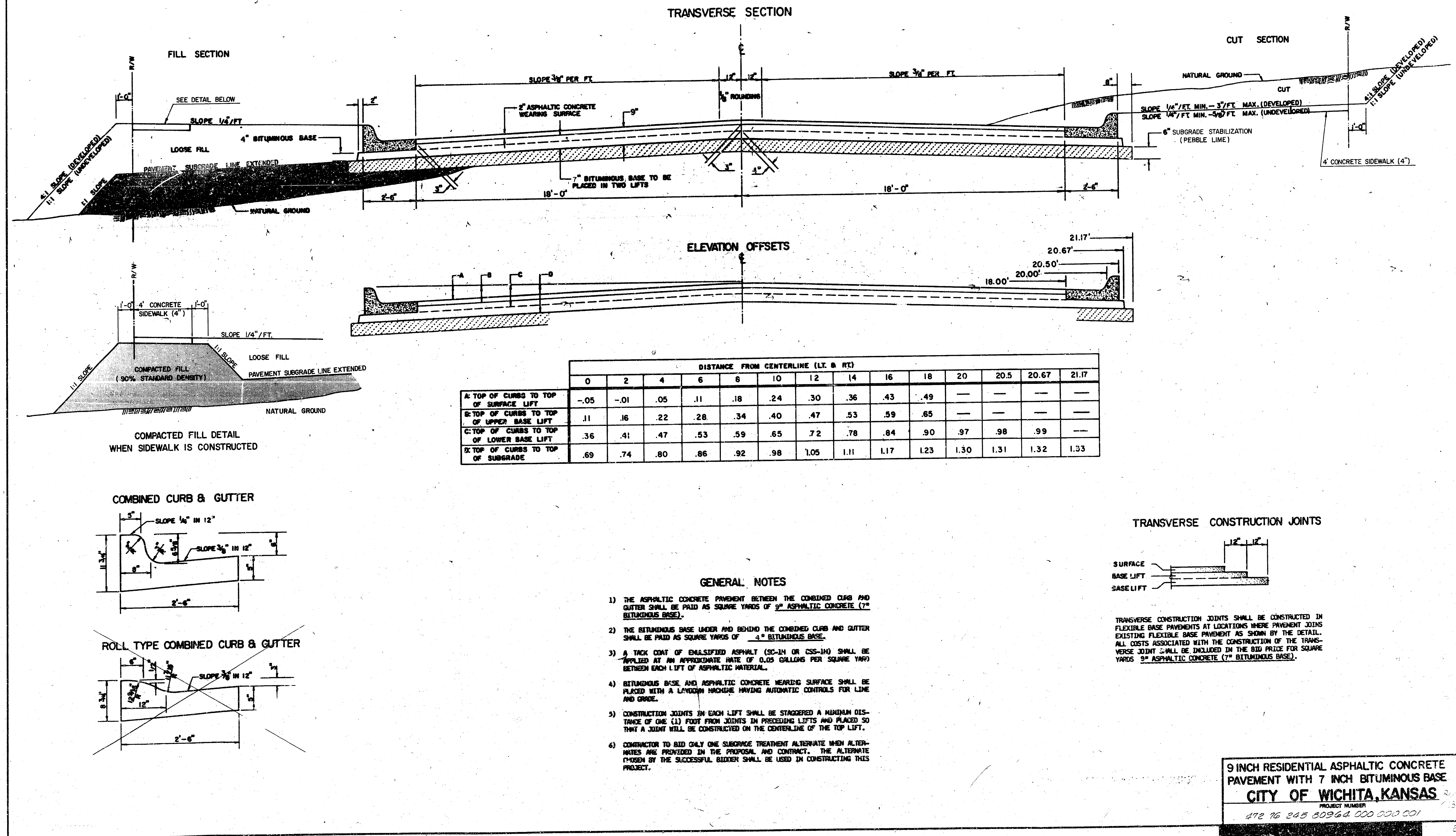
AN ESTIMATED QUANTITY OF 416 CUBIC YARDS OF EXCAVATION IS REQUIRED OVER AND ABOVE THE AMOUNT WHICH CAN BE OBTAINED FROM THE RIGHT-OF-WAY BY GRADING TO THE TEMPLATES SHOWN ON THE CROSS-SECTIONS. THIS MATERIAL MAY BE OBTAINED FROM EXISTING STOCKPILES ON LOT 3, BLOCK 1, SPRING LAKE ADDITION ADJACENT TO THE PROJECT. ANY MATERIAL FROM THE STOCKPILES TO BE USED ON THE PROJECT SHALL BE SUBJECT TO APPROVAL AS TO SUITABILITY BY THE ENGINEER. THIS MATERIAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER CUBIC YARD OF EXCAVATION. THE ENGINEER SHALL TAKE ORIGINAL AND FINAL CROSS-SECTIONS OF THE ROADWAY TO DETERMINE THE QUANTITY FOR FINAL PAYMENT.



PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

APPROVED	DATE
MICHAEL E. LINDEBAR, P.E., CITY ENGINEER WICHITA, KANSAS	

TYPICAL 41' PAVEMENT DETAILS

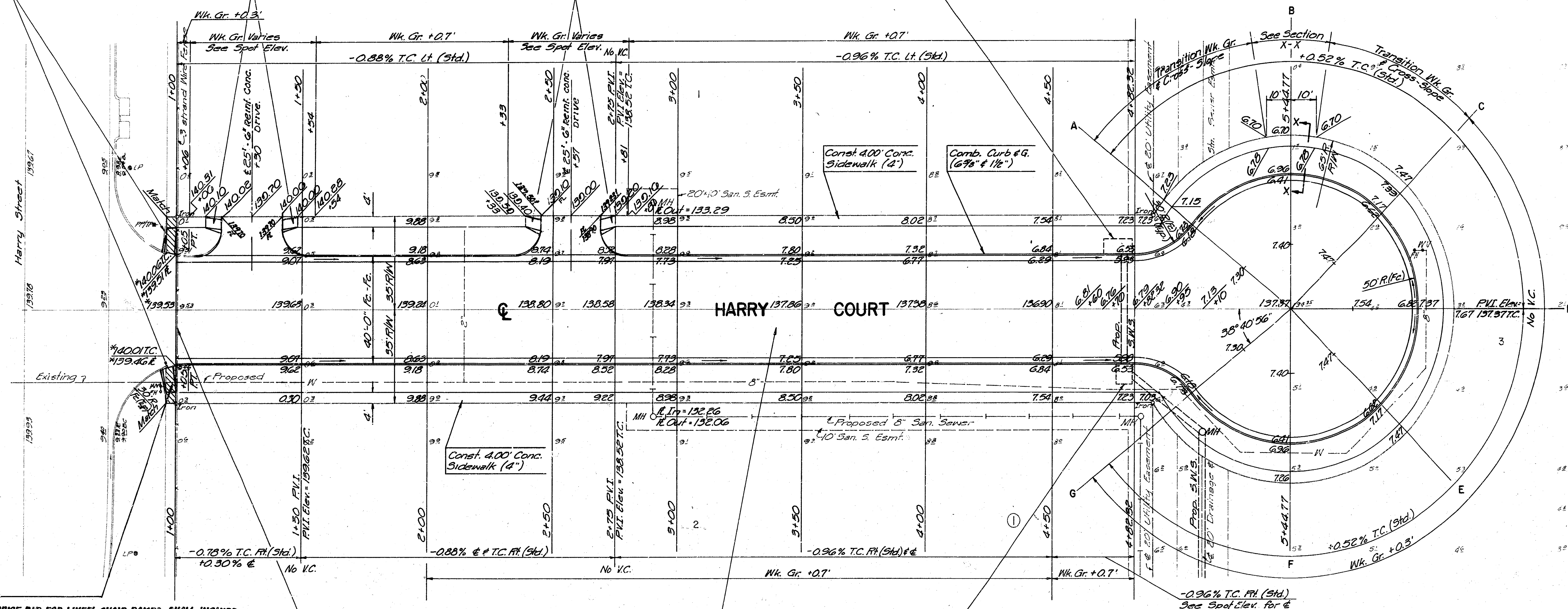
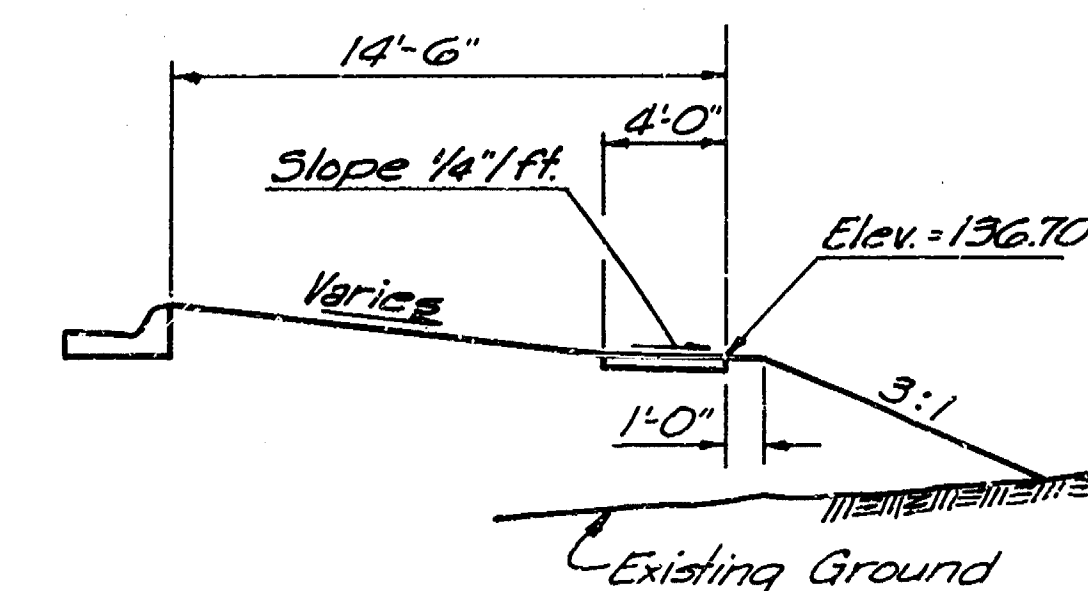


Sta. 0+98 Construct
Std. Wheelchair Ramp
Rt. & Lt.
Remove 135 Sq. Ft.
Conc. Sidewalk Pavement

Sta. 1+30 Const.
2 Wheelchair Ramps
See Sh. No. 6

Sta. 2+57 Const.
2 Wheelchair Ramps
See Sh. No. 6

Sta. 4+75.82 Construct
Std. Type 1A Inlet Hookup
See Sh. Nos. 4, 5 & 7



NOTE: UNIT PRICE BID FOR WHEEL CHAIR RAMPS SHALL INCLUDE ALL COSTS OF REMOVING AND RECONSTRUCTING EXISTING PAVIMENT AND MONOLITHIC CURB, COMPACTION OF SUBGRADE, AND NECESSARY AREA GRADING.

INTERSECTION QUANTITIES

- S.Y. — Unreinforced Concrete Pavement
- 220 S.Y. 9" Asphaltic Conc. Pavement (7" Bituminous Base)
- 31 S.Y. 4" Bituminous Base
- 10.0 L.F. Combined Curb & Gutter (6 3/8" & 1 1/2")
- L.F. Monolithic Edge Curb (—)
- 2 Ea. Standard Wheelchair Ramp Construction
- 120 S.F. 4" Sidewalk Concrete Pavement
- 23.7 S.Y. Subgrade Stabilization Manipulation
- Tons Carbide Lime Subgrade Stabilization
- 0.21 Tons Pebble Quicklime Subgrade Stabilization
- Tons Cement Subgrade Stabilization
- Tons Fly Ash Subgrade Stabilization
- Tons Preheater Fines Subgrade Stabilization
- S.Y. Reinf. V.G. — Concrete & — Asphaltic Concrete Base

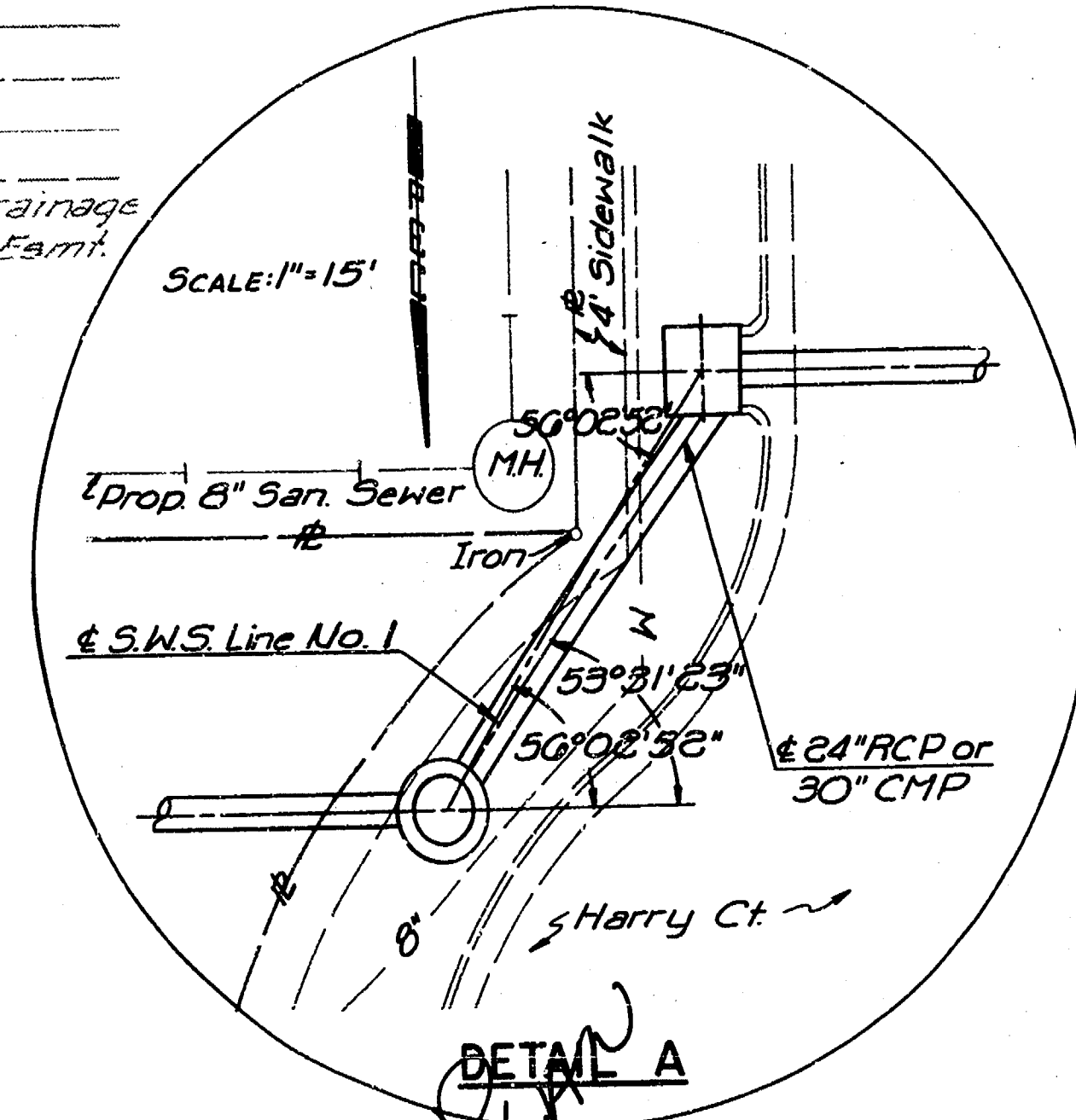
LEGEND

- Pavement Removal
- * Match Existing

• DRIVEWAYS •

DRIVEWAY REQUEST FORM FOR DRIVEWAYS SHOWN HAS BEEN EXECUTED AND IS IN PROJECT FILE.
CONTRACTOR SHALL CONTACT ALL ADJACENT PROPERTY OWNERS FOR ANY ADDITIONAL DRIVES REGARDING WIDTH AND LOCATION.

