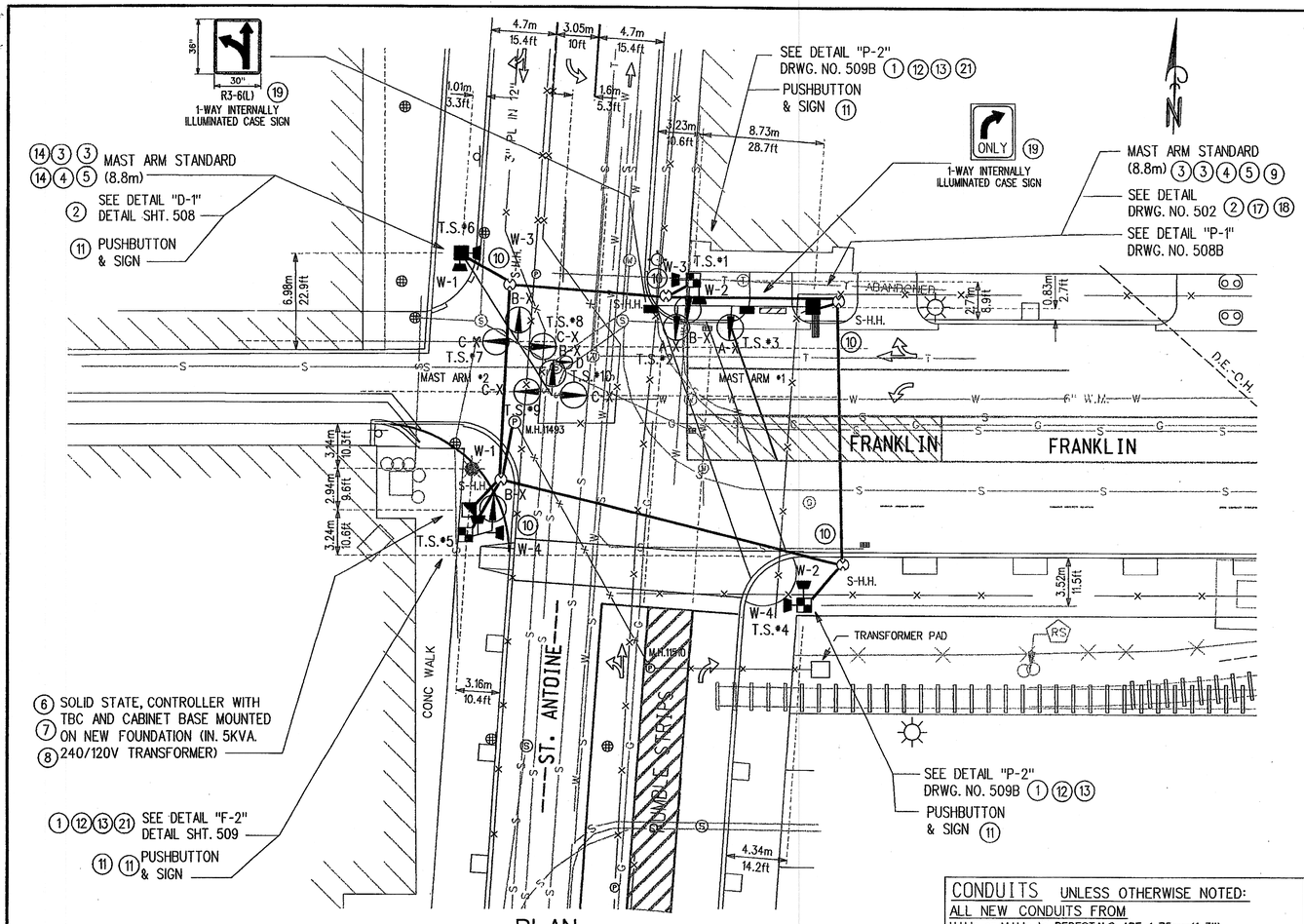


PLAN

SCALE: 200

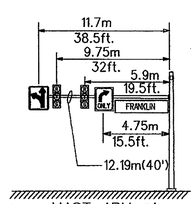
LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
1	TS, Pedestrian, Two Way Pedestal Mtd	3 ea	8200268
2	Mast Arm	2 ea	8200400
3	TS, One Way Mast Arm Mtd	4 ea	8200288
4	Mast Arm Std (8.8m)	2 ea	-------
5	Mast Arm Std Fdn	2 ea	8200402
6	Controller and Cabinet, Solid State, TBC, Delivered	1 ea	8200329
7	Controller and Cabinet, Solid State, TBC	1 ea	8200332
8	Controller Fdn, Base Mount	1 ea	8200427
9	Illuminated, Street Sign (6', 1.8m)	1 ea	-
10	Hh, Type S	5 ea	8190351
11	Pushbutton and Sign	5 ea	8200287
12	Pedestal, Alum	3 ea	8200428
13	Pedestal, Fdn	3 ea	8200430
14	TS, Two Way Mast Arm Mtd	2 ea	8200290
17	Bracket Arm,1830mm(6ft),with 915mm(3) Rise, Clamp on	1 ea	8200448
18	Luminaire	1 ea	8190536
19	Case Sign, One Way, 762x 914mm (30 x 36 in.)	2 ea	-
