CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
IN CO-OPERATION WITH

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 1990 STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

FHWA REGION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MICH				
STREET	CITY	COUNTY	TWP	SHEET NO.	TOTAL SHEETS

MICHIGAN DEPARTMENT OF TRANSPORTATION
AND
~~FEDERAL HIGHWAY ADMINISTRATION~~

~~FEDERAL AID URBAN PROJECT~~ NO. MICHIGAN ~~M 2000 ( )~~

CONTROL SECTION **EDA 82522** JOB NO. **31809 A**

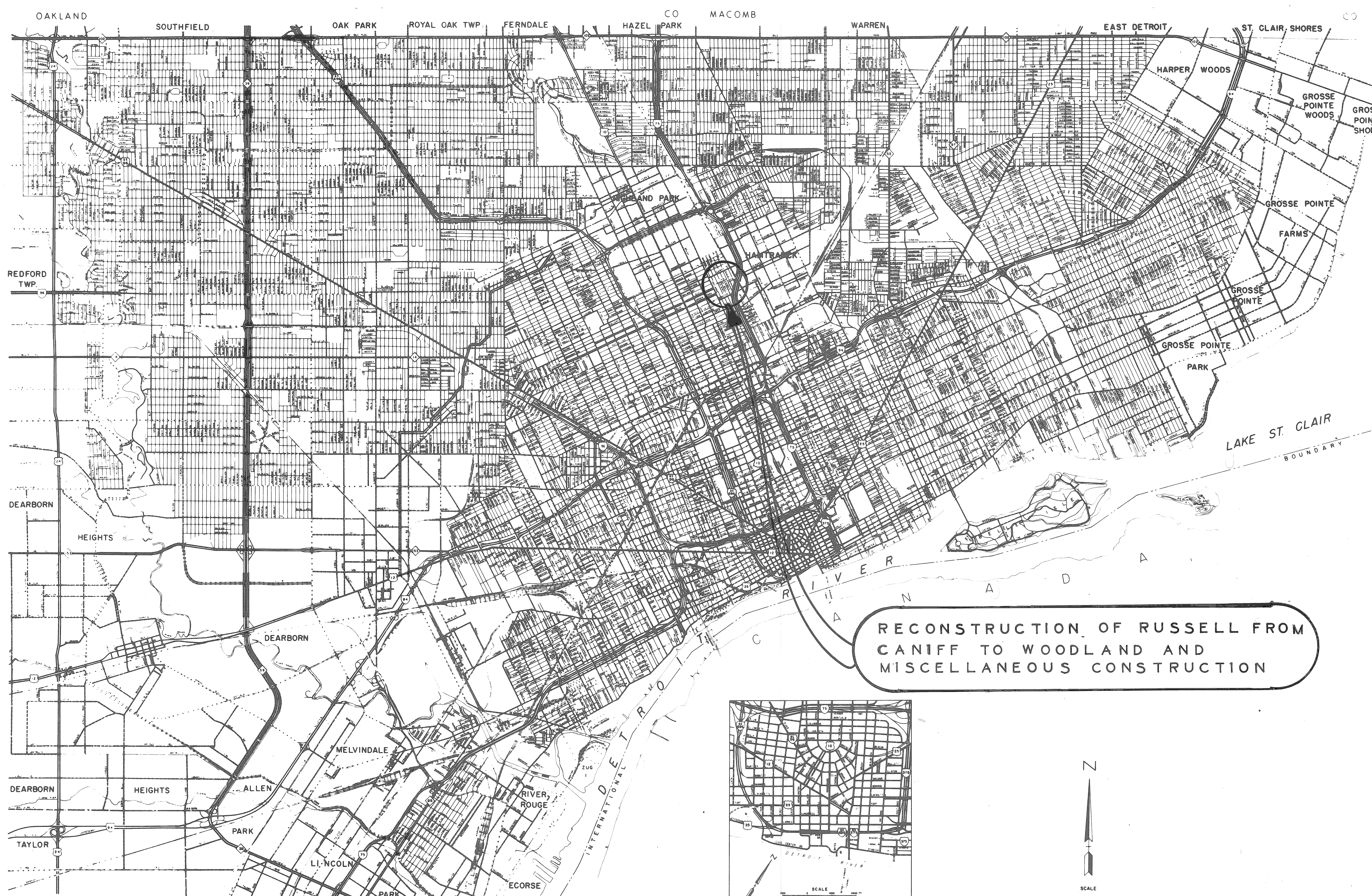
TRAFFIC COUNT - RUSSELL ST.

DESIGN SPEED	35MPH
POSTED SPEED	25MPH
ADT (1990)	46
ADT (2010)	150

INDEX OF SHEETS

STANDARD PLANS

II-28G	II-43D
II-29E	IV-84E
II-39K	V-100B
II-40G	VI-125H
II-41G	
II-42F	



OAKLAND
SOUTHFIELD
OAK PARK
ROYAL OAK TWP
FERNDALE
HAZEL PARK
CO
MACOMB
WARREN
EAST DETROIT
ST. CLAIR SHORES
HARPER WOODS
GROSSE POINTE WOODS
GROSSE POINTE SHORES
GROSSE POINTE
FARMS
GROSSE POINTE
GROSSE POINTE
PARK
HAMTRAMCK
HIGHLAND PARK
REDFORD TWP
DEARBORN
HEIGHTS
DEARBORN
MELVINDALE
DEARBORN
HEIGHTS
ALLEN
PARK
TAYLOR
LINCOLN
PARK
RIVER ROUGE
ECORSE
LAKE ST. CLAIR
BOUNDARY
RIVER
CANADA
DETROIT
INTERNATIONAL
RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION
ENLARGEMENT OF DOWNTOWN AREA
SCALE
N
SCALE
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ITEM NO.

CONTRACT FOR G., DS., P., & UTILITIES

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

APPROVED BY E M Kennedy — DEPUTY DIRECTOR — 6/1/92 DATE

APPROVED BY Clyde R Hopkins — DIRECTOR — 6-1-92 DATE

PREPARED UNDER SUPERVISION OF

William L. Talley — REGISTERED PROFESSIONAL ENGINEER — 26185 REGISTRATION NO.

CITY OF DETROIT
ORGANIZATION

DETROIT, MICHIGAN
ADDRESS

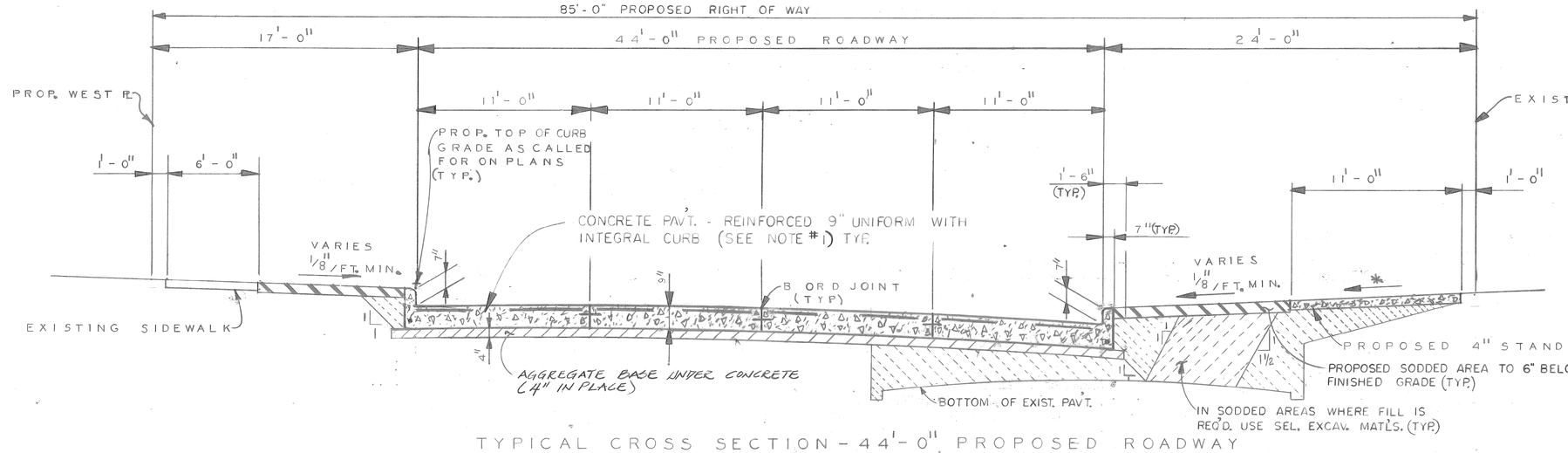
(SEAL) STATE of MICHIGAN — WILLIAM L. TALLEY ENGINEER No. 26185 — REGISTERED PROFESSIONAL ENGINEER

CONTROL SECTION EDA 82522, JOB NO. 31809 A

FILE NO. 1990 NO. 2ND STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

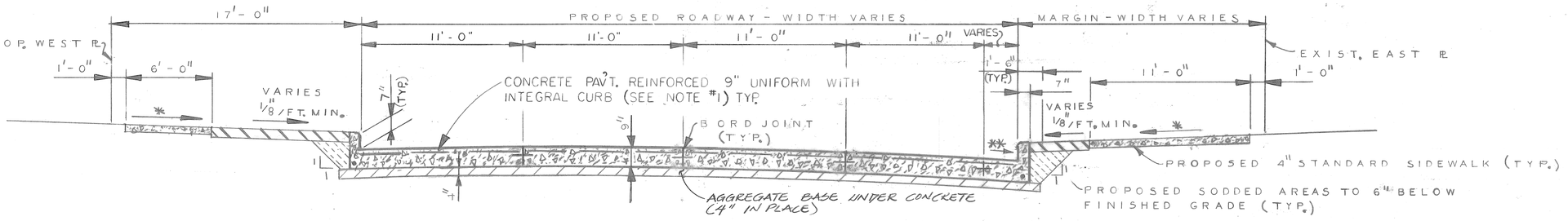
(C)

Original 1-22-80



TYPICAL CROSS SECTION - 44'-0" PROPOSED ROADWAY

NO SCALE



TYPICAL CROSS SECTION - PROPOSED ROADWAY WIDTH VARIES

NO SCALE

* SIDEWALK SLOPES ARE TO BE 3/8" / FT. UNLESS THE ENGINEER DETERMINES THAT A MINIMUM SLOPE OF 1/4" / FT. OR A MAXIMUM SLOPE OF 3/4" / FT. MUST BE USED TO MEET EXISTING CONDITIONS.

** SLOPE VARIABLE WIDTH PAVEMENT AT 3/8" / FT. FROM B OR D JOINT TO CURB.

JOINT LEGEND

(B) LONGITUDINAL BULKHEAD JOINT, ACCORDING TO M.D.O.T. STANDARD DRAWING II - 416

(D) LONGITUDINAL LANE TIE JOINT WITH TIE BAR, ACCORDING TO M.D.O.T. STANDARD DRAWING II - 416

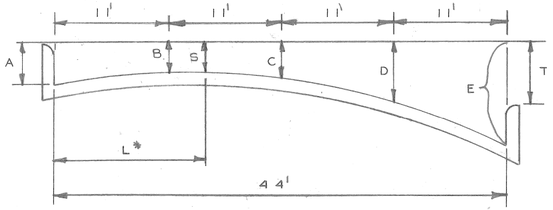
(B D) OPTIONAL, B OR D

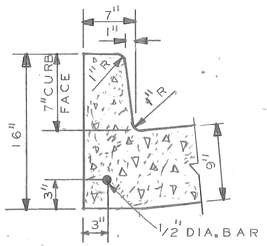
NOTES

1. THE PROPOSED CURB SHALL BE INTEGRAL CURB (SEE DETAIL THIS SHT.). REGARDLESS OF CONSTRUCTION METHOD, THE PROPOSED CURB SHALL BE PAID FOR AS "CONC. PAVEMENT - REINF. - 9" WITH INTEGRAL CURB".
2. BACKFILL, IF REQUIRED, UNDER PROPOSED SIDEWALKS SHALL BE GRANULAR MATERIAL CLASS II.
3. PLACE 4" CONC. SIDEWALK TO FACE OF BUILDING WHERE BUILDING FRONTS ON PROPERTY LINE.

EARTHWORK LEGEND

- GRANULAR MATERIAL CLASS II (SEE NOTE #2)
- AGGREGATE BASE CONCRETE (4" IN PLACE)
- SELECTED EXCAVATED MATERIAL (INCIDENTAL TO PAVING COSTS)
- CLASS A SODDING WITH 3" TOPSOIL





INTEGRAL CURB

MISCELLANEOUS QUANTITIES

MOBILIZATION	1	LUMP SUM
FLAG CONTROL	1	LUMP SUM
MINOR TRAFFIC DEVICES	1	LUMP SUM
FIELD OFFICE	3	MONTHS

ESTIMATED QUANTITIES FOR USE AT THE DISCRETION OF THE ENGINEER

REMOVING MASONRY AND CONC. STRUCTURES	100	CU. YDS.
SUBGRADE UNDERCUTTING, TYPE II	100	CU. YDS.
4" CONCRETE SIDEWALK	264	SQ. FT.
REMOVING SIDEWALK	23	SQ. YDS.
REMOVING PAVT. (REPAIR)	10	SQ. YDS.
CONC. PAVT. REPAIR, 10" NONREINFORCED	10	SQ. YDS.
CLASS "A" SODDING	43	SQ. YDS.
TOPSOIL SURFACE - 3"	43	SQ. YDS.
WATER	1	UNIT
SEWER CLEANOUT	100	LIN. FT.
CEMENT	3	TONS
CONCRETE CURB DETAIL "CD"	50	LIN. FT.
CLEANING DRAINAGE STR.	10	EACH

ELEMENTS FOR 44' ROADWAY

PAVEMENT WIDTH	CURB FACE	T	A	B	C	D	E	L	S
44'	7"	0	0.583	0.308	0.217	0.308	0.583	22.0	0.216
		0.1	0.583	0.333	0.267	0.383	0.683	20.5	0.265
		0.2	0.583	0.358	0.317	0.458	0.783	19.0	0.310
		0.3	0.583	0.383	0.367	0.533	0.883	17.5	0.351
		0.4	0.583	0.408	0.417	0.608	0.983	16.0	0.389
		0.5	0.583	0.433	0.467	0.683	1.083	14.5	0.424
		0.6	0.583	0.458	0.517	0.758	1.183	13.0	0.455
		0.7	0.583	0.483	0.567	0.833	1.283	11.5	0.483
		0.8	0.583	0.508	0.617	0.908	1.383	10.0	0.507

REFERENCE DRAWINGS	DESIGNED BY	N. H.	APPROVED: William J. Talley, ENGINEER OF STREETS
	DRAWN BY	JONES	
	TRACED BY		HIGHWAY ENGINEER
	CHECKED BY	S. J.	