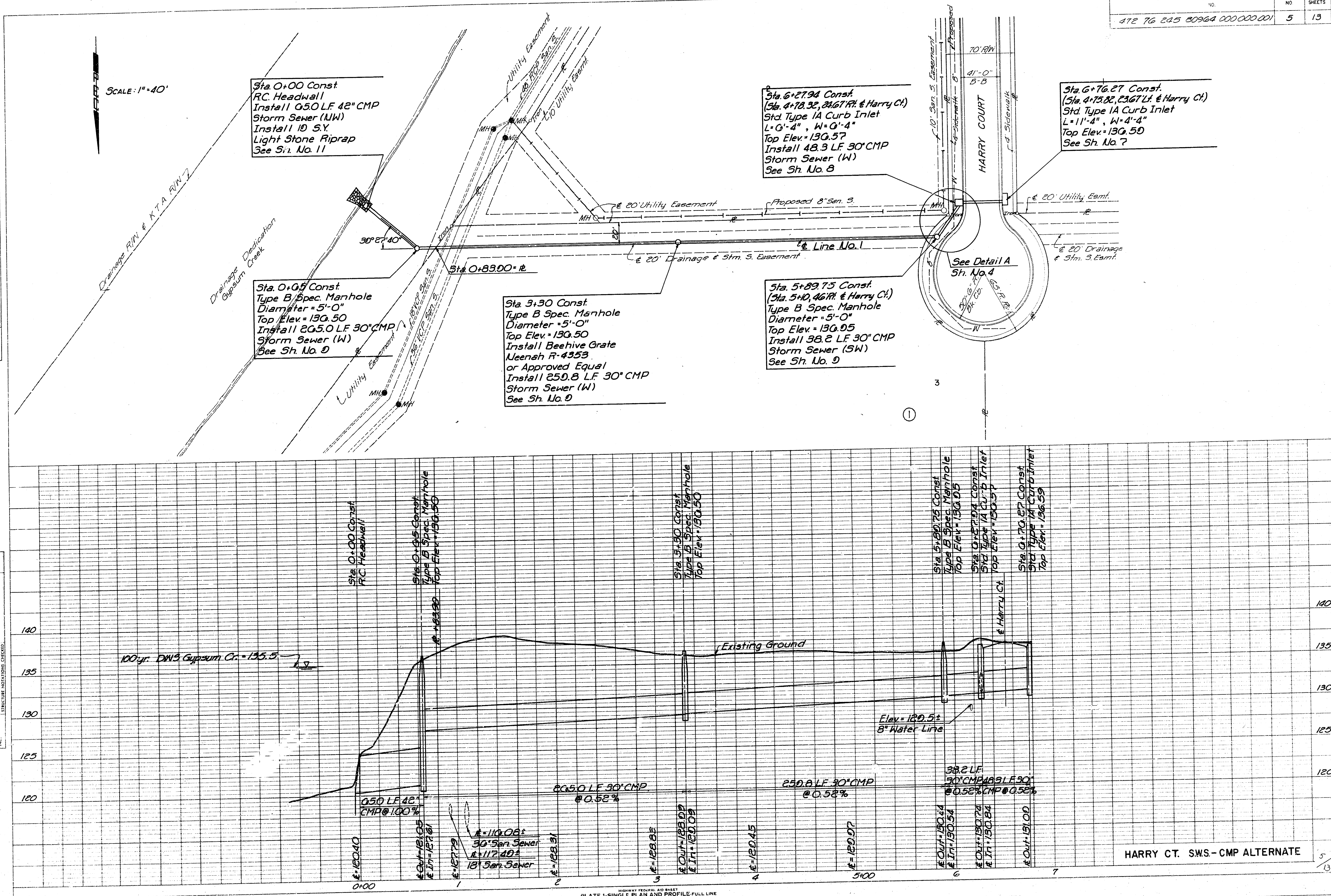
No.	Revision	By	Date
HARRY COURT Proj. No. 472 76 245 80964 000 000 001 PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by BDB, MMB	Job No. 85093	Sht. 3	of 13
Drawn by GDD	Date March 1985		

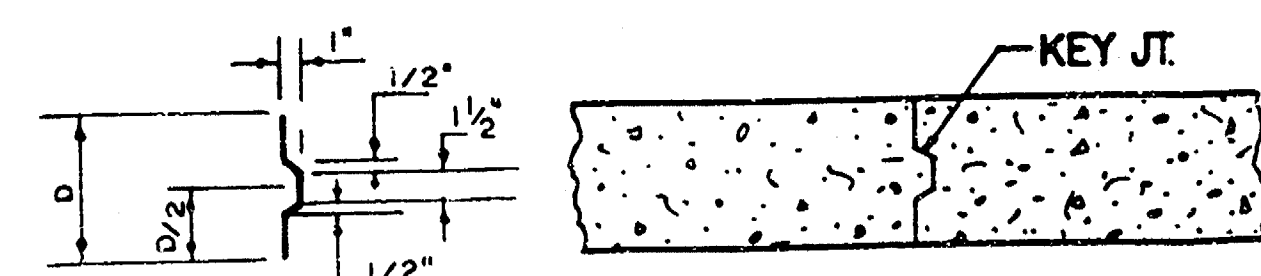


RS BUILT
12.195
GREENE

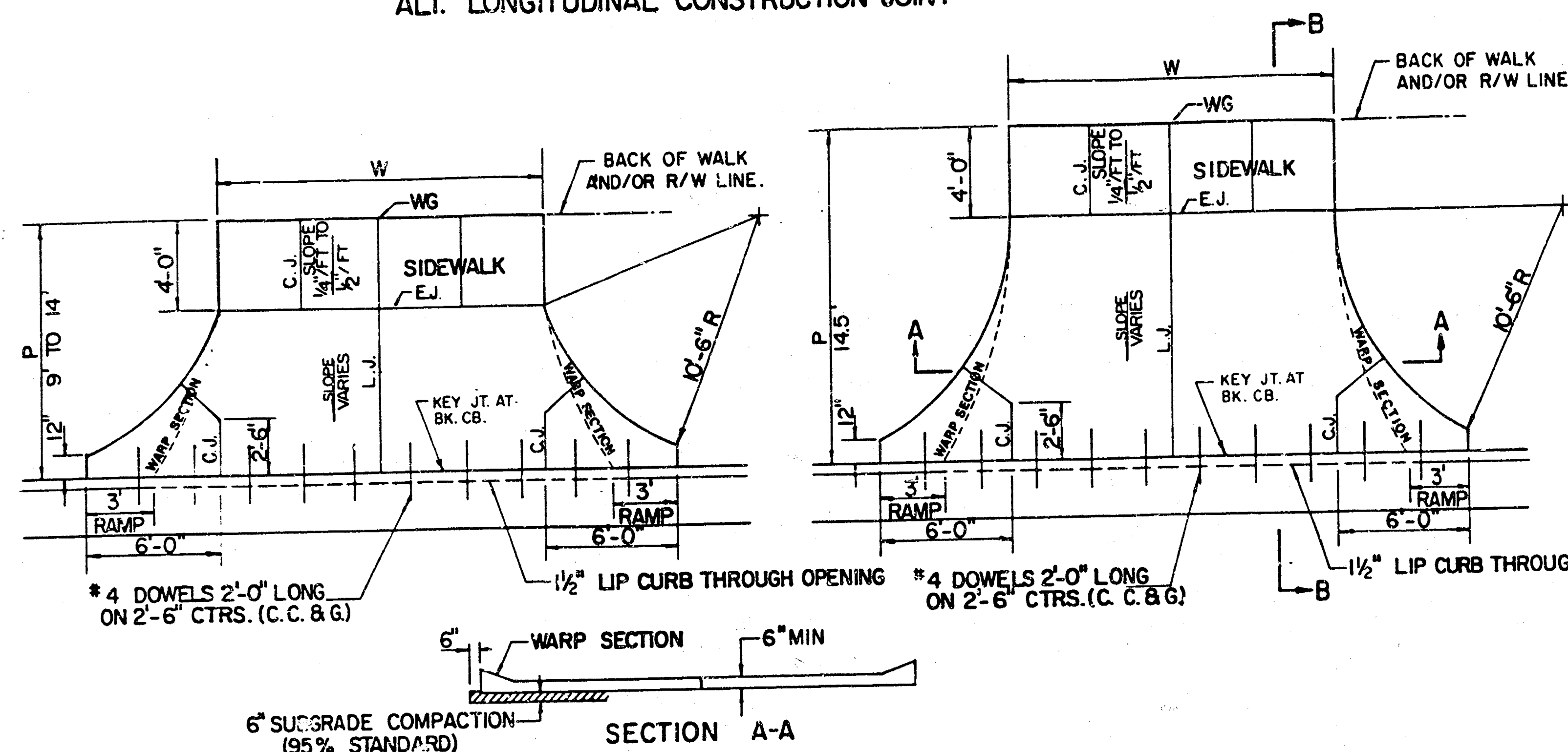
PLAN	SUBMITTED	BY	DATE
	PLOTTED ALIGNMENT CHECKED RT. OF WAY CHECKED		
NOTE BOOK	No.		

PROFILE	SURVEYED	BY	DATE
	NOTED		
NOTE BOOK	GRADES CHECKED		
	B. A.'s NOTED		





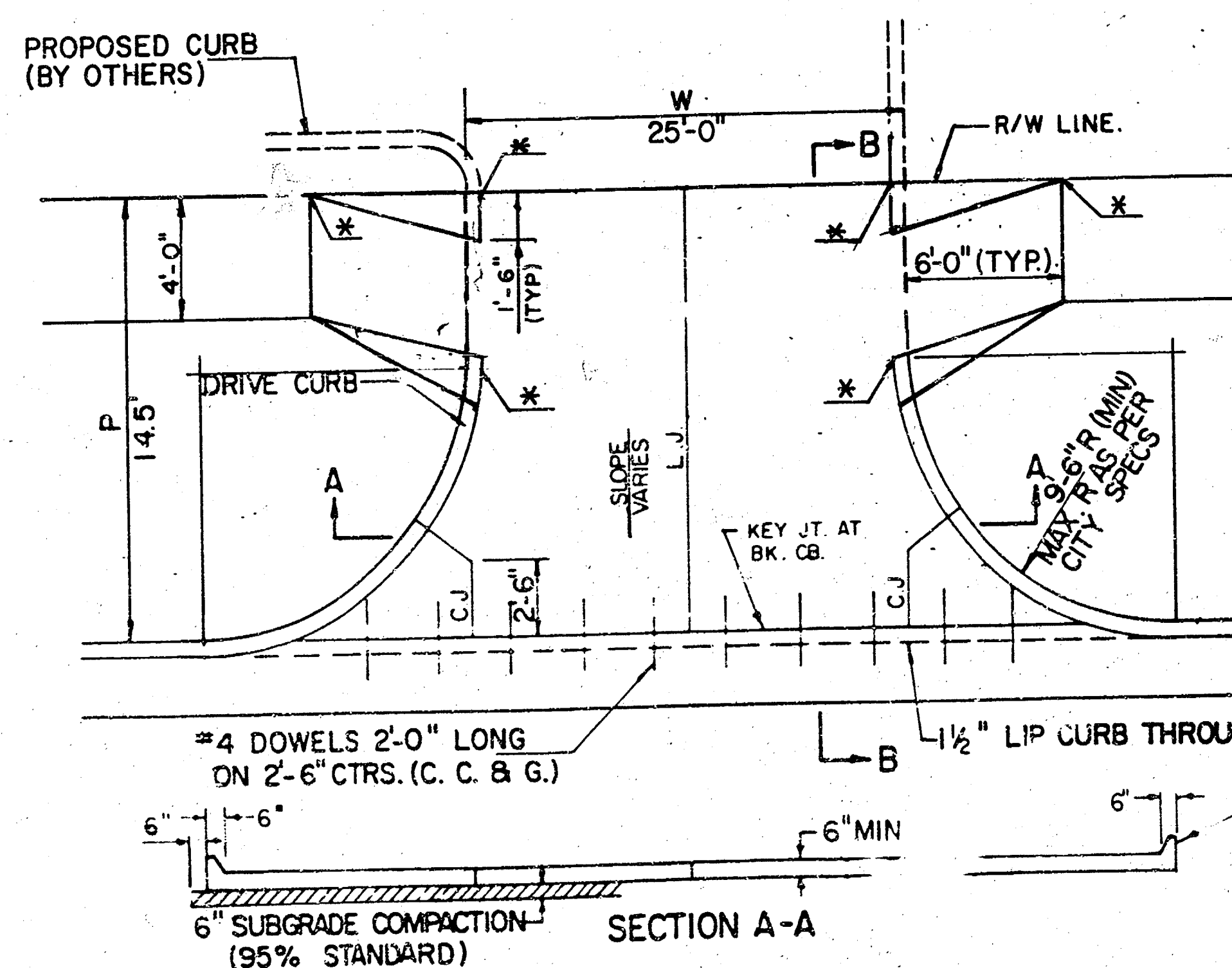
ALT. LONGITUDINAL CONSTRUCTION JOINT



PARKING WIDTH "P"	9'	10'	11'	12'	13'	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.35'	0.35'	0.40'	0.45'	0.60'	0.80'	1.35'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.35'	0.35'	0.40'	0.45'	0.60'	0.70'	1.04'	1.30'	1.56'	1.82'	2.08'	2.34'	2.60'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.19'	0.21'	0.23'	0.25'	0.27'	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.19'	-0.16'	-0.13'	-0.10'	-0.06'	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