20	TS, One Way Bracket Arm Mtd	2 ea	8200220
21	TS, One Way Pedestal Mtd	2 ea	8200262
Conduit, Encased, 1, 75 mm (1-3")		16 m(52.48ft)	8190033
Conduit, Encased, 2, 75 mm (2-3")		5 m(16.4ft)	8190034
Conduit, Encased, 3, 100 mm (3-4")		4 m(13.12ft)	8190047
Conduit, Encased, 4, 100 mm (4-4")		82 m(269 ft)	8190048
Sec Cables, 2Kv, 2, 1/c *2		50 m(164 ft)	8190440
Shielded Cable, 300V, 1, 6 Twisted Pair *16, Intercn (IMSA 40-2)		50 m(164 ft)	8190446

NOTE:

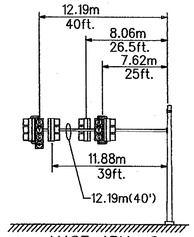
1. ALL NEW TRAFFIC SIGNALS SHALL HAVE 3 SECTION-305mm(12") HEADS.
2. ALL NEW PEDESTRIAN SIGNALS SHALL HAVE 2 SECTION-305mm(12") HEADS.

NOTE:
ALL MAST ARM STANDARDS TO BE PAINTED MIDNIGHT BLACK

NOTE:
BREAKING INTO EXISTING HANDHOLES OR MANHOLES USE CAUTION, LIVE CABLES!



MAST ARM *1
N.T.S.
(LOOKING - NORTH)



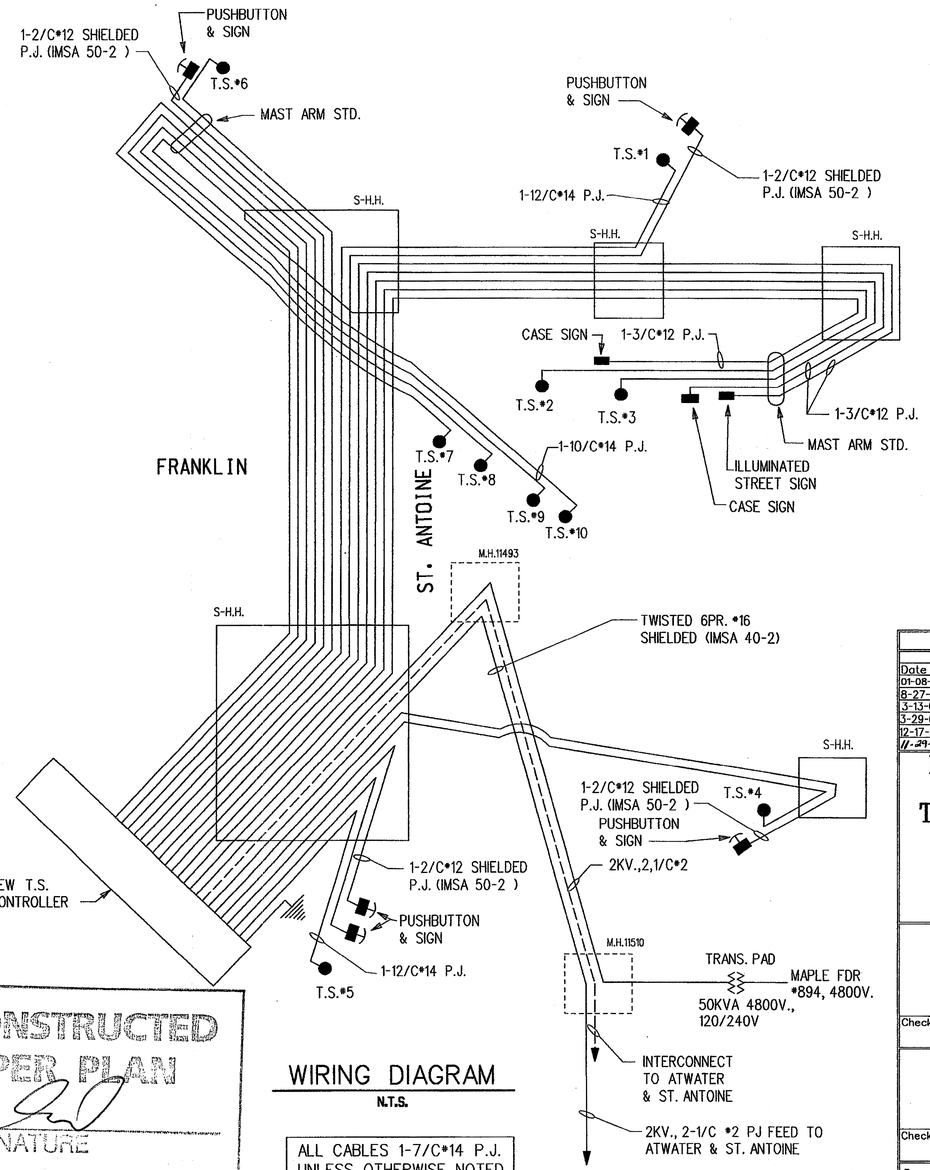
MAST ARM *2
N.T.S.
(LOOKING - SOUTH)