COOR'D | DESCRIPTION | DR'N | CK'D | AP'VD | DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

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

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

TYPICAL SECTIONS

SHEET 2 OF 21 SHEETS
CONTRACT NO. 31809A
ASSIGNMENT NO. 91-60-01
DATE APRIL, 92

PLAN
SCALE: 1" = 40'

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

REFERENCE DRAWINGS

DESIGNED BY	N. Haidar
DRAWN BY	Jones
TRACED BY	
CHECKED BY	

APPROVED: William L. Talley
ENGINEER OF STREETS

HIGHWAY ENGINEER

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

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

ALIGNMENT SHEET

SHEET 3 OF 21 SHEETS
CONTRACT NO. 31809 A
ASSIGNMENT NO. 91-60-01
DATE APRIL, 92

LEGEND

- PAVEMENT CONSTRUCTION STAGE IA
- PAVEMENT CONSTRUCTION STAGE IB
- PAVEMENT CONSTRUCTION STAGE IIA
- PAVEMENT CONSTRUCTION STAGE IIB
- • BARRICADE TYPE II, LIGHTED
- ▼ BARRICADE TYPE III, LIGHTED
- ⊥ SIGN, TYPE B TEMPORARY
- TRAFFIC DIRECTION DURING STAGE IA ON WOODLAND
- TRAFFIC DIRECTION DURING STAGE IB ON WOODLAND, STAGE I AND II ON RUSSELL
- LIGHTED ARROW, TYPE A

NOTES: (STAGES I & II)

1. BARRICADES ON WOODLAND ARE SHOWN FOR STAGE IA AND IIA ONLY. BARRICADES MUST BE RE-POSITIONED FOR STAGE IIA AND IIB.
2. MAXIMUM SPACING OF BARRICADES SHALL BE 50FT. ON STRAIGHT-A-WAYS AND 25FT. ON TAPERS. CLOSER SPACING MAY BE REQUIRED AT INTERSECTIONS AS DIRECTED BY THE FIELD ENGINEER.

DESIGNED BY	N.H.	APPROVED: William L. Talley, ENGINEER OF STREETS	
DRAWN BY	J.J.		
TRACED BY		HIGHWAY ENGINEER	
CHECKED BY	N.W.		

REFERENCE DRAWINGS

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

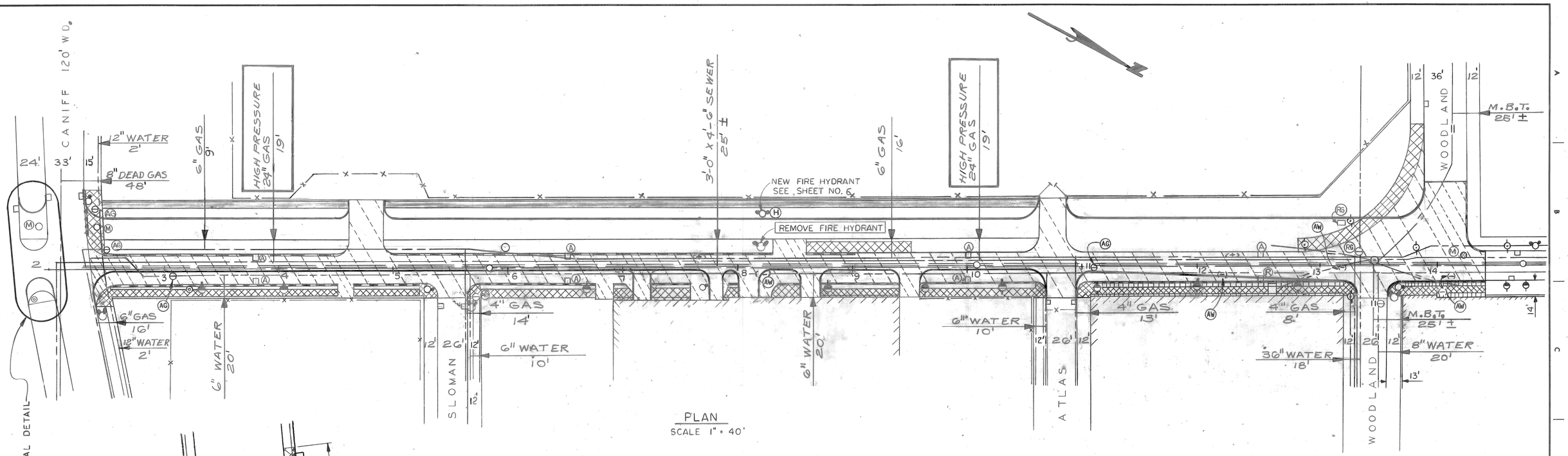
REVISIONS LOCATED BY COORDINATES ON SHEET

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS

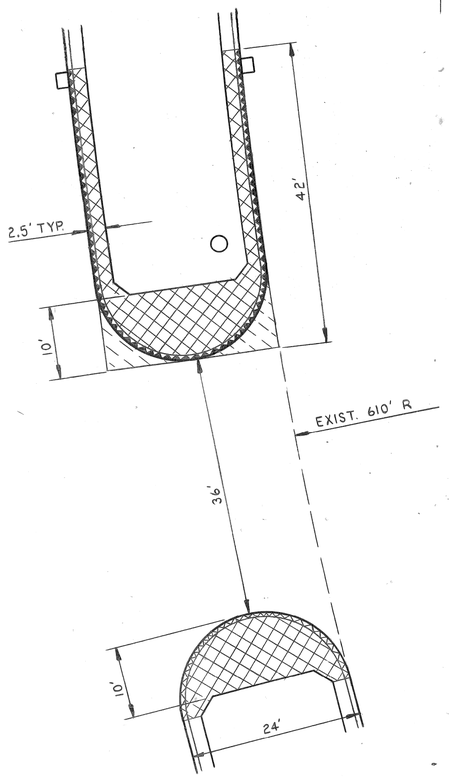
RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

CONSTRUCTION SEQUENCE

SHEET	4 OF 21 SHEETS
CONTRACT NO.	31809A
ASSIGNMENT NO.	91-60-01
DATE	APRIL, 92



PLAN
SCALE 1" = 40'



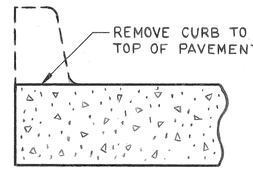
ISLAND REMOVAL DETAIL
SCALE: 1"=10'

REMOVAL LEGEND

- PAVEMENT REMOVAL
- SIDEWALK REMOVAL
- PARTIAL CURB REMOVAL (SEE NOTE #3)
- CURB REMOVAL
- BITUMINOUS PAVEMENT REMOVAL (INCIDENTAL TO EARTH EXCAVATION)
- EXISTING SIDEWALK TO REMAIN
- SEPARATE TYPE CURB REMOVAL (INCIDENTAL TO PAVEMENT REMOVAL)
- (AW) ADJUSTING WATER SHUTOFF
- (AG) ADJUSTING GATEWELL MANHOLE COVER
- (RG) RECOSTRUCT GATEWELL MANHOLE
- (H) INSTALL NEW FIRE HYDRANT (NOZZLES FACING EAST)
- (A) ABANDON DRAINAGE STRUCTURE
- (R) REMOVING DRAINAGE STRUCTURE

NOTES:

1. FOR UTILITY LEGEND, SEE SHEET NO. 11
2. LOCATION OF EXISTING UTILITY LINES ARE BASED ON THE BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY.
3. PARTIAL CURB REMOVAL WILL BE PAID FOR AS REMOVING CURB



PARTIAL CURB REMOVAL DETAIL
NO SCALE

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

DESIGNED BY
DRAWN BY JONES
TRACED BY
CHECKED BY N. Haidar

APPROVED: William L. Talley
ENGINEER OF STREETS
HIGHWAY ENGINEER

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION
REMOVAL AND UTILITY PLAN

SHEET 5 OF 21 SHEETS
CONTRACT NO. 31809A
ASSIGNMENT NO. 91-60-01
DATE APRIL, 92

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

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

Drainage Structure (D.S.) No.	Station	D.S. Type	With Trap (T)	Cover	Outlet sewer Size & Type	Outlet Elevation	Outlet Sewer Runs To: D.S. or Sewer	Inlet Elev.	Sewer Length	Length of Trench Det. 9	Sewer Tap Size
D.S.#1	3+76.53	C.B.B	T		12"-C-76-III	142.65	EX.S.M.H.	141.71	210'	210'	
D.S.#2	3+75.38	C.B.A	—		12"-C-76-III	143.05	D.S.#1	142.85	40'	40'	
D.S.#3	6+42.03	C.B.B	T		12"-C-76-III	143.24	EX.S.M.H.	142.54	70'	70'	
D.S.#4	6+44.00	C.B.A	—		12"-C-76-III	143.72	D.S.#3	143.44	40'	40'	
D.S.#5	9+92.11	C.B. B	T		12"-C-76-III	143.12	EX.S.M.H.	142.69	43'	43'	
D.S.#6	9+98.11	C.B.A	—		12"-C-76-III	143.60	D.S.#5	143.32	40'	40'	
D.S.#7	12+64.51	C.B.A	—		12"-C-76-III	142.88	D.S.#8	142.23	50'	50'	
D.S.#8	18+53.14	C.B.B	T		12"-C-76-III	142.03	EX.S.M.H.	138.84	246'	246'	

LEGEND

- CONCRETE PAVEMENT - (REINFORCED) 9" UNIFORM WITH INTEGRAL CURB
- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- 7" INTEGRAL CURB & SIDEWALK ON EXISTING PAVEMENT
- EXISTING SIDEWALK TO REMAIN
- 8" UNIFORM CONCRETE DRIVEWAY
- CLASS "A" SODDING WITH 3" TOPSOIL
- CONCRETE CURB-DETAIL "CD"
- (I) SIDEWALK RAMP TYPE I
- (M) ADJUSTING DRAINAGE STRUCTURE COVERS ALSO SEE SHEET NO. 5

BENCH MARKS — ELEV

P.B.M.# 43-257 N.W. COR. CANIFF & JOS. CAMPAU EL. 148.485

P.B.M.# 43-250A N.E. COR. CANIFF & LUMPKIN EL. 147.995

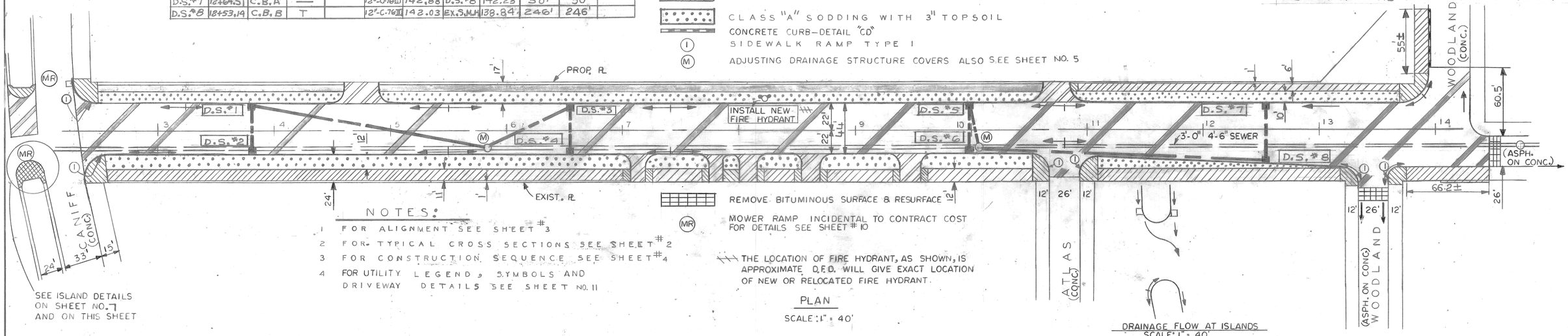
C.B.M.→ HYD. N.E. COR. CANIFF & RUSSELL EL. 152.670

C.B.M.→ HYD. N.E. COR. SLOMAN & RUSSELL EL. 154.785

C.B.M.→ HYD. W. SIDE RUSSELL 260'N. N. CURB SLOMAN EL. 154.895

C.B.M.→ HYD. N.E. COR. WOODLAND & RUSSELL EL. 154.420

C.B.M.→ HYD. W. SIDE RUSSELL 125' N. N. CURB WOODLAND EL. 154.470



NOTES:

1. FOR ALIGNMENT SEE SHEET #3
2. FOR TYPICAL CROSS SECTIONS SEE SHEET #2
3. FOR CONSTRUCTION SEQUENCE SEE SHEET #4
4. FOR UTILITY LEGEND, SYMBOLS AND DRIVEWAY DETAILS SEE SHEET NO. 11

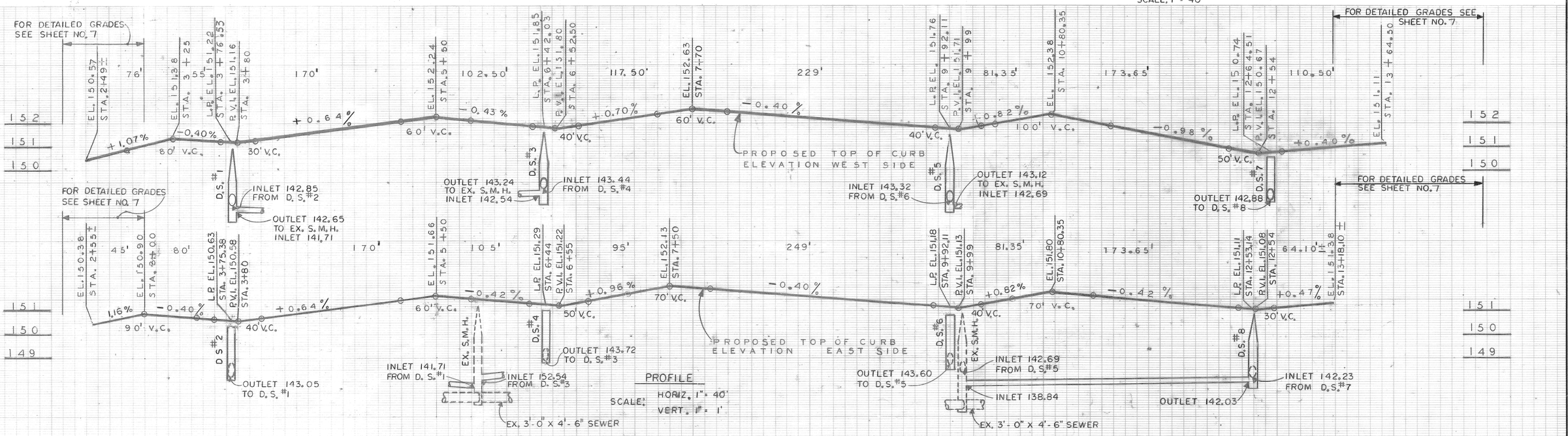
REMOVE BITUMINOUS SURFACE & RESURFACE

(MR) MOWER RAMP INCIDENTAL TO CONTRACT COST FOR DETAILS SEE SHEET # 10

THE LOCATION OF FIRE HYDRANT, AS SHOWN, IS APPROXIMATE. D.E.D. WILL GIVE EXACT LOCATION OF NEW OR RELOCATED FIRE HYDRANT.

PLAN

SCALE: 1" = 40'



PROFILE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 1'

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

	BY	CHECKED BY
PLAN	J. J.	N. W.
GRADE	N. H.	M. F.
ESTIMATE		
FINAL (CHECK)	N. H.	N. W. (REVIEW)

APPROVED: William L. Talley, ENGINEER OF STREETS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

PAVING PLAN

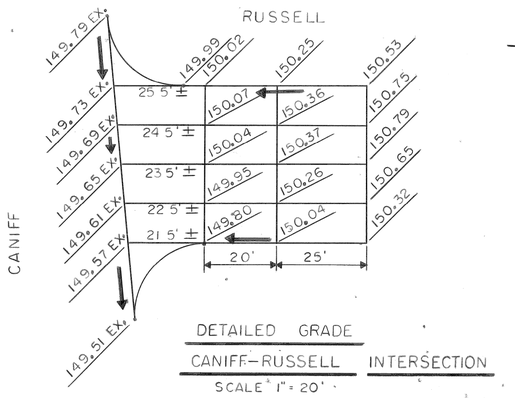
INDEX NO.
TOPO NO.
INDEXED

SHEET 6 OF 21 SHEETS
CONTRACT NO. 31009A
ASSIGNMENT NO. 91-60-01
DATE APRIL, 92

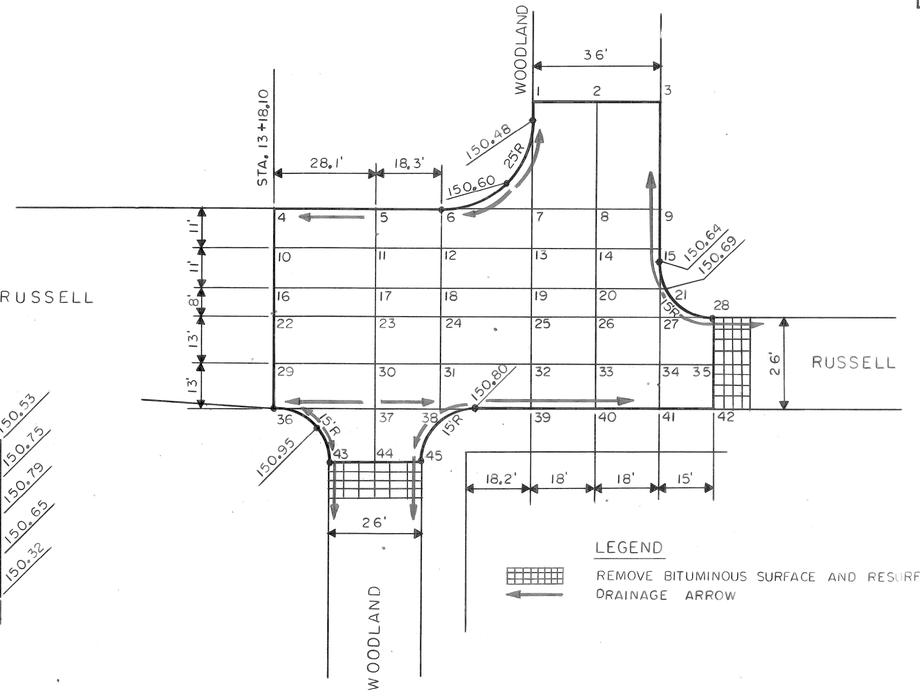
SCALE	HORIZONTAL / VERTICAL	BOOK NO. PG. PAVING COMPLETED	LEVEL DATE	BEFORE STARTING CONSTRUCTION——CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.

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

BENCH MARKS ELEV



DETAILED GRADE
CANIFF–RUSSELL INTERSECTION
SCALE: 1" = 20'

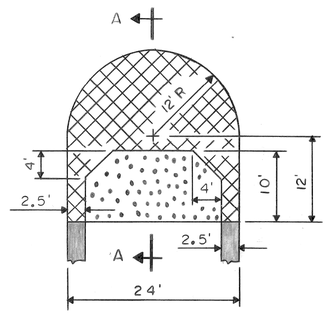


DETAILED GRADE
RUSSELL–WOODLAND INTERSECTION
SCALE: 1" = 20'

LEGEND

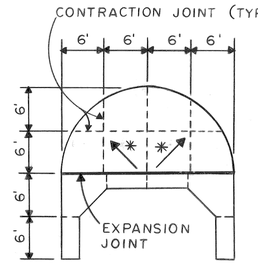
REMOVE BITUMINOUS SURFACE AND RESURFACE

DRAINAGE ARROW



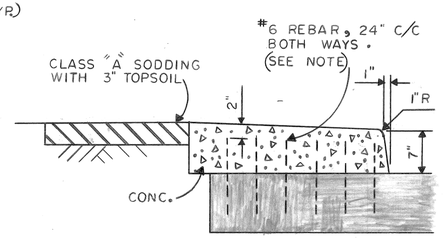
FOR LEGEND SEE SHEET NO. 6

ISLAND DETAIL
SCALE: 1" = 10'



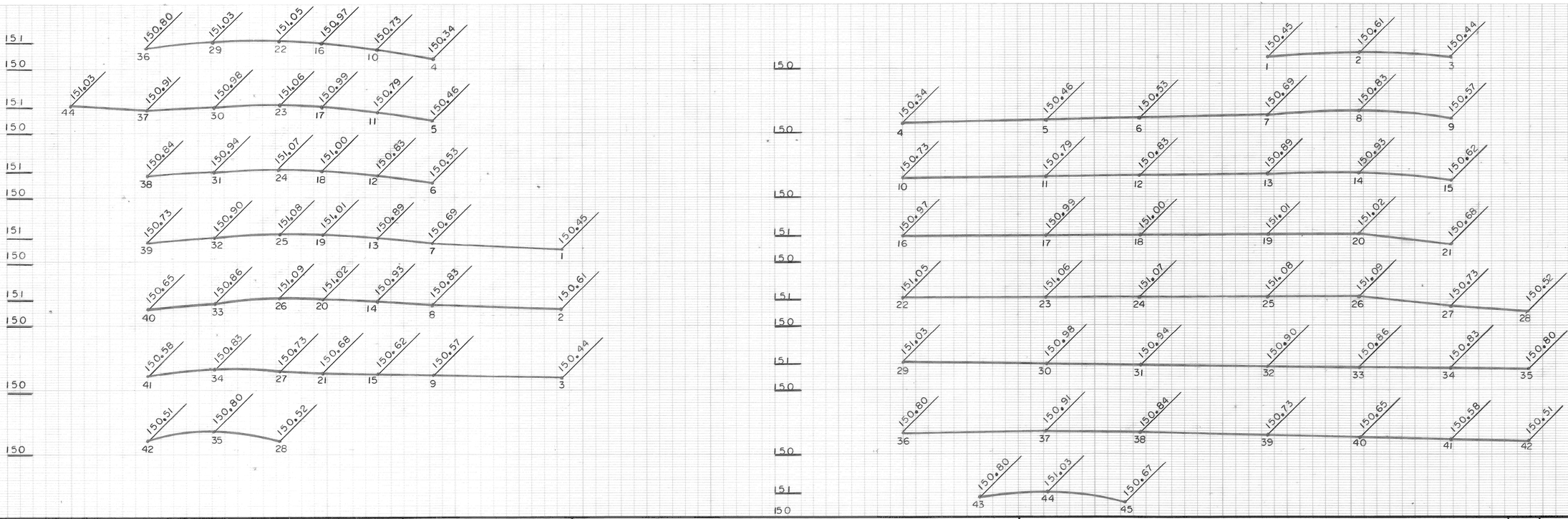
*SLOPE SIDEWALK TO CURB AT 1/4"/FT. MIN. 3/4"/FT. MAX.

JOINT DETAIL FOR ISLAND
SCALE: 1" = 10'



NOTE:
REBAR SHALL HAVE 7" MIN. EMBEDMENT INTO EXISTING CONC. PAVEMENT (INCIDENTAL TO CONC. ISLAND)

SECTION A-A
NO SCALE



DESCRIPTION	DR N	CK D	AP VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	J. J.	
GRADE	N. H.	
ESTIMATE		
FINAL (CHECK)	N. W.	(REVIEW)

APPROVED: William L. Talley
ENGINEER OF STREETS

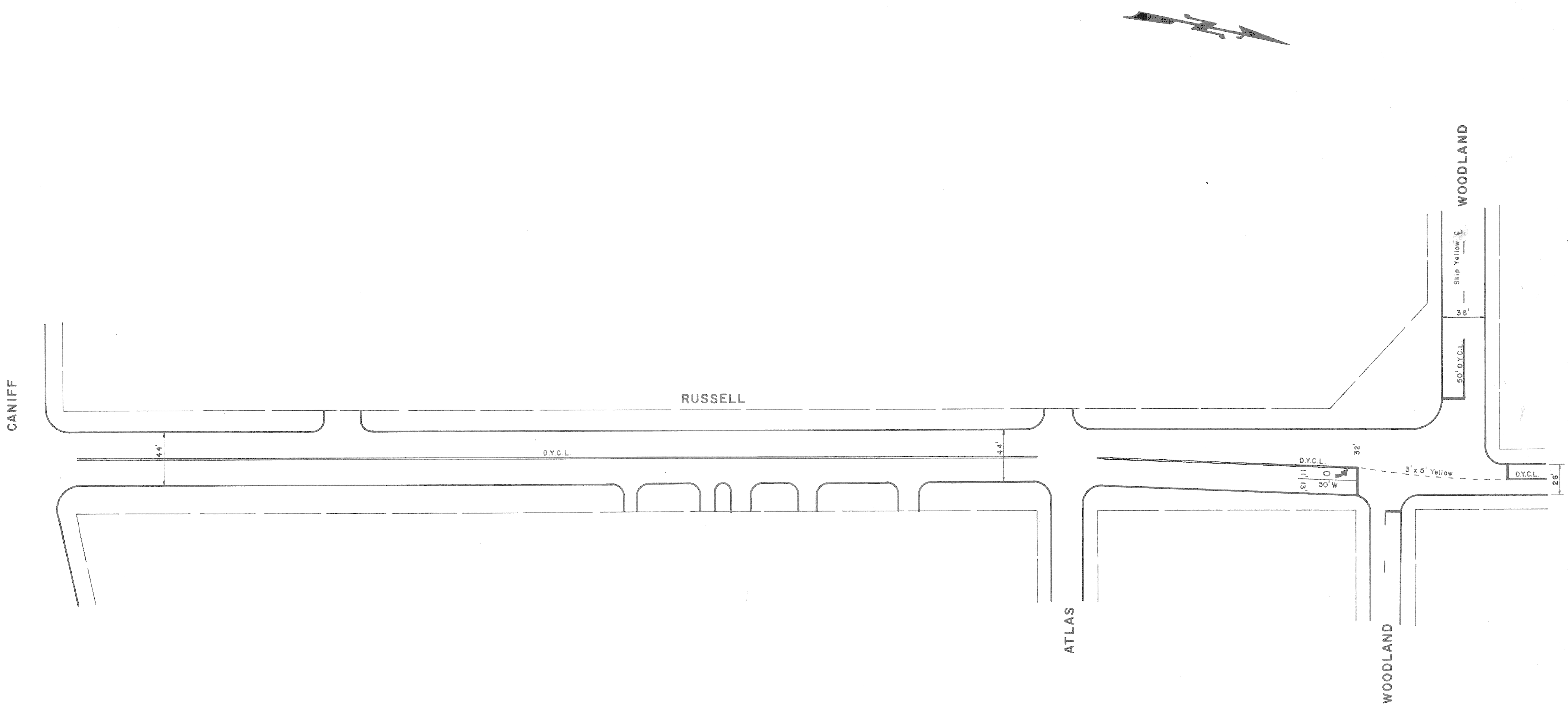
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS
FOR

