STREET IMPROVEMENTS

CUSTER AVE.

FROM N.L. 18TH ST. NO. TO S.L. McLEAN BLVD.

PROJ. NO. 472-82510

INDEX NO. 762872

CITY OF WICHITA, KANSAS

M. E. LINDEBAK - CITY ENGINEER

GENERAL NOTES:

1. Utility service lines, poles, valve boxes, meters, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

2. Contractor is solely responsible to notify and to make any necessary arrangements with utility companies for any needed adjustments of utility facilities prior to start of work.

3. Contractor will be required to provide as minimum advance notice of forty-eight (48) hours to utility companies prior to starting any excavation as follows:

Kansas One Call	687-2470
Southwestern Bell Telephone Company	1-316-571-2611
Cablevision	262-4270 or 263-2061
KPL Gas Servic.	263-7511
Kansas Gas and Electric	264-1141
City of Wichita Water Department	268-4308
City of Wichita Sewer Department	268-4071
ARKLA Gas Company	942-8350 or 263-8161

4. 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.

5. Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans. Where the new finished grade elevations do not match the existing ground elevations, 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.

6. Contractor will be required to obtain properly executed driveway request forms signed by property owners or their autorized representatives verifying driveway widths and locations. Such forms shall be submitted to the Engineer for his review and approval.

7. The Contractor shall give all property owners and/or tenants of developed property abutting the project limits a minimum of ten (10) days advance notice prior to start of construction.

8. The Contractor must examine the construction site prior to bidding and be satisfied as to the work shown for completion. After bids have been received, the Contractor shall not assert that there was a misunderstanding of the quantities of work or of the nature of the work to be completed.

9. All construction and materials, unless otherwise noted, to comply with City of Wichita specifications and standards.

10. Contractor shall give property owners abutting this project, whose yards will be lower than the new finished grade elevations at the right-of-way line, an opportunity to utilize excess excavated material from the project to regrade their yards to drain to the new pavement. Contractor will be required to dump and spread the excess material as required by the specifications when requested by the property owner. The Contractor shall ascertain that a dirt order form has been properly executed by the property owner before any such excess material is delivered to such properties.

11. Any fence removed for construction shall be repaired in a condition equal to, or better than original, at no additional cost to the owner. This cost shall be considered as subsidiary to other bid items.

12. Rubble Removal - Rubble from the removal of miscellanious structures and excess excavation which is 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 unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to US Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location. The cost of disposing of rubble from the removal of miscellaneous structures and excess excavation, including loading and hauling shall be subsidiary to the other bid items.

13. Mailboxes within the limits of the project shall be removed and replaced by the Contractor as approved by the Engineer. Contractor will be required to make satisfactory provisions for mail delivery to properties affected by this project during its construction. This cost is subsidiary to other bid items.

14. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage. This cost is subsidiary to other bid items.

15. All entrance and cross road pipe within the project limits shall be removed by the Contractor unless otherwise noted on the plans. Removal of such pipes shall conform to the applicable section of the standard specifications. This cost is subsidiary to other bid items.

16. 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 where proposed abuts an existing surface course or pavement removal. 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 other bid items.

17. The Contractor shall adjust water valve boxes and fire hydrants as directed by the Engineer. This cost is subsidiary to other bid items. The Water Department shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, water valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at his own expense.

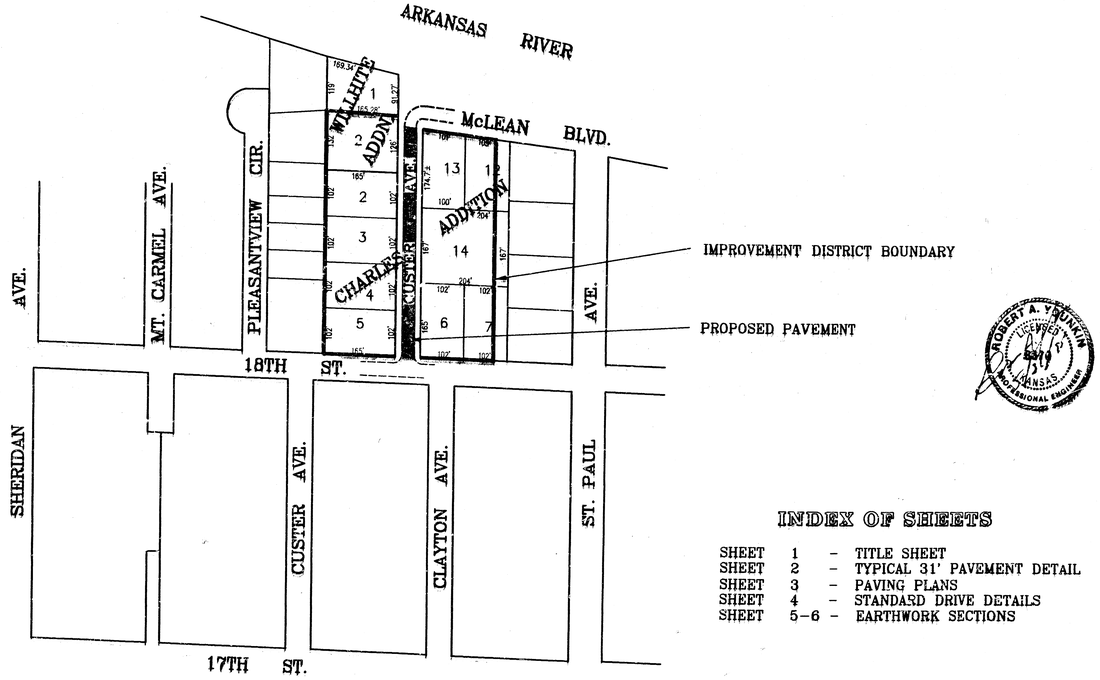
18. The project limits may have underground sprinkler systems which conflict with new construction. Contractor will be required to remove such improvements should they not be removed by their owner prior to the time of construction of the project. The Contractor will be required to salvage all sprinkler heads and/or valves and give such material to their owner. Portions of underground sprinkler systems not in conflict with new construction shall be protected from damage and shall remain in place. All work in connection with underground sprinkler systems shall be considered as subsidiary to the contract pay items of work.