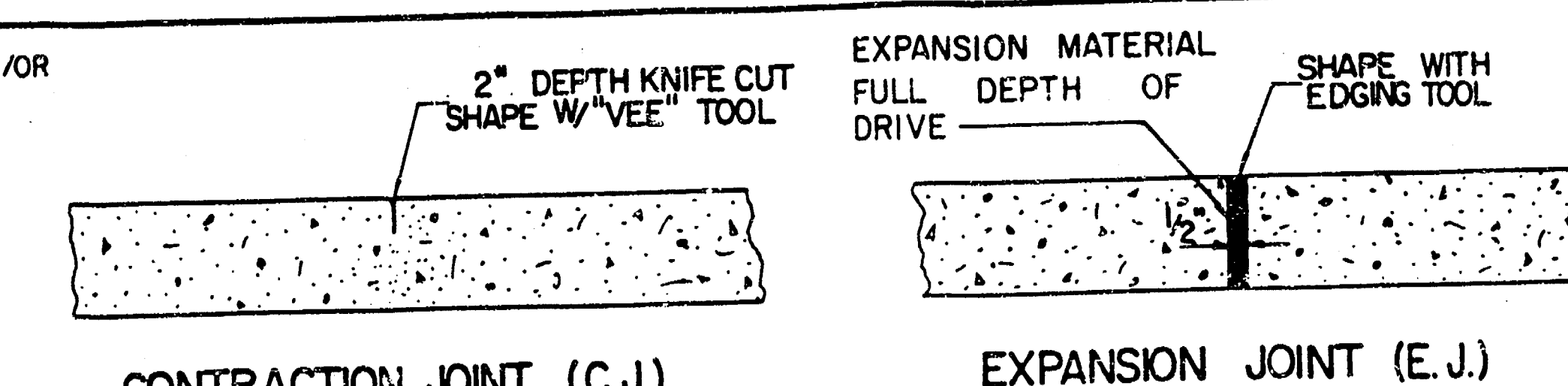
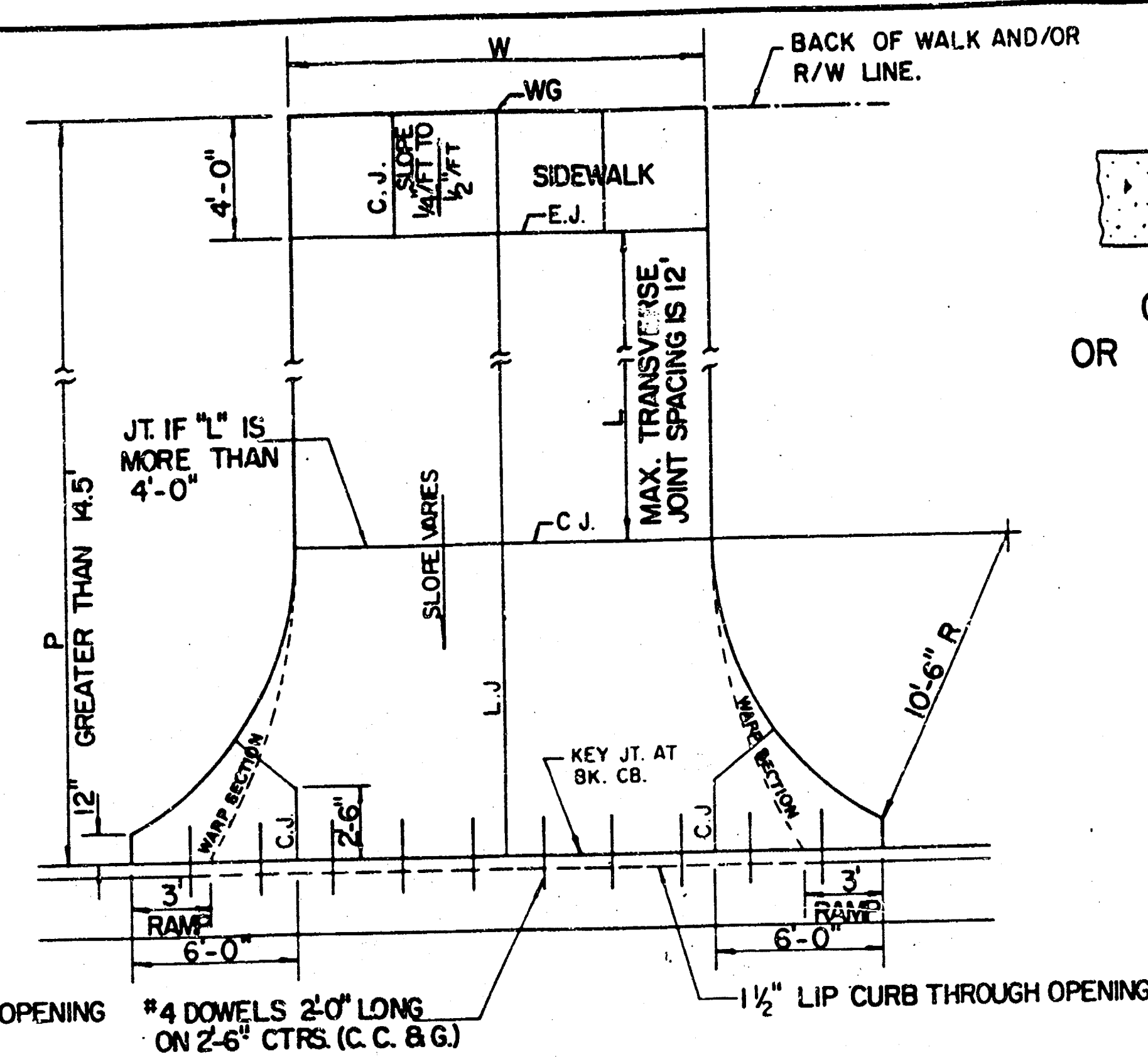
RADIUS RAMP DRIVES (P = 9.0' & GREATER)

* SEE PLAN FOR SPOT ELEVATION



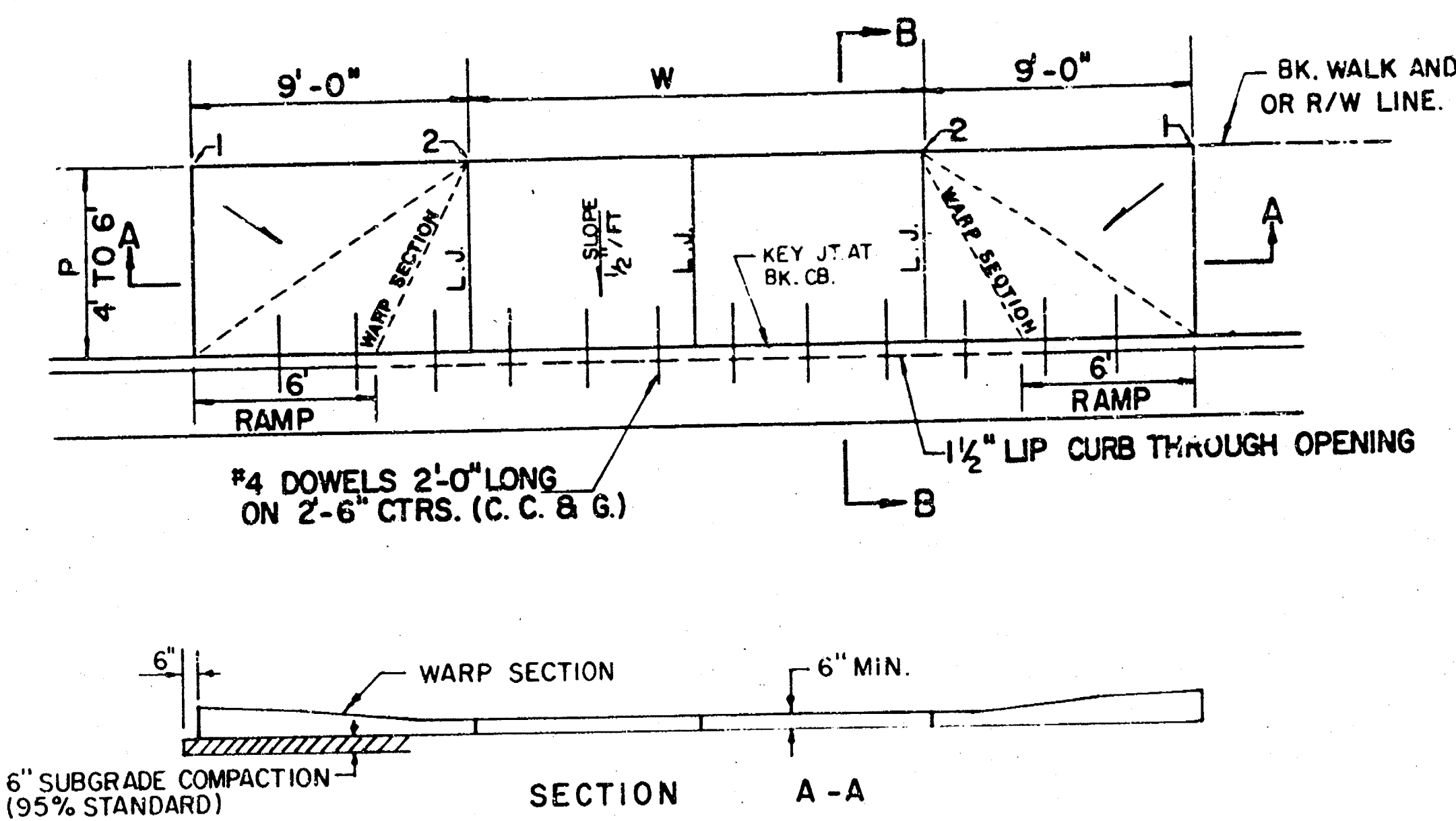
PARKING WIDTH "P"	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.80'	1.35'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.70'	1.04'	1.30'	1.56'	1.82'	2.08'	2.34'	2.60'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

FULL RADIUS DRIVES (P = 14.5' & GREATER)



CONTRACTION JOINT (C.J.)
OR LONGITUDINAL JOINT (L.J.)
NO SAWN JOINTS WILL
BE ALLOWED.

EXPANSION JOINT (E.J.)



PARKING WIDTH "P"	4'	4.5'	5'	5.5'	6'	6.5'
DIST. OF PT. "1" ABOVE TOP OF FULL CB.	0.08'	0.09'	0.10'	0.12'	0.13'	0.14'
DIST. OF PT. "2" BELOW TOP OF FULL CB.	-0.26'	-0.24'	-0.22'	-0.20'	-0.18'	-0.16'

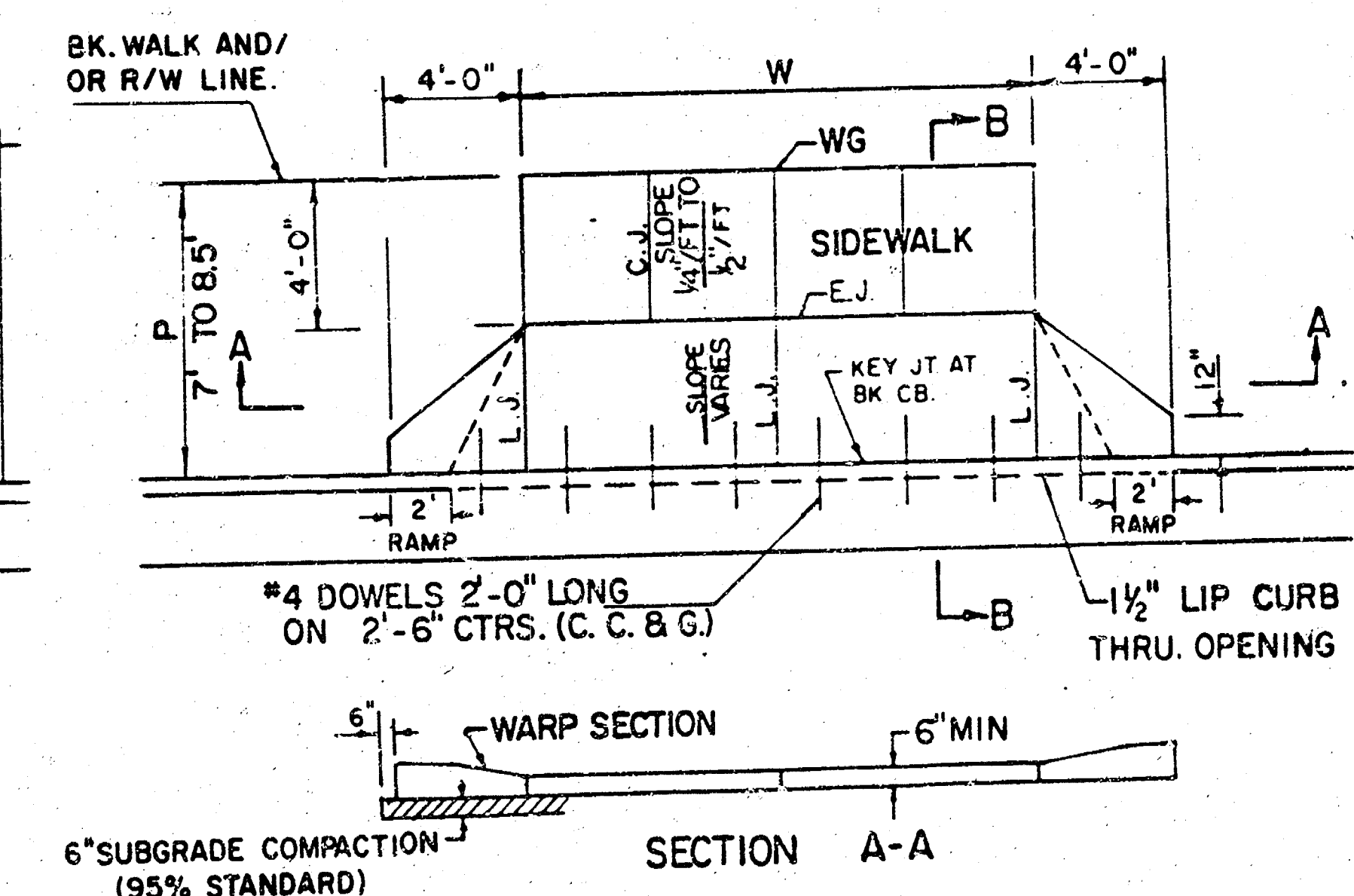
FULL RAMP DRIVE (P = 4.0' TO 6.5')

GENERAL NOTES

1. DRIVEWAY CONSTRUCTION DETAILED ON THIS SHEET IS FOR USE WITH FULL HEIGHT STREET CURBS AND IN AREAS WITHOUT FULL WALK CONSTRUCTION IN THE PARKING. SEE OTHER DETAIL SHEETS FOR DRIVEWAY CONSTRUCTION WITH ROLL CURB AND/OR FULL WALK.
2. ONE LONGITUDINAL JOINT SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF DRIVES HAVING A "P" DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A "P" DIMENSION GREATER THAN 24'.
3. DRIVEWAY WIDTH DENOTED AS "W" ON THE DETAIL DRAWINGS SHALL BE A MINIMUM OF 10' AND A MAXIMUM OF 30'. THE MAXIMUM OPENING FOR RADIUS TYPE DRIVES WITH CURBS THROUGH THE RADIUS SHALL NOT EXCEED 52' AT THE STREET CURB LINE.
4. CONTRACTION JOINT SPACING IN THE DRIVEWAY WALK SECTION SHALL BE A MINIMUM OF 3' AND A MAXIMUM OF 6' AND ARE TO BE EQUALLY SPACED WITHIN THIS RANGE. WALK SECTION SHALL BE CONSTRUCTED TO THE SAME THICKNESS AS THE DRIVEWAY.
5. DOWEL BARS SHALL BE OMITTED FROM THE KEYED CONSTRUCTION JOINT ALONG THE BACK OF THE STREET CURB LINE WHEN DRIVEWAYS ARE CONSTRUCTED IN CONJUNCTION WITH NEW CONCRETE PAVEMENT CONSTRUCTION.
6. ADDITIONAL THICKNESS OF DRIVE AS INDICATED IN THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE DRIVEWAY CONSTRUCTION.
7. ONE HALF INCH EXPANSION JOINTS SHALL BE INSTALLED WHEREVER DRIVE CONSTRUCTION ADJUTS SIDEWALK. ONE HALF INCH EXPANSION JOINTS SHALL ALSO BE INSTALLED ALONG THE PROPERTY LINE AND/OR E.O.K. OF WALK LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ADJUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
8. ALL DRIVEWAYS SHALL BE A MINIMUM OF 6" IN THICKNESS AND SHALL BE REINFORCED WITH 6"x12" W-4 WELDED WIRE FABRIC. WHEN PROPERLY AUTHORIZED BY THE PROPERTY OWNER WITH THE ENGINEER'S CONFORMANCE.
9. OPTIMUM DRIVEWAY ELEVATIONS SHOWN IN THE TABLES ARE TO BE USED WHEREVER POSSIBLE. ABSOLUTE MAXIMUM AND MINIMUM ELEVATIONS ARE TO BE USED ONLY WHEN THESE VALUES WILL PERMIT NEW CONSTRUCTION TO MATCH EXISTING DRIVES OR PARKING LOTS. VALUES SHOWN IN THE TABLES ARE BASED ON A FULL CURB HEIGHT ELEVATION OF 0.55' ABOVE THE GUTTER FLOW LINE AND MUST BE ADJUSTED ACCORDINGLY FOR OTHER CURB HEIGHTS. VALUES SHOWN IN THE TABLES WITH MINUS SIGNS INDICATE ELEVATIONS BELOW TOP OF FULL HEIGHT CURB.