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

INTERSECTION DETAIL GRADE

INDEX NO.
TOPO NO.
INDEXED

SHEET 7 OF 21 SHEETS
CONTRACT NO. 31809A
ASSIGNMENT NO. 91-60-01
DATE APRIL, 92



						REFERENCE DRAWINGS	DESIGNED BY	
							DRAWN BY	E.W.P.
							TRACED BY	
COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE		CHECKED BY	

REVISIONS LOCATED BY COORDINATES ON SHEET

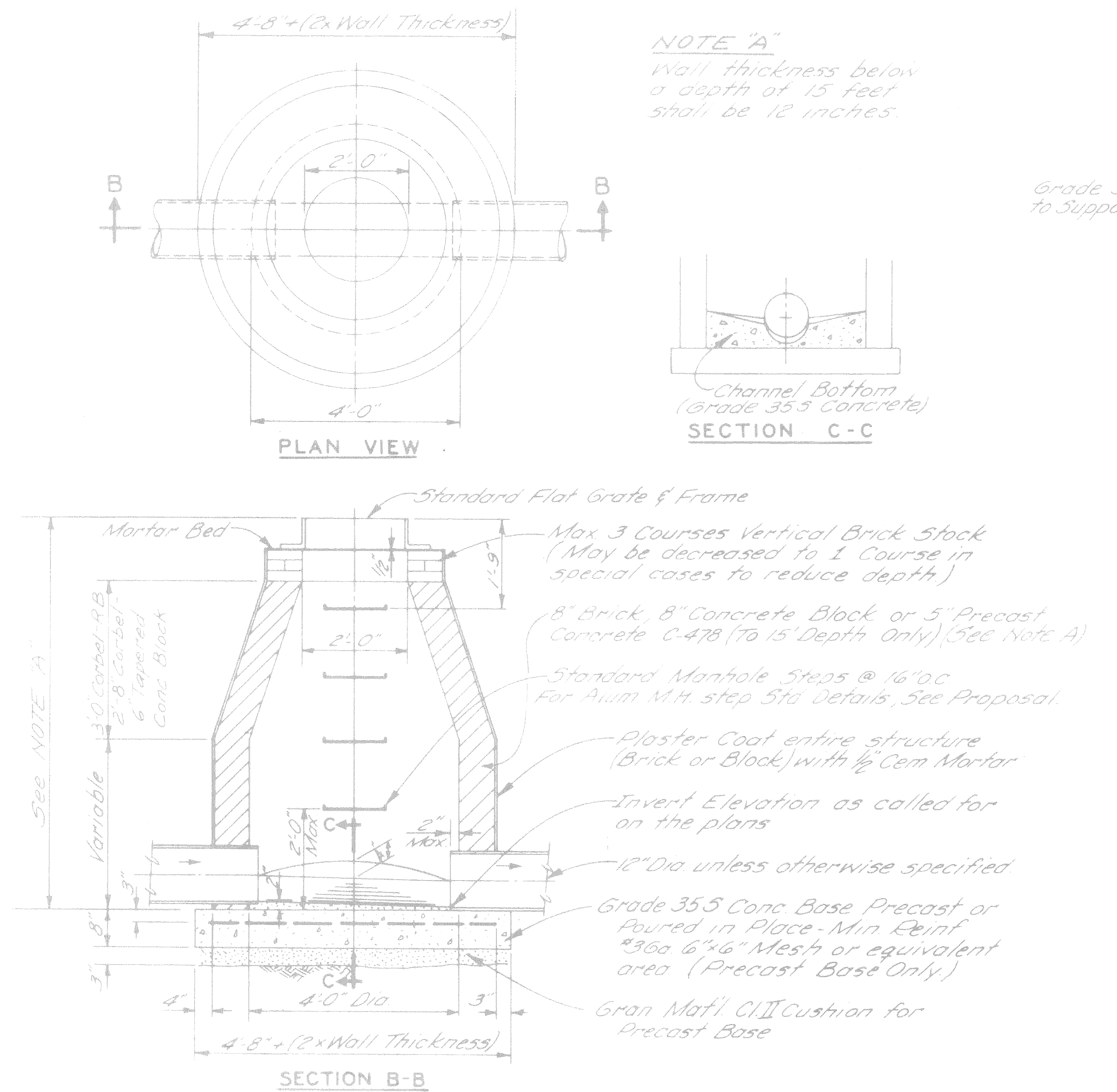
APPROVED: D.R. Zavaski

CITY OF DETROIT
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION ENGINEERING

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION

PAVEMENT MARKINGS

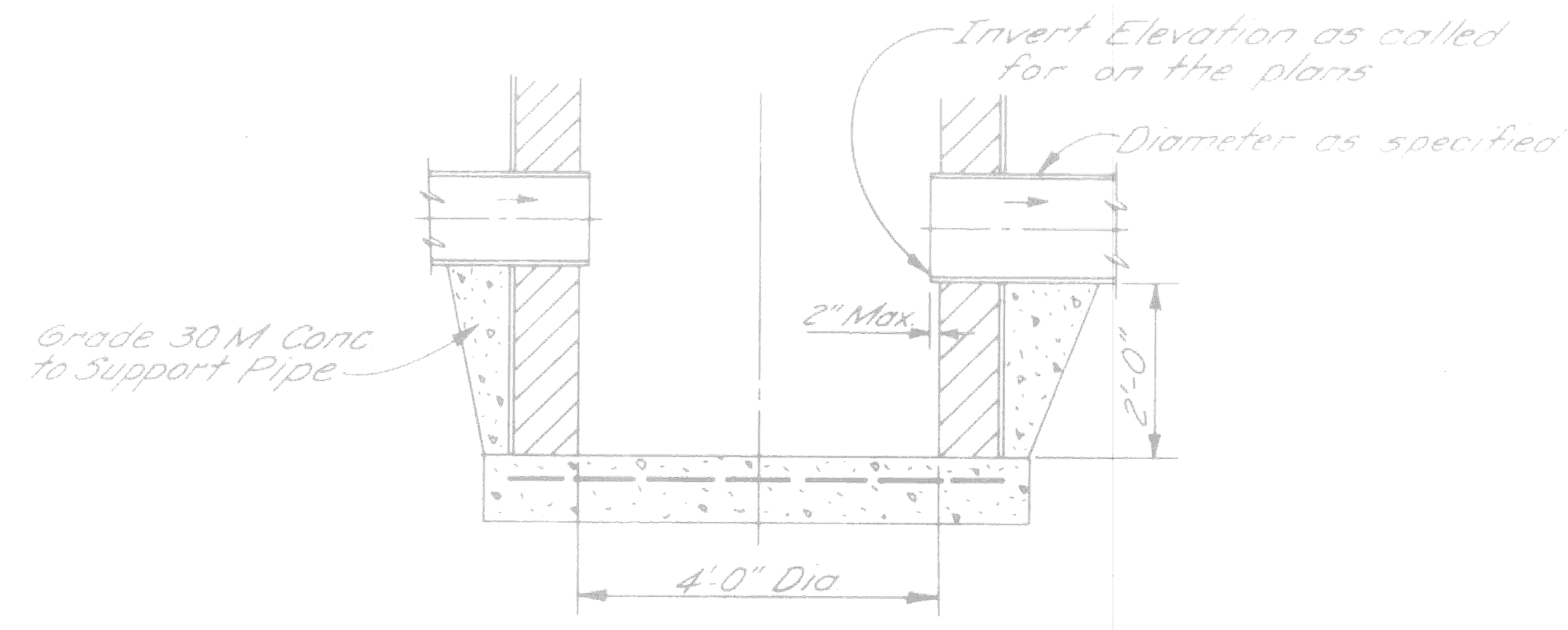
SHEET 8 OF 21 SHEETS
SCALE: 1" = 40'
DRWG No. CL-138
DATE 12-3-90



4'-8" + (2 x Wall Thickness)
NOTE "A"
Wall thickness below a depth of 15 feet shall be 12 inches
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 Stock (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 1/2" 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 #3 Ga 6"x6" Mesh or equivalent area (Precast Base Only)
Gran Mat'l Cl II Cushion for Precast Base
See NOTE A
Variable
4'-0" Dia
4'-8" + (2 x Wall Thickness)
SECTION B-B

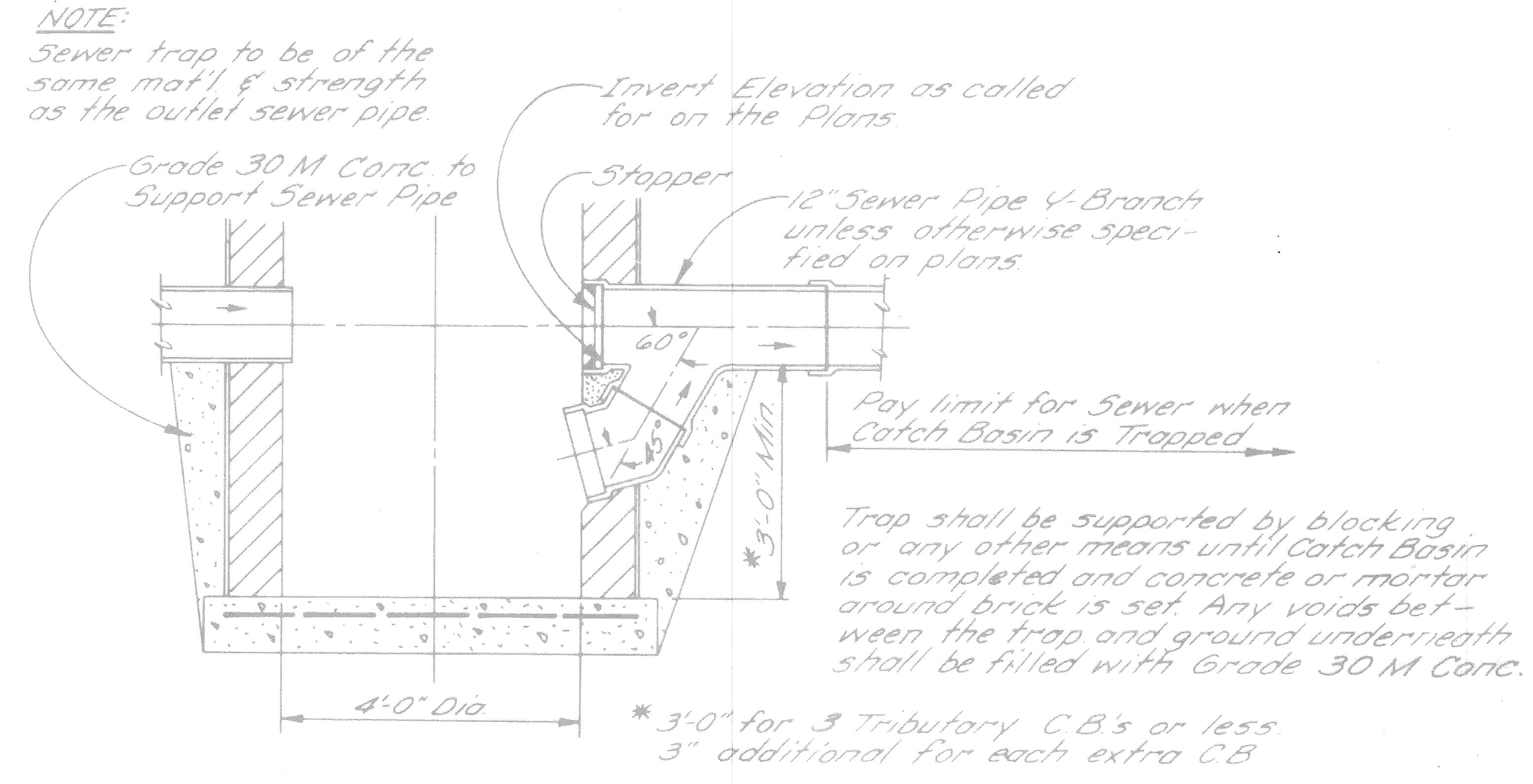
CATCH BASIN "B"

NO SCALE



DETAIL OF SUMP FOR CATCH BASIN "B"