19. Street to be closed during construction except for temporary access coordinated with the adjacent properties. The Contractor shall use construction methods which shall minimize inconvenience to residents in the project area. Contractor will be required to make special access provisions for any handicapped residents within the project area whose normal access would otherwise be impaired.

20. Earthwork computation for both alternates are based on alternate 1 which is to the bottom of the 8" reinforced crushed rock base.

21. Railroad ties and yard decorations within the limits of this project are to be stockpiled for their owner. This cost is subsidiary to the site preparation and restoration bid item.

22. The street R/W shall be seeded with temporary Rye grass at a rate of 250 lbs/acre. Unless it's in a developed area which is to conform to City's policy AR-78.

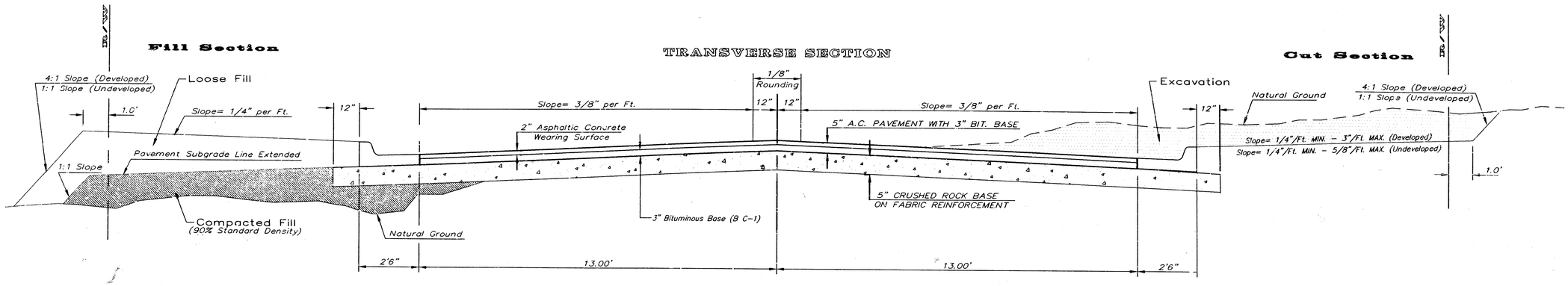


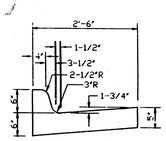
INDEX OF SHEETS

SHEET 1 - TITLE SHEET
SHEET 2 - TYPICAL 31' PAVEMENT DETAIL
SHEET 3 - PAVING PLANS
SHEET 4 - STANDARD DRIVE DETAILS
SHEET 5-6 - EARTHWORK SECTIONS