CONDUITS UNLESS OTHERWISE NOTED:
ALL NEW CONDUITS FROM
H.H.'s or M.H.'s to PEDESTALS ARE 1-75mm(1-3"),
H.H.'s or M.H.'s to STEEL POLES ARE 2-75mm(2-3"),
H.H.'s or M.H.'s to CABLE POLES ARE 2-75mm(2-3"),
H.H.'s or M.H.'s to MAST ARM STA. ARE 2-75mm(2-3"),
H.H.'s or M.H.s to CONTROLLERS ARE 3-100mm(3-4")
H.H. to H.H.'s or M.H.'s ARE 2-100mm(2-4") and
M.H. or Type-S H.H. to M.H.'s or Type-S H.H.'s ARE 2-100(2-4")

NOTE:
ALL MAST ARM STANDARDS AND MAST ARM FOUNDATIONS ARE PER PLD SPECIFICATIONS, DETAIL SHEET *502, AND SHALL WITHSTAND WIND VELOCITY OF 90mph.

NOTE:
TRAFFIC SIGNALS ON MAST ARMS TO BE MOUNTED USING ASTRO-BRACS

CONSTRUCTED PER PLAN
SIGNATURE
2-21-06
DATE



WIRING DIAGRAM

N.T.S.

ALL CABLES 1-7/C*14 P.J. UNLESS OTHERWISE NOTED

FEET 0 10 20 30 40 50
0 5 METERS 10 15

SCALE: 200

REVISIONS

Date	Description	Chkd. by
01-08-01	BID	
8-27-01	Owner Review	
3-13-02	Traffic Review	
3-29-02	CEA Review For City Eng.	
12-17-02	Mast Arm Removed & Ajusted	
11-29-04	Rework Wiring	

Improvement of Traffic Signals at ST. ANTOINE & FRANKLIN

DEPARTMENT OF PUBLIC WORKS CITY OF DETROIT

Checked by | Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by | Approved by | File No.

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Drawn by	Checked by
C.E.A.	-------	-------

