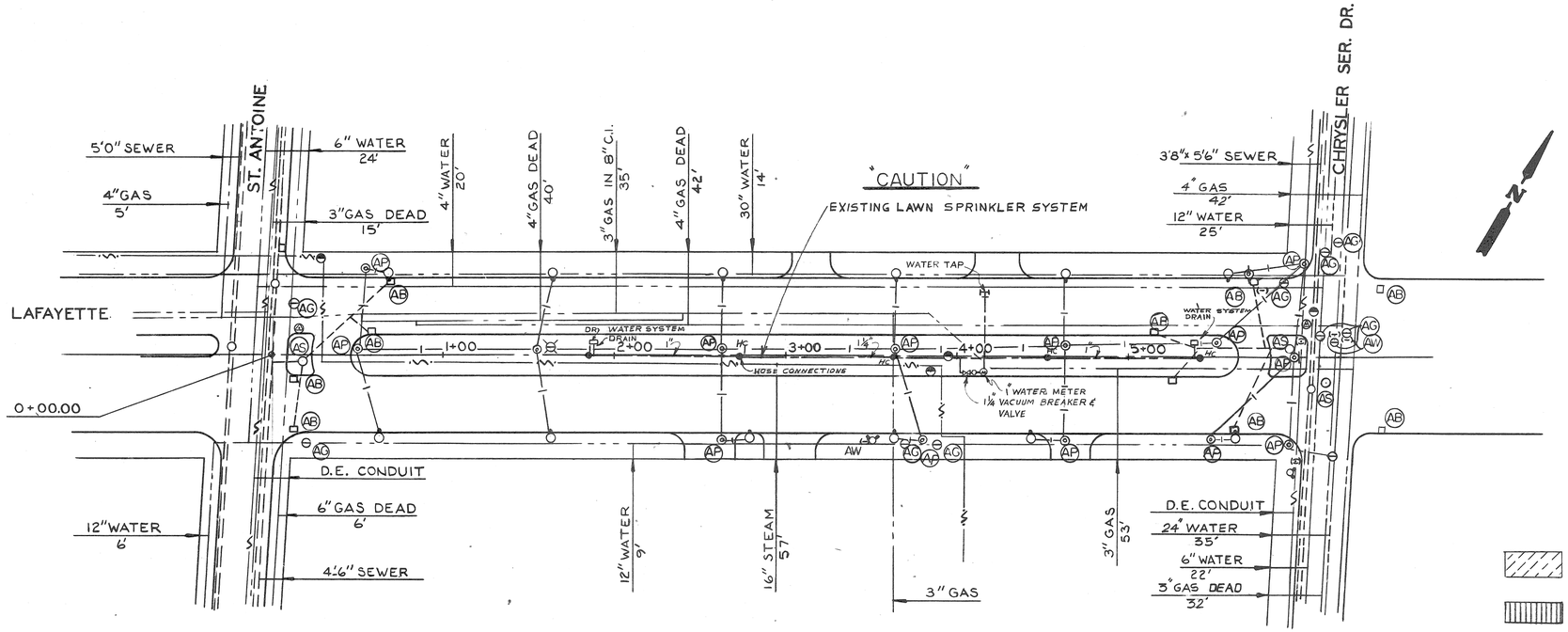


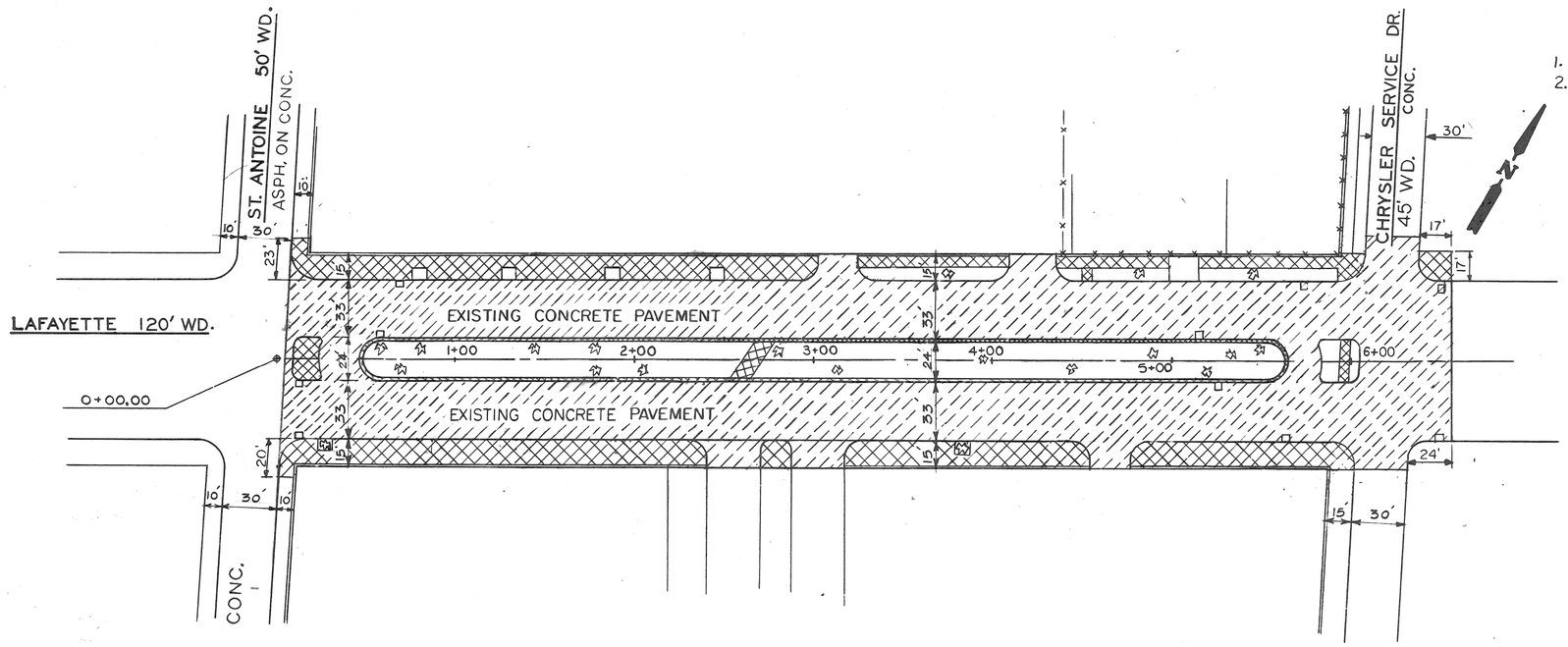
UTILITY PLAN
SCALE: 1"= 40'

REMOVAL LEGEND

- PAVEMENT REMOVAL
- REMOVE BITUMINOUS SURFACE AND RESURFACE
- SIDEWALK REMOVAL
- EXISTING TREES TO REMAIN

NOTES

1. FOR UTILITY LEGEND AND SYMBOLS, SEE SHEET NO.8
2. LOCATION OF EXISTING UTILITY LINES ARE BASED ON THE BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY.



REMOVAL PLAN
SCALE: 1"=40'

REFERENCE DRAWINGS						
COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	
REVISIONS LOCATED BY COORDINATES ON SHEET						

DESIGNED BY R. Zagmeh
DRAWN BY A.Brown
TRACED BY
CHECKED BY Wadim Haidar

APPROVED:
ENGINEER OF STREETS
HIGHWAY ENGINEER

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND MISCELLANEOUS CONSTRUCTION

REMOVAL AND UTILITY SHEET

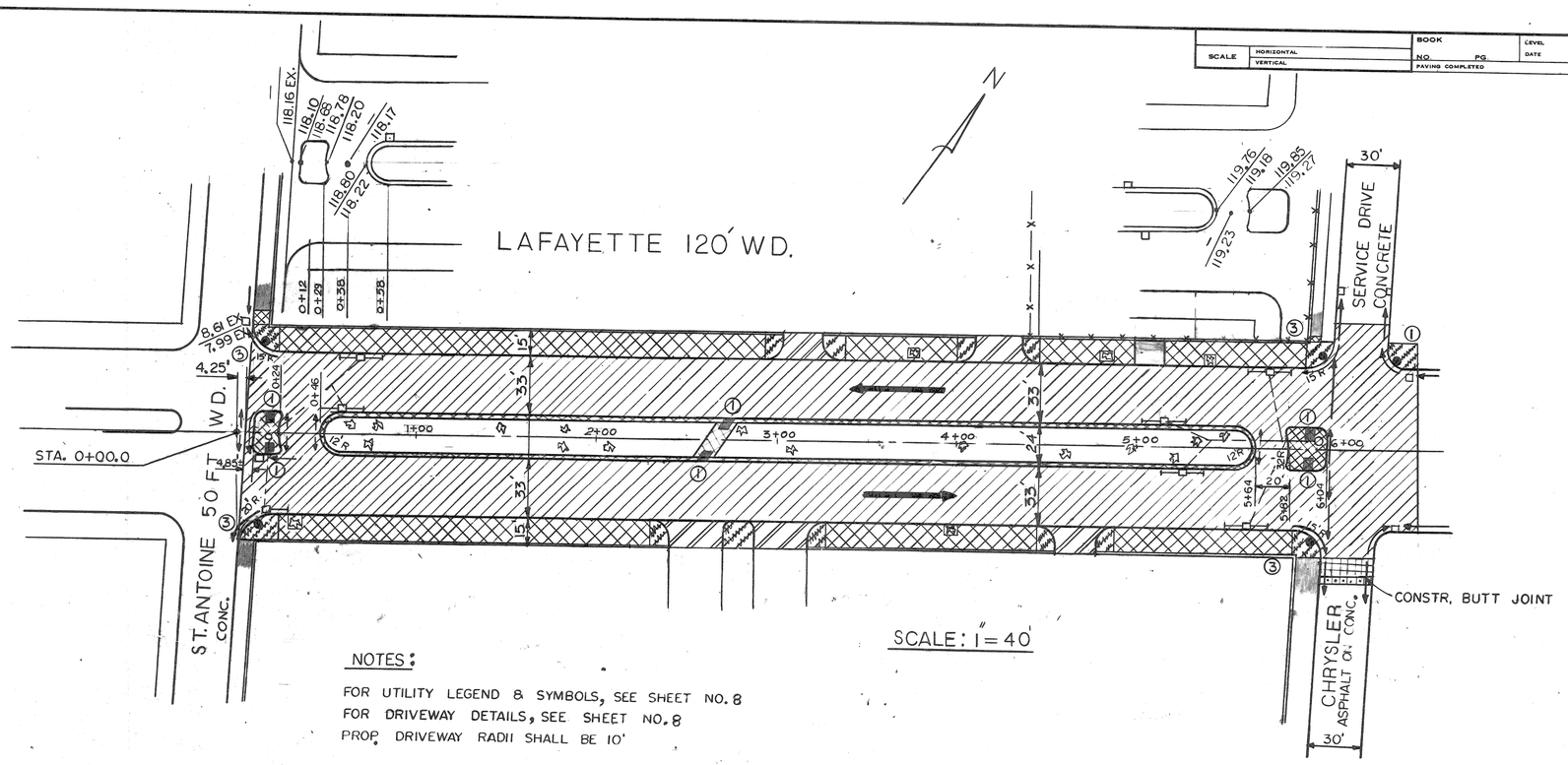
SHEET 2 OF 12 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 89-22-30
DATE: MAY, 1993

SCALE	HORIZONTAL	BOOK	LEVEL
	VERTICAL	NO. PG.	DATE
		PAVING COMPLETED	

BEFORE STARTING CONSTRUCTION——CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.

NOTE - FOR SYMBOLS Ⓐ ETC. SEE STANDARD DETAIL DRAWING NO. C-4178

BENCH MARKS	ELEV
P.B.M. #38-352 N.W. CORNER LAFAYETTE & ORLEANS	125.31
P.B.M. #38-2518 N.W. CORNER LAFAYETTE & RIVARD	118.78
C.B.M. #1→HYD. S.W. CORNER LAFAYETTE & S.B. CHRY. SD.	122.13
C.B.M. #2→HYD. SOUTH SIDE LAFAYETTE STA. 3+51	122.63
C.B.M. #3→HYD. CENTER OF ISLAND WEST SIDE ST. ANTOINE & LAFAYETTE	121.49



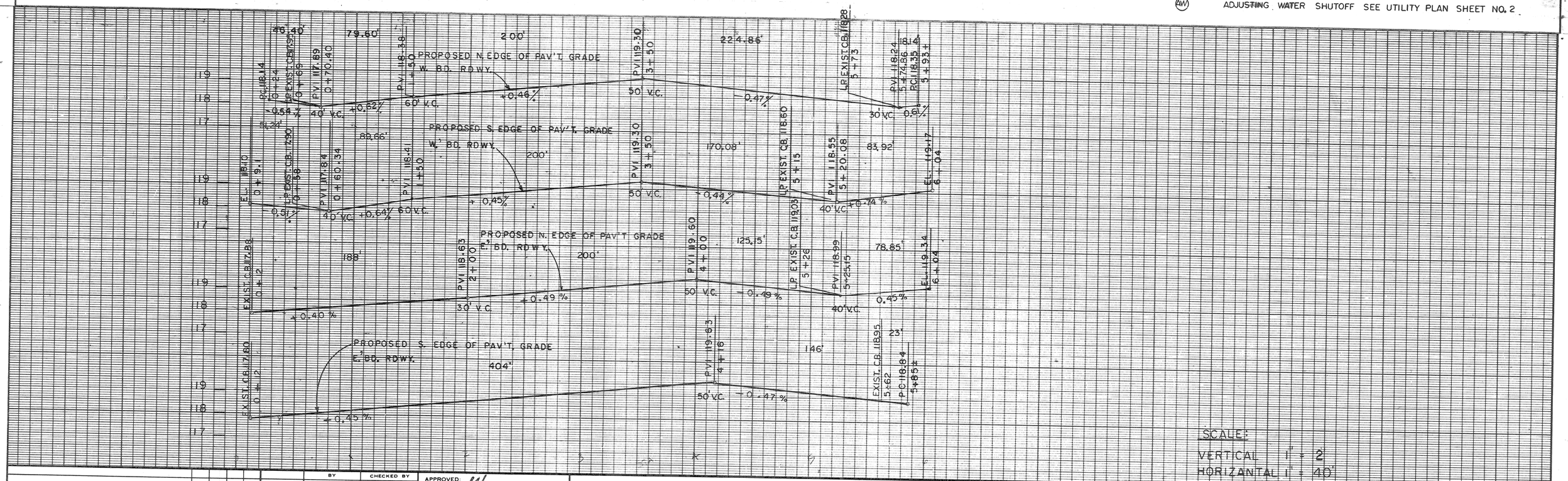
SCALE: 1" = 40'

NOTES:

FOR UTILITY LEGEND & SYMBOLS, SEE SHEET NO. 8
FOR DRIVEWAY DETAILS, SEE SHEET NO. 8
PROP. DRIVEWAY RADII SHALL BE 10'

SURFACING LEGEND

- DRAINAGE DIRECTION ARROW
- TRAFFIC DIRECTION ARROW
- CONCRETE PAVEMENT - 9" UNIFORM REINFORCED WITH REINFORCED INTEGRAL CURB
- CONCRETE SIDEWALK - 6"
- CONCRETE PAVEMENT NONREINFORCED — 8" DRIVEWAY
- CONCRETE SIDEWALK - 4"
- ① ③ SIDEWALK RAMP TYPE 1, TYPE 3
- PROPOSED 6" SUBGRADE UNDER DRAIN AT EXISTING CATCH BASIN
- EXISTING SIDEWALK TO REMAIN
- EXISTING CATCH BASIN, M.H., & INLET SEWER TO REMAIN
- REMOVE BITUMINOUS SURFACE AND RESURFACE WITH 1300T, 20AAA
- EXISTING TREES TO REMAIN
- (AB) (AS) (AG) (AP) ADJUSTING DRAINAGE STRUCTURE COVER CASE I OR II SEE UTILITY PLAN SHEET NO. 2
- (AW) ADJUSTING WATER SHUTOFF SEE UTILITY PLAN SHEET NO. 2



SCALE:
VERTICAL 1" = 2'
HORIZONTAL 1" = 40'

DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	H. E.	
GRADE	R. Yagonch	
ESTIMATE	R. Yagonch	
FINAL	CHECK Ibrahim Hanna	REVIEW

APPROVED: [signature] ENGINEER OF STREETS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND MISCELLANEOUS CONSTRUCTION