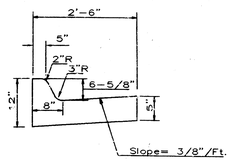
DRAWN BY R. LOOMIS

TYPICAL 31' B-B PAVEMENT DETAILS

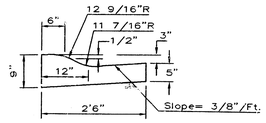




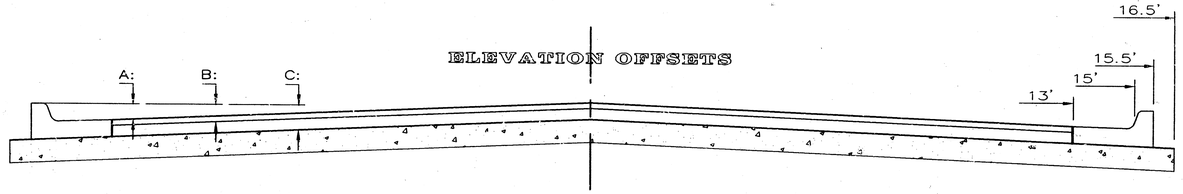
MODIFIED TYPE I
COMBINED CURB & GUTTER



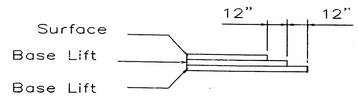
COMBINED CURB & GUTTER



COMBINED ROLL TYPE CURB & GUTTER



	DISTANCE FROM CENTERLINE (LT. & RT.)										
	0'	2'	4'	6'	7.5'	10'	12'	13'	15'	15.5'	16.5'
A: Top of Curbs to Top of Surface Lift	0.10	0.14	0.21	0.27	0.32	0.39	0.46	0.49	–	–	–
B: Top of Curbs to Top of Upper Base Lift	0.27	0.31	0.37	0.44	0.48	0.56	0.62	0.65	–	–	–
C: Top of Curbs to Top of C.R. Subgrade	0.52	0.56	0.62	0.69	0.73	0.81	0.87	0.90	0.97	0.98	1.01



TRANSVERSE CONSTRUCTION JOINTS

Transverse construction joints shall be constructed in flexible base pavements at locations where pavement joins existing flexible base pavement as shown by the detail. All costs associated with the construction of the transverse joint shall be included in the bid price for Square Yards 5" ASPHALTIC CONCRETE (3" BITUMINOUS BASE).

General Notes

FABRIC BASE REINFORCEMENT SHALL BE 8 X 1100 GEOGRID AS MANUFACTURED BY TENSAR CORPORATION OR APPROVED EQUAL. FABRIC BASE REINFORCEMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CRUSHED ROCK SHALL BE UNIFORMLY GRADED FROM 1-1/2" MAXIMUM SIZE TO NOT MORE THAN 10% PASSING A NO. 200 SIEVE. ROCK QUALITY SHALL BE THE SAME AS SPECIFIED FOR COARSE AGGREGATE FOR CONCRETE MIXES.

ROCK BASE IS TO BE COMPACTED AND SMOOTHED WITH A STEEL FACED ROLLER PRIOR TO PLACEMENT OF ASPHALT. TACK COAT WILL NOT BE APPLIED TO ROCK BASE.

A TACK COAT OF EMULSIFIED ASPHALT (SC-1H OR CSS-1H) SHALL BE APPLIED AT AN APPROXIMATE RATE OF 0.05 GALLONS PER SQUARE YARD BETWEEN EACH LIFT OF ASPHALTIC MATERIAL.

BITUMINOUS BASE AND ASPHALTIC CONCRETE WEARING SURFACE SHALL BE PLACED WITH A LAYDOWN MACHINE HAVING AUTOMATIC CONTROLS FOR LINE AND GRADE.

CONSTRUCTION JOINTS IN EACH LIFT SHALL BE STAGGERED A MINIMUM DISTANCE OF ONE (1) FOOT FROM JOINTS IN PRECEDING LIFTS AND PLACED SO THAT A JOINT WILL BE CONSTRUCTED ON THE CENTERLINE OF THE TOP LIFT.

THE ASPHALTIC CONCRETE PAVEMENT BETWEEN THE COMBINED CURB AND GUTTER SHALL BE PAID AS SQUARE YARDS OF 5" ASPHALTIC CONCRETE (3" BITUMINOUS BASE.)

5 INCH Residential Asphaltic Concrete Pavement with Crushed Rock Base on Fabric Reinforcement

CITY OF WICHITA, KANSAS
M. E. LINDEBAK – CITY ENGINEER

REV.