NOTE: THIS SHEET MODIFIED FROM C.O.W. STANDARD

SCALE: 1" = 5'



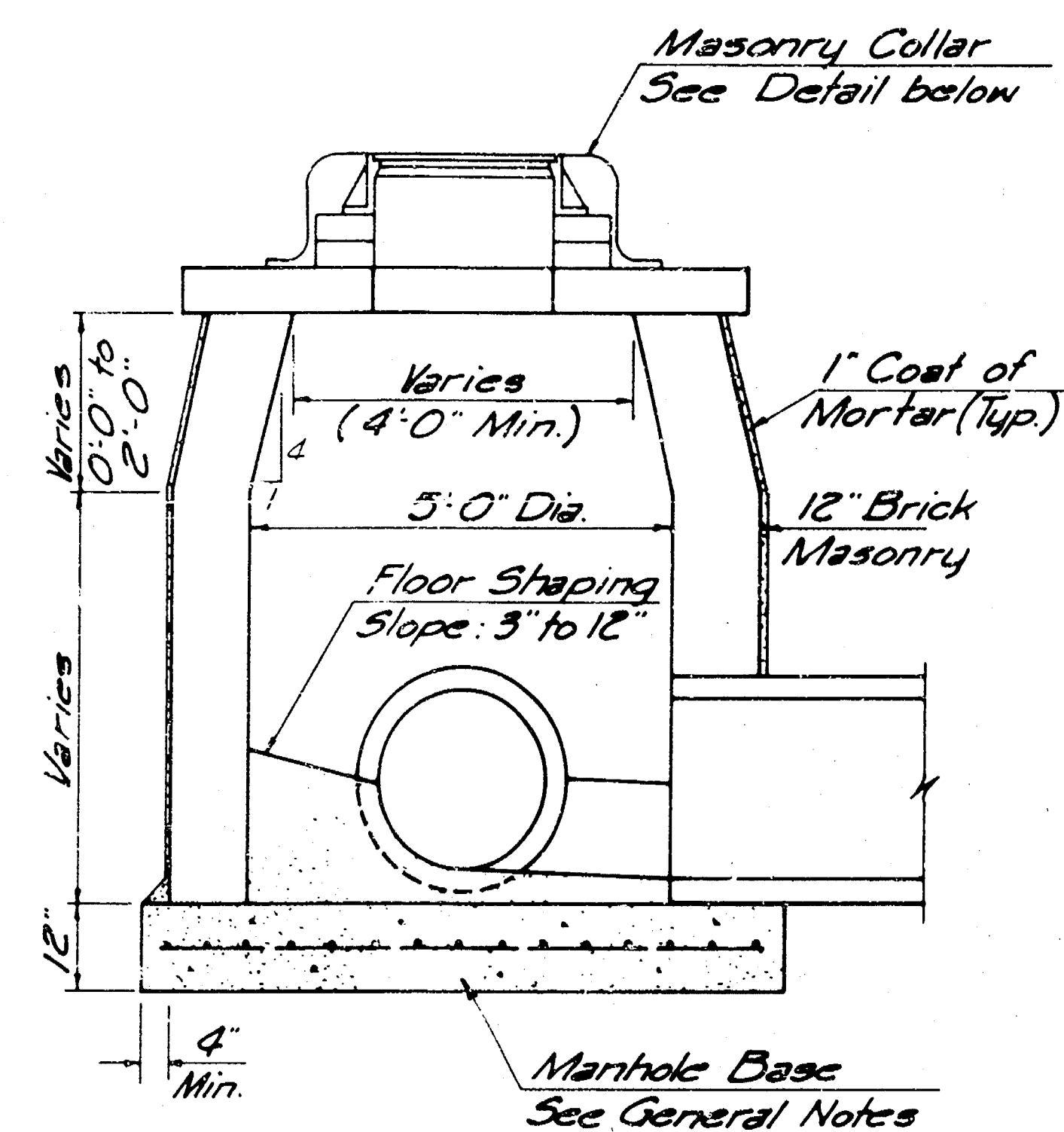
PARKING WIDTH "P"	7'	7.5'	8'	8.5'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.00'	0.10'	0.20'	0.30'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.00'	0.10'	0.20'	0.30'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.15'	0.16'	0.17'	0.17'
ABSOLUTE MAX. DIST. OF PT. "WG" BELOW TOP OF FULL CB.	-0.25'	-0.20'	-0.20'	-0.20'

FULL RAMP DRIVE (P = 7.0' TO 8.5')

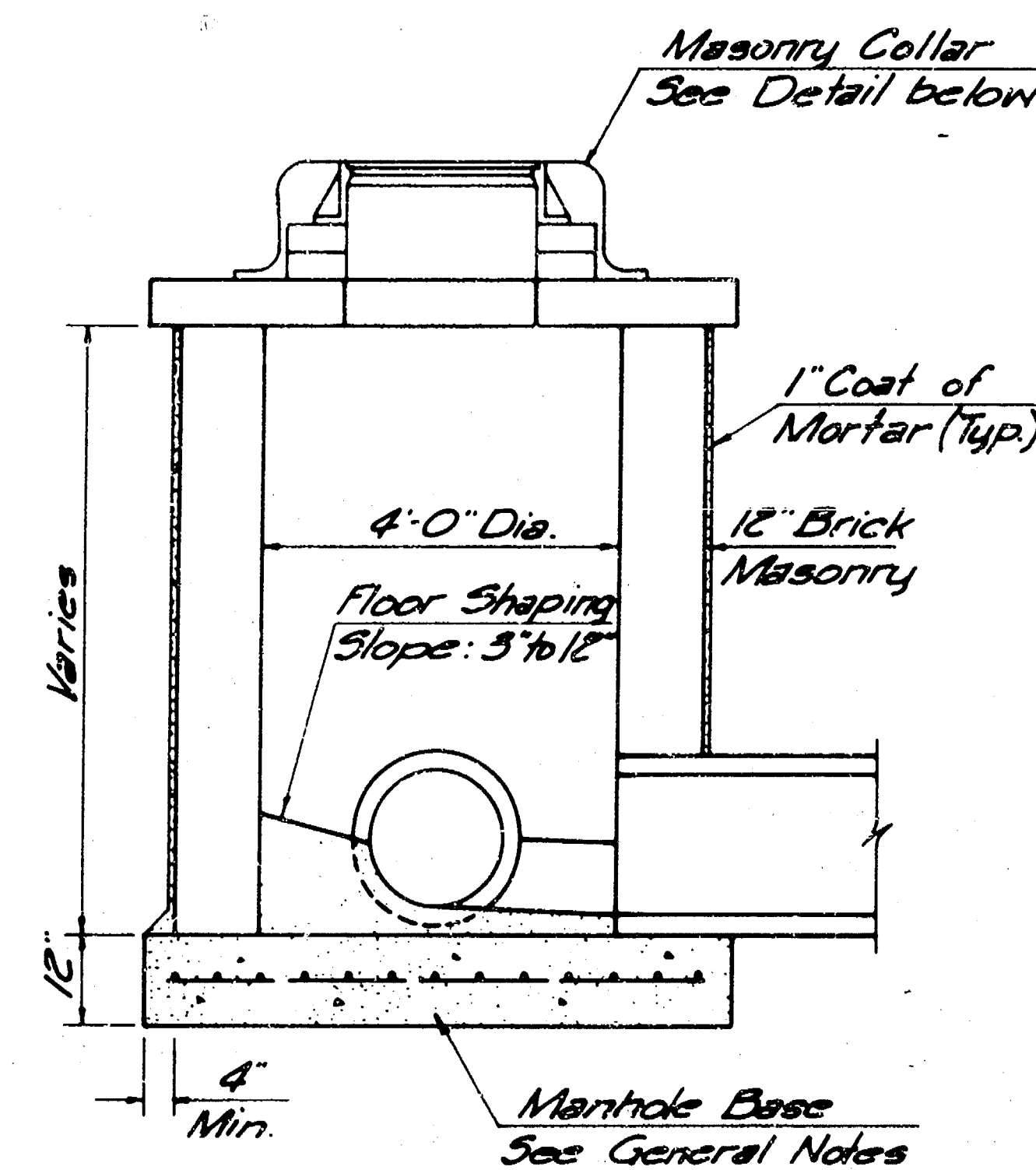
STANDARD DRIVE ENTRANCES
FULL HEIGHT CURB
CITY OF WICHITA, KANSAS

PROJECT NUMBER
472 76 245 80964 000 000 001

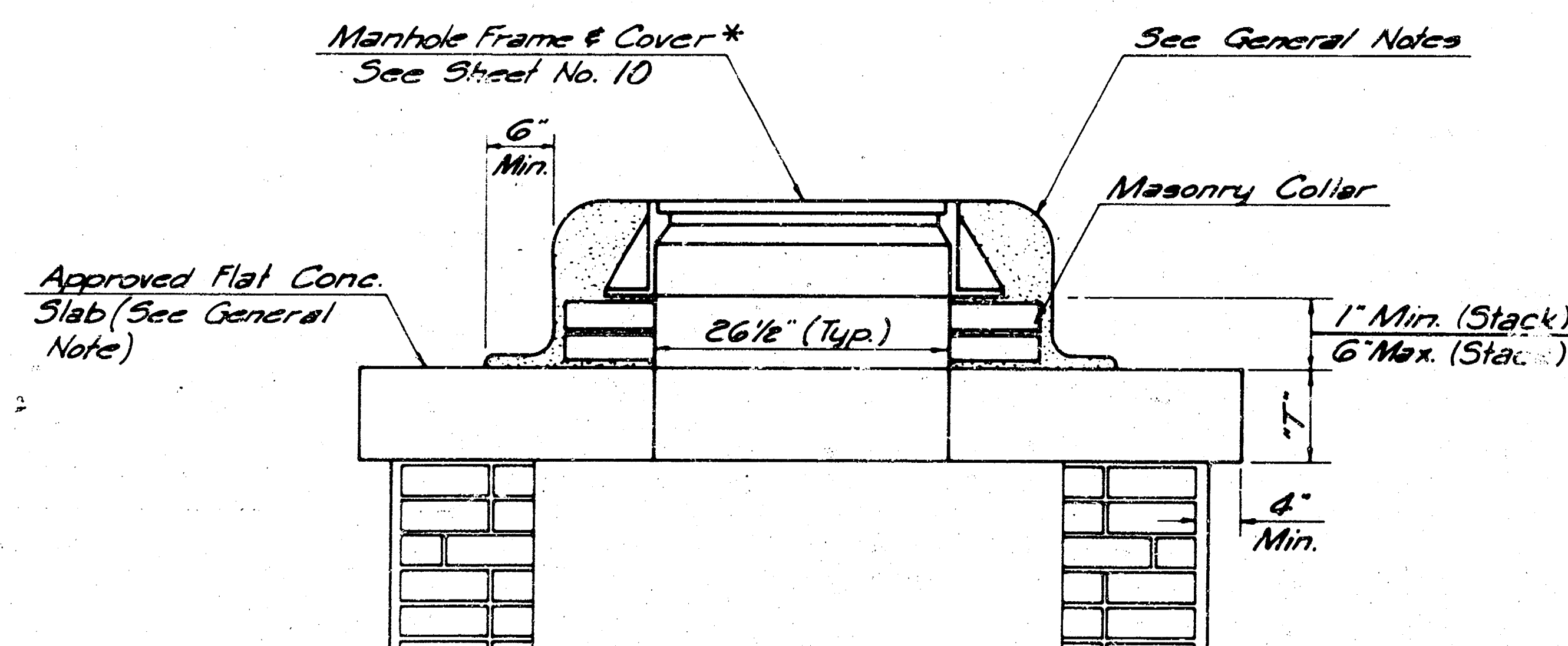
PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-76-245-80964-000-000-001	9	13



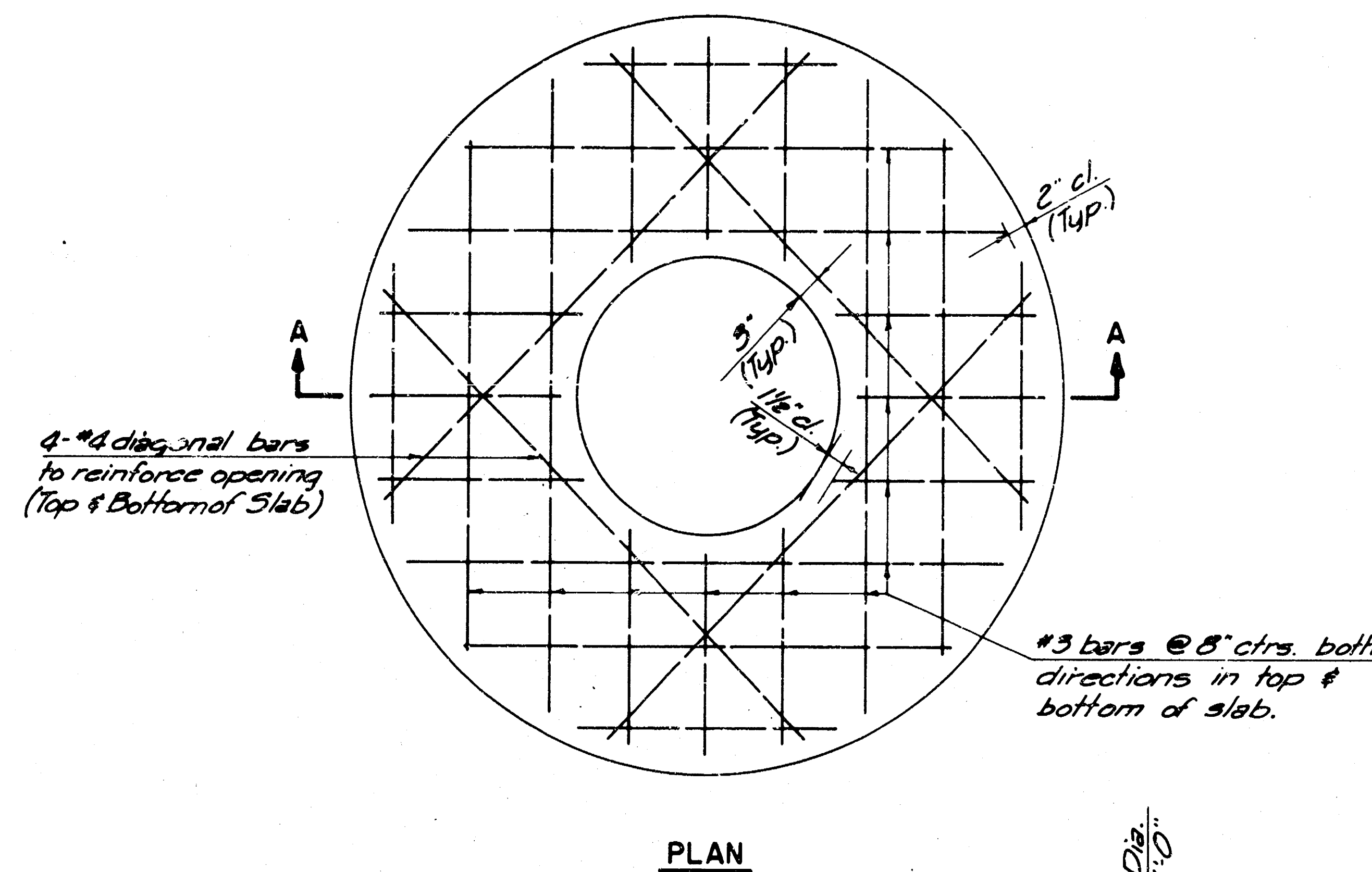
SPECIAL TYPE "B" MANHOLE (5' DIA.)