PLAN AND PROFILE
ST. ANTOINE TO CHRYSLER SERVICE DRIVE

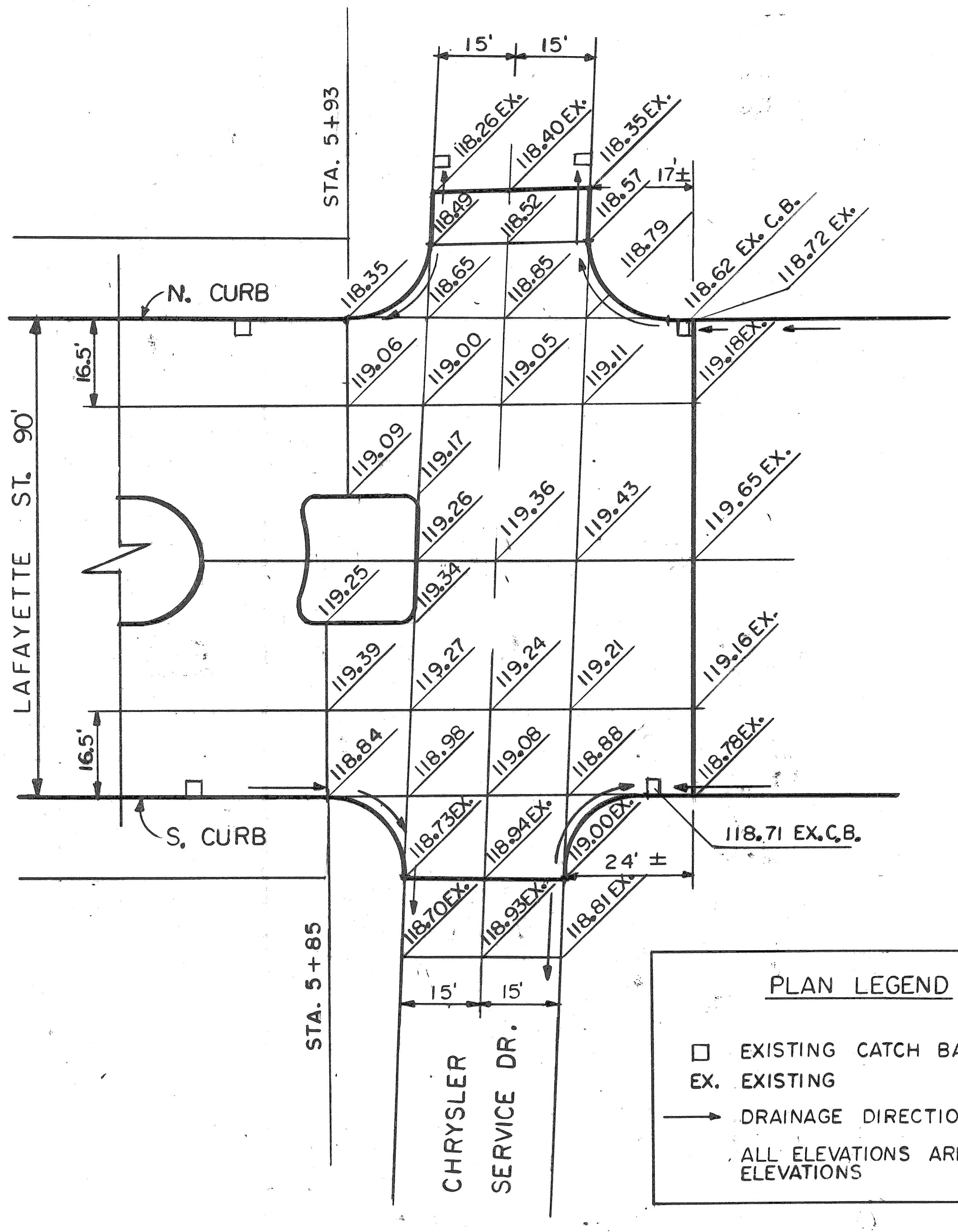
INDEX NO.
TOPO NO.
INDEXED

SHEET 3 OF 12 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 89-22-30

DATE MAY 1993

EARTHWORK LEGEND

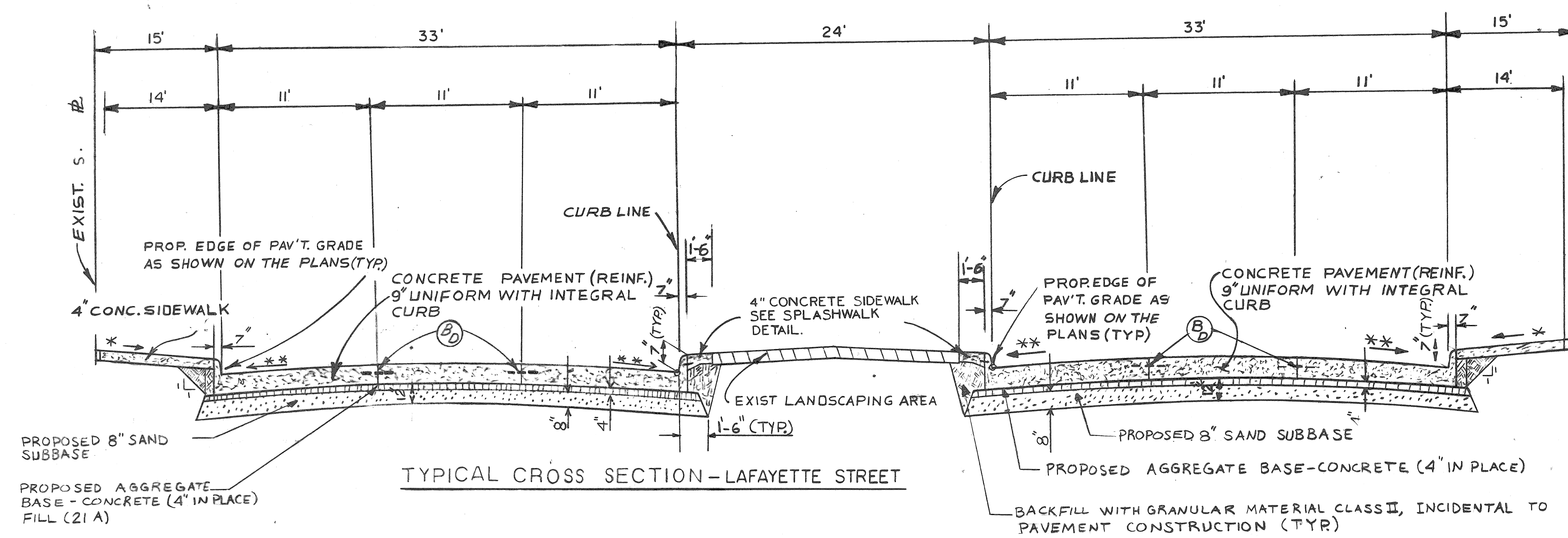
- GRANULAR MATERIAL CLASS II (SEE NOTE #2)
- AGGREGATE. BASE CONCRETE (4" IN PLACE)
- SAND SUBBASE - 8"-(FILL GRADE A)



PLAN LEGEND

- □ EXISTING CATCH BASIN
- EX. EXISTING
- ⟶ DRAINAGE DIRECTION ARROW
- ALL ELEVATIONS ARE PROP. PAV'T. ELEVATIONS

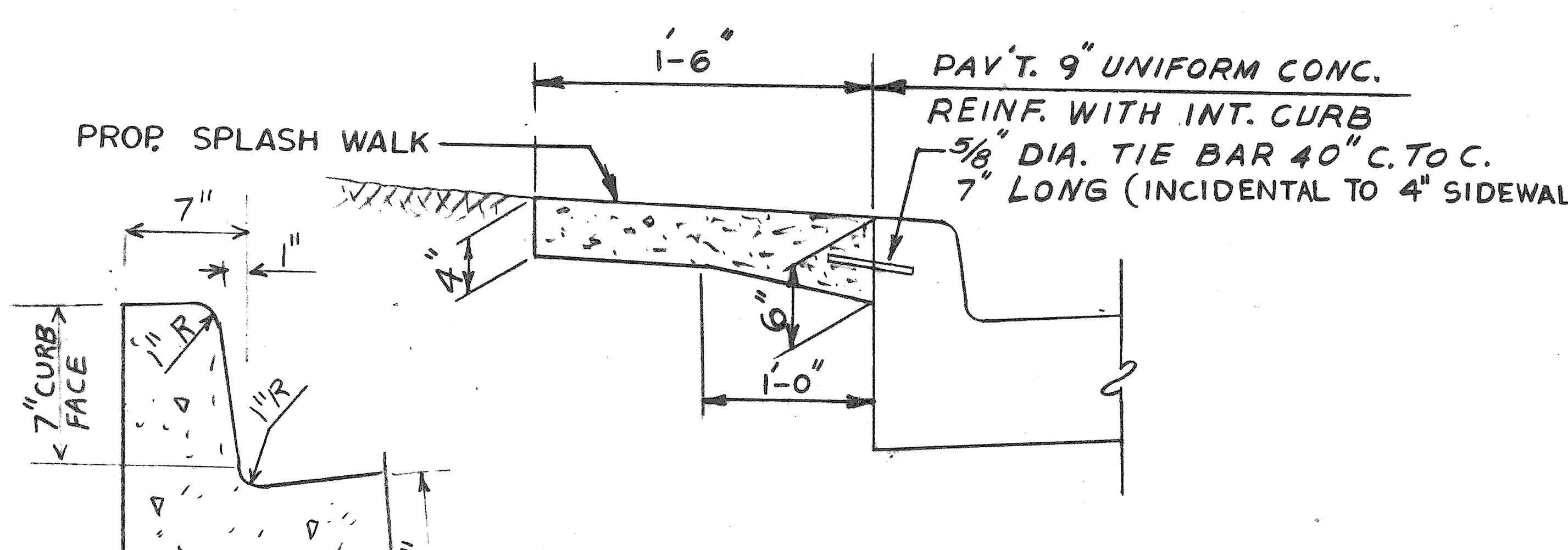
LAFAYETTE STREET AT CHRYSLER SERVICE DRIVE



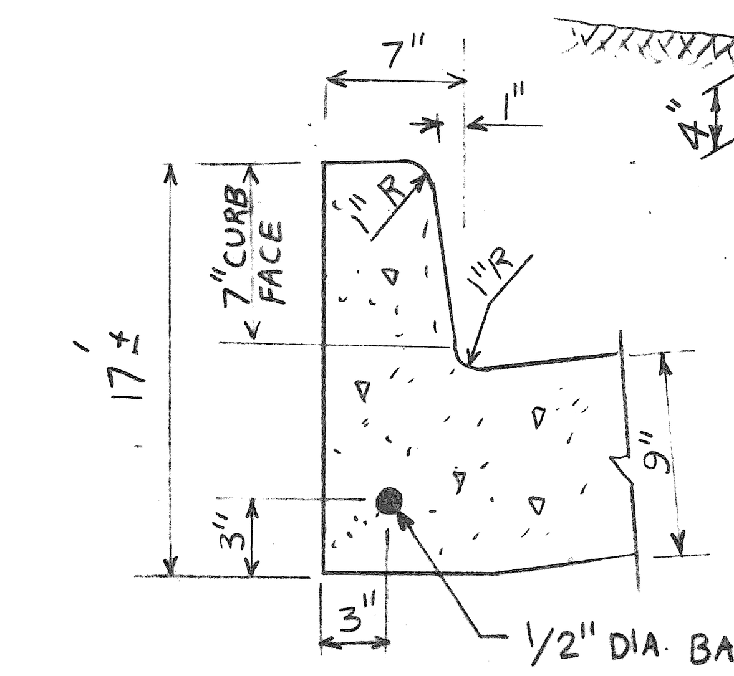
TYPICAL CROSS SECTION - LAFAYETTE STREET

* SIDEWALK SHALL SLOPE AT 3/8" PER FOOT UNLESS THE ENGINEER DETERMINES OTHERWISE TO MEET EXISTING CONDITIONS. THE ENGINEER WILL CHOOSE WITHIN THESE LIMITS: 1/4" PER FOOT MINIMUM TO 3/4" PER FOOT MAXIMUM.

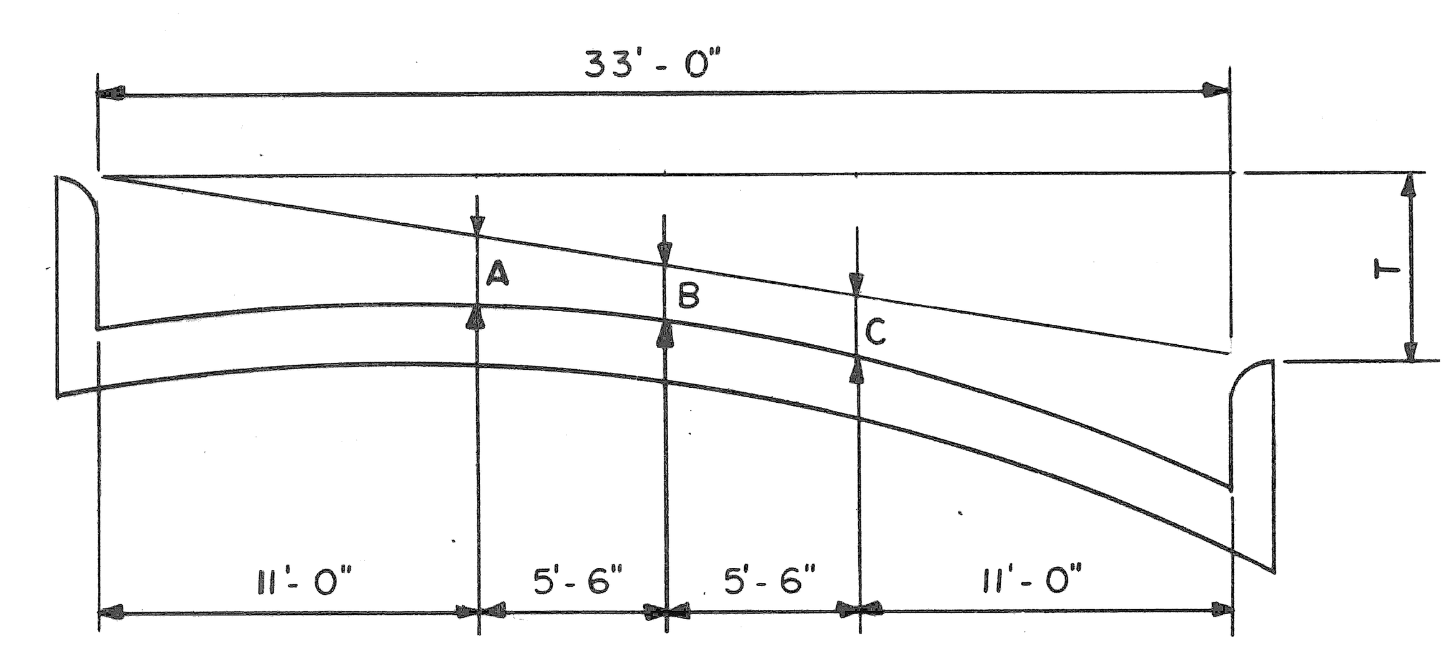
** 0.02' PER FOOT MINIMUM SLOPE (SEE PLAN FOR GRADE).



SPLASH WALK DETAIL



INTEGRAL CURB



PAV'T. WIDTH	CURB HEIGHT	T	A	B	C
33'	7"	VARIES	0.278	0.240	0.278

ELEMENTS OF PROP. 33' PAV'T.

GENERAL NOTES

1. THE PROPOSED CURB SHALL BE INTEGRAL CURB (SEE DETAIL THIS SHEET)
2. BACKFILL, IF REQUIRED, UNDER PROPOSED SIDEWALKS SHALL BE GRANULAR MATERIAL CLASS II (INCIDENTAL TO PROPOSED SIDEWALK CONSTRUCTION)
3. THE CURB FACE HEIGHT SHALL BE 7"
4. LOCATION OF LONGITUDINAL JOINTS OTHER THAN AS SHOWN IN THE TYPICAL CROSS SECTION MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT LEGEND

- B — LONGITUDINAL BULKHEAD JOINT ACCORDING TO M.D.O.T. STANDARD DRAWING II-41 H
- D — LONGITUDINAL LANE TIE JOINT WITH TIE BAR ACCORDING TO M.D.O.T. STANDARD DRAWING II-41 H
- BD — OPTIONAL, B OR D SEE NOTE #4
- L2 — LONGITUDINAL BULKHEAD JOINT ACCORDIND TO M. D. O. T. STANDARD DRAWING II 41 H

ALL SECTIONS NOT TO SCALE

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY R. Yoganeh / N.H.
DRAWN BY H. E.
TRACED BY
CHECKED BY Radun Haidar

APPROVED: [signature]
ENGINEER OF STREETS
HIGHWAY ENGINEER

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND MISCELLANEOUS CONSTRUCTION

TYPICAL CROSS SECTIONS AND INTERSECTION GRADE DETAILS

SHEET 4 OF 12 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 89-22-30
DATE MAY, 1993

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

66450

SCALE	HORIZONTAL	BOOK	LEVEL
	VERTICAL	NO. PG.	DATE
		PAVING COMPLETED	

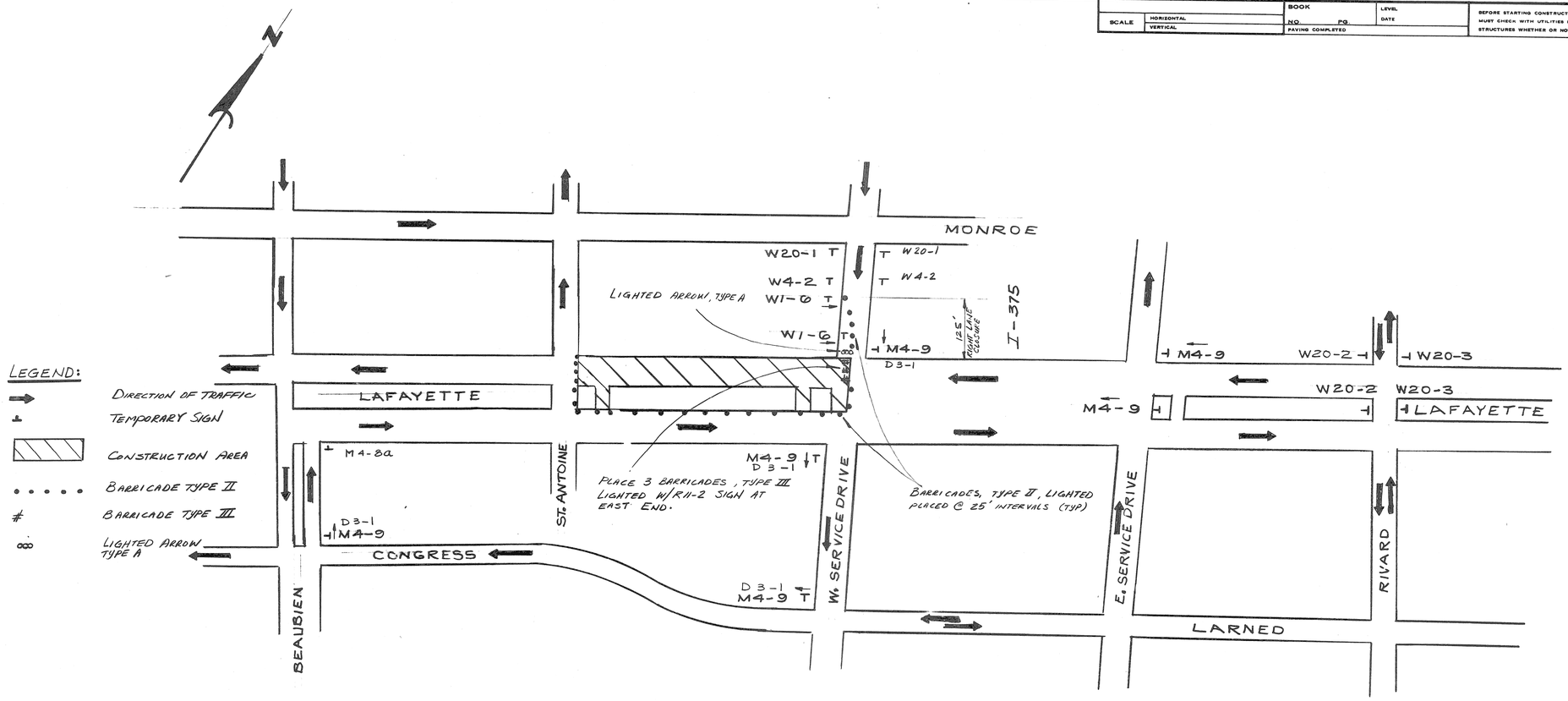
BEFORE STARTING CONSTRUCTION _____ CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.