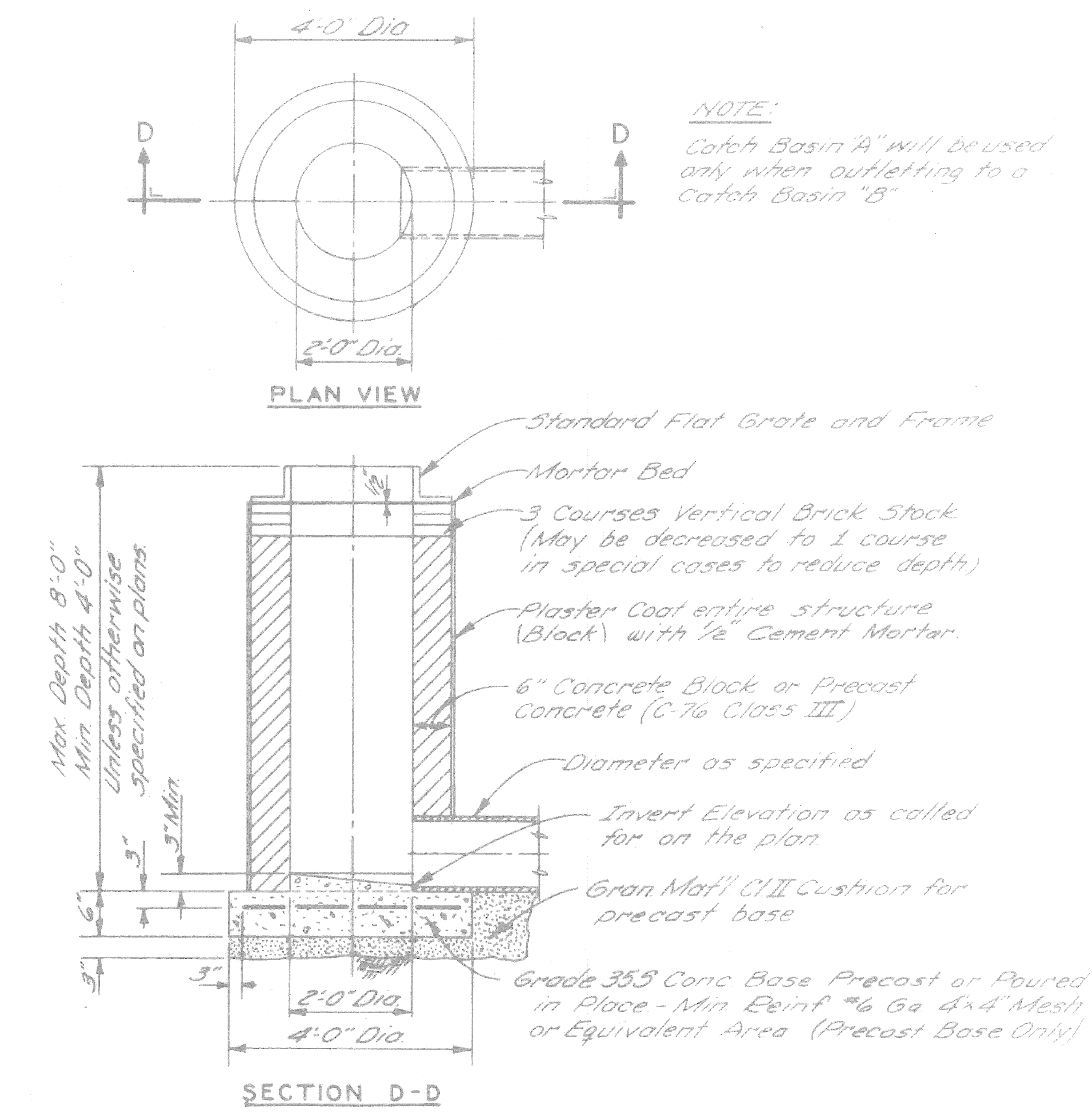
NO SCALE



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
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" for 3 Tributary C.B.'s or less 3" additional for each extra C.B.
4'-0" Dia

DETAIL OF TRAP FOR CATCH BASIN "B"

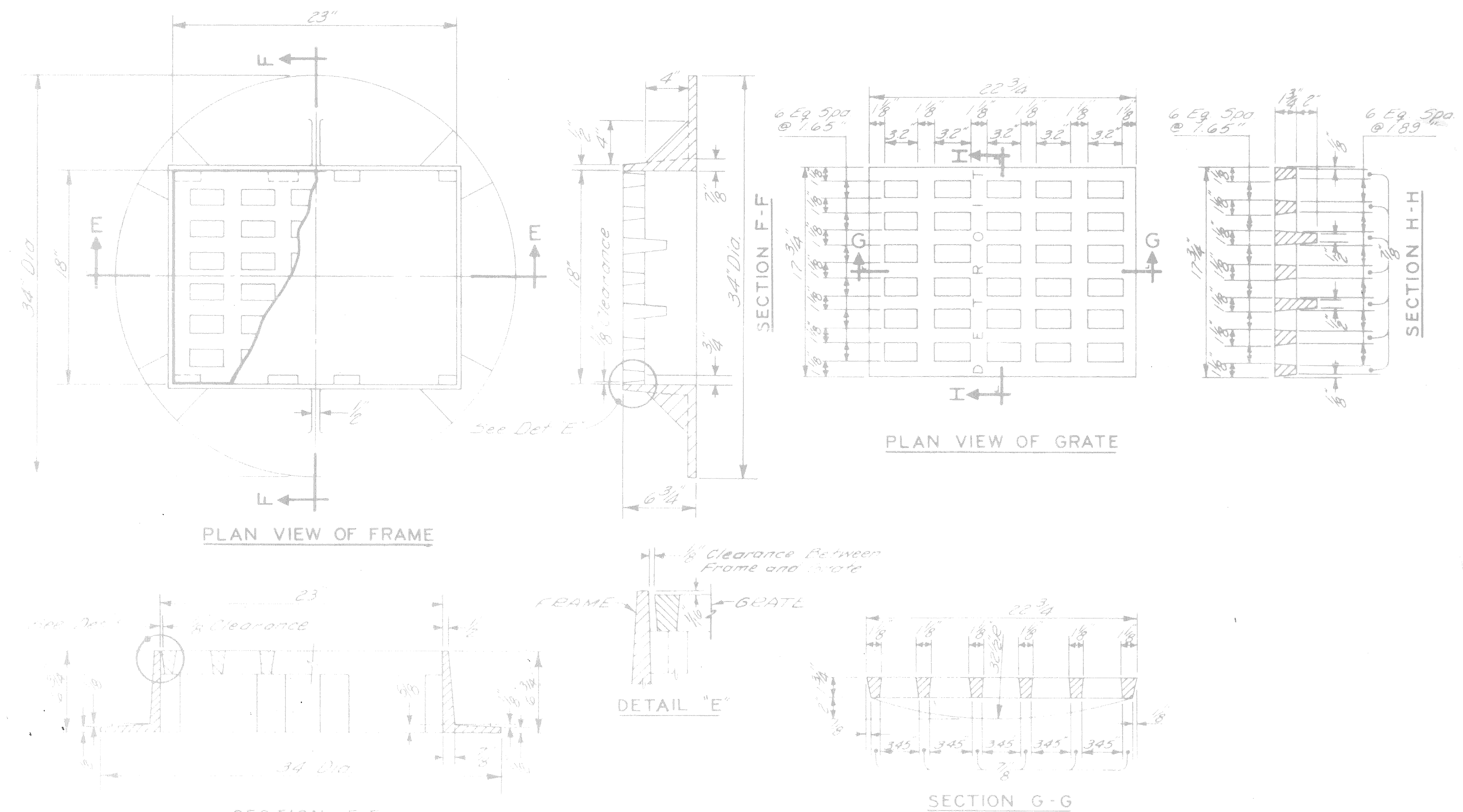
NO SCALE



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 Stock (May be decreased to 1 course in special cases to reduce depth)
Plaster Coat entire structure (Block) with 1/2" 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 4x4 Mesh or Equivalent Area (Precast Base Only)
Max Depth 8'-0" Min Depth 4'-0" Unless otherwise specified on plans
SECTION D-D

CATCH BASIN "A"

NO SCALE



STANDARD FLAT GRATE AND FRAME

NO SCALE

GENERAL NOTES

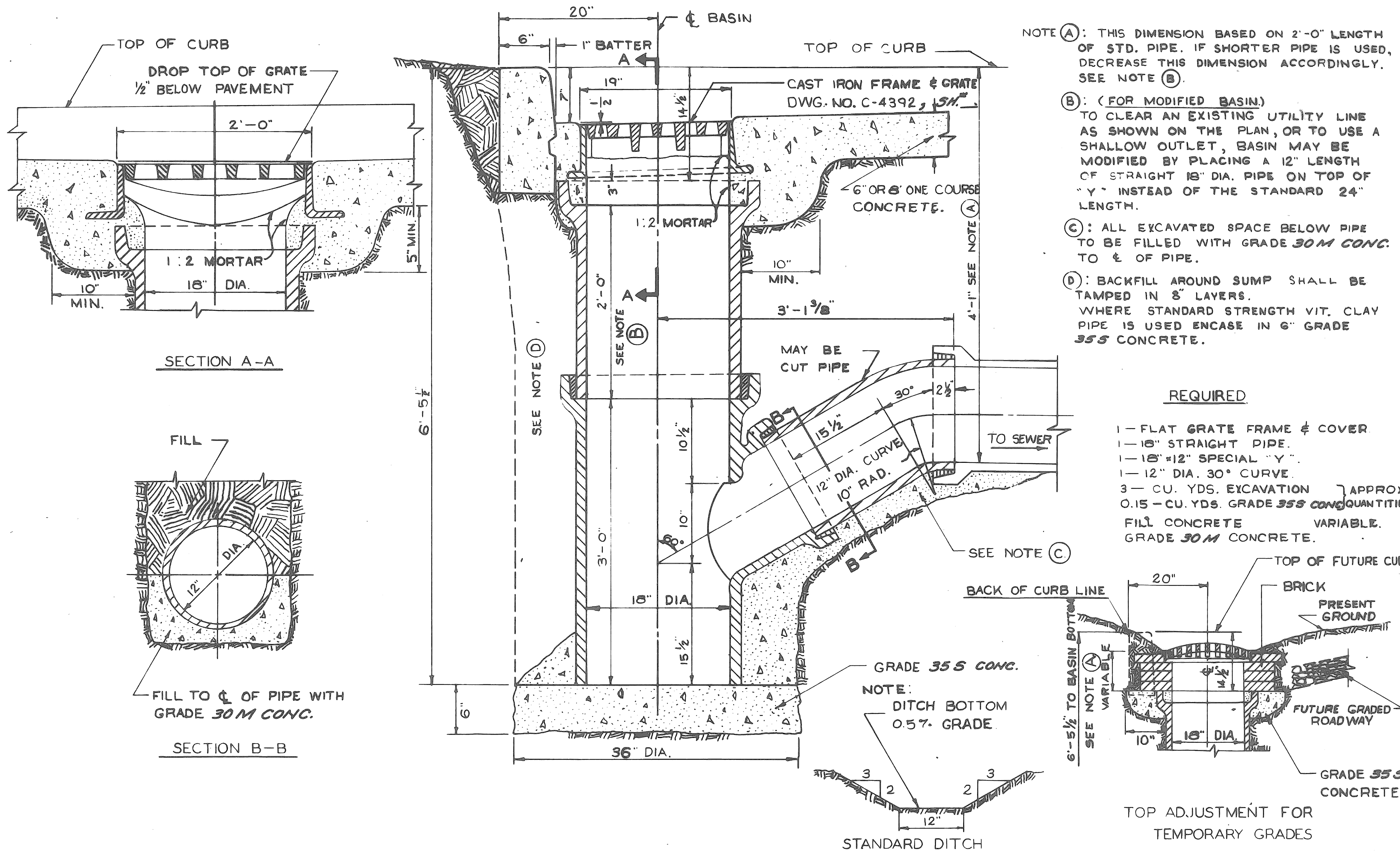
1. The materials & workmanship shall be in accordance with the current Standard Specifications.
2. Center of Catch Basin shall be 20 inches from back of curb.
3. All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements.
   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 1/2 inch in thickness shall be applied to the outer surface of the structure as shown. A 1/2 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.

APPROVED	
ENGINEER OF STREETS	
ENGINEER OF EXPRESSWAYS	
HEAD CIVIL ENGINEER	

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE

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

SHEET 9 OF 21 SHEETS	
CONTRACT No.	31809A
ASSIGN No.	91-60-01
DATE	



TOP OF CURB
DROP TOP OF GRATE ½" BELOW PAVEMENT
2'-0"
1:2 MORTAR
10" MIN.
18" DIA.
5" MIN.
SECTION A-A
FILL
12" DIA.
FILL TO ℄ OF PIPE WITH GRADE 30M CONC.
SECTION B-B
20"
6"
1" BATTER
℄ BASIN
TOP OF CURB
CAST IRON FRAME & GRATE DWG. NO. C-4392, SH.
6" OR 8" ONE COURSE CONCRETE.
1:2 MORTAR
10" MIN.
3'-1⅜"
MAY BE CUT PIPE
TO SEWER
12" DIA. CURVE 10" RAD.
SEE NOTE (C)
SEE NOTE (D)
SEE NOTE (B)
SEE NOTE (A)
18" DIA.
3'-0"
2'-0"
6'-5½"
GRADE 35S CONC.
36" DIA.
NOTE: DITCH BOTTOM 0.5% GRADE
STANDARD DITCH CROSS—SECTION
12"
BACK OF CURB LINE
20"
TOP OF FUTURE CURB
BRICK
PRESENT GROUND
FUTURE GRADED ROADWAY
GRADE 35S CONCRETE
6"-5½" TO BASIN BOTTOM
SEE NOTE (A) VARIABLE
18" DIA.
TOP ADJUSTMENT FOR TEMPORARY GRADES

NOTE (A): THIS DIMENSION BASED ON 2'-0" LENGTH OF STD. PIPE. IF SHORTER PIPE IS USED, DECREASE THIS DIMENSION ACCORDINGLY. SEE NOTE (B).