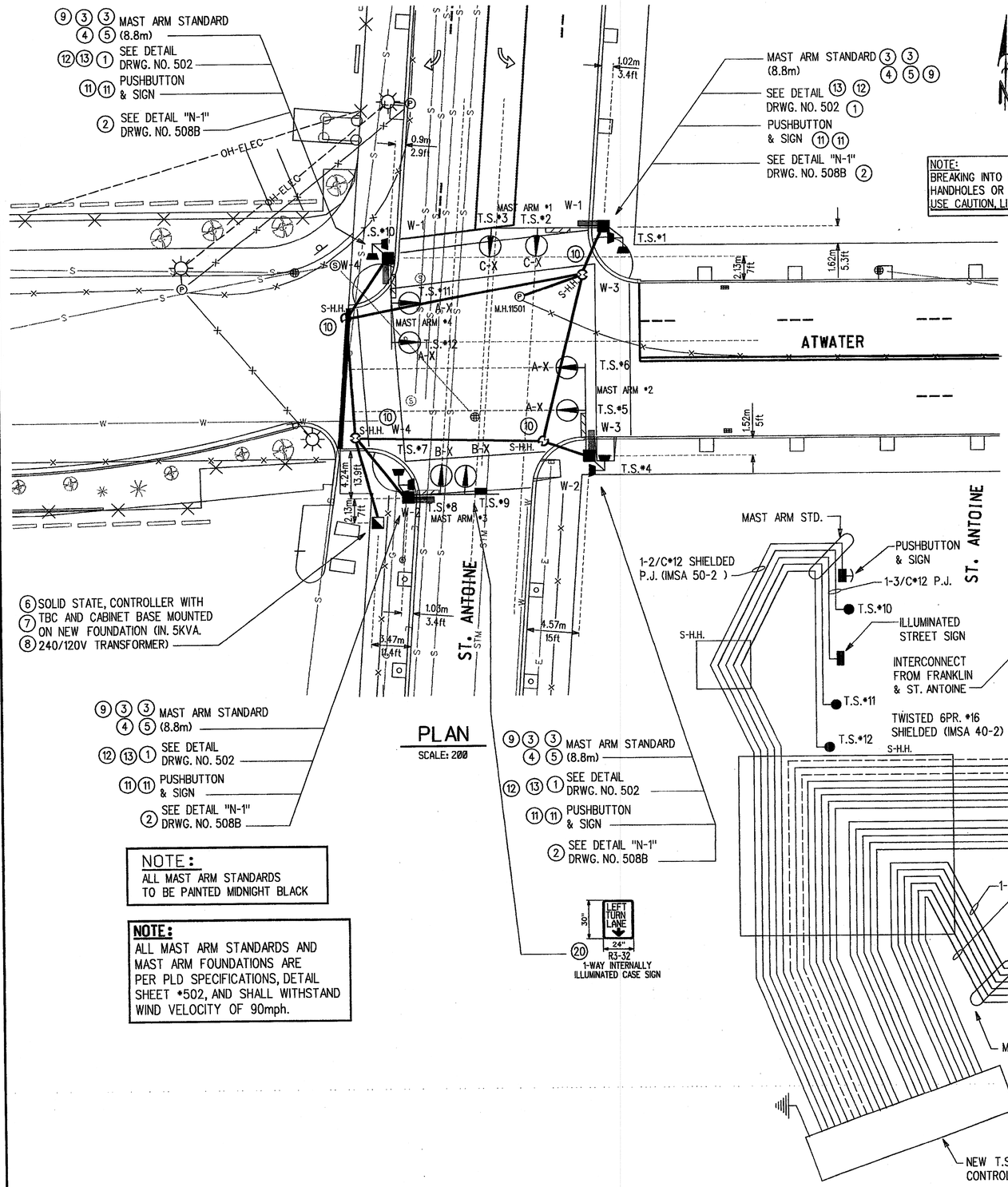
Disk File Name: 1325-1-2 | Job File No.: CEA 132500

Date: MAY 2000 | Sheet No.: TS 1.2

(9)(3)(3) (4)(5) MAST ARM STANDARD (8.8m)
(12)(13)(1) SEE DETAIL DRWG. NO. 502
(11)(11) PUSHBUTTON & SIGN
(2) SEE DETAIL "N-1" DRWG. NO. 508B

MAST ARM STANDARD (3)(3) (4)(5)(9) (8.8m)
SEE DETAIL (13)(12) DRWG. NO. 502 (1)
PUSHBUTTON & SIGN (11)(11)
SEE DETAIL "N-1" DRWG. NO. 508B (2)

NOTE:
BREAKING INTO EXISTING HANDHOLES OR MANHOLES USE CAUTION, LIVE CABLES!



PLAN
SCALE: 200

(6) SOLID STATE, CONTROLLER WITH
(7) TBC AND CABINET BASE MOUNTED ON NEW FOUNDATION (IN. 5KVA.
(8) 240/120V TRANSFORMER)

(9)(3)(3) (4)(5) MAST ARM STANDARD (8.8m)
(12)(13)(1) SEE DETAIL DRWG. NO. 502
(11)(11) PUSHBUTTON & SIGN
(2) SEE DETAIL "N-1" DRWG. NO. 508B

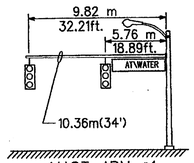
(9)(3)(3) (4)(5) MAST ARM STANDARD (8.8m)
(12)(13)(1) SEE DETAIL DRWG. NO. 502
(11)(11) PUSHBUTTON & SIGN
(2) SEE DETAIL "N-1" DRWG. NO. 508B

NOTE:
ALL MAST ARM STANDARDS TO BE PAINTED MIDNIGHT BLACK

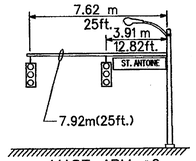
NOTE:
ALL MAST ARM STANDARDS AND MAST ARM FOUNDATIONS ARE PER PLD SPECIFICATIONS, DETAIL SHEET *502, AND SHALL WITHSTAND WIND VELOCITY OF 90mph.