NOTE - FOR SYMBOLS (A) ETC., SEE STANDARD DETAIL DRAWING NO. C-4378

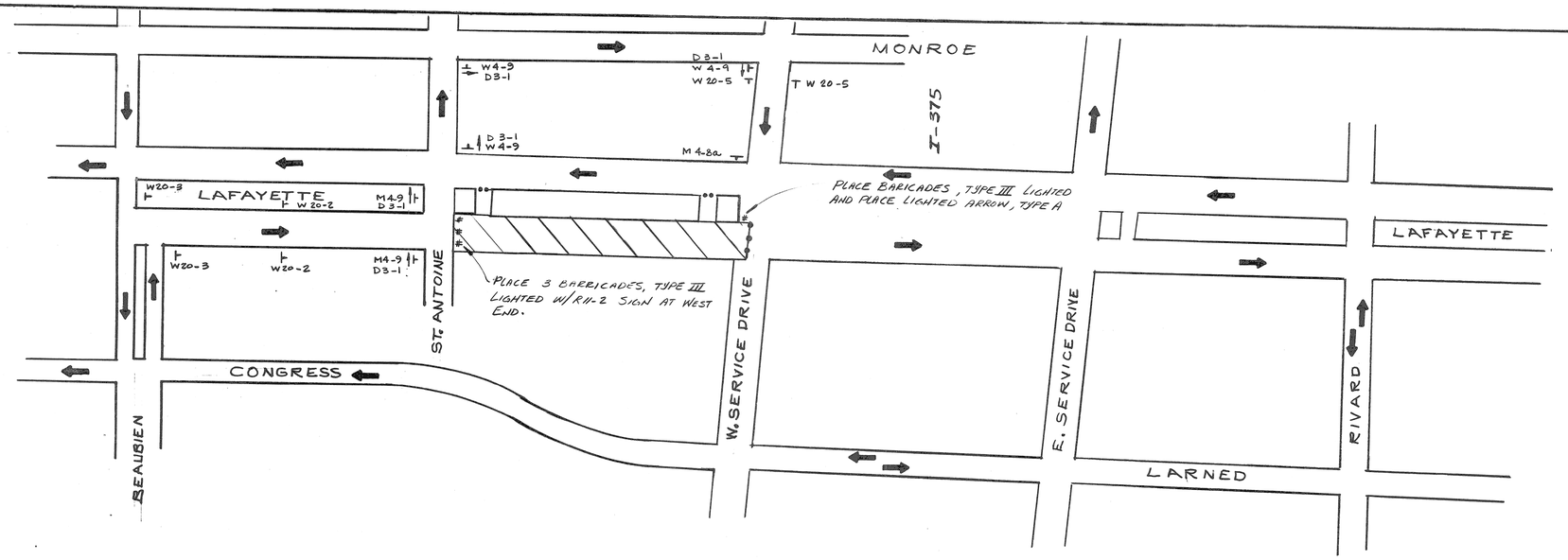
BENCH MARKS ELEV

TEMPORARY SIGN QUANTITIES

LIGHTED ARROW, TYPE A - FURNISHED	4	EACH
LIGHTED ARROW, TYPE A - OPERATED	3	EACH
BARRICADE, TYPE II, LIGHTED - FURNISHED	60	EACH
BARRICADE, TYPE II, LIGHTED - OPERATED	55	EACH
BARRICADE, TYPE III, LIGHTED - FURNISHED	5	EACH
BARRICADE, TYPE III, LIGHTED - OPERATED	4	EACH
MINOR TRAFFIC DEVICES	1	L. SUM
SIGN, TYPE B TEMPORARY	430	S.FT



STAGE I
N. T. S.



STAGE II
N. T. S.

DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	F.P.	M.K.
GRADE		
ESTIMATE		
FINAL	CHECK	REVIEW

APPROVED: _____ ENGINEER OF STREETS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

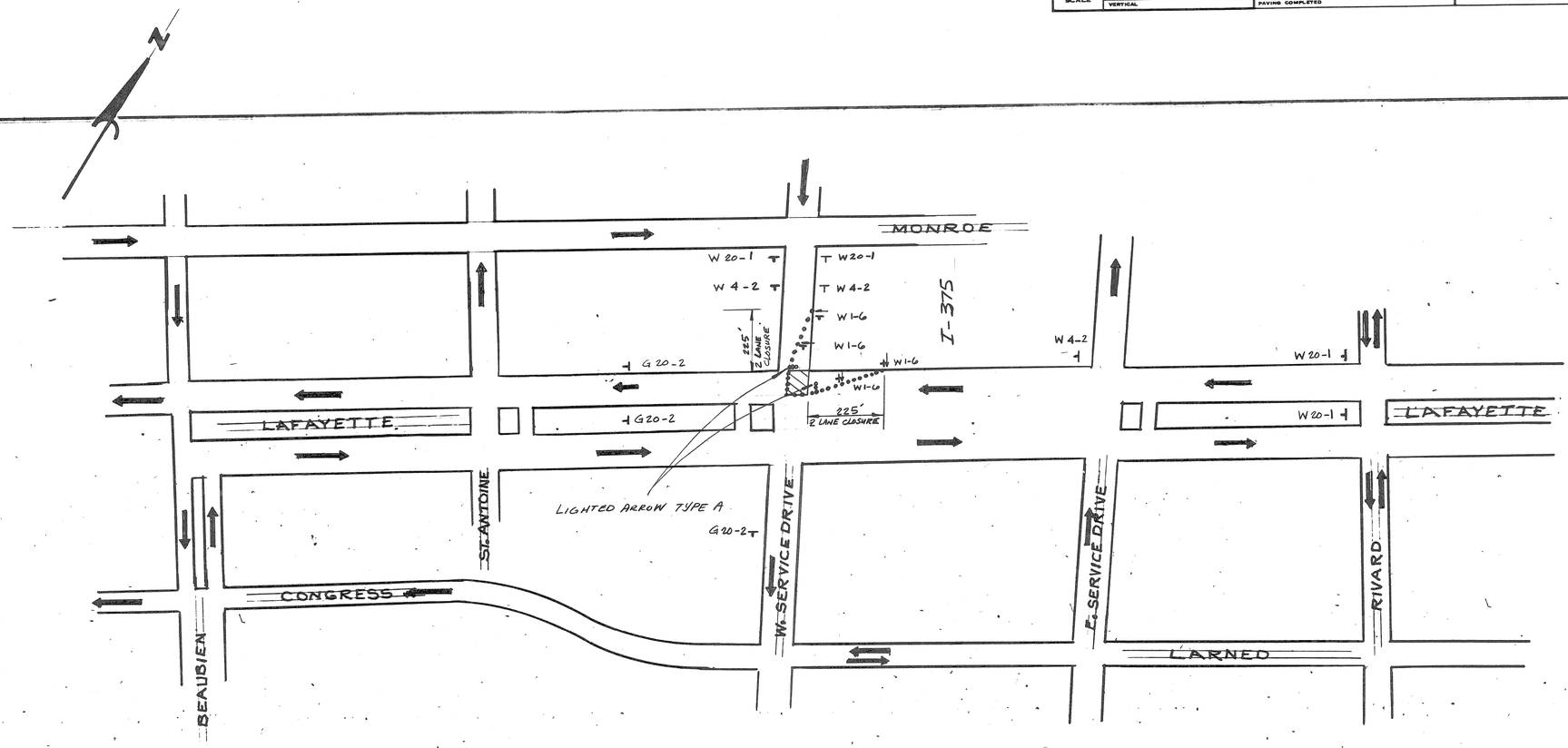
REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND MISCELLANEOUS CONSTRUCTION

CONSTRUCTION SEQUENCE
STAGE I & II

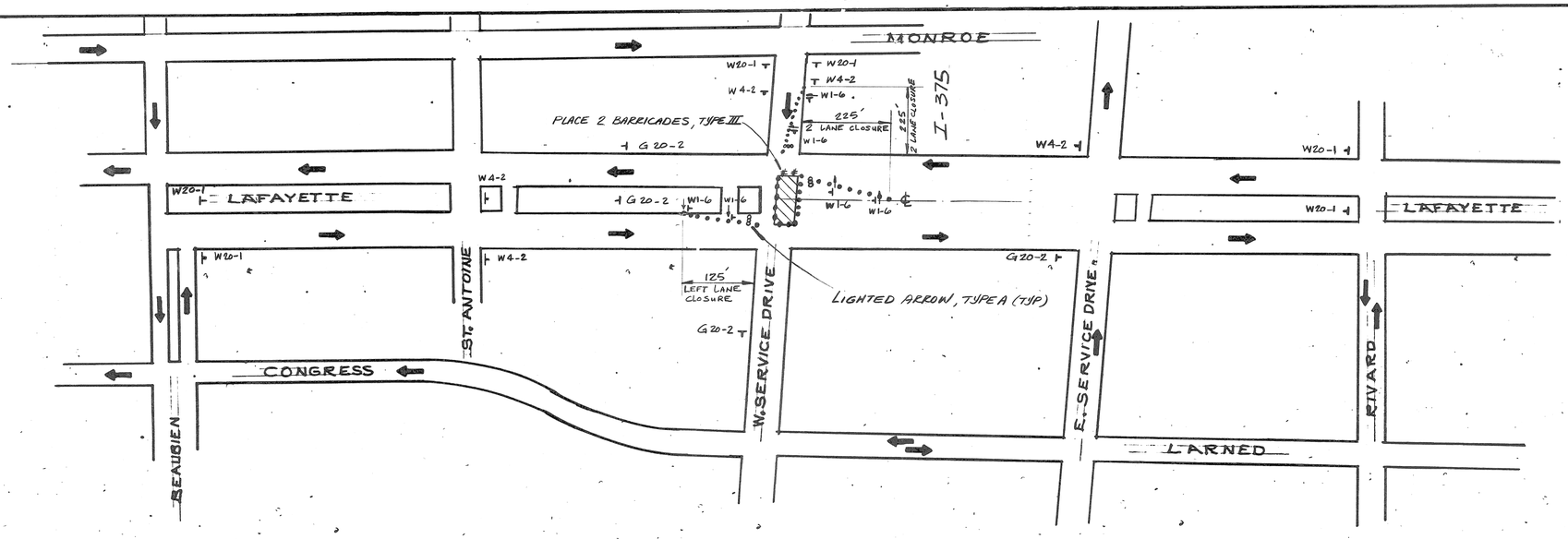
SHEET 5 OF 12 SHEETS
CONTRACT NO. 89 - 22 - 30
ASSIGNMENT NO.
DATE: MAY, 1993

SCALE	HORIZONTAL	BOOK	LEVEL	BEFORE STARTING CONSTRUCTION _____ CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.	NOTE – FOR SYMBOLS Ⓐ ETC. SEE STANDARD DETAIL DRAWING NO C-1375
	VERTICAL	NO. PG	DATE		
		PAVING COMPLETED			

BENCH MARKS ELEV



STAGE III
N. T. S.



STAGE IV
N. T. S.

DESCRIPTION	DR'N	CH'D	AP'VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	F.R.	M.K.
GRADE		
ESTIMATE		
FINAL	CHECK	REVIEW

APPROVED: _____ ENGINEER OF STREETS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

REPAVING OF LAFAYETTE
ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND
MISCELLANEOUS CONSTRUCTION

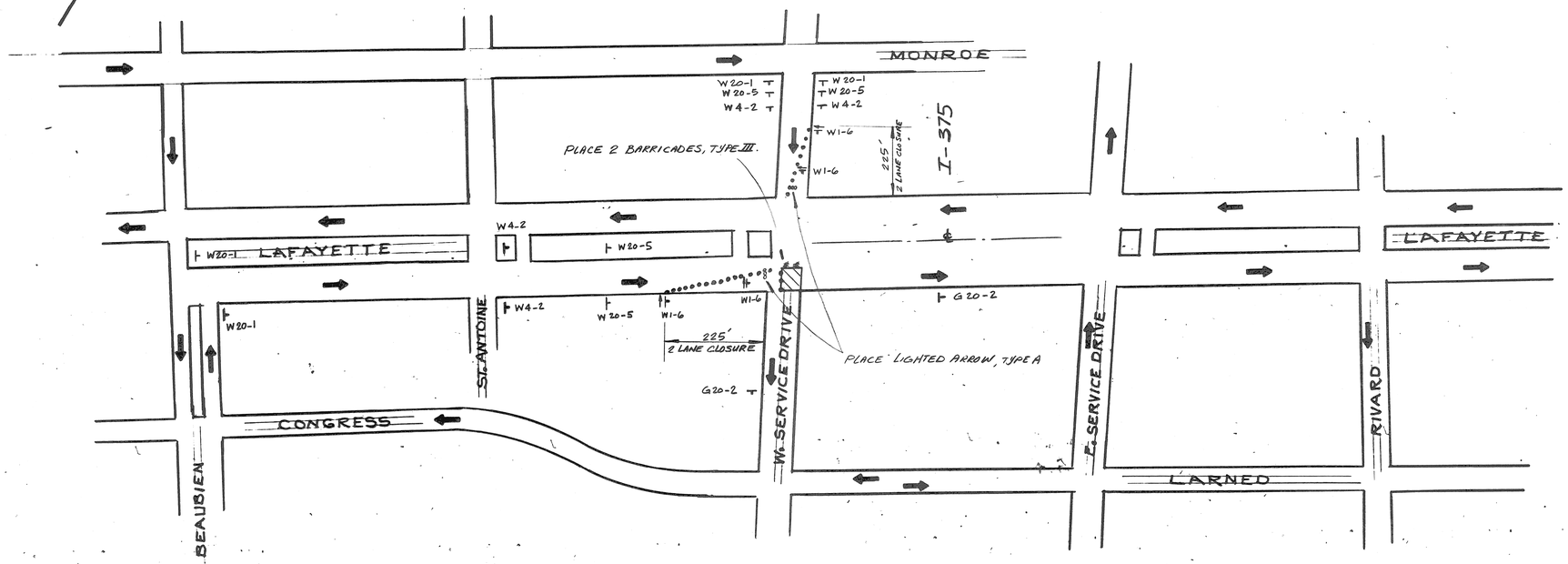
CONSTRUCTION SEQUENCE
STAGE III & IV

SHEET 6 OF 12 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 89 - 22 - 30
DATE: MAY, 1993

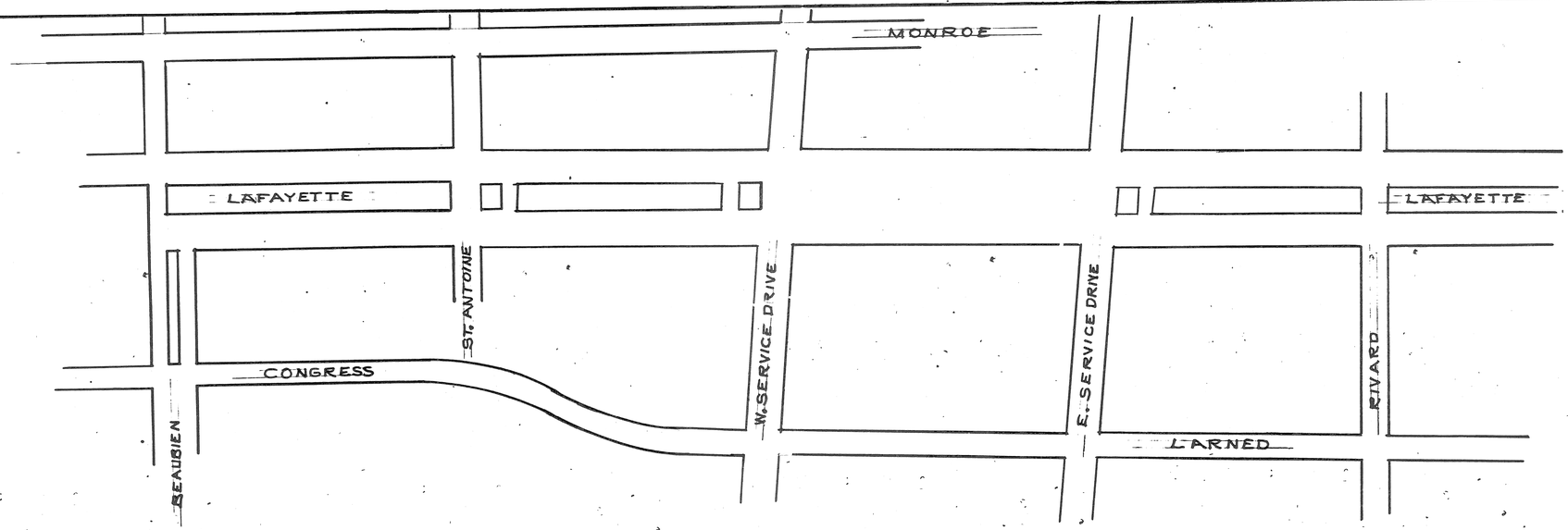
SCALE	HORIZONTAL	BOOK	LEVEL	BEFORE STARTING CONSTRUCTION _____ CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.
	VERTICAL	NO. PG.	DATE	
		PAVING COMPLETED		

NOTE - FOR SYMBOLS Ⓐ ETC. SEE STANDARD DETAIL DRAWING NO C-4178

BENCH MARKS ELEV



STAGE V
N. T. S.



DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	F.P.	M.K.
GRADE		
ESTIMATE		
FINAL	CHECK	REVIEW

APPROVED: _____ ENGINEER OF STREETS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERVICE DRIVE AND MISCELLANEOUS CONSTRUCTION

CONSTRUCTION SEQUENCE
STAGE V

SHEET 7 OF 12 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 89-22-30
DATE: MAY, 1993

COLOR	SYMBOL	DESCRIPTION
BLACK		PROPERTY AND LOT LINES
		PROPOSED CURB LINES AND HEADERS AT RETURNS
		EXISTING CURB LINES OR EDGE OF PAVEMENT.
		PROPOSED CURB OR PAVING ON INTERSECTING STREET
		PROPOSED SEWER TO CATCH BASINS
	12"CR INV. ELEV 15"CR	EXISTING LATERAL SEWERS
	4'-6"CYL 5'-0"CYL	EXISTING PUBLIC SEWERS
		EXISTING GAS LINES
		EXISTING WATER LINES
BLACK	CURB LINE / CURB LINE	ELEV OF SEWER INVERT PROPOSED C B M H, & INLET SEWER
		ELEV EXISTING C B. M H & INLET SEWERS
		PROPOSED C B M H & INLET SEWERS ON INTERSECTING STREETS

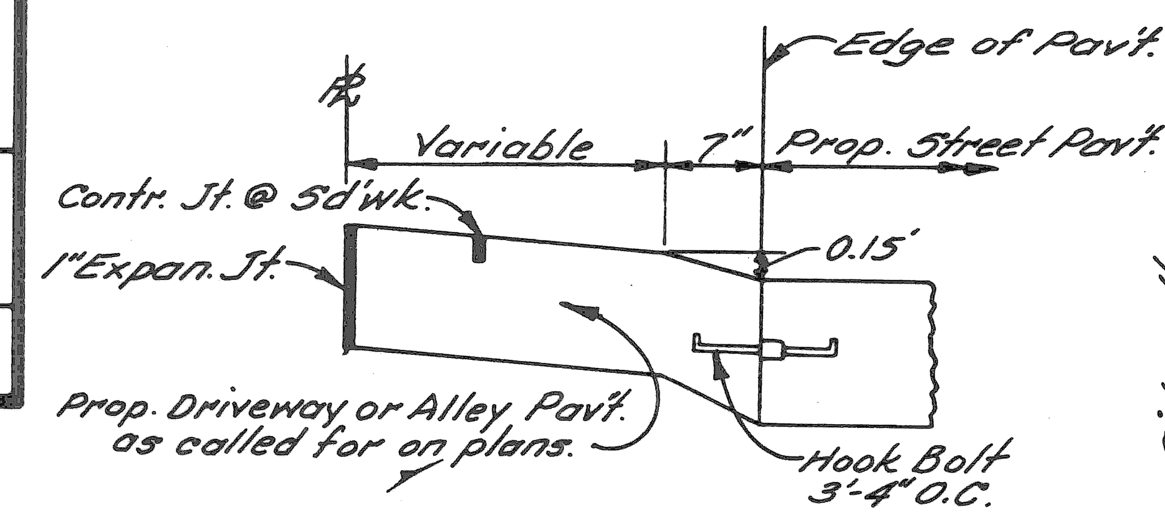
SYMBOL	DESCRIPTION
	GUARD RAIL
	FENCE
	SEWER MANHOLE
	P.L.C. HANDHOLE ⊙ P.L.C. MANHOLE
	WATER MANHOLE OR GRATE
	GAS MANHOLE OR GRATE
	WESTERN UNION MANHOLE
	MICHIGAN BELL MANHOLE
	EDISON STEAM MANHOLE
	EDISON ELECTRIC MANHOLE
	FIRE DEPT MANHOLE
	POLICE DEPT MANHOLE
	D S R MANHOLE
	FIRE DEPT STANDARD HYDRANT
	FIRE DEPT HIGH PRESSURE HYDRANT
	FIRE DEPT CALL BOX
	FIRE DEPT HIGH PRESSURE MANHOLE
	POLICE DEPT CALL BOX
	P.L.C. LIGHT POLE
	P.L.C. POLE
	TELEPHONE POLE
	EDISON POLE
	TREE PLANTER

SYMBOL	DESCRIPTION
	SIGN POST
	PARKING METER
#	STREET SIGN POST
	CATCH BASIN
(W)	WATER METER
(–)	WATER SHUT OFF
(+)	GAS SHUT-OFF
	GAS DRIP
	DRAIN OR VENT
|o|	GUY POLE
MB	MAIL BOX
	AREAWAY OR COAL CHUTE
	FLAG POLE
S	SPRINKLER BOX
	DEAD MANHOLE
	TREE
	PLC & FD MANHOLE FILLED WITH SAND
|=|	TRACK DRAIN
‡	TRAFFIC SIGN POST.
	TRAFFIC SIGNAL LIGHT.
	TRAFFIC SIGNAL CONTROL BOX
II	D.S.R DANGER PLATE.
TC	TRASH CONTAINER

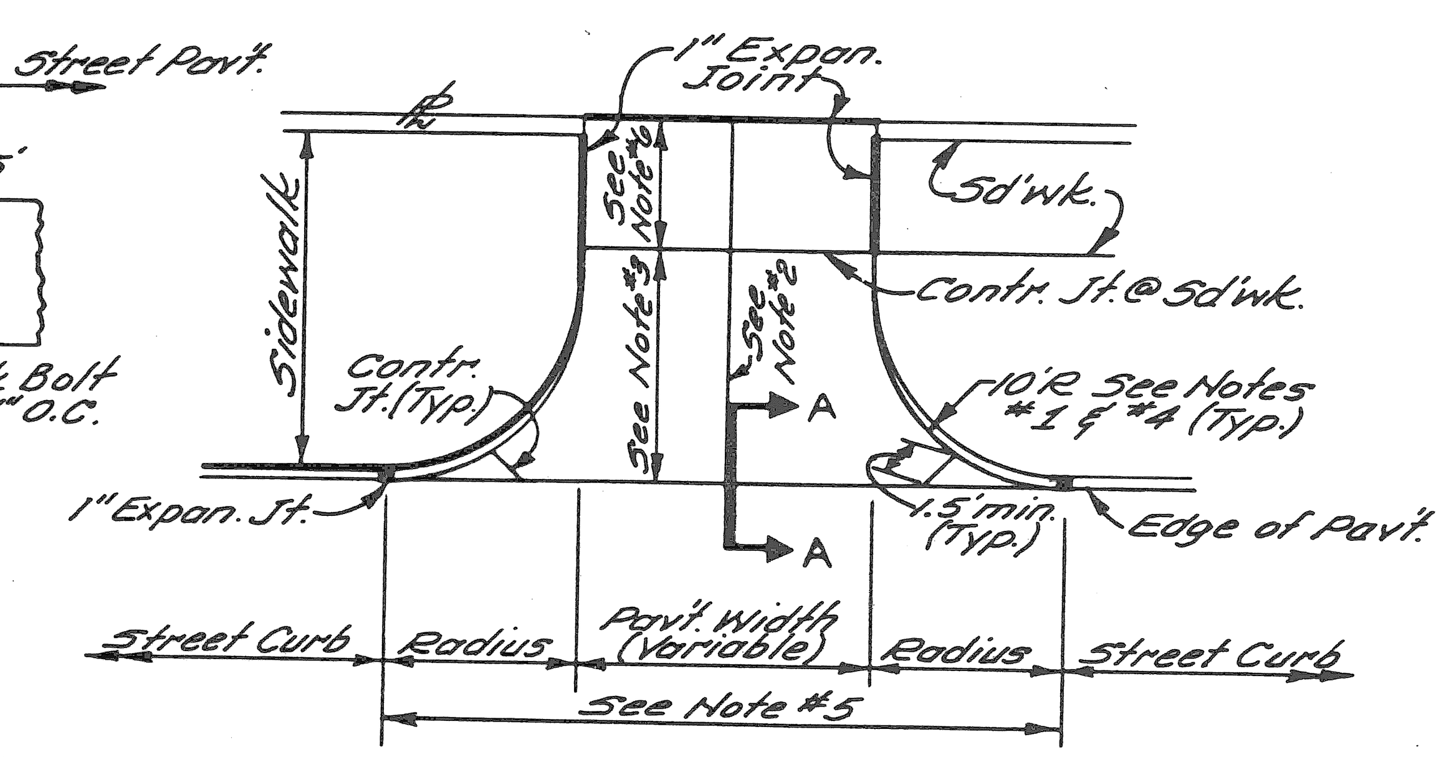
SYMBOL	DESCRIPTION
	DETROIT EDISON ELECTRIC CONDUIT.
	DETROIT EDISON STEAM CONDUIT.
	WESTERN UNION DUCTS
	MICHIGAN BELL TELEPHONE DUCTS
	P.L.C CONDUITS
	DETROIT FIRE OR POLICE DEPT CONDUITS (PLC COMMUNICATIONS)

E				
D				
C				
B	CHANGE EDISON STEAM M.H. SYMBOL & N ARROW			4-9
A	SIGNATURES REVISED			
	DESCRIPTION			DATE
	REVISIONS			

DESIGNED BY		CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN PAVING DETAIL NO. 25	STANDARD SYMBOLS FOR UTILITIES
DRAWN BY T. KANOW	[illegible]		
TRACED BY T.K.			SCALE NO SCALE
CHECKED BY N Kawass	[illegible]		DWG. NO. C-902-A



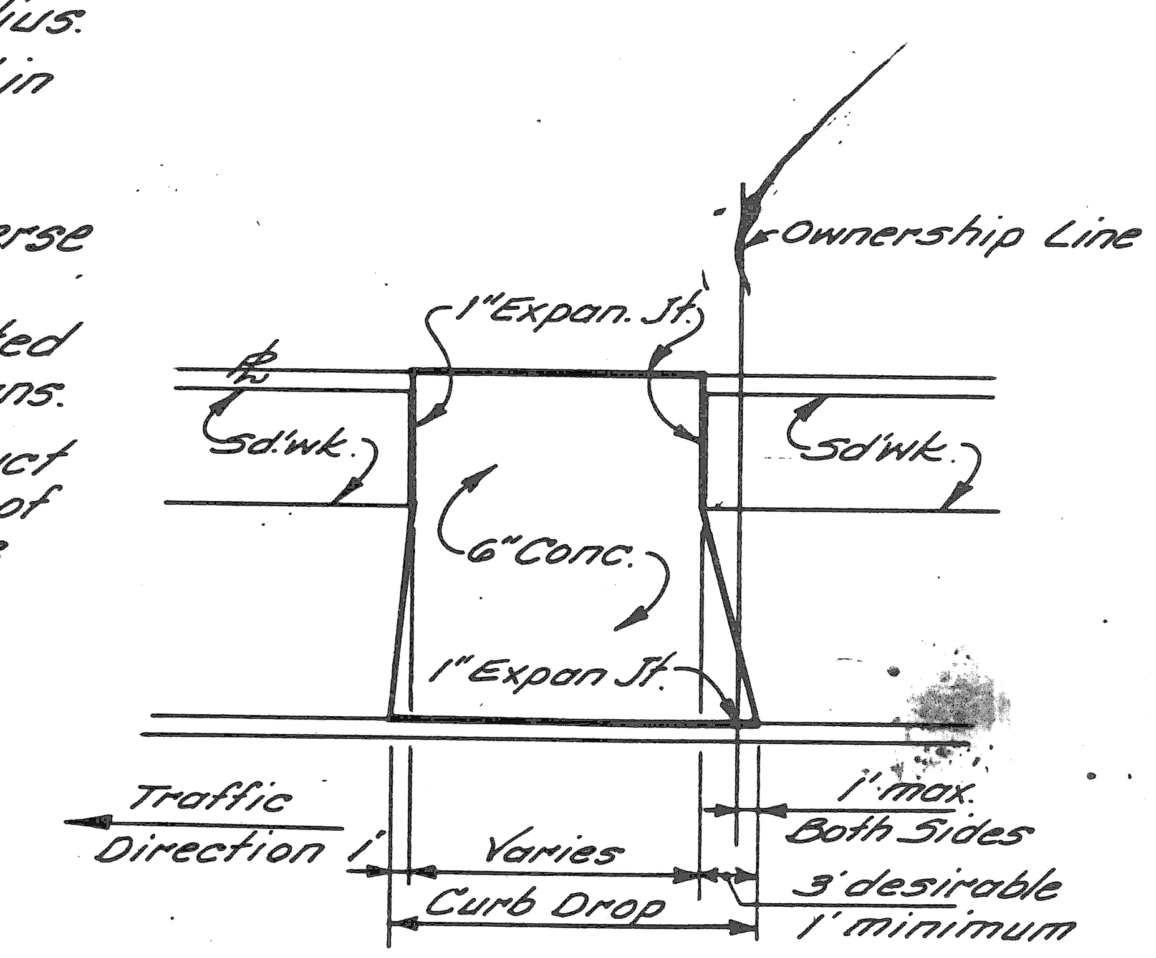
SECTION A-A
SCALE 1"=1'



COMMERCIAL DRIVEWAY OR ALLEY DETAIL
SCALE 1"=10'

GENERAL NOTES
COMMERCIAL DRIVEWAYS & ALLEYS

1. Transition edge of driveway or alley from curb at the street to no curb at the end of the driveway or alley radius.
2. Where driveway or alley exceeds 15' in width a contraction joint shall be placed longitudinally along ℄.
3. When distance exceeds 15', a transverse contraction joint will be required.
4. Radius 10' unless otherwise directed by the Engineer, or as shown on plans.
5. All work & materials req'd to construct the driveway or alley between the end of returns will be paid for as "Concrete Pavement" of the specified thickness.
6. Minimum & Maximum Slopes of 1/4"/ft. & 3/4"/ft. shall be used in the sidewalk area.



RESIDENTIAL DRIVEWAY DETAIL
SCALE 1"=10'

REFERENCE DRAWINGS	DESIGNED BY		APPROVED: Allen E. Preger ENGINEER OF EXPRESSWAYS
	DRAWN BY	J.R.D.	
	TRACED BY		
	CHECKED BY	[illegible]	