(B): (FOR MODIFIED BASIN) TO CLEAR AN EXISTING UTILITY LINE AS SHOWN ON THE PLAN, OR TO USE A SHALLOW OUTLET, BASIN MAY BE MODIFIED BY PLACING A 12" LENGTH OF STRAIGHT 18" DIA. PIPE ON TOP OF "Y" INSTEAD OF THE STANDARD 24" LENGTH.

(C): ALL EXCAVATED SPACE BELOW PIPE TO BE FILLED WITH GRADE 30M CONC. TO ℄ OF PIPE.

(D): BACKFILL AROUND SUMP SHALL BE TAMPED IN 8" LAYERS. WHERE STANDARD STRENGTH VIT. CLAY PIPE IS USED ENCASE IN 6" GRADE 35S CONCRETE.

REQUIRED

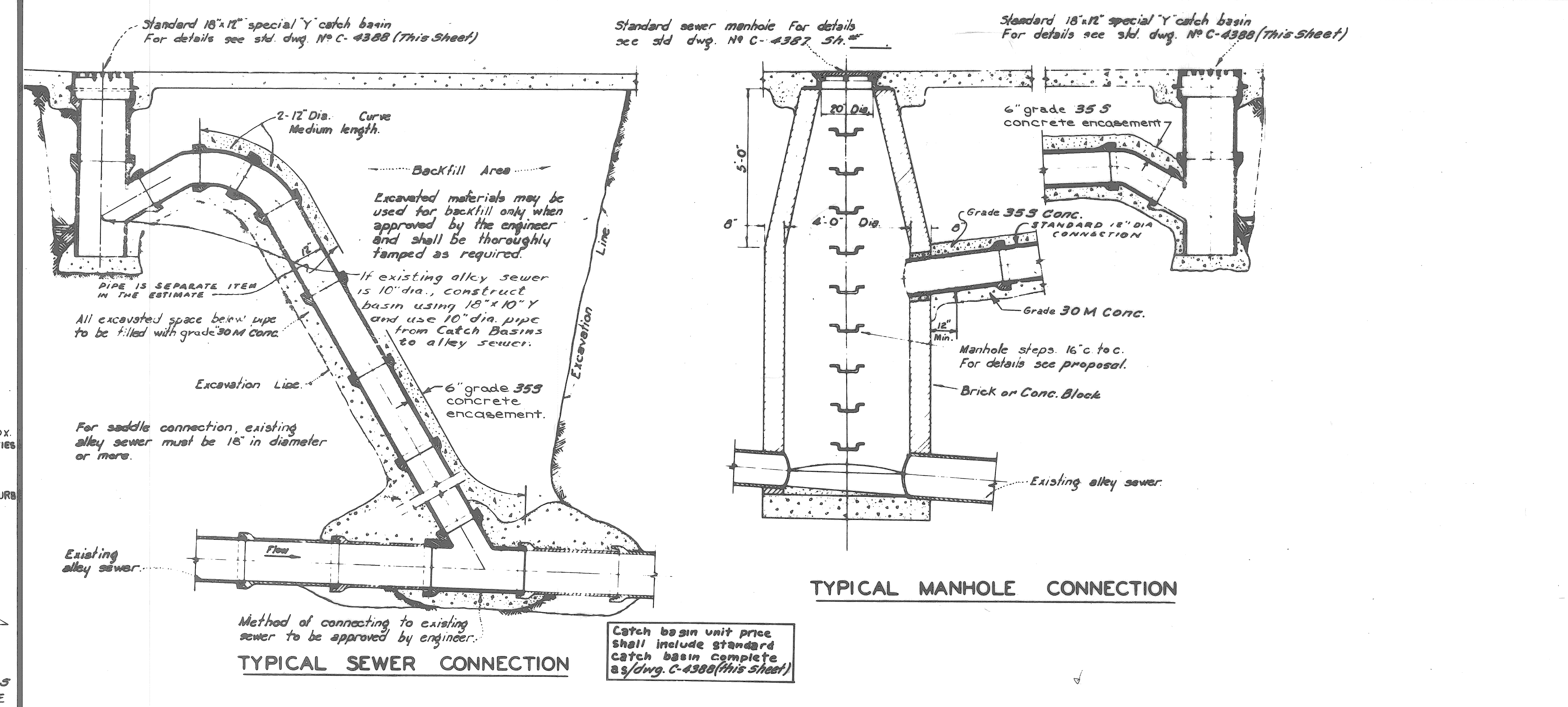
1 — FLAT GRATE FRAME & COVER
1 — 18" STRAIGHT PIPE.
1 — 18"×12" SPECIAL "Y".
1 — 12" DIA. 30° CURVE
3 — CU. YDS. EXCAVATION
0.15 — CU. YDS. GRADE 35S CONC. } APPROX. QUANTITIES
FILL CONCRETE VARIABLE.
GRADE 30M CONCRETE.

DESIGNED BY	
DRAWN BY	G. Clark
TRACED BY	
CHECKED BY	N. Kawalas
APPROVED	
ENGINEER OF STREETS	
ASST CITY ENGINEER	
CITY ENGINEER	
A	Change Bureau to Streets, A.C.

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
DETAIL STANDARD NO. 11

STANDARD DESIGN
18" × 12" SPECIAL "Y" CATCH BASIN
TO BE USED UNLESS DIRECTED OTHERWISE BY FIELD ENGINEER

BOOK NO | SCALE 1"=1'-0" | DWG. NO. C-4388
PAGE NO | DATE 8-19-66



Standard 18"×12" special "Y" catch basin For details see std. dwg. № C-4388 (This Sheet)
2-12" Dia. Curve Medium length.
Backfill Area
Excavated materials may be used for backfill only when approved by the engineer and shall be thoroughly tamped as required.
Pipe is separate item in the estimate
All excavated space below pipe to be filled with grade 30M Conc.
If existing alley sewer is 10" dia., construct basin using 18"×10" Y and use 10" dia. pipe from Catch Basins to alley sewer.
Excavation Line
Excavation Line
6" grade 35S concrete encasement.
For saddle connection, existing alley sewer must be 18" in diameter or more.
Existing alley sewer
Flow
Method of connecting to existing sewer to be approved by engineer.
TYPICAL SEWER CONNECTION
Catch basin unit price shall include standard catch basin complete as/dwg. C-4388 (this Sheet)
Standard sewer manhole For details see std. dwg. № C-4387 Sh.
Standard 18"×12" special "Y" catch basin For details see std. dwg. № C-4388 (This Sheet)
20" Dia.
4'-0" Dia.
5'-0"
8"
6" grade 35S concrete encasement
Grade 35S Conc.
Standard 12" Dia Connection
Grade 30M Conc.
12" Min.
Manhole steps 16" c to c. For details see proposal.
Brick or Conc. Block
Existing alley sewer
TYPICAL MANHOLE CONNECTION

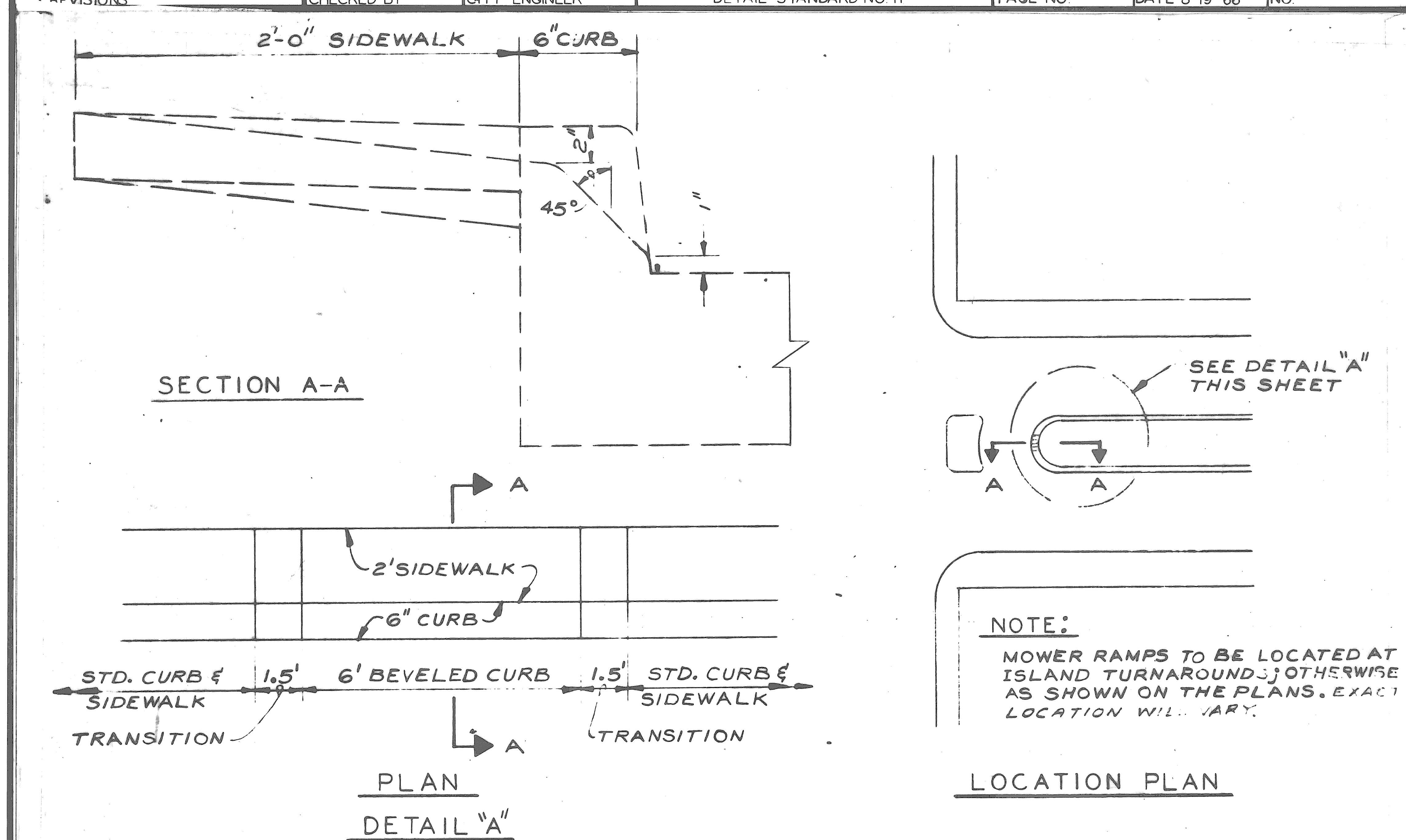
REVISIONS				
Added conc. encasement	J.C.			
Revised M.H. Steps	J.C.	G.B.		
WAS CLASS B				
Superseded Dwg. No.	C-801			

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY
APPROVED
ENGINEER OF STREETS — R. H. Hicks
ASS'T CITY ENGINEER
CITY ENGINEER

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
DETAIL STANDARD NO. 22

ALLEY INSTALLATION
STANDARD 18" × 12" SPECIAL
"Y" CATCH BASIN.

BOOK NO. | SCALE ⅜" = 1'-0" | DWG. NO. C-4399
PAGE NO. | DATE 3-16-59



NOTE:
MOWER RAMPS TO BE LOCATED AT ISLAND TURNAROUNDS; OTHERWISE AS SHOWN ON THE PLANS. EXACT LOCATION WILL VARY.

1975

REVISIONS				
DESCRIPTION	DRW.	CKD.	APR.	DATE

DESIGNED BY
DRAWN BY JONES
TRACED BY
CHECKED BY
APPROVED:
ENGINEER OF STREETS
DEPUTY DIRECTOR
DIRECTOR — V. I. Dudley

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
Form C of D-346 SH-A

SPECIAL MOWER RAMP

BOOK NO. 1 | SCALE NONE | DRG. NO. C-5239
PAGE NO. | DATE JULY 22, 1974

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

REVISIONS LOCATED BY COORDINATES ON SHEET

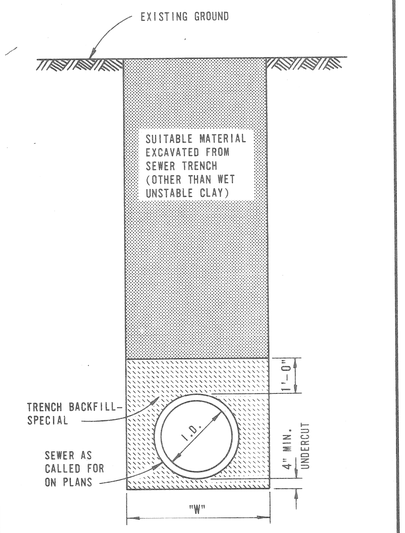
REFERENCE DRAWINGS
DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY
APPROVED:

CITY OF DETROIT
FOR

SPECIAL DETAILS

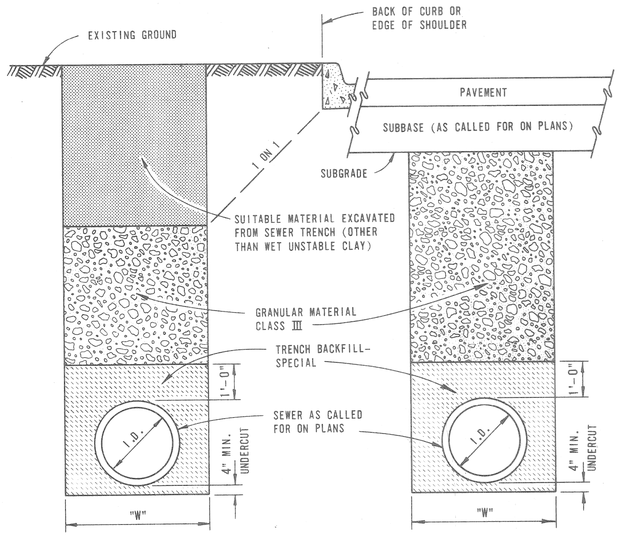
SHEET 10 OF 21 SHEETS
CONTRACT NO. 31809 A
DRWG NO. 91-60-01
DATE APRIL, 92