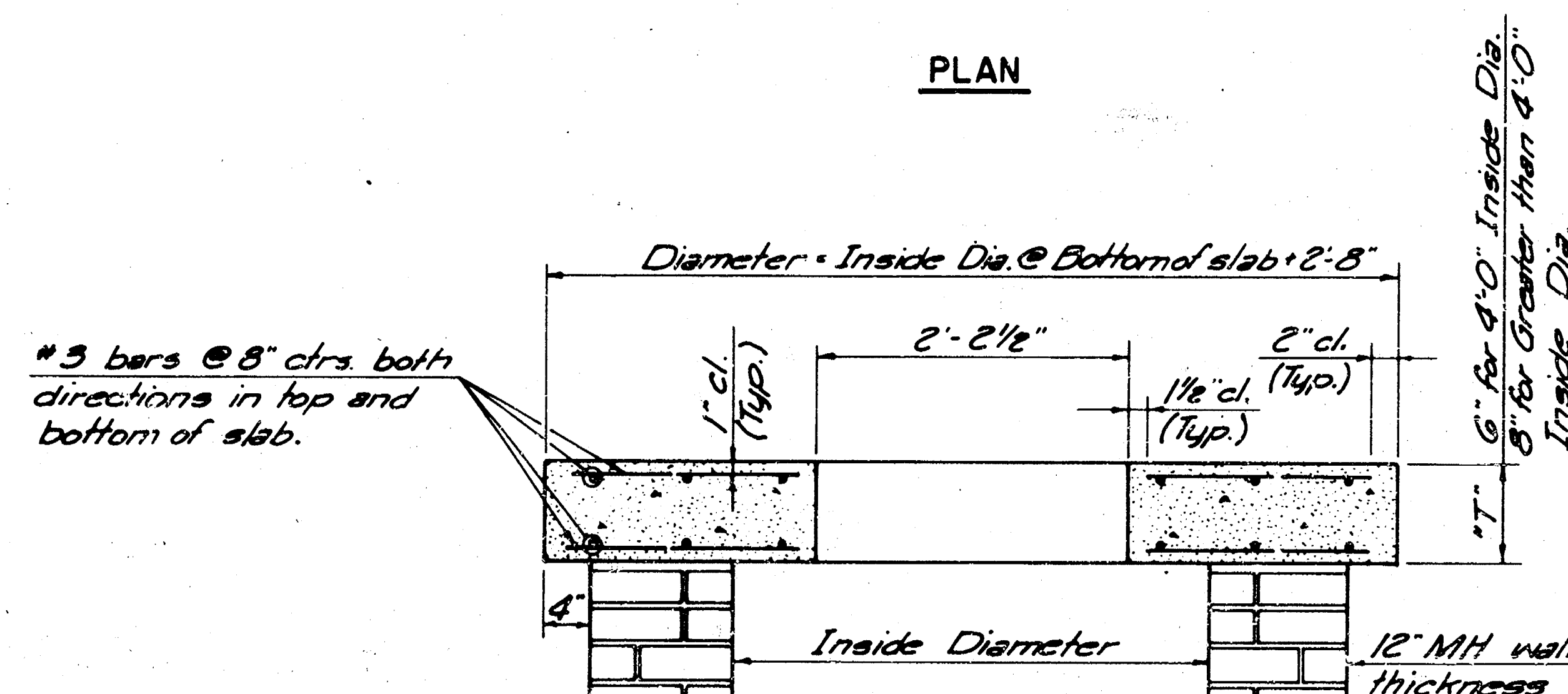
SPECIAL TYPE "B" MANHOLE (4' DIA.)



MASONRY COLLAR DETAIL



PLAN



SECTION A-A

FLAT CONCRETE SLAB DETAILS

GENERAL NOTES:

TOPS OF MANHOLES LOCATED IN PAVED AREAS SHALL BE SET FLUSH WITH THE PAVEMENT. TOPS OF MANHOLES LOCATED IN GRASSED AREAS SHALL BE SET FLUSH WITH THE FINISHED GRADE. TOPS OF MANHOLES LOCATED IN UNPAVED TRAVEL WAYS SHALL BE SET SIX INCHES (6") BELOW FINISHED GRADE.

MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, TYPE 1, FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS. USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

BRICK USED SHALL CONFORM TO THE REQUIREMENTS SPECIFIED FOR GRADE MS IN A.S.T.M. C 32-73 OR GRADE SW IN A.S.T.M. C 62-69.

ALL BRICK SHALL BE LAID WITH SHOVE JOINTS. THE ENTIRE OUTSIDE SURFACE OF THE MANHOLE SHALL BE PLASTERED WITH A MINIMUM OF ONE INCH (1") OF THE CEMENT MORTAR. ALL CONTACT SURFACES BETWEEN BRICK MASONRY, FLAT CONCRETE SLABS, AND CAST IRON RINGS SHALL BE SEALED WITH A LAYER OF THE CEMENT MORTAR. BACKFILL SHALL NOT BE ACCOMPLISHED UNTIL THE MORTAR HAS CURED FOR TWENTY-FOUR (24) HOURS.

CEMENT USED FOR MORTAR SHALL BE TYPE 1 COMPLYING WITH THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C-150.

FINE AGGREGATE USED FOR MORTAR SHALL CONFORM TO THE SAME REQUIREMENTS AS REQUIRED FOR CONCRETE PAVEMENT, EXCEPT THAT IT SHALL HAVE A GRADATION FACTOR OF NOT LESS THAN 2.75 AND SHALL BE FREE FROM DUST, LOAM OR DIRT.

AN APPROVED TYPE OF FLAT CONCRETE SLAB, CONFORMING TO THE REQUIREMENTS OF A.S.T.M. C-478, SHALL BE USED TO SUPPORT THE MANHOLE RING AND COVER. A ONE INCH (1") MINIMUM TO SIX INCH (6") MAXIMUM MASONRY COLLAR CONFORMING TO THE SAME TYPE OF CONSTRUCTION AS SPECIFIED ABOVE SHALL BE INSTALLED BETWEEN THE MANHOLE RING AND THE FLAT CONCRETE SLAB TO FACILITATE MINOR ADJUSTMENTS IN ELEVATIONS.

THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-CLEANING AND FREE OF AREAS WHERE DEBRIS COULD BE DEPOSITED AS WATER FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM VALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS.

MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENT AS SPECIFIED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

SPECIAL MANHOLES TYPE "B" SHALL BE BID PER EACH FOR THE DIAMETER INDICATED. SAID PRICE BID SHALL BE FULL PAYMENT FOR FURNISHING ALL MATERIALS, FOR ALL EXCAVATION, BACKFILLING, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

* For Manhole Sta. 3+30, Install NCEM Type R-4353 Beehive Grate or approved equal in lieu of solid cover shown on Sh. No. 10. Furnishing and installing said Beehive Grate shall be considered subsidiary to the unit price bid for "Type B Special Manhole".

**SPECIAL TYPE "B" MANHOLE
(FOR STORM SEWERS)**

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by	B.E.R.	Checked by	
Drawn by	D.D.	Date	

Job No. 85093

MANHOLE FRAME AND COVER DETAIL

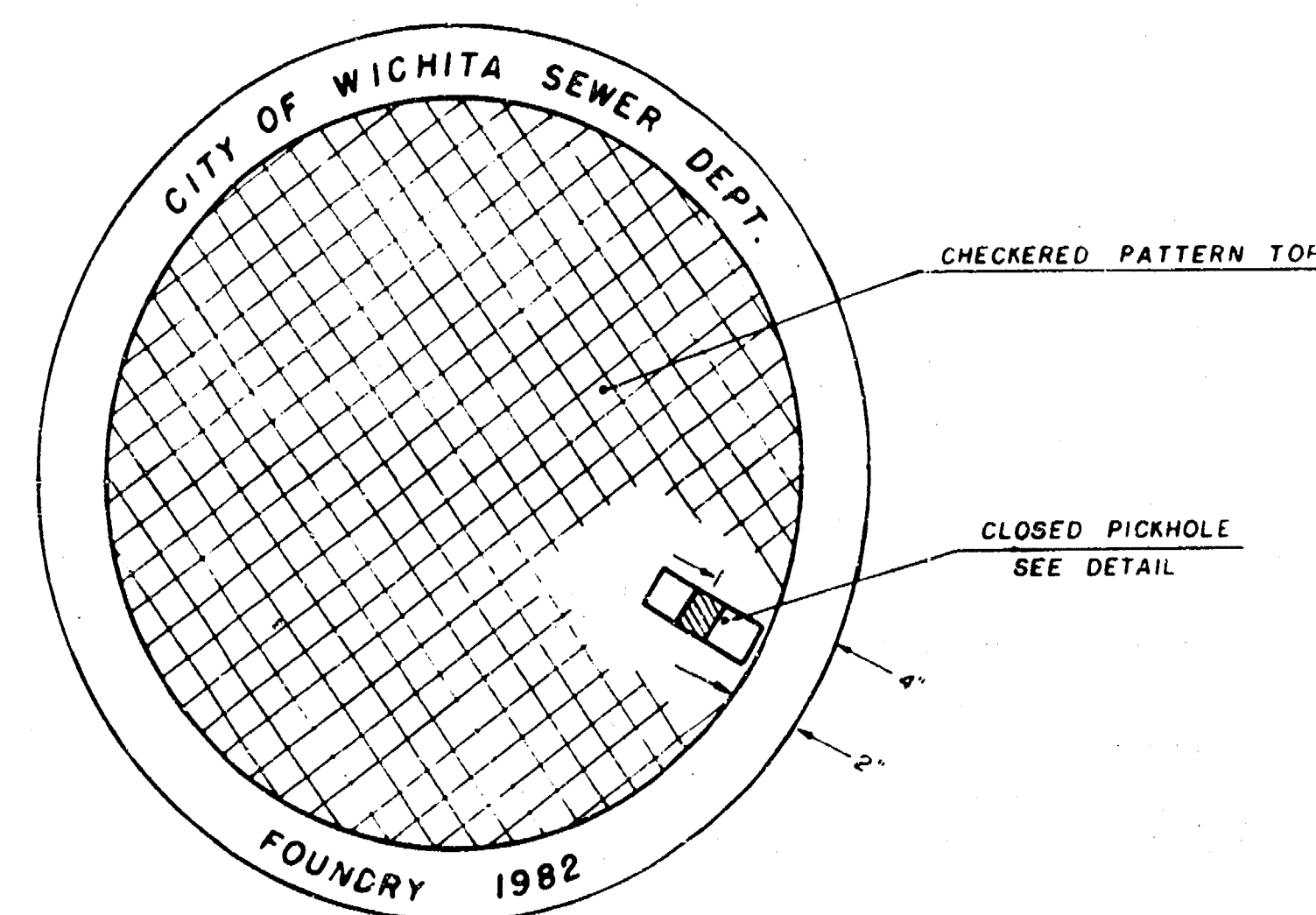
ADOPTED AS STANDARD DESIGN

BY

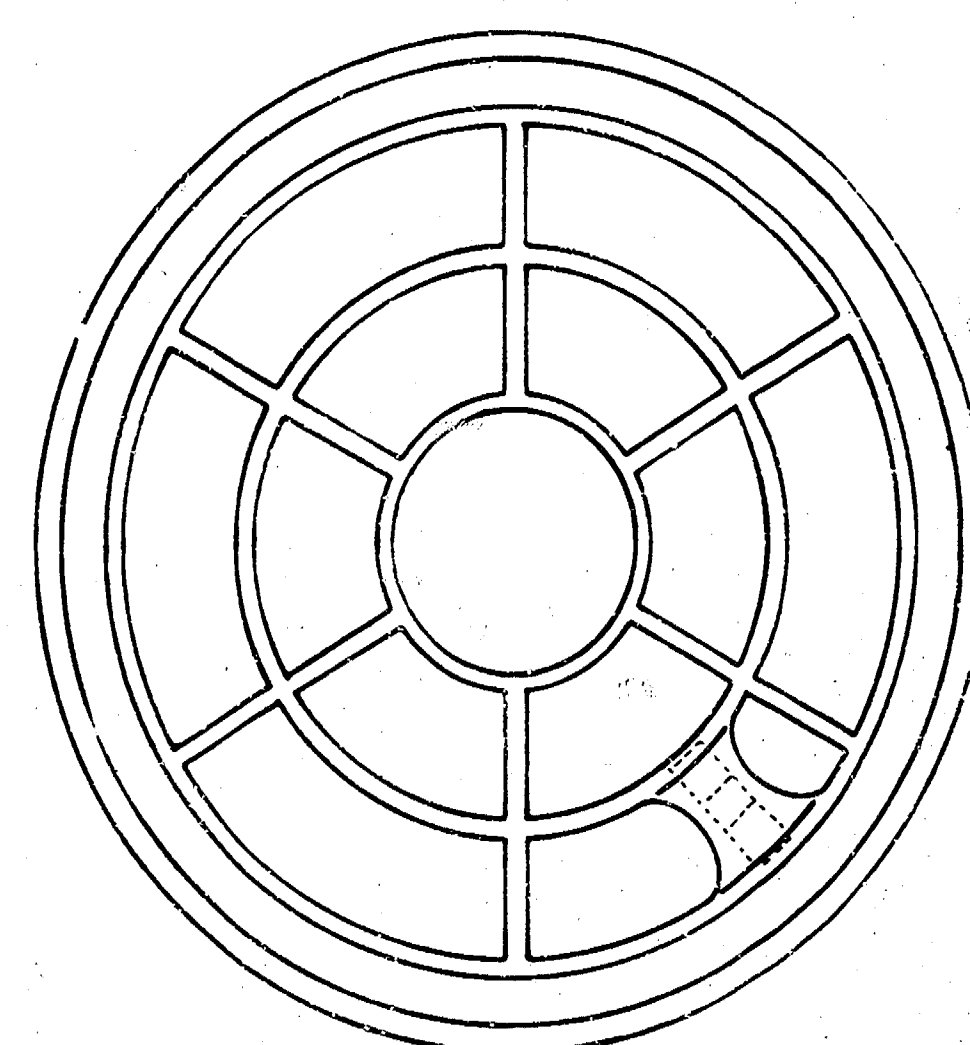
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