REVISIONS LOCATED BY COORDINATES ON SHEET

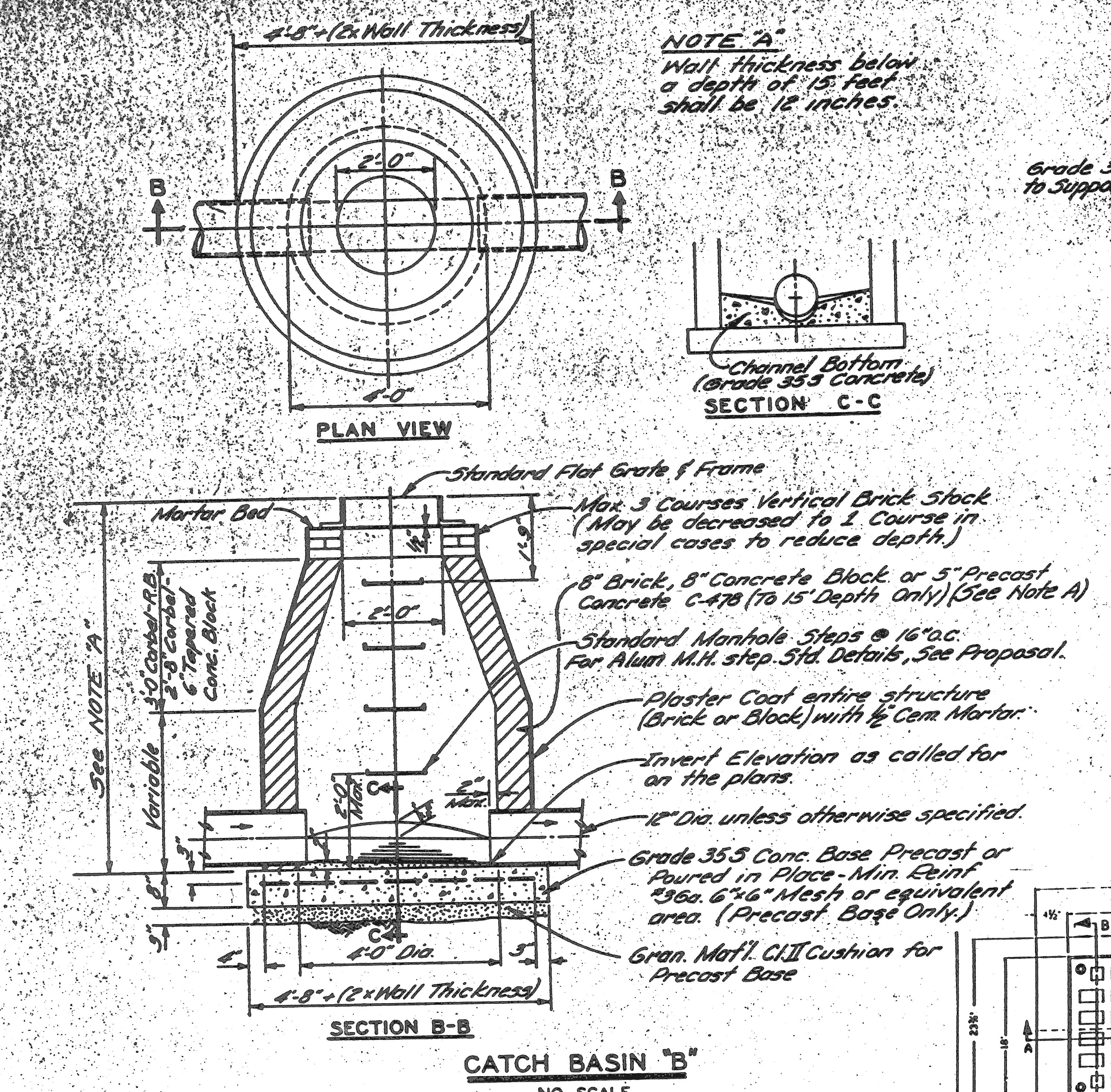
CITY OF DETROIT

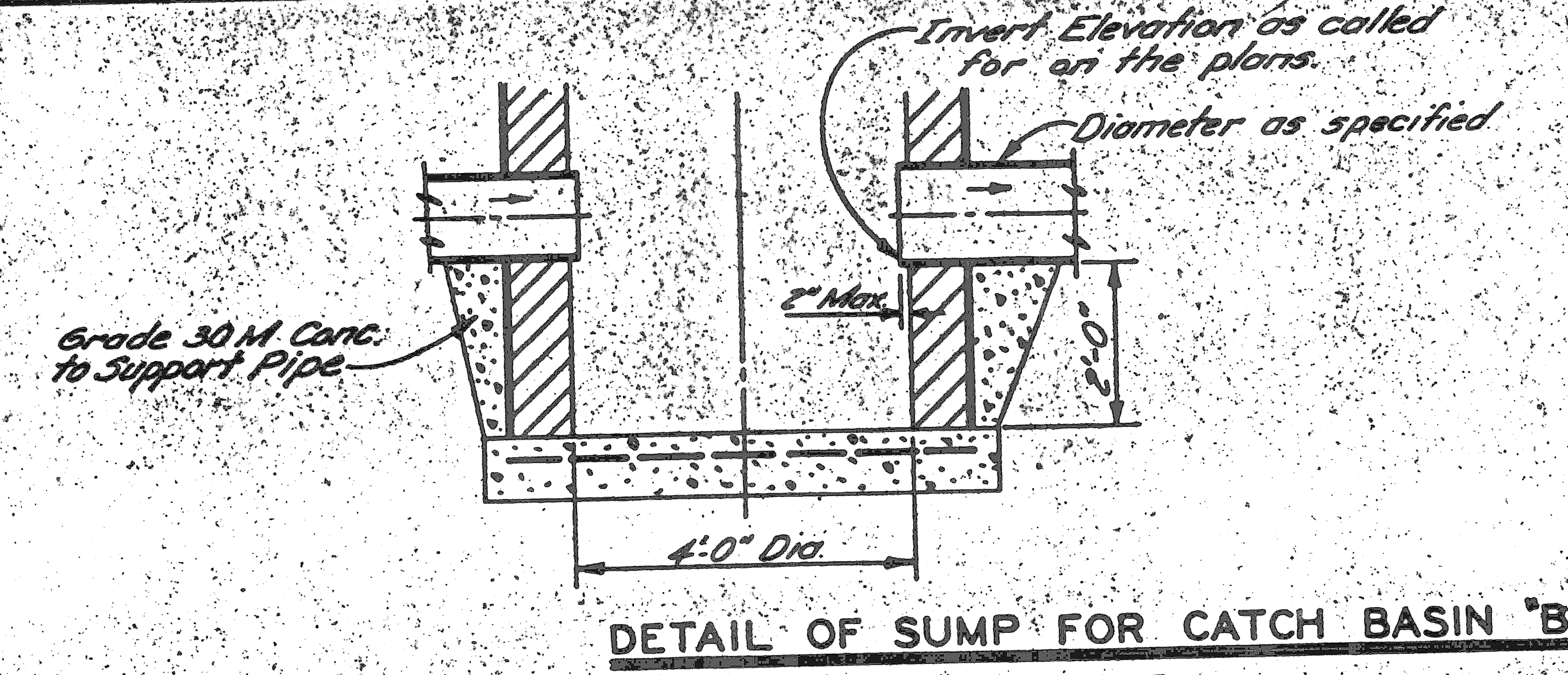
CITY ENGINEERING DEPARTMENT

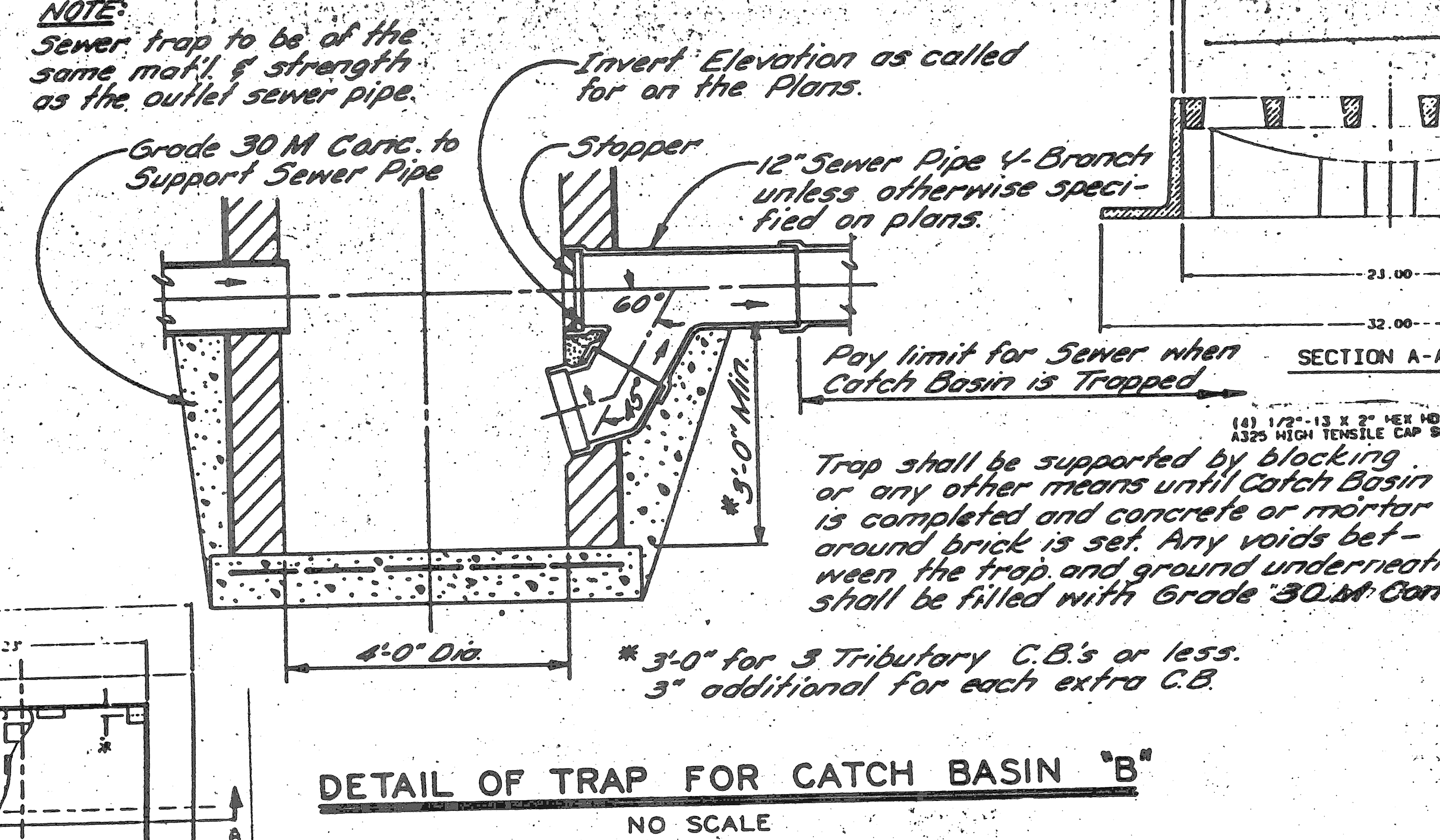
REPAVING OF LAFAYETTE FROM
ST ANTOINE TO CHRYSLER SERVICE DRIVE
AND MISCELLANEOUS CONSTRUTION

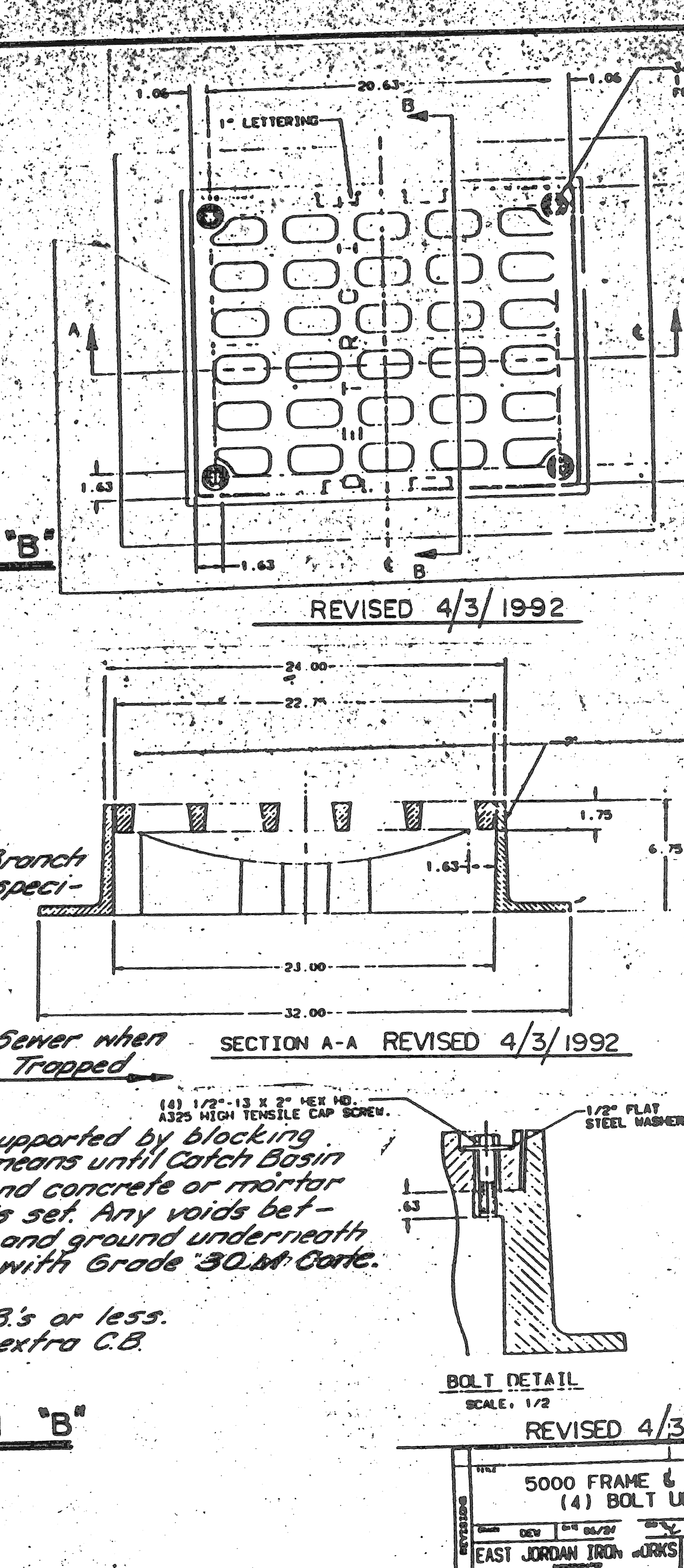
SPECIAL STANDARDS & SPECIAL DETAILS

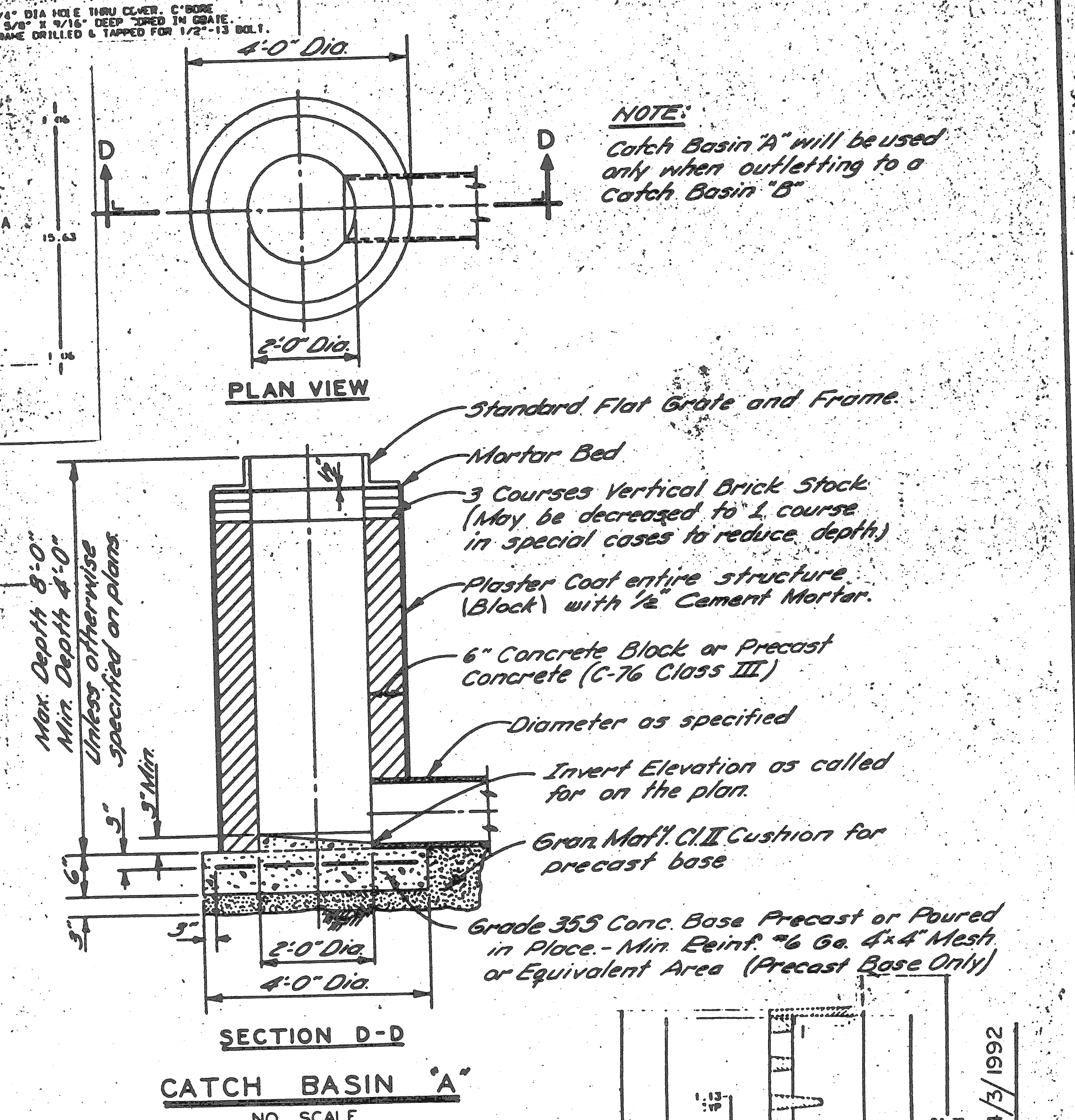
SHEET 8 OF 12 SHEETS
CONTRACT NO
ASSIGNMENT No. A.O. 89-22-30
DATE: MAY, 1993

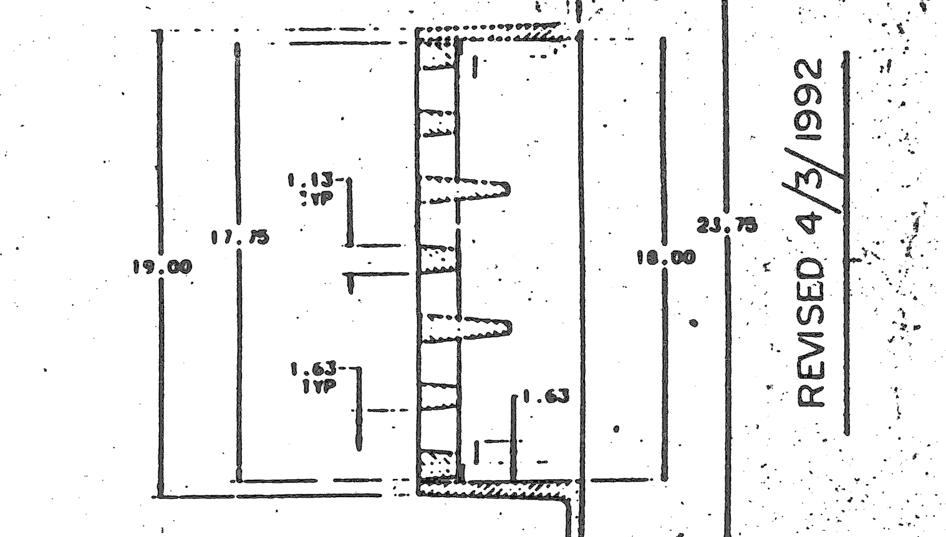

NOTE "A"
Wall thickness below a depth of 15 feet shall be 12 inches.
4'-8"+(2xWall Thickness)
2'-0"
4'-0"
PLAN VIEW
Channel Bottom (Grade 35S Concrete)
SECTION C-C
Standard Flat Grate & Frame
Mortar Bed
Max. 3 Courses Vertical Brick Stack (May be decreased to 1 Course in special cases to reduce depth.)
8" Brick, 8" Concrete Block or 5" Precast Concrete C-478 (To 15' Depth Only) (See Note A)
Standard Manhole Steps @ 16" o.c. For Alum. M.H. step Std. Details, See Proposal.
Plaster Coat entire structure (Brick or Block) with ½" Cem. Mortar.
Invert Elevation as called for on the plans.
12" Dia. unless otherwise specified.
Grade 35S Conc. Base Precast or Poured in Place-Min. Reinf. #36a. 6"x6" Mesh or equivalent area. (Precast Base Only.)
Gran. Mat'l. Cl.II Cushion for Precast Base
See NOTE "A"
Variable
3'-0" Corbel-R.B. 2'-8" Corbel-6" Tapered Conc. Block
4'-0" Dia.
4'-8"+(2xWall Thickness)
SECTION B-B
CATCH BASIN "B"
NO SCALE