Original



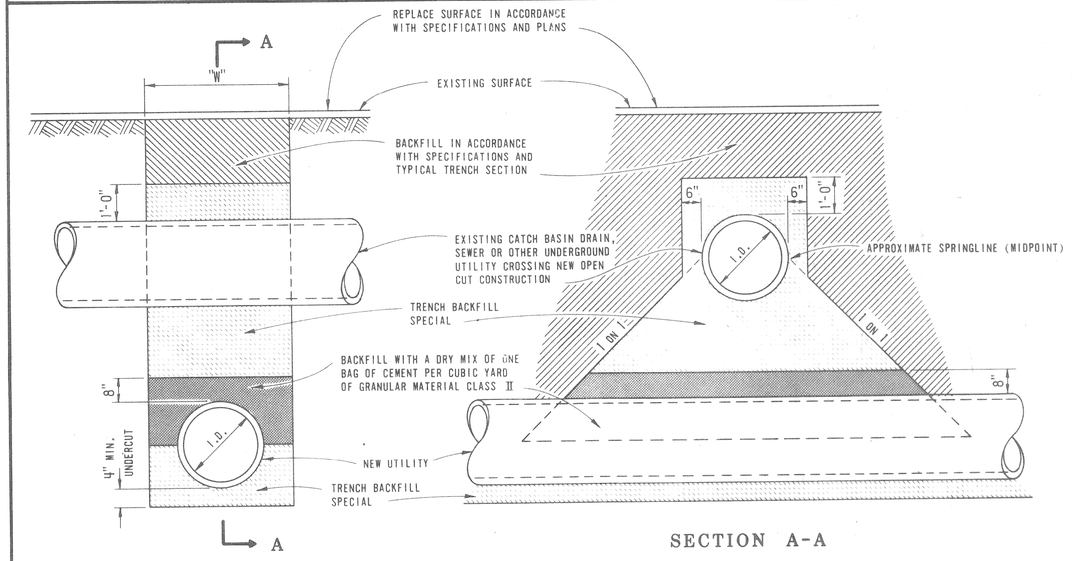
SEWER NOT UNDER ROADBED

8



SEWER UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED

9



SECTION A-A

NOTE: MINIMUM CLEARANCE BETWEEN UTILITIES SHALL BE 1'-0" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

TYPICAL DETAIL AT CROSSING
UNDER EXISTING UTILITIES

THIS TRENCH DETAIL WILL BE INCIDENTAL TO ADJACENT TRENCH DETAILS.

10

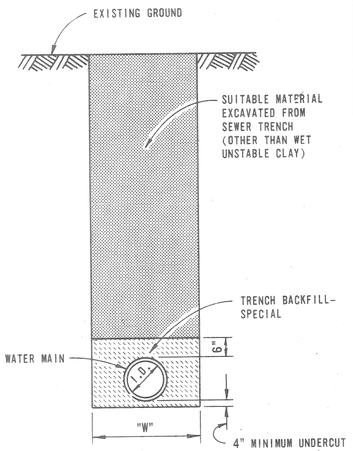
ENGINEER - BRIDGE DESIGN	for ENGINEER - ROAD DESIGN	ENGINEER OF DESIGN
PREPARED BY DESIGN DIVISION	ENGINEER OF MAINTENANCE	ENGINEER OF CONSTRUCTION
DRAWN BY: J.L.R.	ENGINEER OF MATERIALS & TECHNOLOGY	DEPARTMENT DIRECTOR JAMES P. PITZ
CHECKED BY: C.L.	ENGINEER OF TRAFFIC AND SAFETY	BY: DEPUTY DIRECTOR - HIGHWAYS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS STANDARD PLAN FOR

UTILITY TRENCHES

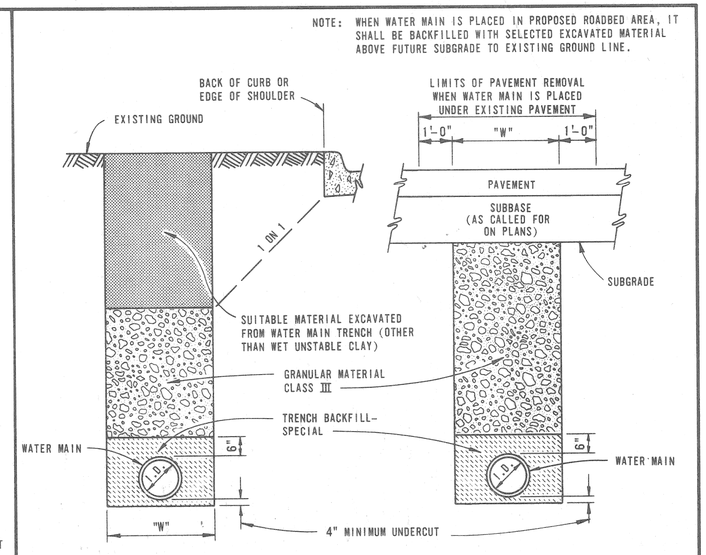
TRENCH DETAILS 8, 9, 10, 11, 12 & 13 TO APPLY ON CITY OF DETROIT UTILITIES

6-6-88	4-22-88	IV-84E	SHEET 1 OF 3
F.H.W.A. APPROVAL	PLAN DATE		



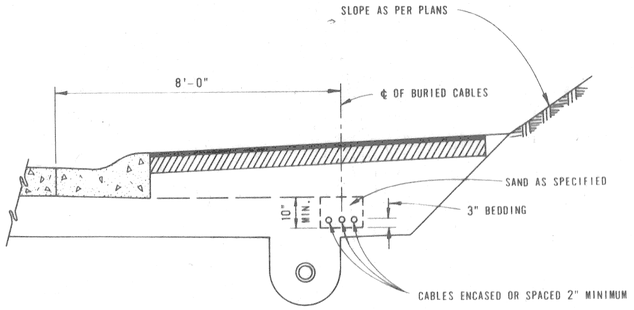
WATER MAINS
NOT UNDER ROADBED

11



WATER MAINS UNDER ROADBED
OR WITHIN INFLUENCE OF ROADBED

12



LOCATION OF PARKWAY LIGHTING CABLE
ON DETROIT METROPOLITAN FREEWAYS

13

ENGINEER - BRIDGE DESIGN	for ENGINEER - ROAD DESIGN	ENGINEER OF DESIGN
PREPARED BY DESIGN DIVISION	ENGINEER OF MAINTENANCE	ENGINEER OF CONSTRUCTION
DRAWN BY: J.L.R.	ENGINEER OF MATERIALS & TECHNOLOGY	DEPARTMENT DIRECTOR JAMES P. PITZ
CHECKED BY: C.L.	ENGINEER OF TRAFFIC AND SAFETY	BY: DEPUTY DIRECTOR - HIGHWAYS

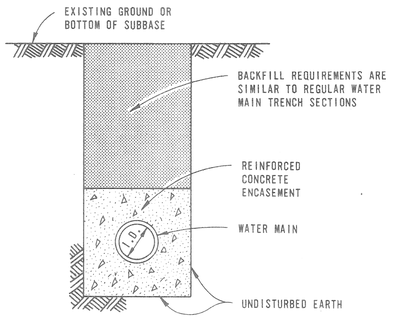
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS STANDARD PLAN FOR

UTILITY TRENCHES

TRENCH DETAILS 8, 9, 10, 11, 12 & 13 TO APPLY ON CITY OF DETROIT UTILITIES

6-6-88	4-22-88	IV-84E	SHEET 2 OF 3
F.H.W.A. APPROVAL	PLAN DATE		

SHEET 10 A OF 21



REQUIRED ENCASEMENT SIZE FOR RESPECTIVE PIPE SIZES		
PIPE SIZE	ENCASEMENT SIZE	TRENCH WIDTH
6" THRU 12"	3'-0"	3'-0"
16"	3'-6"	3'-6"
24"	4'-6"	4'-6"
30"	5'-0"	5'-0"
36"	5'-6"	5'-6"
42"	6'-0"	6'-0"
48"	7'-0"	7'-0"
54"	7'-6"	7'-6"
60"	8'-0"	8'-0"
66"	8'-6"	8'-6"
72"	9'-0"	9'-0"

NOTE: REINFORCEMENT SHALL BE ACCORDING TO DETAILS SHOWN ON PLANS.

WATER MAINS IN REINFORCED CONCRETE ENCASEMENT

14

NOTES:

BEDDING UNDER THE UTILITY SHALL BE AS SHOWN OR THE TRENCH MAY BE UNDERCUT BELOW THE UTILITY AND THE UNDERCUT MATERIAL REPLACED WITH TRENCH BACKFILL - SPECIAL. BACKFILLING SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

BACKFILL FOR UTILITY TRENCHES ABOVE TRENCH BACKFILL - SPECIAL SHALL BE AS FOLLOWS:

(A) GRANULAR MATERIAL CLASS III SHALL BE USED TO BACKFILL UTILITY TRENCHES UNDER ROADBED.

(B) GRANULAR MATERIAL CLASS III SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE ROADBED BUT WITHIN THE 1 ON 1 ZONE OF INFLUENCE SHOWN. IT WILL ALSO BE USED AS BACKFILL UNDER SIDEWALKS, SURFACED AREAS, AND MISCELLANEOUS STRUCTURES, AND COMPACTED TO NOT LESS THAN 95% OF MAXIMUM UNIT WEIGHT.

(C) MATERIAL EXCAVATED FROM THE UTILITY TRENCHES SHALL BE USED TO BACKFILL UTILITY TRENCHES OUTSIDE THE LIMITS OF THE 1 ON 1 ZONE OF INFLUENCE AND SHALL BE COMPACTED TO NOT LESS THAN 90% OF MAXIMUM UNIT WEIGHT.

GRANULAR MATERIAL CLASS I OR II MAY BE USED WHERE GRANULAR MATERIAL CLASS III IS CALLED FOR ON PLANS.

SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.

THE FOLLOWING TRENCH WIDTHS ARE TO BE USED AS A GUIDE ONLY:

I.D. PIPE SIZE (INCHES)	LESS THAN 18	21	24	30	36	42	48	54	60
"W" TRENCH WIDTH (FEET)	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.5	10.0

I.D. PIPE SIZE (INCHES)	66	72	78	84	90	96	102	108		
"W" TRENCH WIDTH (FEET)	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0		

ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1' EACH SIDE OF THE TRENCH (6' MINIMUM).

ENGINEER - BRIDGE DESIGN	for ENGINEER - ROAD DESIGN	ENGINEER OF DESIGN
ENGINEER OF MAINTENANCE		ENGINEER OF CONSTRUCTION
PREPARED BY DESIGN DIVISION	ENGINEER OF MATERIALS & TECHNOLOGY	DEPARTMENT DIRECTOR JAMES P. PITZ
DRAWN BY: J.L.R.	for ENGINEER OF TRAFFIC AND SAFETY	BY: DEPUTY DIRECTOR - HIGHWAYS
CHECKED BY: C.L.		

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS STANDARD PLAN FOR

UTILITY TRENCHES

TRENCH DETAILS 8, 9, 10, 11, 12 & 13 TO APPLY ON CITY OF DETROIT UTILITIES

6-6-88	4-22-88	IV-84E	SHEET 3 OF 3
F.H.W.A. APPROVAL	PLAN DATE		

STANDARD SYMBOLS FOR UTILITIES

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
	INV ELEV, 12" CR, 15" CR	EXISTING LATERAL SEWERS
		EXISTING PUBLIC SEWERS
		EXISTING GAS LINES
		EXISTING WATER LINES
BLACK	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
- GUY POLE
- MB MAIL BOX
- AREAWAY OR COAL CHUTE
- FLAG POLE
- SPRINKLER BOX
- DEAD MANHOLE
- TREE
- PLC & FD MANHOLE FILLED WITH SAND
- TRACK DRAIN
- TRAFFIC SIGN POST.
- TRAFFIC SIGNAL LIGHT.
- TRAFFIC SIGNAL CONTROL BOX
- 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)