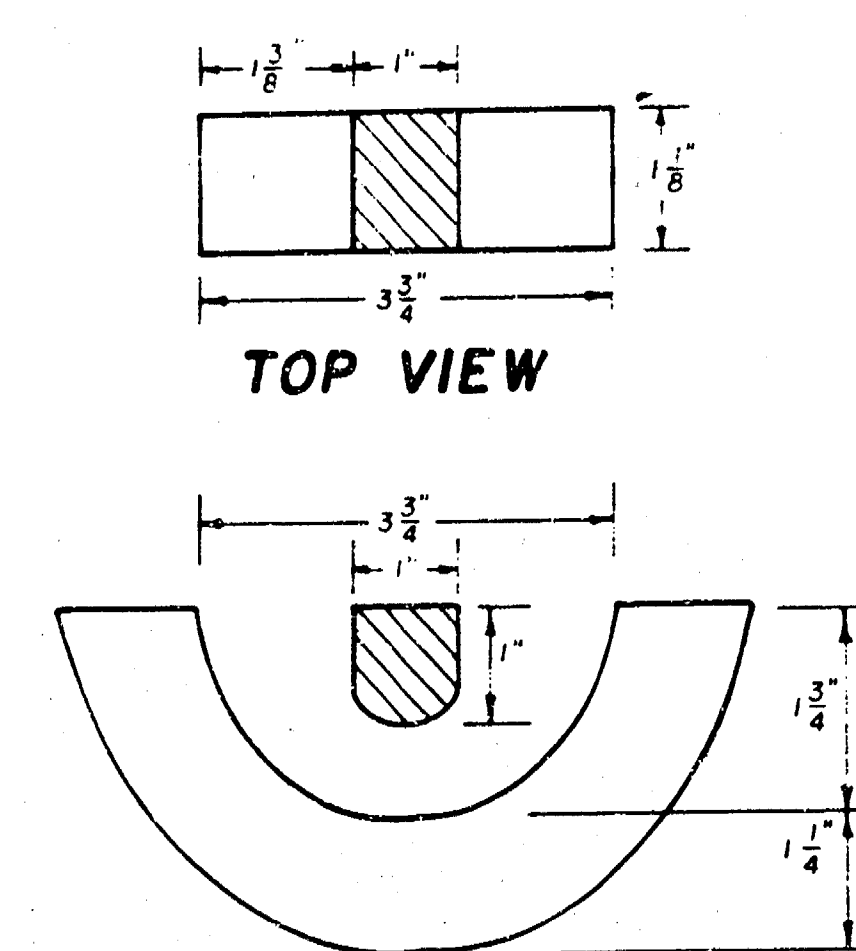


TOP VIEW



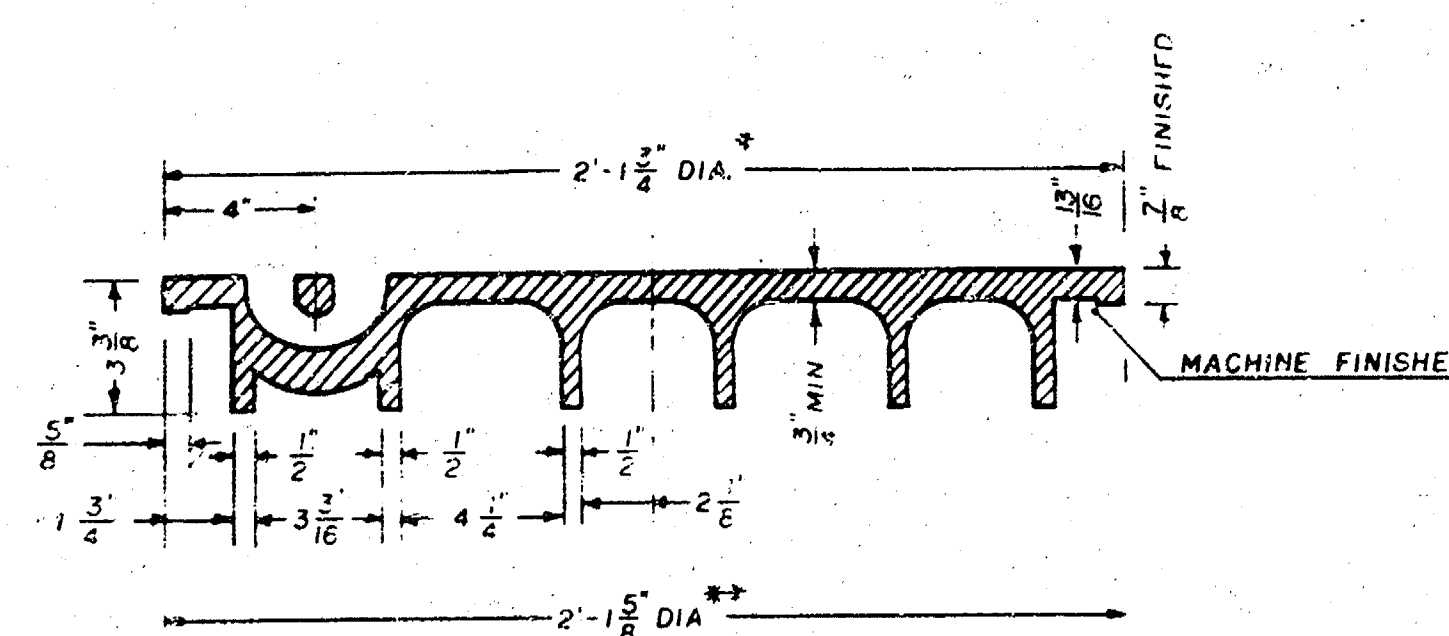
BOTTOM VIEW

PICKHOLE DETAIL



TOP VIEW

SECTION VIEW

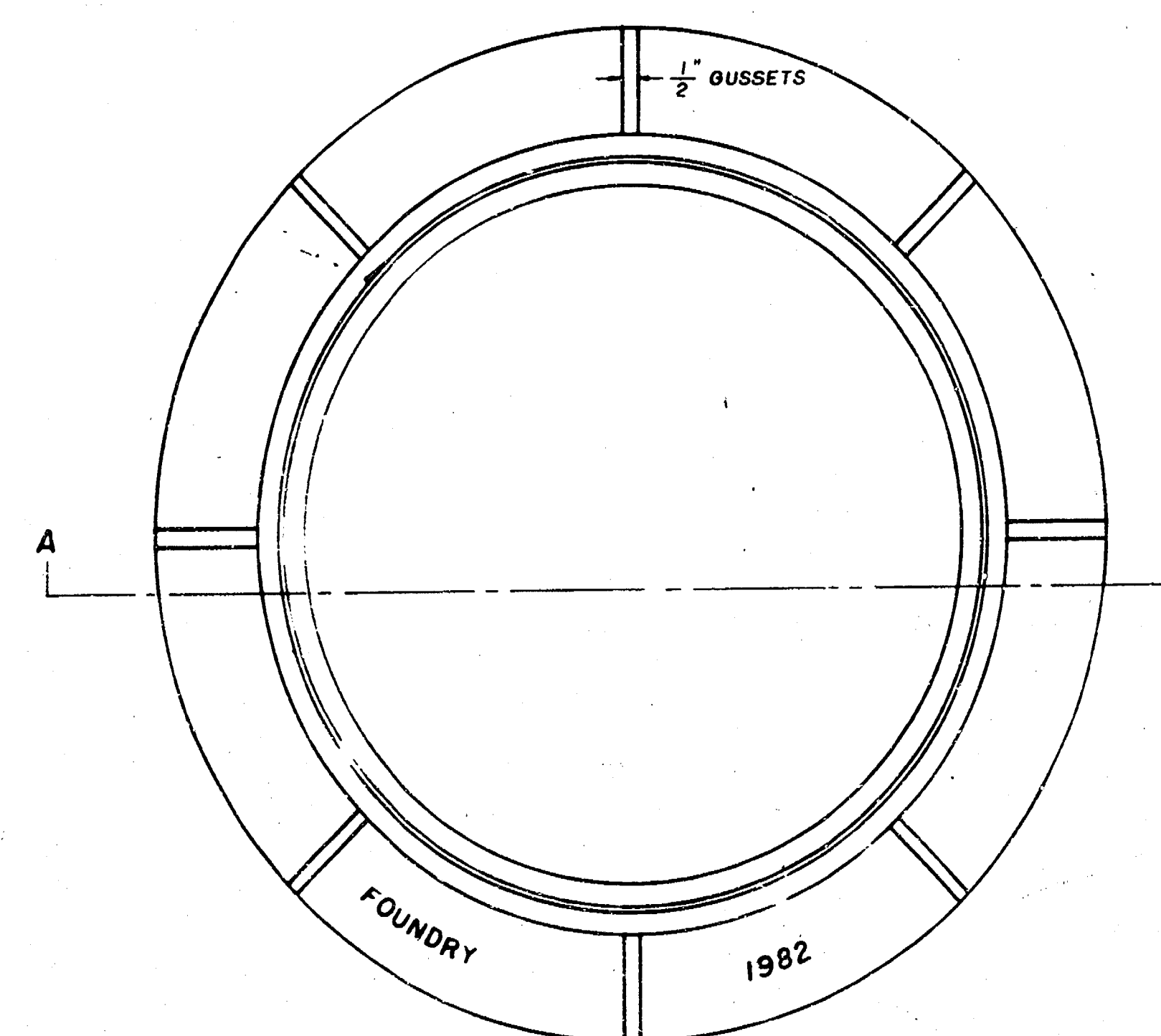


SECTION VIEW

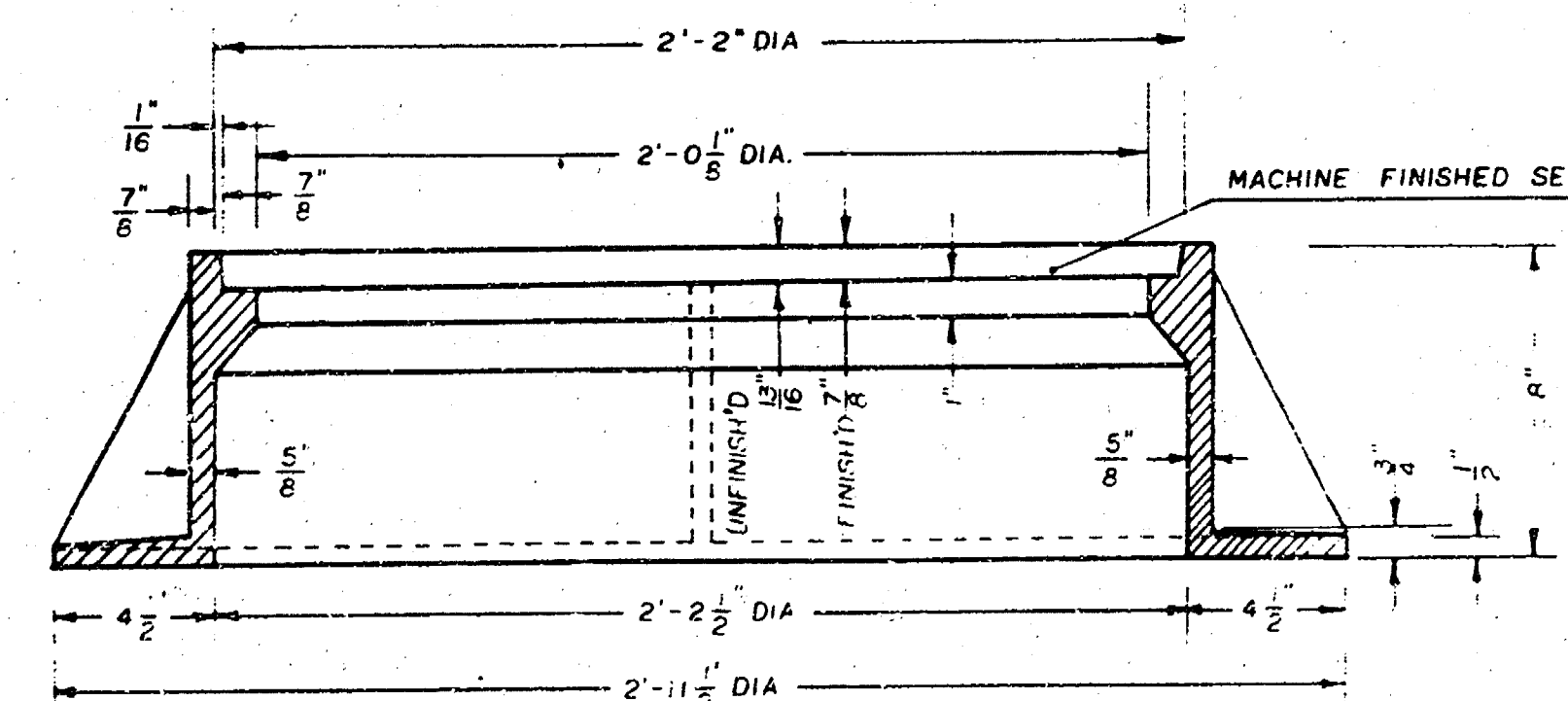
* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW