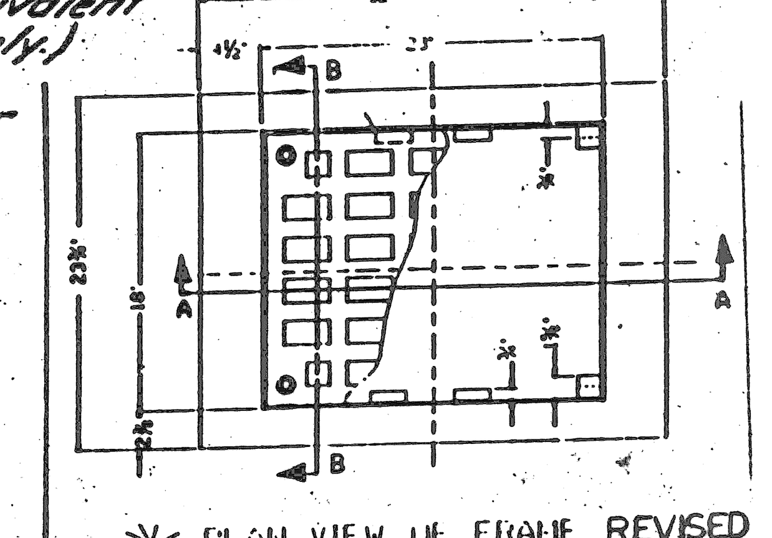


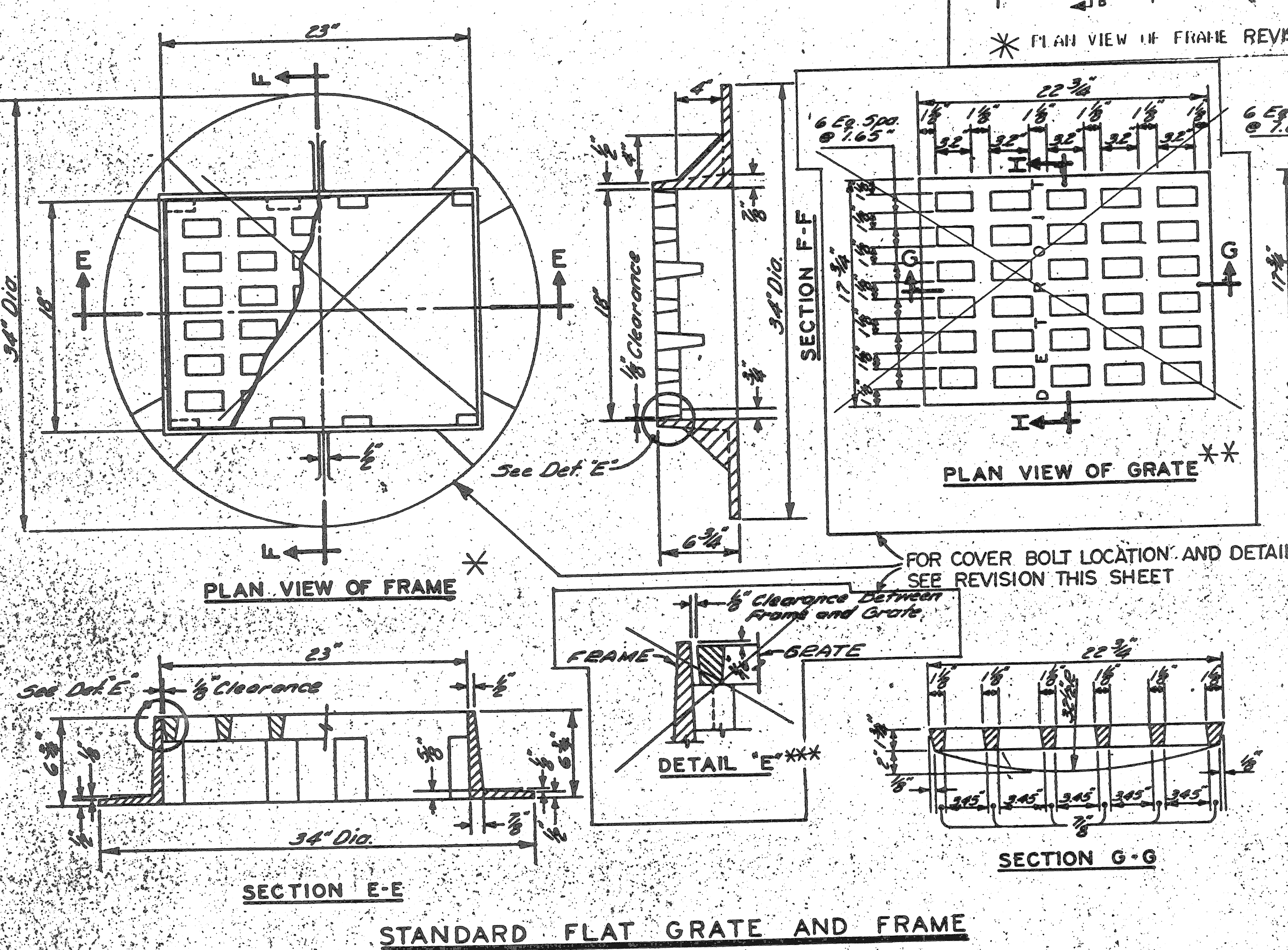

NOTE:
Sewer trap to be of the same mat'l. & strength as the outlet sewer pipe.
Grade 30 M Conc. to Support Sewer Pipe
Invert Elevation as called for on the Plans.
Stopper
12" Sewer Pipe Y-Branch unless otherwise specified on plans.
60°
Pay limit for Sewer when Catch Basin is Trapped
Trap shall be supported by blocking or any other means until Catch Basin is completed and concrete or mortar around brick is set. Any voids between the trap and ground underneath shall be filled with Grade 30 M Conc.
*3'-0" Min.
4'-0" Dia.
* 3'-0" for 3 Tributary C.B.'s or less. 3" additional for each extra C.B.
DETAIL OF TRAP FOR CATCH BASIN "B"
NO SCALE

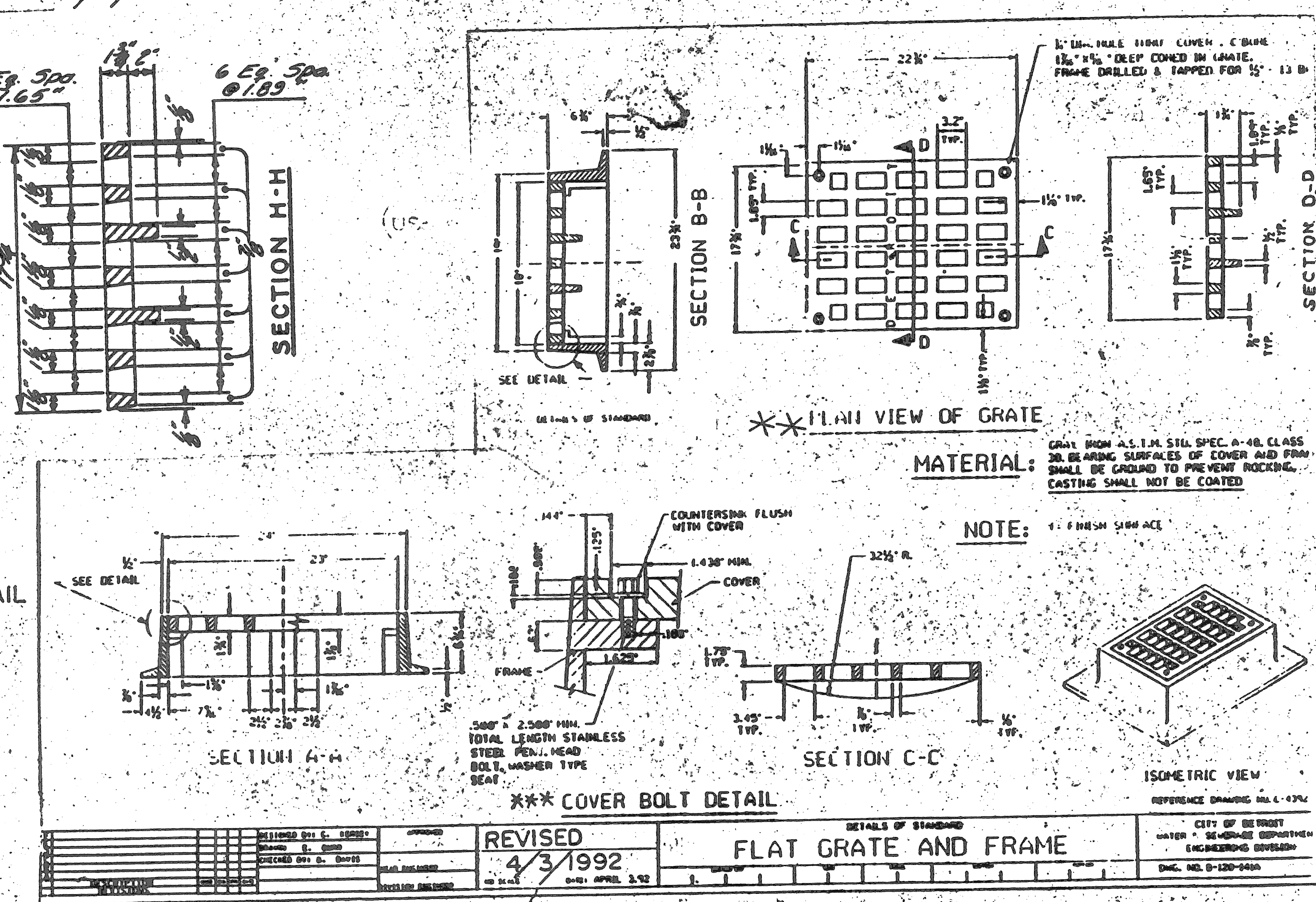

3/4" DIA HOLE THRU COVER, C'BORE 1 5/8" X 9/16" DEEP CORED IN GRATE. FRAME DRILLED & TAPPED FOR 1/2"-13 BOLT.
1" LETTERING
REVISED 4/3/1992
SECTION A-A REVISED 4/3/1992
(4) 1/2"-13 X 2" HEX HD. A325 HIGH TENSILE CAP SCREW.
1/2" FLAT STEEL WASHER
BOLT DETAIL
SCALE: 1/2
REVISED 4/3/1992
5000 FRAME & GRATE (4) BOLT UNIT
EAST JORDAN IRON WORKS
50000


4'-0" Dia.
NOTE:
Catch Basin "A" will be used only when outletting to a Catch Basin "B".
2'-0" Dia.
PLAN VIEW
Standard Flat Grate and Frame.
Mortar Bed
3 Courses Vertical Brick Stack (May be decreased to 1 course in special cases to reduce depth.)
Plaster Coat entire structure (Block) with ½" Cement Mortar.
6" Concrete Block or Precast Concrete (C-76 Class III)
Diameter as specified
Invert Elevation as called for on the plan.
Gran. Mat'l. Cl.II Cushion for precast base
Grade 35S Conc. Base Precast or Poured in Place.- Min. Reinf. #6 Ga. 4"x4" Mesh or Equivalent Area (Precast Base Only)
Max. Depth 8'-0" Min. Depth 4'-0" Unless otherwise specified on plans
3" Min.
2'-0" Dia.
4'-0" Dia.
SECTION D-D
CATCH BASIN "A"
NO SCALE






23"
34" Dia.
18"
See Det. "E"
PLAN VIEW OF FRAME
SECTION F-F
1/8" Clearance
6 Eq. Spa. @ 1.65"
6 Eq. Spa. @ 1.89"
22 3/4"
PLAN VIEW OF GRATE
SECTION H-H
FOR COVER BOLT LOCATION AND DETAIL SEE REVISION THIS SHEET
1/8" Clearance Between Frame and Grate
FRAME
GRATE
DETAIL "E" ***
SECTION E-E
SECTION G-G
STANDARD FLAT GRATE AND FRAME
NO SCALE



GENERAL NOTES

1. The materials & workmanship shall be in accordance with the current Standard Specifications.
2. Center of Catch Basin shall be 20 inches from back of curb.
3. All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements.
The bell shall be removed from the first length of outlet pipe projecting through the wall of the structures.
When any structure is constructed of precast concrete or concrete block, the top of the masonry shall be left sufficiently low to permit proper adjustment of cover to grade by the use of mortar or bricks as directed by the Engineer.
4. A Trap, as detailed on this sheet, shall be placed where called for in the outlet sewer line of Catch Basins "B".
This trap shall be set into the masonry wall as shown on the detail. The space between the faces of the wall & the trap shall be completely filled with cement, mortar or concrete, so as to hold Trap securely in place.
Tile Traps will be paid for separately at the Contract Unit Price each, which price shall include the extra catch basin construction required and for furnishing and installing the trap.
5. A plaster coat of mortar ½ inch in thickness shall be applied to the outer surface of the structure as shown. A ½ inch cement plaster coat shall be placed on the inside of all sumps.
6. Contractor shall verify elevations of existing utilities to enable construction to indicated elevations shown on drawings. If necessary, invert elevations shown on the drawings may be altered in the field to clear existing utilities. Such alterations, upward or downward, shall be at no change in contract price.
7. When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening or eye for the inlet & outlet pipes shall be cast into the wall of the catch basin pipe when it is being manufactured. Eyes in precast pipe sections shall be furnished to accommodate a flexible joint connection such as Press-Wedge by Press Seal Gasket Corp or Res-Seal by Scales Mfg. Corp.
8. Pay limit for sewers shall be inside faces of structures unless otherwise noted.

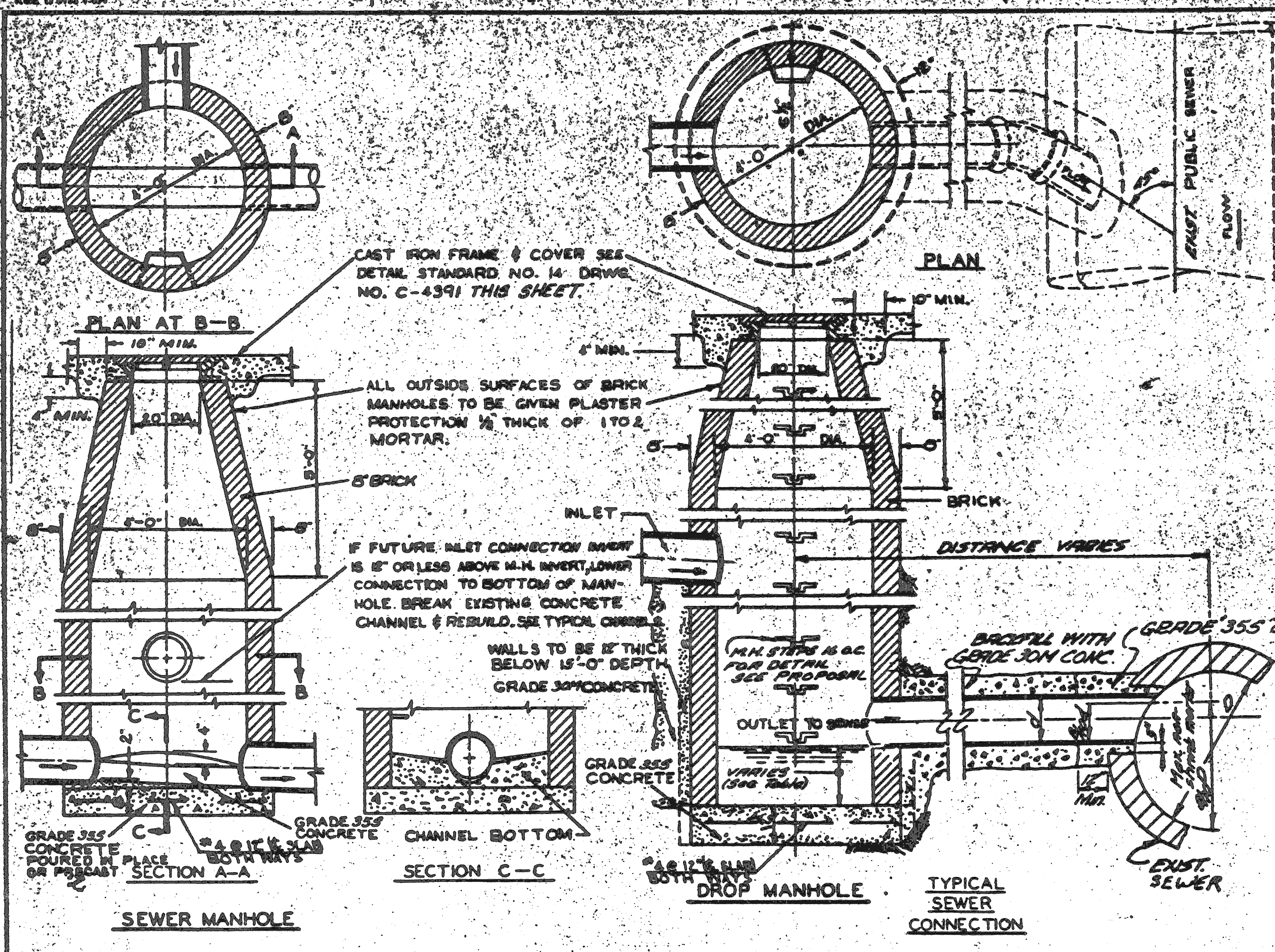
DESCRIPTION	
REVISIONS LOCATED BY COORDINATES ON SHEET	
REFERENCE DRAWINGS	
DESIGNED BY	
DRAWN BY	M. POLITO
TRACED BY	
CHECKED BY	D. MILZ

APPROVED: John Erickson
ENGINEER OF STREETS
Allen E. [illegible]
ENGINEER OF EXPRESSWAYS
W. R. [illegible]
HEAD CIVIL ENGINEER

CITY OF DETROIT
CITY ENGINEERS OFFICE

DETAILS OF STANDARD
CATCH BASINS "A" & "B"
AND FLAT GRATE & FRAME
AND COVER BOLT DETAIL

SHEET 9 OF 12 SHEETS
CONTRACT No
ASSIGN. NO. 89-22-30
DATE



DEPTH OF WATER CUSHION IN DROP MANHOLES SHALL BE AS FOLLOWS:

DIFFERENCE BETWEEN INLET & OUTLET INVERTS:	DEPTH OF CUSHION:
3'-0" TO 4'-0"	12 INCHES
4'-0" TO 5'-0"	18 INCHES
5'-0" TO 8'-0"	24 INCHES
8'-0" TO 10'-0"	30 INCHES
OVER 10 FEET	36 INCHES

Revd M.H. steps & Base Slab	E.	G.B.	N.K.		DESIGNED BY	APPROVED BY John Ericksen
	C.K.	G.B.	N.K.		DRAWN BY J. Clark	ENGINEER OF STREETS N. N. Hicks
DESCRIPTION	DRWG.	CKD.	APPR.	DATE	TRACED BY	ASST. CITY ENGINEER
REVISIONS					CHECKED BY N. Kawaloas	CITY ENGINEER

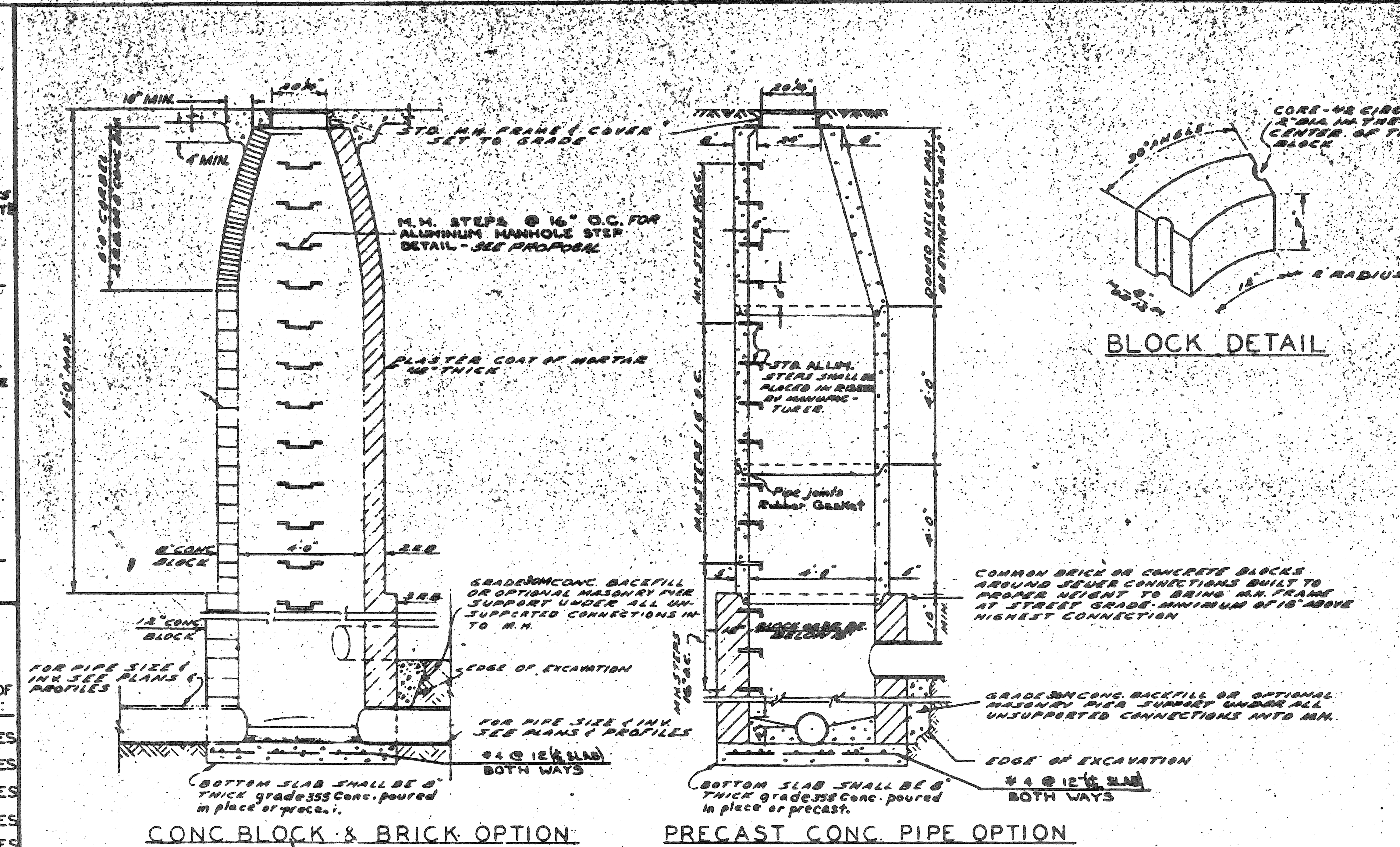
DETAILS OF STANDARD
SEWER & DROP MANHOLES

BOOK NO.___ PG.___ SCALE 3/8" = 1'-0" DATE: 8-27-66

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

DETAIL STANDARD NO. 10 DWG. NO. C-4387

1971 ~~1970~~ ~~1969~~ ~~1968~~ ~~1967~~

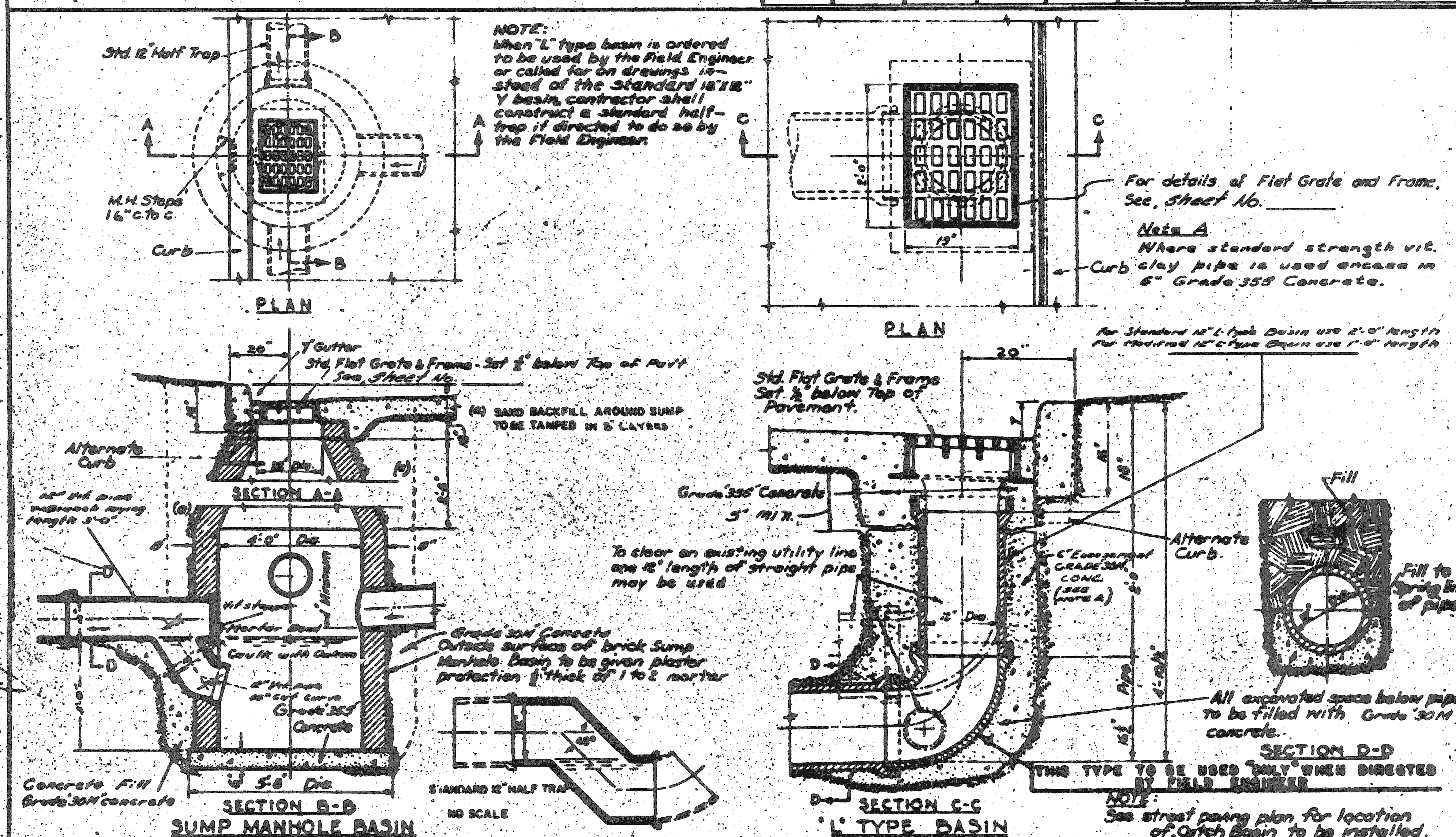


Revised bottom slab & steps	J.C.	G.B.	N.H.		DESIGNED BY	APPROVED J. Ericksen
Changed TITLE	L.C.				DRAWN BY T.P. MIRIANI	ENGINEER OF STREETS N. N. Hicks
DESCRIPTION	DRW.	CKD.	APR.	DATE	TRACED BY	ASST. CITY ENGINEER
REVISIONS					CHECKED BY Kawalas	CITY ENGINEER

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
Form C of D-346-SH-A DETAIL STANDARD NO. 18

STD. SEWER MANHOLES
CONSTRUCTION ALTERNATES

BOOK NO. SCALE NONE DWG. NO. C-4395A
PAGE NO. DATE 3-29-63



Revised M.H. Steps	J.C.	G.B.	N.K.		DESIGNED BY	APPROVED J. Ericksen
DESCRIPTION	DRW.	CKD.	APR.	DATE	DRAWN BY L.V. King	ENGINEER OF STREETS N. N. Hicks
REVISIONS					TRACED BY	ASST. CITY ENGINEER
					CHECKED BY Kawalas	CITY ENGINEER

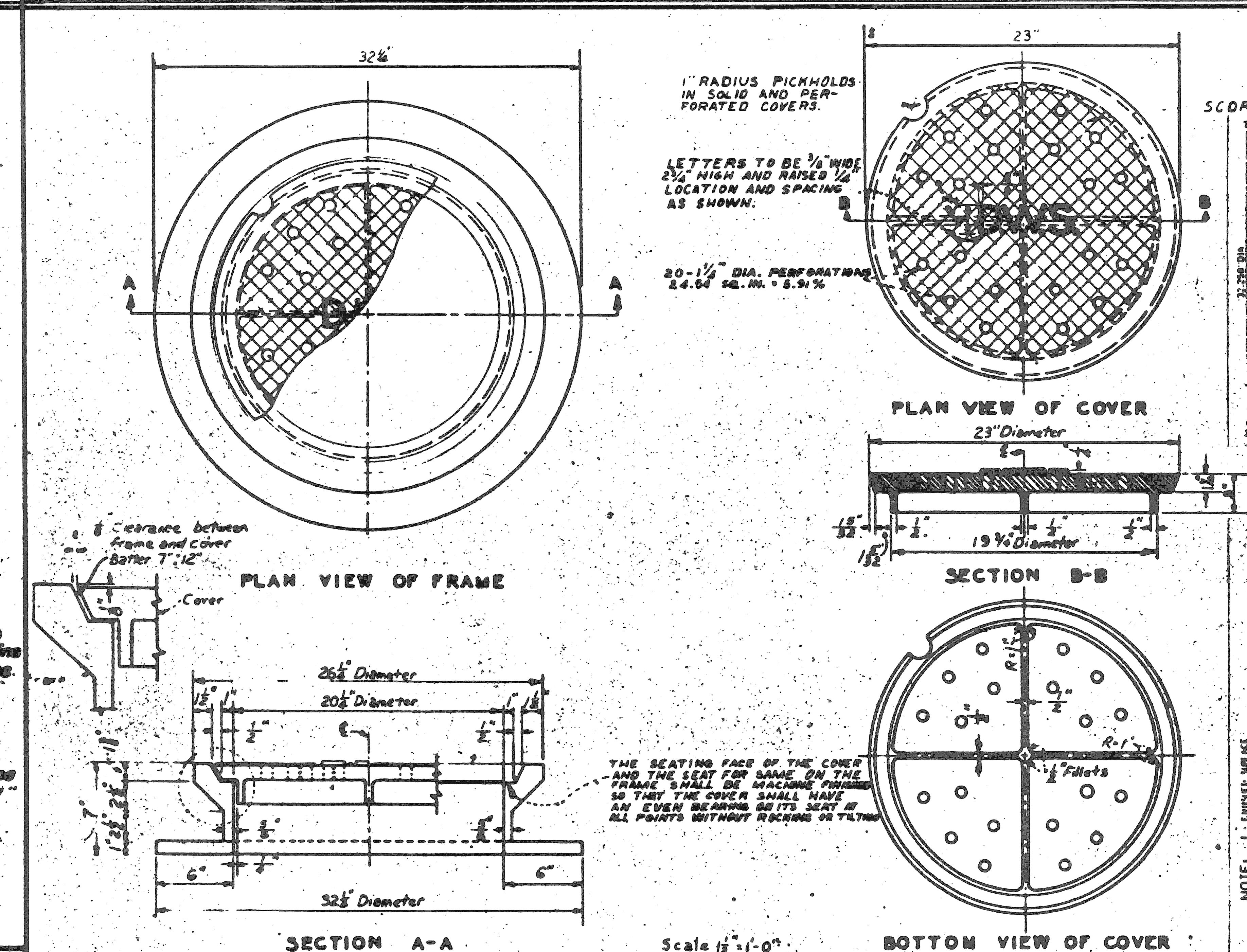
TYPICAL
SUMP MANHOLE & "L" TYPE
CATCH BASINS

SCALE AS SHOWN DATE MAR. 2, 1959

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

DETAIL STANDARD NO. 12 DWG. NO. C-4388

1971 ~~1970~~ ~~1969~~ ~~1968~~ ~~1967~~ ~~1966~~ ~~1965~~ ~~1964~~ ~~1963~~ ~~1962~~ ~~1961~~ ~~1960~~



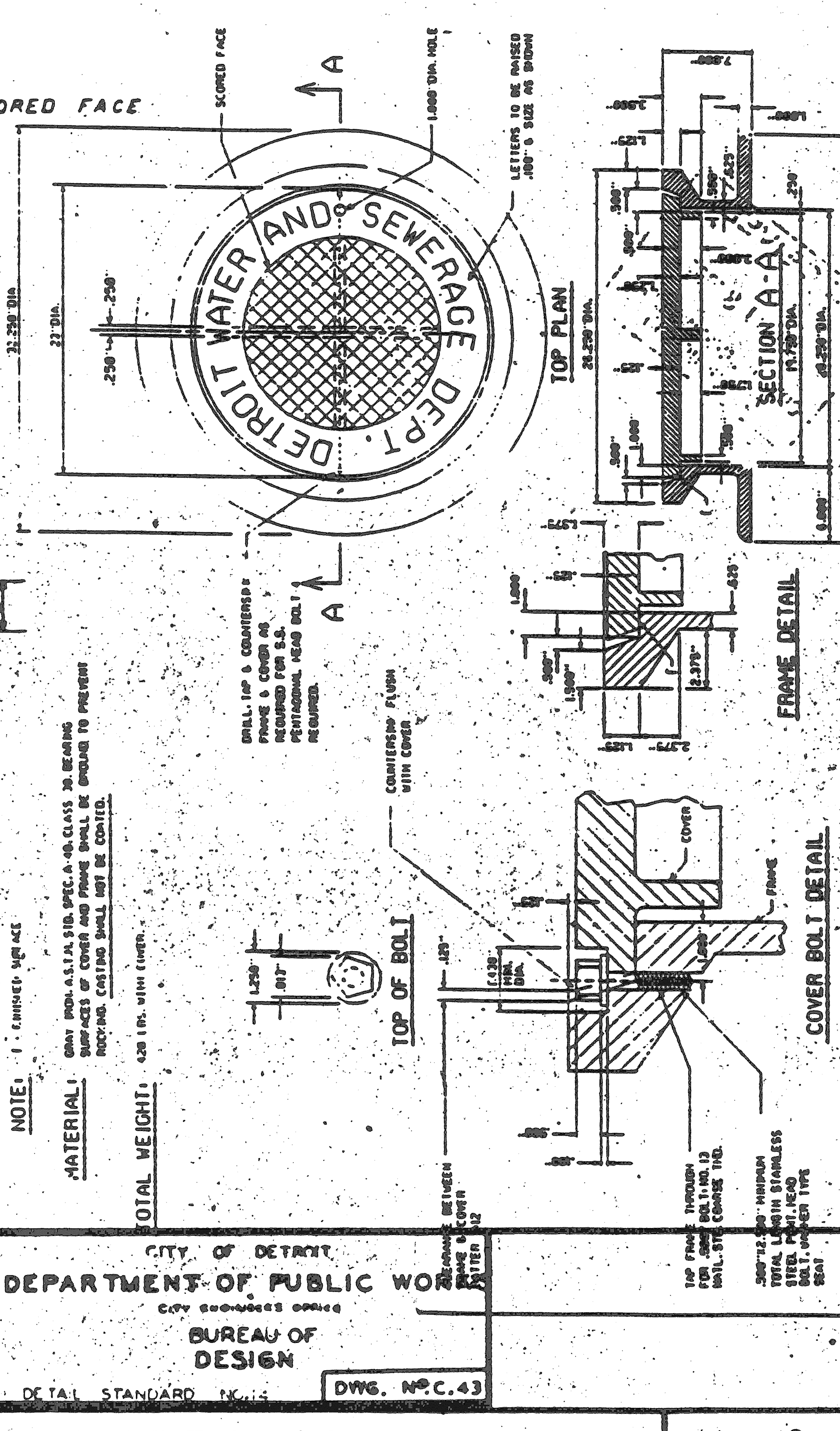
Deleted 'Detroit' from Cover	J.C.				DESIGNED BY	APPROVED
DESCRIPTION	DRW.	CKD.	APR.	DATE	DRAWN E. Jackson	ENGINEER OF STREETS N. N. Hicks
REVISIONS					TRACED BY	ASST. CITY ENGINEER
					CHECKED BY N. Kawalas	CITY ENGINEER

DETAILS OF STANDARD
- MANHOLE FRAME AND COVER -

BOOK NO. - SCALE: AS SHOWN DATE: OCTOBER 14, 1966

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

DETAIL STANDARD NO. 14 DWG. No. C.43



CITY OF DETROIT
WATER & SEWERAGE DEPARTMENT
ENGINEERING DIVISION

GATE WELL
FRAME & COVER
NO SCALE

R.E.S.	9/90	
N.L.	1/91	
REVISIONS		

RD-2
A120-234

DESCRIPTION	DRW.	CK'D	APP'D	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET				

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY
APPROVED:
CITY ENGINEER

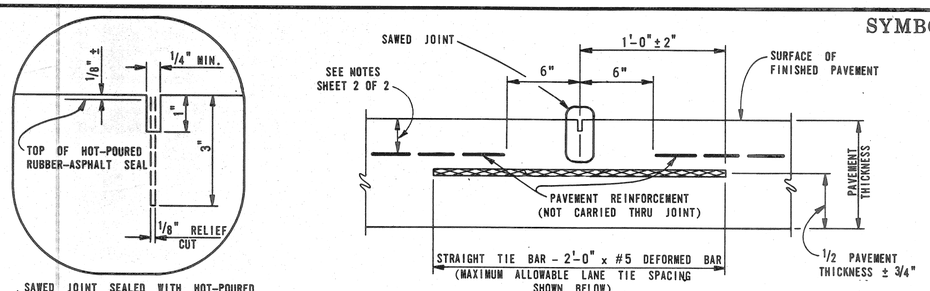
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

REPAVING OF LAFAYETTE FROM
ST. ANTOINE TO CHRYSLER SERVICE DRIVE
AND MISCELLANEOUS CONSTRUCTION.