PROJECT NUMBER
472-76-245-82510-000-000-001

SHEET 2 OF 6

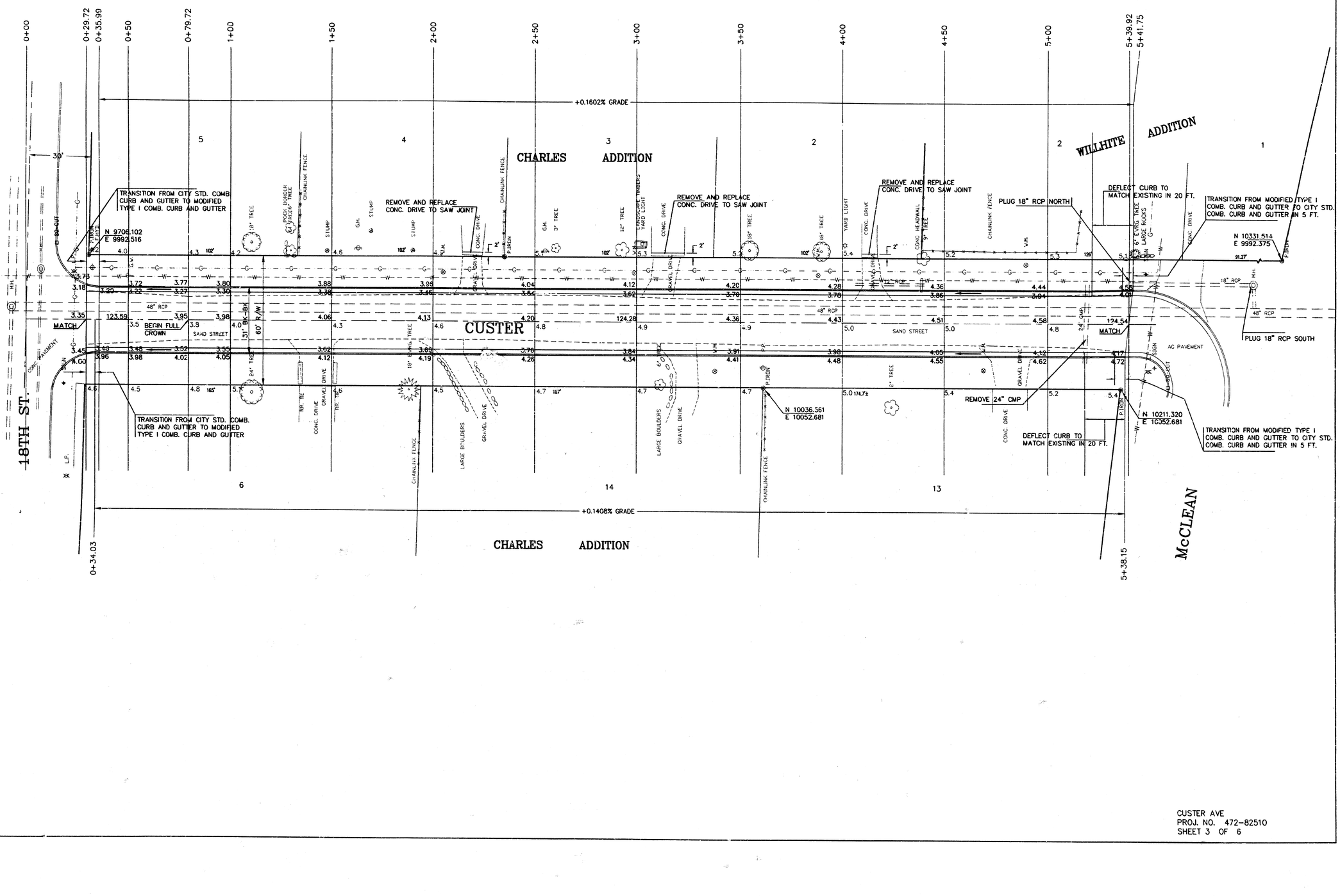
DESIGN	DRAWN	APPROVED	DATE	SCALE

CITY STD BENCHMARK DISC 32' EAST AND 23.5' SOUTH OF CENTER LINE BOTH SHERIDAN AND 17TH ST. NO.
ELEV. 125.146

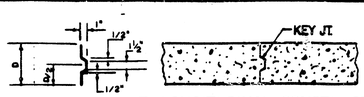
B.M. SQUARE CUT ON TOP CURB AT WEST END OF RADIUS AT NW CORNER OF 18TH ST. NO. AND CUSTER.
ELEV. 123.65

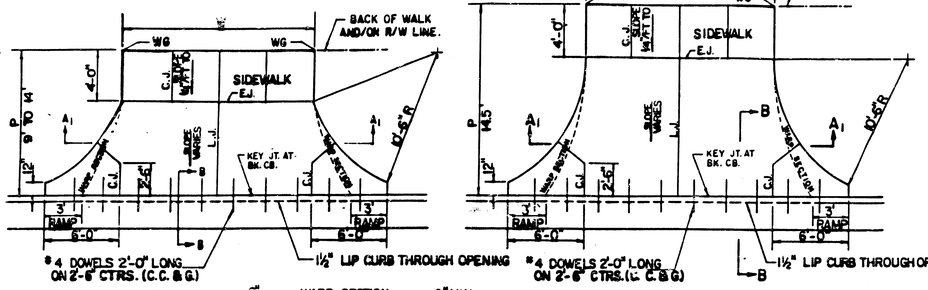
B.M. SQUARE CUT ON TOP CURB AT EAST END OF RADIUS AT SE CORNER OF CUSTER AND McLEAN BLVD.
ELEV. 124.93

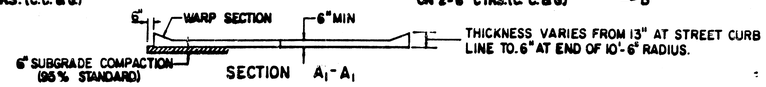
SCALE 1" = 20'