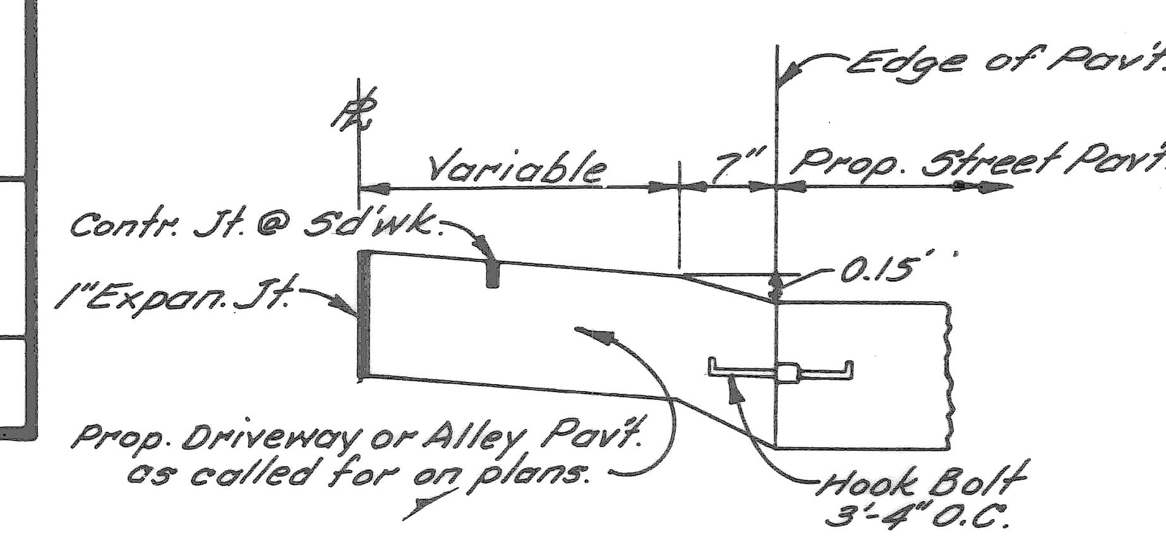
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
PAVING
DETAIL NO 25

STANDARD SYMBOLS FOR UTILITIES

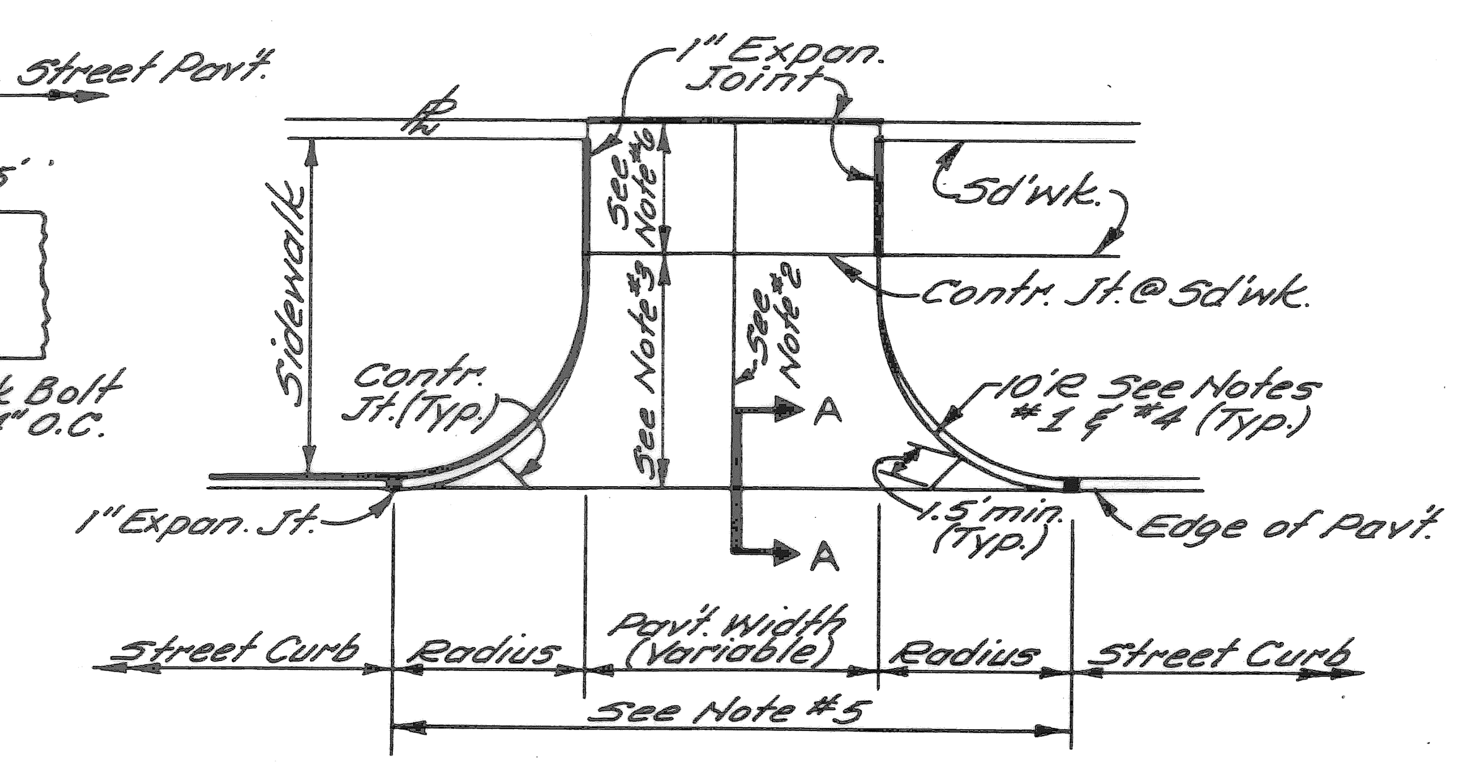
DWG. NO. C-902-A

DESIGNED BY / DRAWN BY T. KANDW / TRACED BY T.K. / CHECKED BY N. Kavanes

REVISIONS — DESCRIPTION



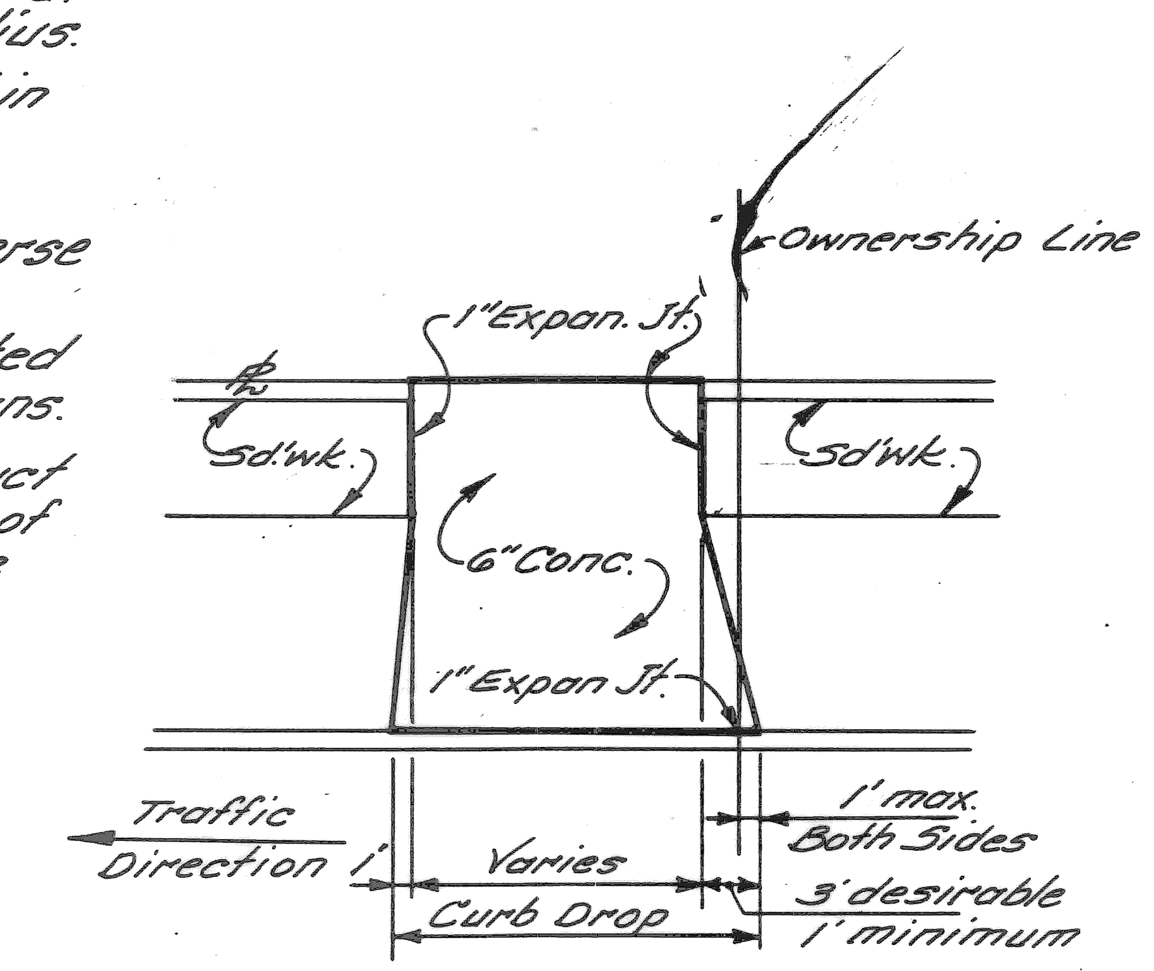
SECTION A-A
SCALE 1"=1'



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'

DESIGNED BY	
DRAWN BY	J.R.D.
TRACED BY	
CHECKED BY	K.B.A.

APPROVED: Allen E. Piper
ENGINEER OF EXPRESSWAYS

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

SPECIAL STANDARDS & SPECIAL DETAILS

SHEET 11 OF 21 SHEETS
CONTRACT NO 31809A
ASSIGNMENT No. A.O. 91-60-01
DATE APRIL, 92

REVISIONS LOCATED BY COORDINATES ON SHEET — DESCRIPTION

QUANTITY SHEET - E

ITEMS	AS PER PLANS									AS CONSTRUCTED	
	SHEET NO'S.		2	4	5	6	7	8		SHEET NO'S.	
	TOTALS	UNITS	TYPICAL CROSS SECTION	CONSTRUCTION SEQUENCE	REMOVAL AND UTILITIES	PLAN	INTERSECTION GRADE DETAILS	PAVEMENT MARKINGS		TOTALS	UNITS
Removing Pavement	4,812	Sq. Yd.			4,821						
Removing Curb	175	Lin. Ft.			175						
Removing Sidewalk	1,162	Sq. Yd.	23		1,139						
Removing Pav't. (Repair)	10	Sq. Yd.	10								
Conc. Pav't. Repair, 10" Nonreinforced	10	Sq. Yd.	10								
Removing Drainage Structures	1	Each			1						
Abandoning Drainage Structures	7	Each			7						
Earth Excavation	2,554	Cu. Yd.			2,554						
Embankment (C.I.P.) Granular Mat'l. Cl. II	250	Cu. Yd.				250					
Subgrade Undercutting Type II	100	Cu. Yd.	100								
Removing Masonry And Concrete Structures	100	Cu. Yd.	100								
Aggregate Base Under Concrete (4" In Place)	6,955	Sq. Yd.				6,955					
Remove Bituminous Surface	58	Sq. Yd.				58					
Bituminous Approaches	8	Ton				8					
Concrete Pavement - Reinforced - 9" w/Integral Curb	6,708	Sq. Yd.				6,708					
Cement	3	Ton	3								
Concrete Pav't. - Nonreinforced 8"	350	Sq. Yd.				350					
12" Sewer C-76-III, Trench Detail 9	739	Lin. Ft.				739					
Sewer Tap - 12"	4	Each				4					
Sewer Trap - 12"	4	Each				4					
Catch Basin "A"	4	Each				4					
Catch Basin "B" ("B" With Trap)	4	Each				4					
Adjusting Structure Covers	5	Each			3	2					
Reconstructing Structures	1	Each			1						
Adjusting Water Shut-Off	5	Each			5						
Sewer Cleanout (Non Federal)	100	Lin. Ft.	100								
Cleaning Drainage Structures (Non Federal)	10	Each	10								
Adjust Gate Well Covers	5	Each			5						
Reconstruct Gate Well	2	Each			2						
Concrete Curb Detail "CD"	100	Lin. Ft.	50			50					
Concrete Island, 7"	40	Sq. Yd.					40				
Concrete Sidewalk, 4"	13,462	Sq. Ft.	264			13,198					
Concrete Sidewalk, 6"	2,648	Sq. Ft.				2,448	200				
Sidewalk Ramp	300	Sq. Ft.				300					
Field Office	3	Months	3								
Barricade, Type II, Lighted, Furnished	100	Each		100							
Barricade, Type II, Lighted, Operated	65	Each		65							
Barricade, Type III, Lighted, Furnished	9	Each		9							
Barricade, Type III, Lighted, Operated	6	Each		6							
Sign Type "B" Temporary	160	Sq. Ft.		160							
Lighted Arrow, Type A, Furnished	1	Each		1							
Lighted Arrow, Type A, Operated	1	Each		1							
Class A Sodding	2,177	Sq. Yd.	43			2,115	19				
Topsoil Surface - 3"	2,177	Sq. Yd.	43			2,115	19				
Water	5	Units	1			4					
Fire Hydrant	1	Each					1				
Remove Hydrant - Method I	1	Each				1					
Remove Hydrant - Method II	1	Each				1					
Mobilization	1	Lump Sum	1								
Minor Traffic Devices	1	Lump Sum	1								
Flag Control	1	Lump Sum	1								
Temporary Pavement Marking, Type R, 4", White	100	Lin. Ft.		100							
Thermoplastic Pavement Markings, 4" White	50	Lin. Ft.						50			
Thermoplastic Pavement Markings, 4" Yellow	2,280	Lin. Ft.						2,280			
Thermoplastic Pavement Markings, 18" Stop Bar	68	Lin. Ft.						68			
Thermoplastic Pavement Markings, 6" Yellow	200	Lin. Ft.						200			

M.K.
PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATE _____ DATA COMPLETED _____ PROJ. ENG DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE _____

RECONSTRUCTION OF RUSSELL FROM CANIFF TO WOODLAND AND MISCELLANEOUS CONSTRUCTION SHEET NO. 12 OF 21

ASSIGNMENT NO. 91-60-01 DATE: APRIL, 1992