SPECIAL DETAILS

SHEET 10 OF 12 SHEETS
CONTRACT NO.
ASSIG. NO. 89-22-30
DATE

SYMBOL (D)

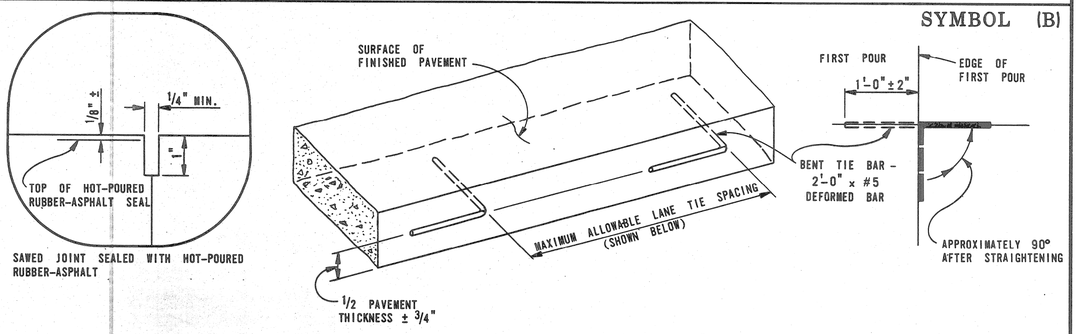


SAWED JOINT SEALED WITH HOT-POURED RUBBER-ASPHALT

LONGITUDINAL LANE TIE JOINT

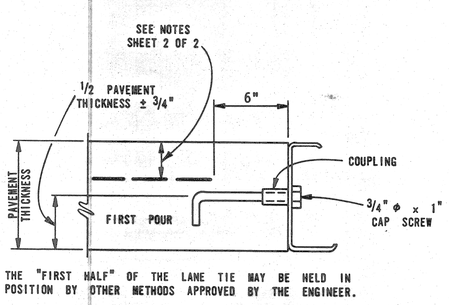
SYMBOL (D) TIE BARS SHALL BE PLACED AT THE PROPER SPACING LONGITUDINALLY, AND TRANSVERSELY AT 90° WITH THE JOINT.

SYMBOL (B)

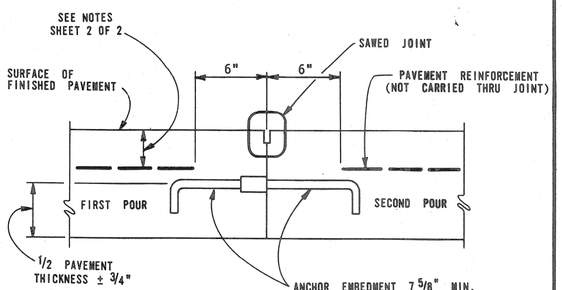


SAWED JOINT SEALED WITH HOT-POURED RUBBER-ASPHALT

BENT TIE BAR METHOD



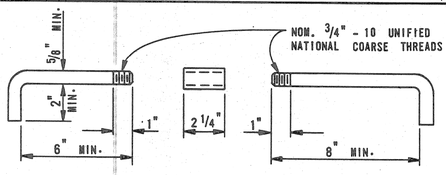
THE "FIRST HALF" OF THE LANE TIE MAY BE HELD IN POSITION BY OTHER METHODS APPROVED BY THE ENGINEER.



HOOK BOLT METHOD

LONGITUDINAL BULKHEAD JOINTS

ALL SYMBOL (B) JOINTS SHALL BE SAWED AND SEALED EXCEPT JOINTS WITHOUT LANE TIES AND JOINTS ADJACENT TO VERTICAL FACES WHICH WOULD PROHIBIT SAWING.



* WHEN "SECOND POUR" IS A DETAIL E CURB, USE THE 6" SEGMENT IN THE CURB AND THE 8" HALF IN THE PAVEMENT.

HOOK BOLT

MAXIMUM ALLOWABLE LANE TIE SPACING, SYMBOLS (B) & (D)	* TOTAL DISTANCE OF TIED JOINT FROM NEAREST FREE EDGE
4'- 6 3/4"	12' OR LESS
3'- 5"	12'+ THRU 17'
2'- 6 3/4"	17'+ THRU 24'
2'- 1 7/8"	24'+ THRU 28'
1'- 6 1/4"	28'+ THRU 36'
** 1'- 2"	36'+ THRU 48'

* "INCLUDES ANY TIED COMBINATION OF LANE WIDTH, VALLEY GUTTER, CURB & GUTTER, OR SHOULDER.

** FOR WIDTHS GREATER THAN 48', USE NO. 6 DEFORMED BARS SPACED AT 1'-2".

MAXIMUM ALLOWABLE LANE TIE SPACING

PREPARED BY DESIGN DIVISION	ENGINEER OF CONSTRUCTION	4-10-92 Wm. C. Turner ACT. ENGINEER-ROAD DESIGN	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS STANDARD PLAN FOR
DRAWN BY: B.L.T.	ENGINEER OF MAINTENANCE	ENGINEER OF DESIGN	LONGITUDINAL PAVEMENT JOINTS
CHECKED BY: I.R.G.	ENGINEER OF MATERIALS & TECHNOLOGY	DEPARTMENT DIRECTOR PATRICK NOWAK	
	ENGINEER OF TRAFFIC AND SAFETY	BY: Gary D. Taylor For DEPUTY DIRECTOR-HIGHWAYS	
	F.H.W.A. APPROVAL	4-2-92 PLAN DATE	II-41H — SHEET 1 OF 2

SYMBOL (L)

THIS JOINT SHALL BE CONSTRUCTED ACCORDING TO SYMBOL (B), HOOK BOLT METHOD, EXCEPT THAT THE "SECOND POUR" AND THE "SECOND HALF" OF THE HOOK BOLT SHALL BE OMITTED. THE THREADED HOLE IN THE HOOK BOLT COUPLING SHALL BE TREATED WITH RUST PREVENTIVE OIL AND PLUGGED WITH A NEOPRENE OR PLASTIC PLUG. THE PLUG SHALL BE OF PROPER DIMENSION TO COMPLETELY SEAL THE HOLE AND SHALL NOT PROJECT MORE THAN 3/8" AFTER INSERTING.

LONGITUDINAL BULKHEAD JOINT

FOR FUTURE PAVEMENT WIDENING

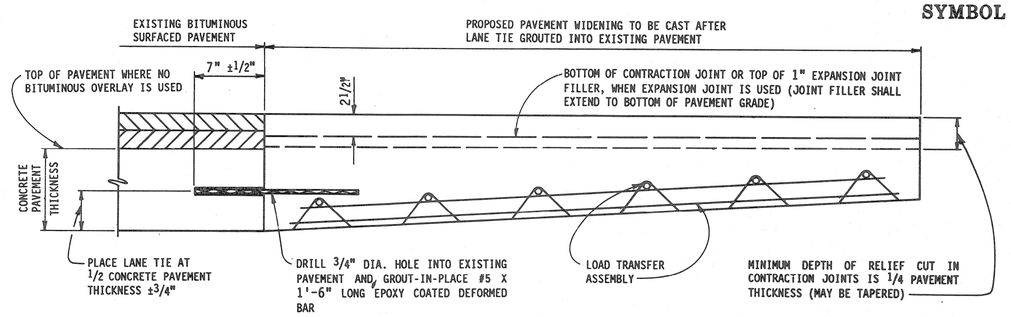
SYMBOL (L1)

THIS JOINT SHALL BE CONSTRUCTED ACCORDING TO SYMBOL (B), HOOK BOLT METHOD, EXCEPT THAT THE "FIRST POUR" AND THE "FIRST HALF" OF THE HOOK BOLT HAVE PREVIOUSLY BEEN PROVIDED. THE PLUG SHALL BE REMOVED, THE THREADS OF THE COUPLING SHALL BE RETAPPED WHERE REQUIRED AND THE "SECOND HALF" OF THE HOOK BOLT SHALL BE PROVIDED AND INSTALLED.

LONGITUDINAL BULKHEAD JOINT

FOR WIDENING EXISTING CONCRETE PAVEMENT WHERE LANE TIES HAVE PREVIOUSLY BEEN PROVIDED

SYMBOL (L2)

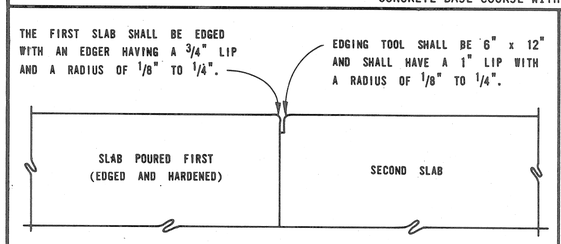


THE LONGITUDINAL JOINT USED FOR WIDENING EXISTING CONCRETE BASE COURSE OR CONCRETE PAVEMENT HAVING A BITUMINOUS SURFACE SHALL HAVE EPOXY ANCHORED LANE TIES PLACED AS SHOWN.

TAPER PAVEMENT THICKNESS OVER THE DISTANCE OF PAVEMENT WIDENING OR IN ONE LANE WIDTH WHEN WIDENING IS FOR TWO OR MORE LANES.

LONGITUDINAL BULKHEAD JOINT

FOR WIDENING EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE WITH EPOXY ANCHORED LANE TIES



METHOD OF EDGING

NOTES:

ALTHOUGH BENT TIE BARS AND HOOK BOLTS ARE ILLUSTRATED FOR LANE TIES AT LONGITUDINAL BULKHEAD JOINTS, OTHER APPROVED TYPES MAY BE USED.

LANE TIE BARS SHALL BE DEFORMED. HOOK BOLTS NEED NOT BE DEFORMED.

ALTHOUGH PAVEMENT REINFORCEMENT IS ILLUSTRATED AND REFERRED TO ON THESE SHEETS, THE USE OF REINFORCEMENT WILL BE AS SHOWN ON PLANS.

THE INSTALLATION OF LANE TIE BARS AND THE SAWING OF LONGITUDINAL JOINTS WILL NOT BE REQUIRED FOR TEMPORARY CONCRETE PAVEMENT UNLESS CALLED FOR ON PLANS OR IN THE PROPOSAL. THE EDGING OF TEMPORARY CONCRETE PAVEMENT WILL NOT BE REQUIRED.

FOR JOINT LAYOUT DETAILS, SEE STANDARD PLAN II-42 SERIES.

SAWING PROCEDURES AND RELATED OPERATIONS ARE DESCRIBED IN THE CURRENT STANDARD SPECIFICATIONS.

NO SAWED OR SEALED JOINT SHALL BE CONSTRUCTED BETWEEN THE PAVEMENT AND CURB, CURB AND GUTTER, OR VALLEY GUTTER, WHERE THESE ITEMS ARE CAST INTEGRALLY.

ALL STRAIGHT TIE BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR EPOXY COATED STEEL REINFORCEMENT FOR STRUCTURES.

WHEN DEFORMED BARS ARE GROUTED INTO AN EXISTING PAVEMENT, THE GROUT SHALL BE SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SAMPLING GUIDE" UNDER ADHESIVE SYSTEMS FOR GROUTING DOWEL BARS AND TIE BARS FOR FULL-DEPTH CONCRETE PAVEMENT REPAIRS.

IN ORDER TO AVOID CONFLICT WITH THE LOAD TRANSFER ASSEMBLY, THE PLACEMENT OF THE END LANE TIE ADJACENT TO ANY TRANSVERSE JOINT SHALL BE AS FOLLOWS:

1. WHEN MAXIMUM ALLOWABLE LANE TIE SPACING EXCEEDS 3'-4", PLACE FIRST AND LAST LANE TIE 1/2 THE MAXIMUM ALLOWABLE LANE TIE SPACING FROM JOINT.
2. WHEN MAXIMUM ALLOWABLE LANE TIE SPACING IS LESS THAN 3'-4", PLACE FIRST AND LAST LANE TIE A MINIMUM OF 1'-8" FROM JOINT.

IT MAY BE NECESSARY TO ADJUST THE LAST THREE LANE TIE SPACINGS TO ENSURE UNIFORM LOADING RESISTANCE ALONG THE LONGITUDINAL JOINT.

FOR DEPTH OF STEEL REINFORCEMENT, SEE STANDARD PLAN II-45 SERIES.

PREPARED BY DESIGN DIVISION	ENGINEER OF CONSTRUCTION	4-10-92 Wm. C. Turner ACT. ENGINEER-ROAD DESIGN	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS STANDARD PLAN FOR
DRAWN BY: B.L.T.	ENGINEER OF MAINTENANCE	ENGINEER OF DESIGN	LONGITUDINAL PAVEMENT JOINTS
CHECKED BY: I.R.G.	ENGINEER OF MATERIALS & TECHNOLOGY	DEPARTMENT DIRECTOR PATRICK NOWAK	
	ENGINEER OF TRAFFIC AND SAFETY	BY: Gary D. Taylor For DEPUTY DIRECTOR-HIGHWAYS	
	F.H.W.A. APPROVAL	4-2-92 PLAN DATE	II-41H — SHEET 2 OF 2

QUANTITY SHEET - E

ITEMS	AS PER PLANS							AS CONSTRUCTED	
SHEET NO'S.		2	3	4	5-7	8-11			
	TOTALS	UNITS	REMOVAL AND UTILITY	PLAN AND PROFILE	TYPICAL CROSS SECTIONS AND INTERSECTION GRADE DETAILS	CONSTRUCTION SEQUENCE	PAV'T MARKING SEE PROPOSAL	TOTALS	UNITS
Removing Pavement	5720	SYD.	5720						
Removing Sidewalk	1800	SYD.	1800						
Earth Excavation	1850	CYD.	1850						
Subgrade Undercutting Type II	100	CYD.			100				
Remove Masonry And Concrete Structures	100	CYD.			100				
Subbase (C.I.P.)	1050	CYD.			1050				
Aggregate Base Under Concrete (4" in place)	600	SYD.			600				
Removing Bituminous Surface	50	SYD.		50					
Bituminous Approach	8	TON		8					
Concrete Pavement Nonreinforced 8"	260	SYD.		260					
Concrete Pav't With Integral Curb Reinforced 9"	5400	SYD.		5400					
Cement	4	TON			4				
Catch Basin "A"	1	EACH	1						
Catch Basin "B"	1	EACH	1						
Class C76-IV Sewer, 12", Trench Detail B	100	LFT			100				
Adjusting Water Shutoff	3	EACH	3						
Adjusting Drainage Structure Cover Case 1	18	EACH	18						
Adjusting Drainage Structure Cover Case 2	18	EACH	18						
Reconstructing Drainage Structure Case 1	2	EACH	2						
Reconstructing Drainage Structure Case 2	2	EACH	2						
Concrete Sidewalk, 4"	16500	SFT		16500					
Concrete Sidewalk, 6"	1550	SFT		1550					
Sidewalk Ramps - Modified	850	SFT		850					
Mobilization	1	L.S.			1				
Overlay Cold Plastic Pav't Marking, 4", White	560	LFT					560		
Overlay Cold Plastic Pav't Marking, 18", Stop Bar	220	LFT					220		
Overlay Cold Plastic Pav't Marking, 6", Crosswalk	2100	LFT					2100		
Lighted Arrow, Type A, Furnished	4	EACH				4			
Lighted Arrow, Type A, Operated	3	EACH				3			
Barricade Type II, Lighted - Furnished	100	EACH				100			
Barricade Type II, Lighted - Operated	60	EACH				60			
Barricade Type III, Lighted - Furnished	5	EACH				5			
Barricade Type III, Lighted - Operated	4	EACH				4			
Minor Traffic Devices	1	L.S.				1			
Flag Control	1	L.S.				1			
Sign, Type B, Temporary - Furnished	430	SFT				430			
Sign, Type B, Temporary - Operated	300	SFT				300			
Class A Sodding	210	SYD.		210					
Top Soil Surface (L.M.)	17	CYD.		17					
Water	3	UNIT		3					
Subgrade Underdrain - 6"	100	LFT		100					
Temporary Pav't Marking, Type "R", 4" White	100	LFT					100		

PLAN ESTIMATE BY N.H. DATE 4/4/1993 CHECKED BY S.J. DATE SEPT. 1993 DATA COMPLETED _____ PROJ. ENG DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

REPAVING OF LAFAYETTE FROM ST. ANTOINE TO CHRYSLER SERV. DR. AND MISC. CONSTRUCTION

SHEET NO. 12 OF 12

ASSIGNMENT 89-22-30 DATE: MAY, 1993