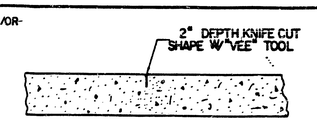


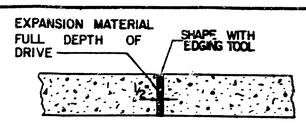
CUSTER AVE
PROJ. NO. 472-82510
SHEET 3 OF 6

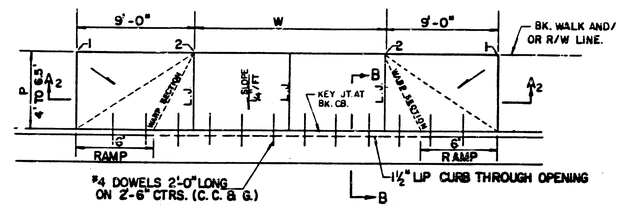


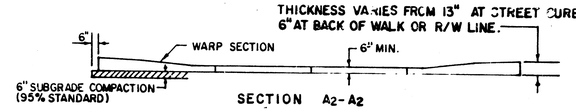






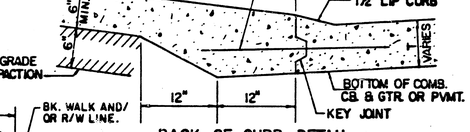






PARKING WIDTH "P"	9'	10'	11'	12'	13'	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.62'	0.80'	1.35'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.62'	0.62'	0.98'	1.22'	1.48'	1.74'	2.00	2.26	2.52'
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	-.19'	-.16'	-.13'	-.10'	-.06'	0.00	0.00	0.15'	0.25	0.35'	0.45	0.55'	0.65'

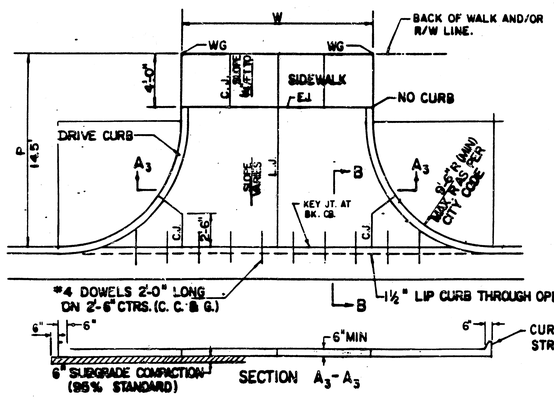
RADIUS RAMP DRIVES (P = 9.0' & GREATER)

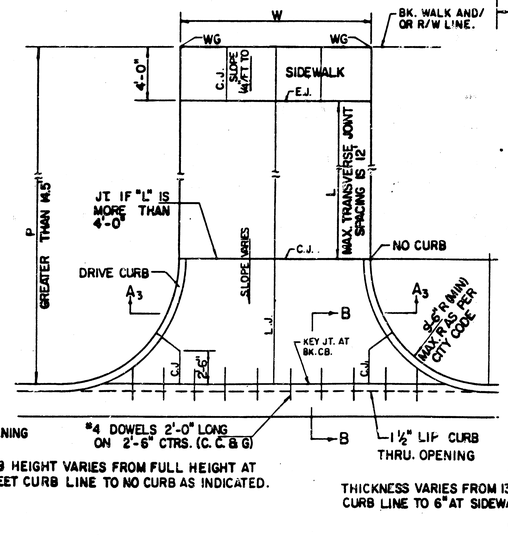


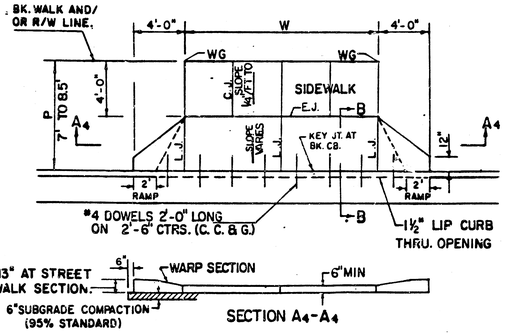
BACK OF CURB DETAIL
SECTION B - B (no scale)

PARKING WIDTH "P"	4'	4.5'	5'	5.5'	6'	6.5'
DIST. OF PT. "WG" TOP OF FULL CB.	0.08'	0.09'	0.10'	0.12'	0.13'	0.14'
DIST. OF PT. "WG" BELOW TOP OF FULL CB.	-.34'	-.32'	-.30'	-.28'	-.26	-.22'

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







CURB HEIGHT VARIES FROM FULL HEIGHT AT STREET CURB LINE TO NO CURB AS INDICATED.