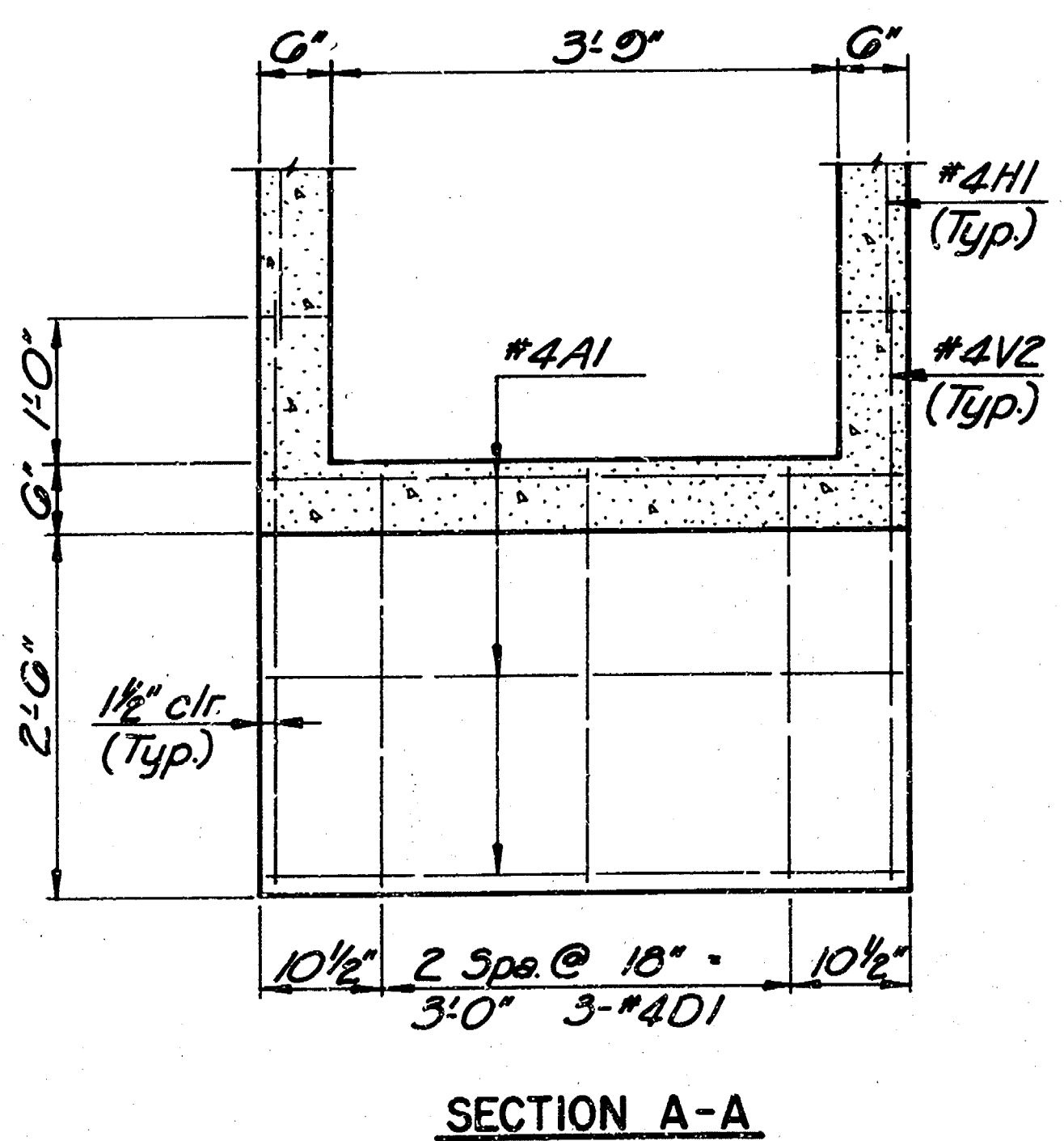
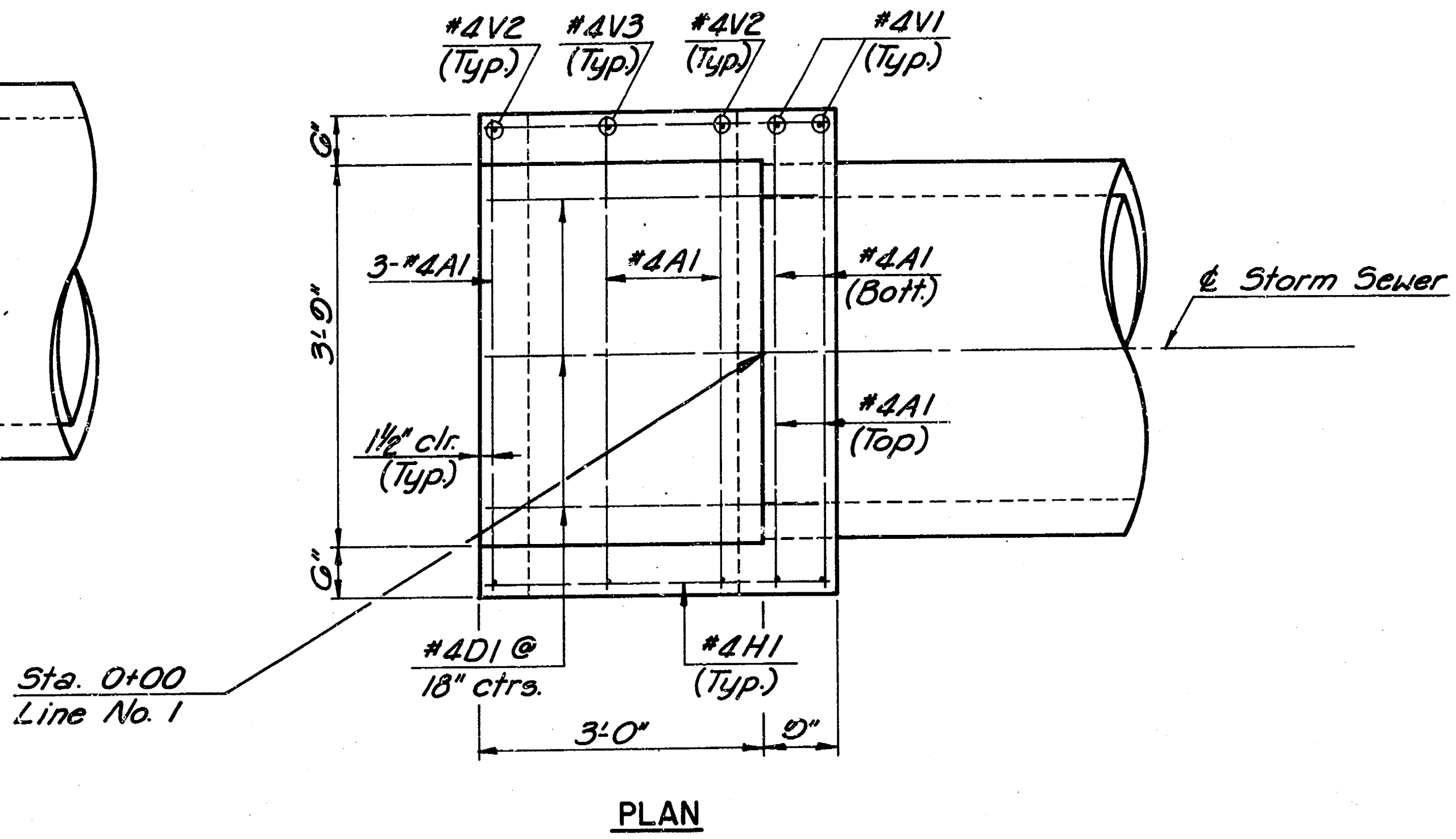
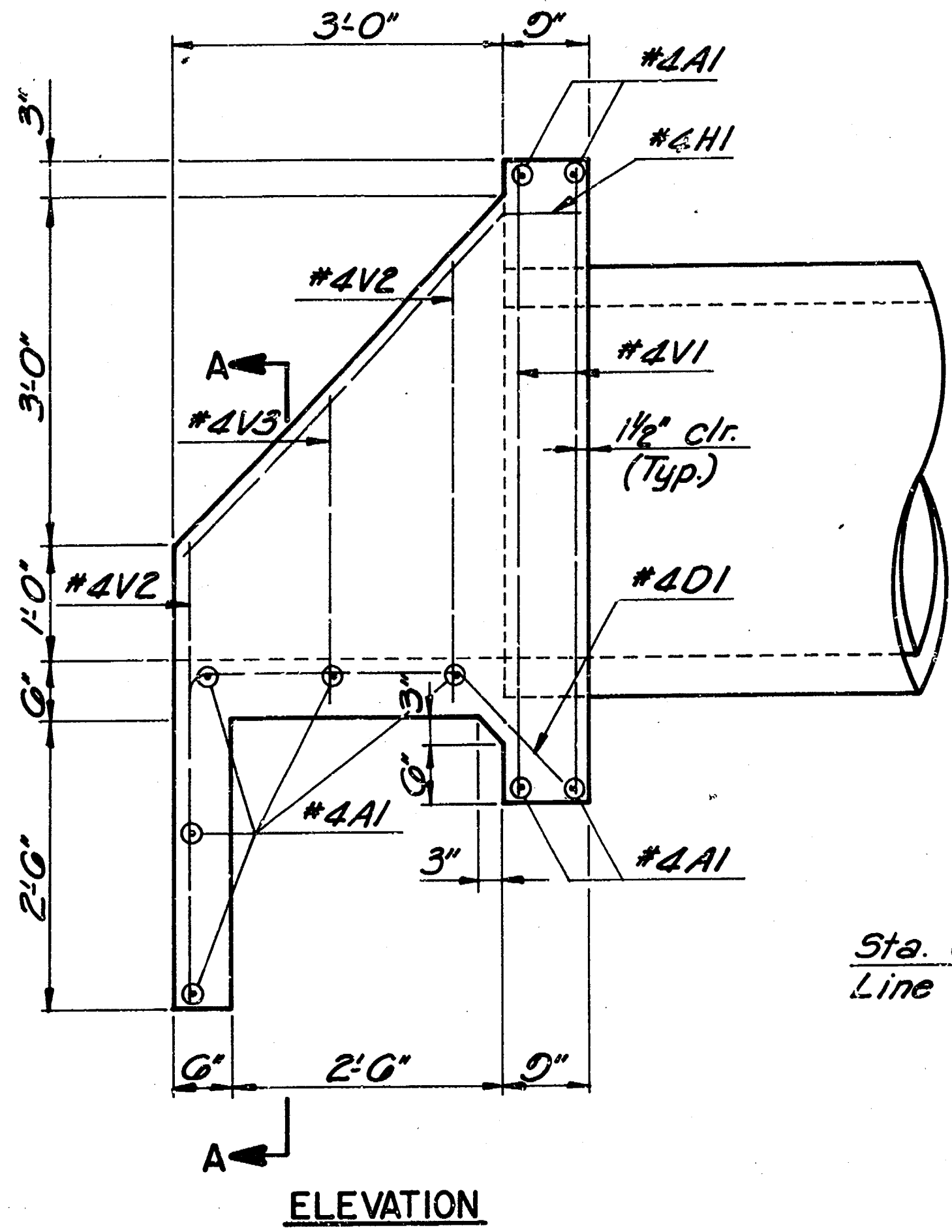


SECTION A-A

GENERAL NOTES

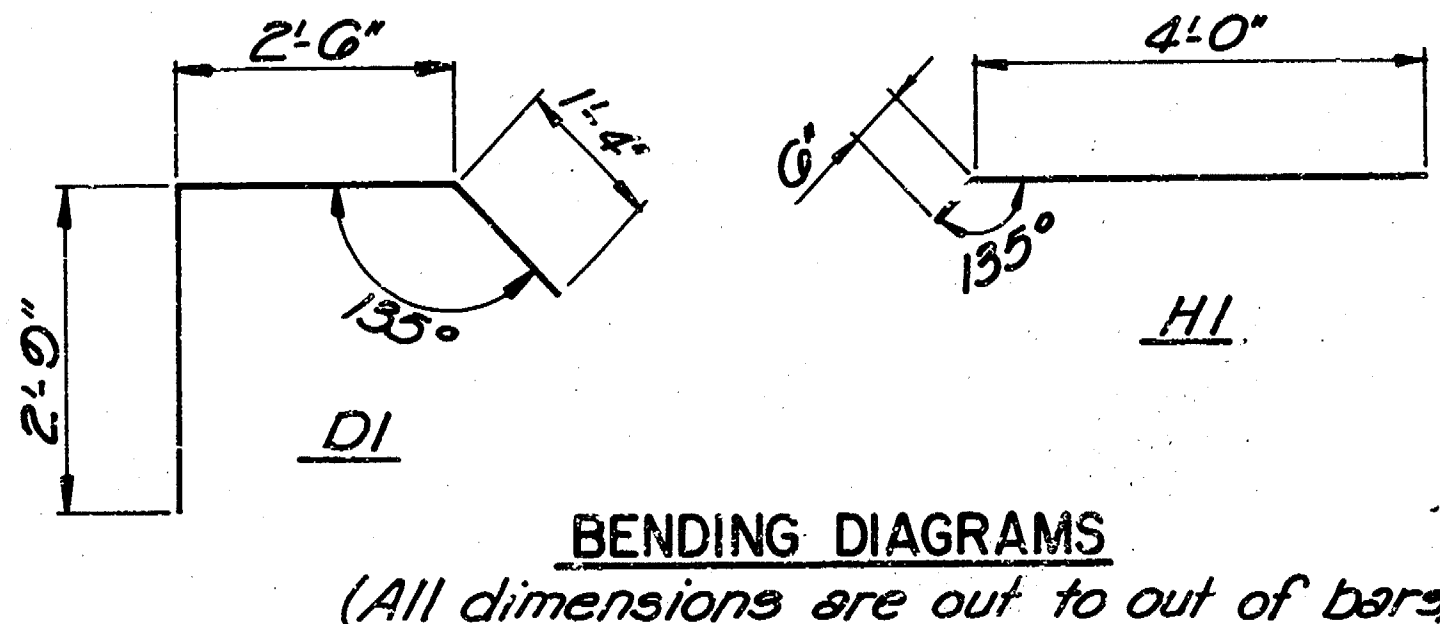
1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.
3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
4. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE FRAME SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

Note: For Manhole at Sta. 3+30, Install Beehive Grate (Neenah Type R-4353 or Approved Equal) in lieu of solid cover shown. Furnishing & installing said Beehive Grate shall be considered subsidiary to the unit price bid for "Type B Special Manhole".