PARKING WIDTH "P"	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.72'	1.27'	1.77'	2.27'	2.77'	3.27'	3.77'	4.27'
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)

PARKING WIDTH "P"	7'	7.5'	8'	8.5'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.08	0.02'	0.18'	0.22'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE TOP OF FULL CB.	0.08	0.02'	0.18'	0.22'
OPTIMUM MIN. DIST. OF PT. "WG" BELOW TOP OF FULL CB.	-.15'	-.16'	-.17'	-.17'
ABSOLUTE MAX. DIST. OF PT. "WG" BELOW TOP OF FULL CB.	-.25'	-.20'	-.20'	-.20'

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

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 "W" DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A "W" 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 ABUTS SIDEWALK. ONE HALF INCH EXPANSION JOINTS SHALL ALSO BE INSTALLED ALONG THE PROPERTY LINE AND/OR BACK OF WALK LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ABUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
8. ALL DRIVEWAYS SHALL BE A MINIMUM OF 6" IN THICKNESS AND SHALL BE WITHOUT REINFORCEMENT. DRIVEWAYS MAY BE CONSTRUCTED THICKER THAN 6" AND THEY MAY BE REINFORCED WITH 6"x12" W4-W4 WELDED WIRE FABRIC WHEN PROPERLY AUTHORIZED BY THE PROPERTY OWNER WITH THE ENGINEER'S CONCURRENCE.
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.

REVISED APRIL 1994 (JKB)

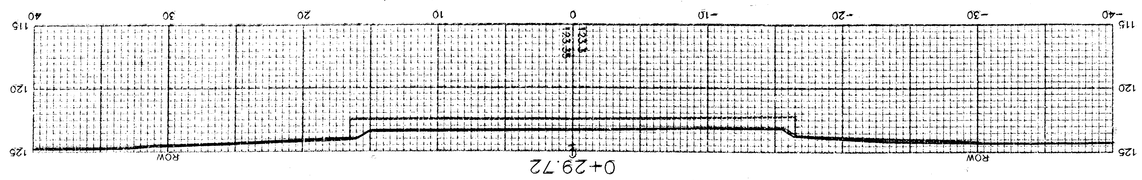
SCALE: 1" = 5'

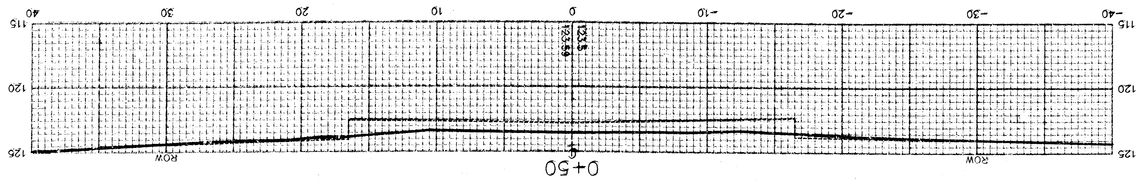
STANDARD DRIVE ENTRANCES FULL HEIGHT CURB