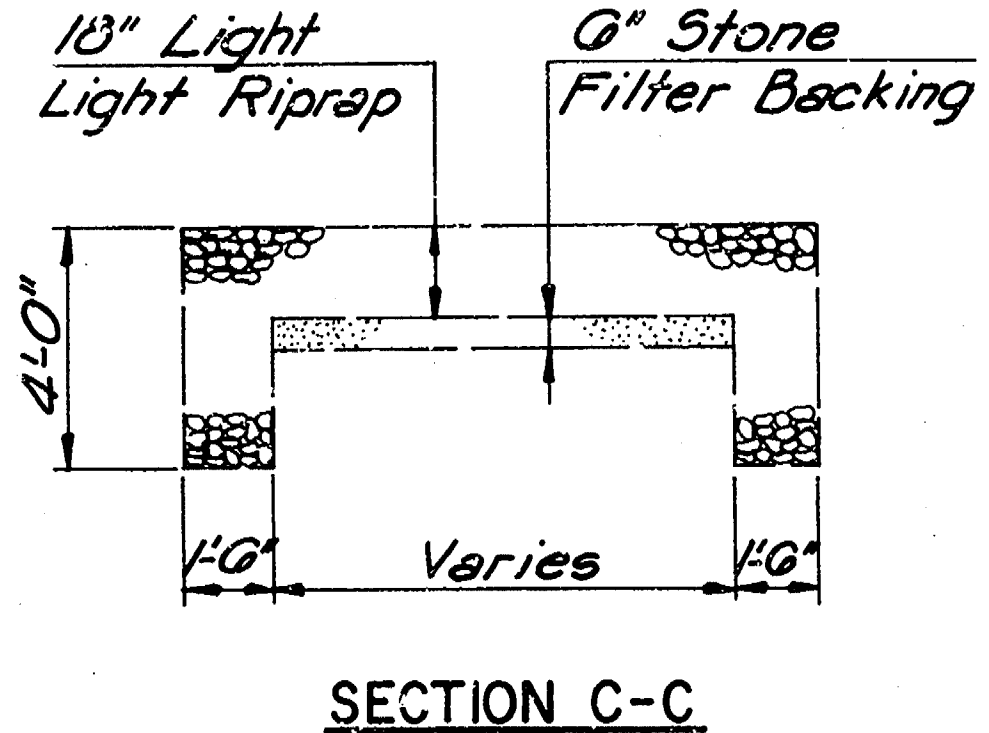
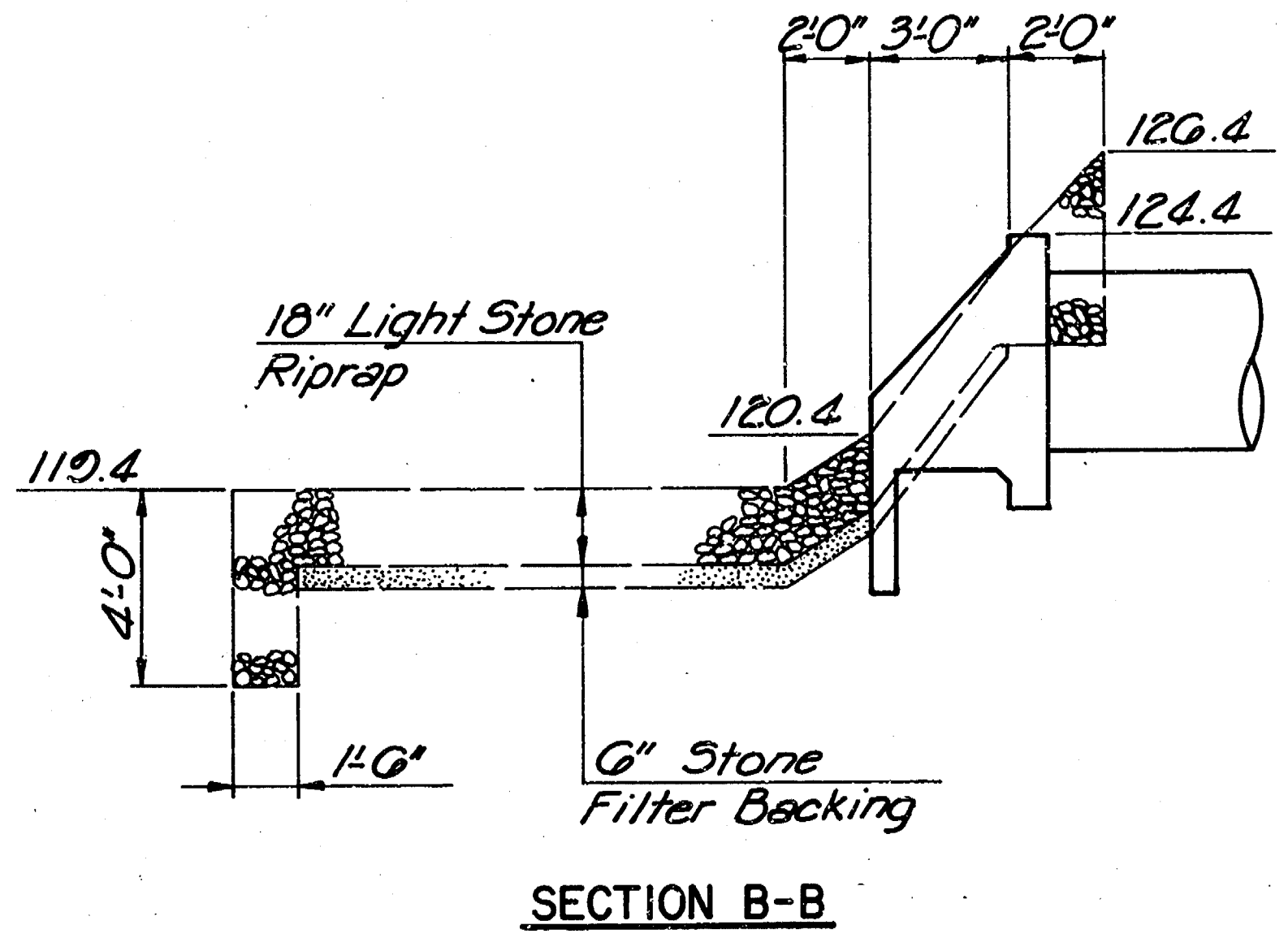
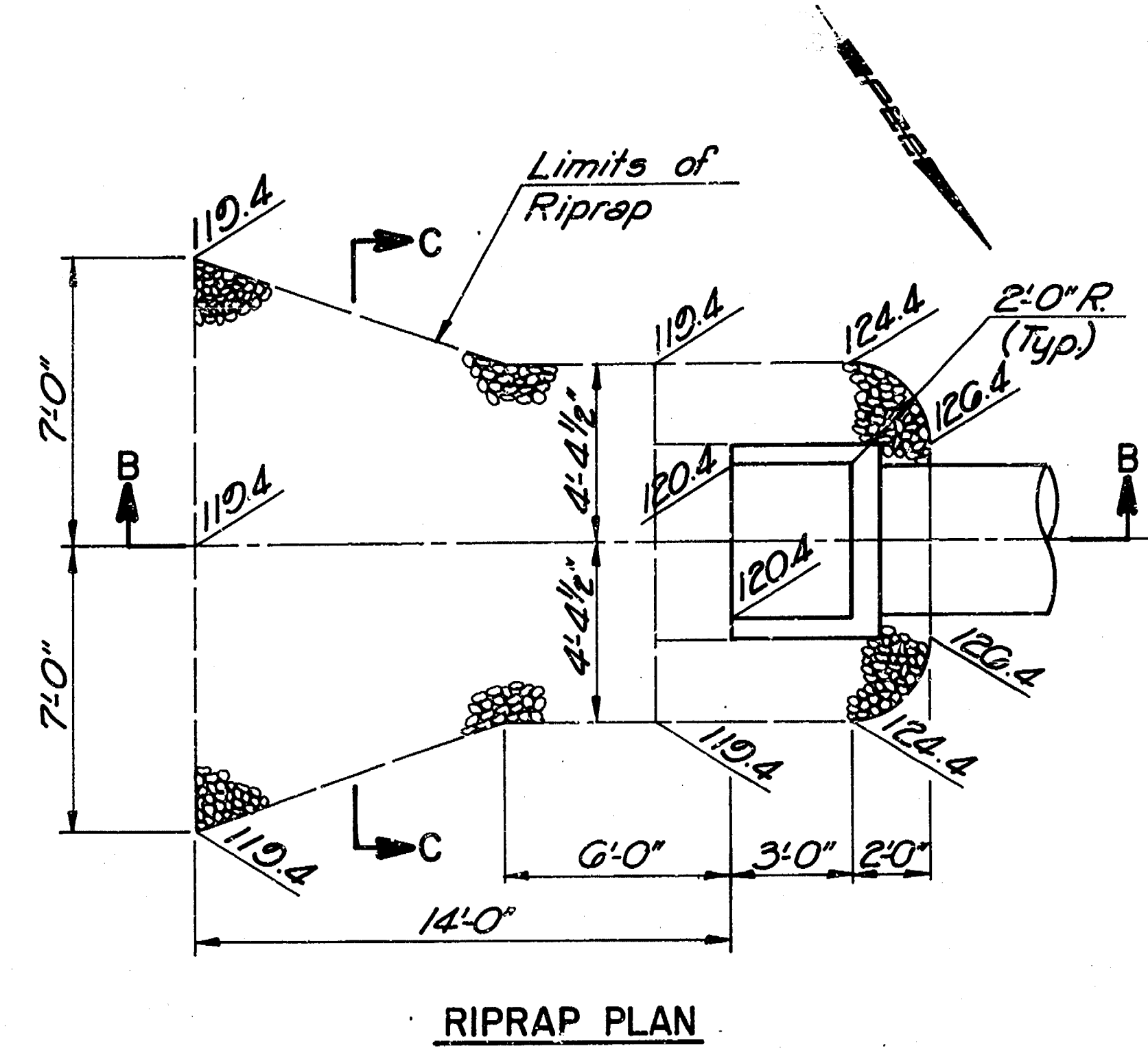


REINFORCING STEEL									
Bar	AI	DI	HI	VI	V2	V3			
Number	3	2	4	4	2				
Size	#4	#4	#4	#4	#4				
Length	4'-0"	6'-10"	4'-6"	5'-3"	3'-0"	2'-7"			

See Bending Diagrams



BILL OF MATERIALS	
Concrete	15 Cu. Yds.
Reinforcing Steel	75 Lbs.



GENERAL NOTES

CITY OF WICHITA CONCRETE PAVING MIX SHALL BE USED THROUGHOUT. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOLDING OR AN EDGING TOOL.

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 SPECIFICATIONS, GRADE 60. ALL BARS ARE #4. UNLESS OTHERWISE NOTED, DIMENSIONS SHOWN ARE TO CENTERLINE OF BAR AND CLEARANCES SHALL BE 1-1/2".

MATERIALS AND CONSTRUCTION METHODS FOR LIGHT STONE RIPRAP AND STONE FILTER COURSE BACKING SHALL CONFORM TO THE CITY OF WICHITA, KANSAS, STANDARD SPECIFICATIONS FOR "STORM SEWERS AND DRAINAGE". AT THE CONTRACTOR'S OPTION, ALTERNATE EROSION PROTECTION CONSTRUCTION MAY BE PROVIDED AS PROVIDED FOR IN SAID SPECIFICATIONS.

REINFORCED CONCRETE HEADWALL SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH COMPLETE AND IN PLACE. THIS SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILLING, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

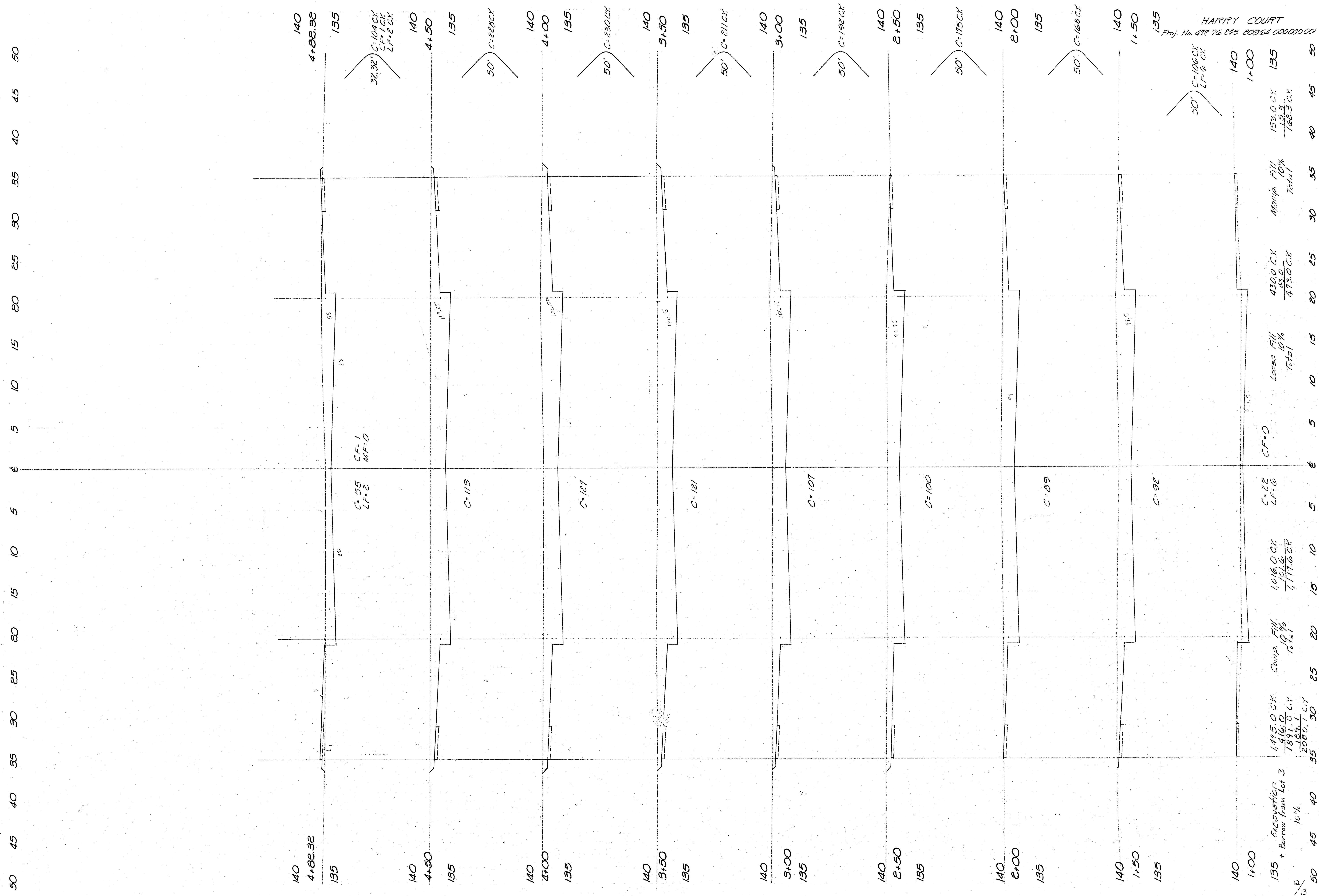
LIGHT STONE RIPRAP SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD OF FINISHED SURFACE COMPLETE AND IN PLACE AS MEASURED ON THE GROUND. TOEWALLS AND STONE FILTER COURSE BACKING SHALL NOT BE MEASURED OR PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE CONTRACT PRICE BID FOR "LIGHT STONE RIPRAP". SAID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILL, MATERIALS, GROUTING WHERE REQUIRED, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. ALTERNATE EROSION PROTECTION CONSTRUCTION SHALL BE PAID FOR ON THE SAME BASIS AS STATED ABOVE.

R. C. HEADWALL AND RIPRAP DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS
WICHITA, KANSAS

Designed by	MWB	Checked by	MWB
Drawn by	VJK	Date	March, 1985
		Job No.	85009



00 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

140

"G"

135

C=38 CK
CF=37 CK
LF=3 CK
MF=15 CK

140

"G"

135

C=0 CK
CF=68 CK
LF=38 CK
MF=21 CK

135

"F"

130

135

"F"

130

C=0 CK
CF=87 CK
LF=40 CK
MF=21 CK

135

"E"

130

135

"E"

130

C=0 CK
CF=143 CK
LF=69 CK
MF=21 CK

135

"D"

130

135

"D"

130

C=0 CK
CF=218 CK
LF=101 CK
MF=21 CK

135

"C"

130

135

"C"

130

C=0 CK
CF=68 CK
LF=101 CK
MF=21 CK

135

"B"

130

135

"B"

130

C=0 CK
CF=159 CK
LF=62 CK
MF=22 CK

140

"A"

135

140

"A"

135

C=23 CK
CF=30 CK
LF=6 CK
MF=11 CK

HARRY COURT
Proj. No. 412 TG 245 80264 000000.001

C=0 CF=10825
LF=1515 MF=25.6

A=263.5"

A=1126.6"

A=1189.0"