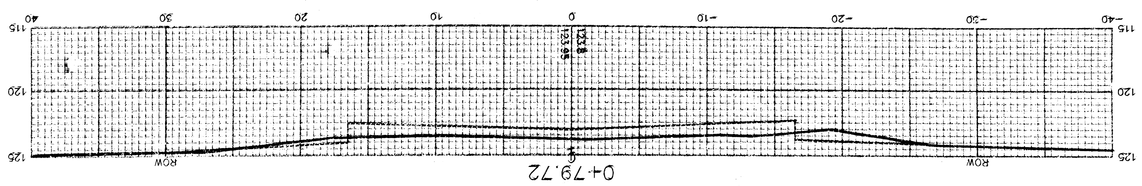
CITY OF WICHITA, KANSAS

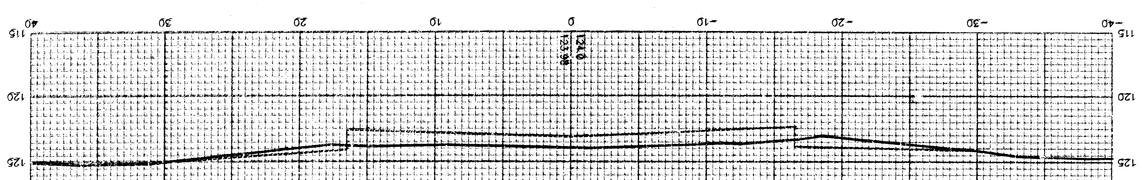
PROJECT NUMBER

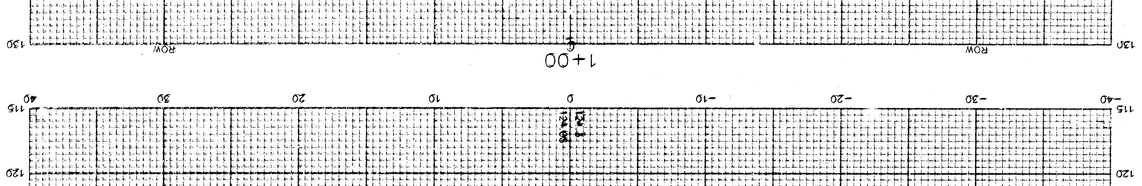
10-1-5-5

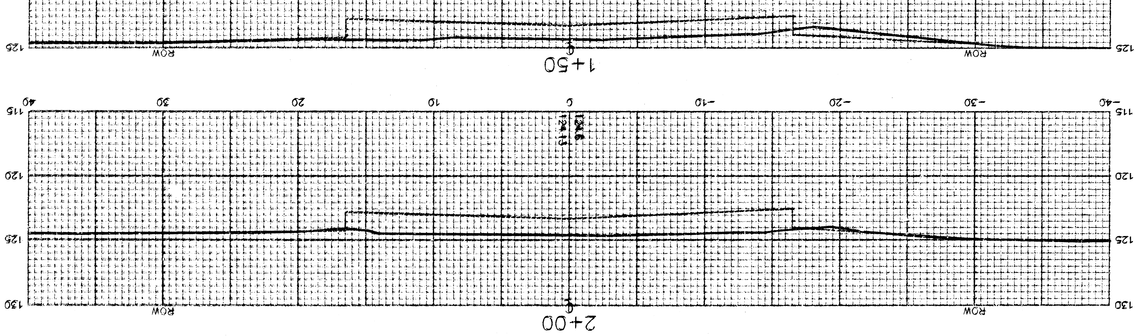

0+29.72
123.35
ROW
ROW

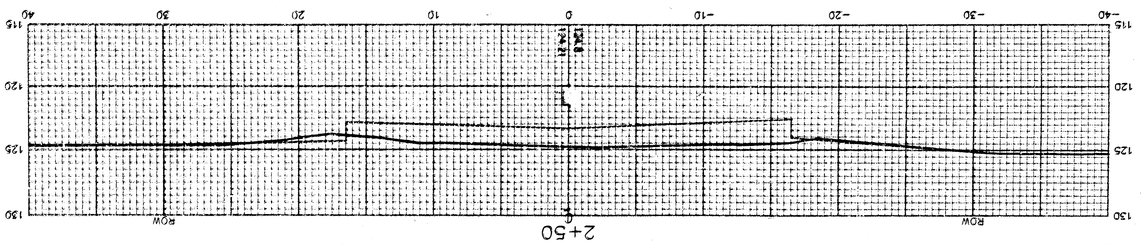

0+50
123.59
ROW
ROW

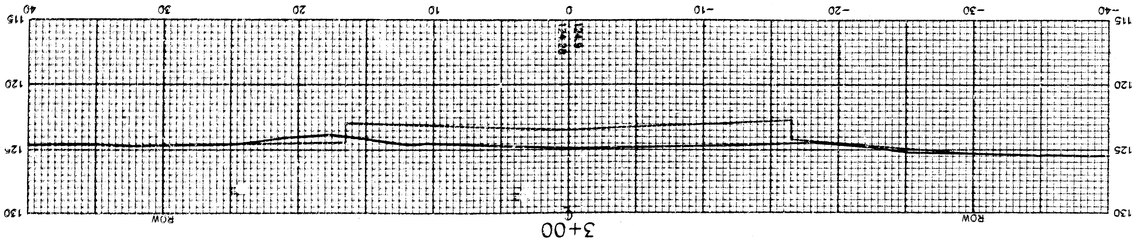

0+79.72
123.95
ROW
ROW

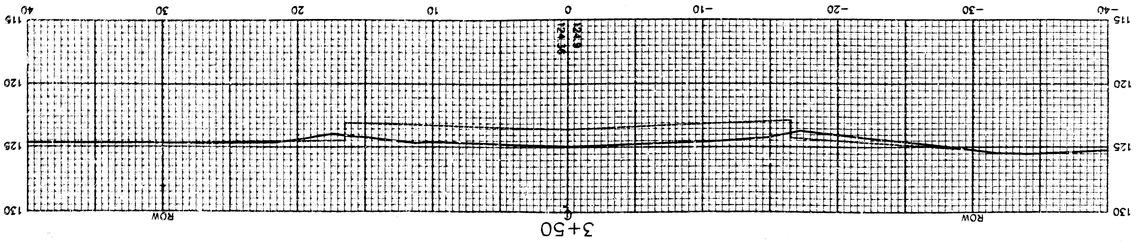

1+00
124.00
ROW
ROW


1+50
124.41
ROW
ROW

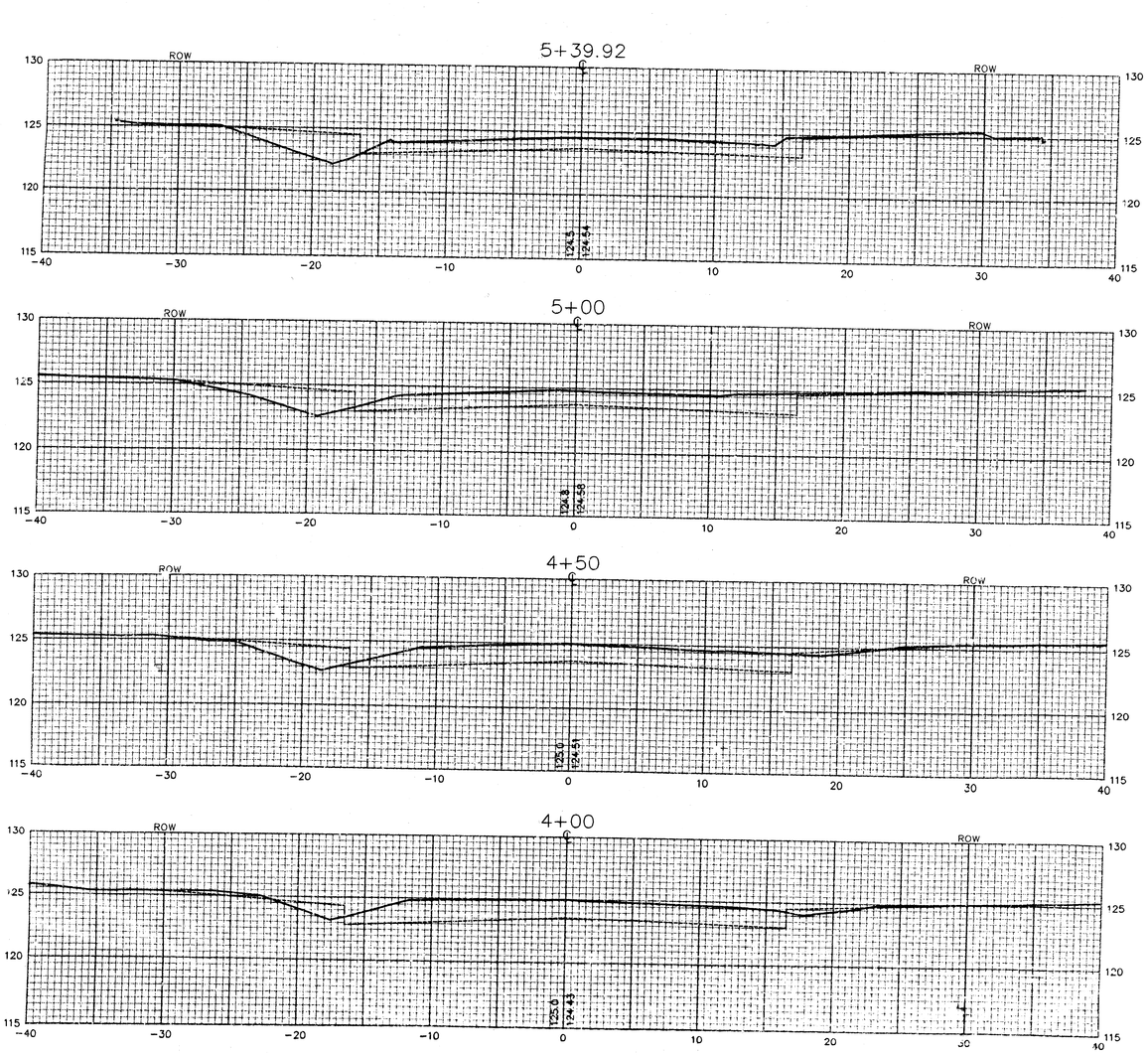

2+00
124.73
ROW
ROW


2+50
124.81
ROW
ROW


3+00
124.96
ROW
ROW


3+50
124.96
ROW
ROW

STATION	AREAS Square Feet		VOLUMES Cubic Yards		CUMULATIVE VOLUMES Cubic Yards	
	CUT	FILL	CUT	FILL	CUT	FILL
0+29.72	31.77	0.00				
			23.07	1.12	23.07	1.12
0+50	29.67	2.97				
			32.18	5.42	55.26	6.53
0+79.72	28.80	6.87				
			22.72	6.07	77.98	12.60
1+00	31.71	9.28				
			69.32	13.45	147.30	26.05
1+50	43.16	5.24				
			87.61	5.65	234.92	31.70
2+00	51.46	0.86				
			95.21	3.34	330.13	35.04
2+50	51.37	2.75				
			95.88	5.38	426.01	40.42
3+00	52.19	3.06				
			92.24	8.23	518.26	48.65
3+50	47.44	5.83				
			89.75	10.46	608.00	59.11
4+00	49.49	5.47				
			85.64	15.28	693.65	74.40
4+50	43.00	11.04				
			76.15	22.95	769.79	97.35
5+00	39.24	13.75				
			51.78	20.50	821.57	117.85
5+39.92	30.80	13.98				
			0.00	0.00	821.57	117.85



SHEET 6 OF 6

18-4-52