NOTE:
TRAFFIC SIGNALS ON MAST ARMS TO BE MOUNTED USING ASTRO-BRACS

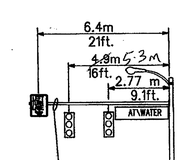
NOTE:
1. ALL NEW TRAFFIC SIGNALS SHALL HAVE 3 SECTION-305mm(12") HEADS.
2. ALL NEW PEDESTRIAN SIGNALS SHALL HAVE 2 SECTION-305mm(12") HEADS.



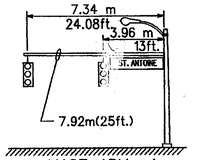
MAST ARM *1
N.T.S.
(LOOKING - NORTH)



MAST ARM *2
N.T.S.
(LOOKING - EAST)

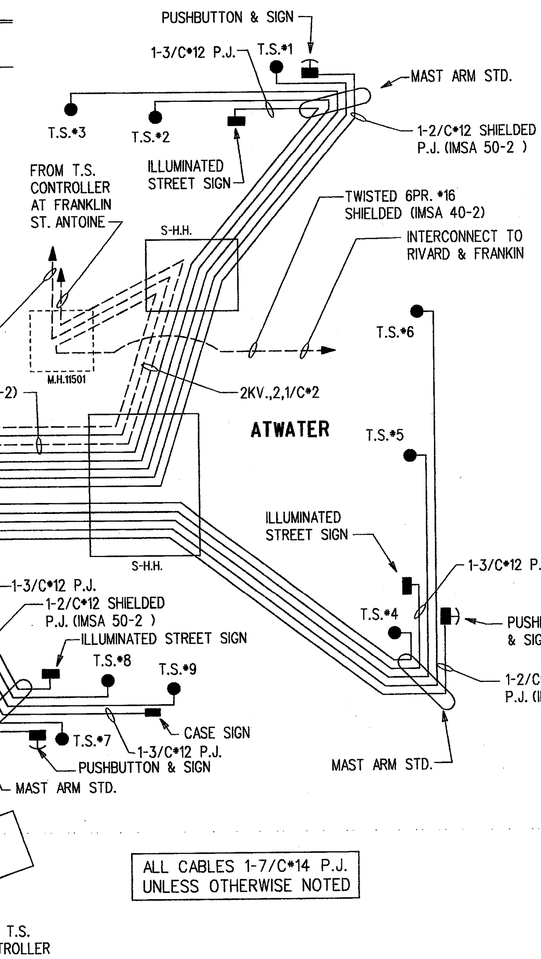


MAST ARM *3
N.T.S.
(LOOKING - SOUTH)



MAST ARM *4
N.T.S.
(LOOKING - WEST)

CONDUITS UNLESS OTHERWISE NOTED:
ALL NEW CONDUITS FROM
H.H.'s or M.H.'s to PEDESTALS ARE 1-75mm(1-3"),
H.H.'s or M.H.'s to STEEL POLES ARE 2-75mm(2-3"),
H.H.'s or M.H.'s to CABLE POLES ARE 2-75mm(2-3"),
H.H.'s or M.H.'s to MAST ARM STA. ARE 2-75mm(2-3"),
H.H.'s or M.H.s to CONTROLLERS ARE 3-100mm(3-4")
H.H. to H.H.'s or M.H.'s ARE 2-100mm(2-4") and
M.H. or Type-S H.H. to M.H.'s or Type-S H.H.'s ARE 2-100(2-4")



ALL CABLES 1-7/C*14 P.J. UNLESS OTHERWISE NOTED

WIRING DIAGRAM
N.T.S.

LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
(1)	Mast Arm	4 ea	8200400
(2)	TS, Pedestrian, Two Way Bracket Arm Mtd	4 ea	8200260
(3)	TS, One Way Mast Arm Mtd	8 ea	8200288
(4)	Mast Arm Std (8.8m)	4 ea	-------
(5)	Mast Arm Std Fdn	4 ea	8200402
(6)	Controller and Cabinet, Solid State, TBC, Delivered	1 ea	8200329
(7)	Controller and Cabinet, Solid State, TBC	1 ea	8200332
(8)	Controller Fdn, Base Mount	1 ea	8200427
(9)	Illuminated, Street Sign (6', 1.83m)	4 ea	-
(10)	Hh, Type S	4 ea	8190351
(11)	Pushbutton and Sign	4 ea	8200287
(12)	Bracket Arm,1830mm(6ft),with 915mm(3) Rise, Clamp on	4 ea	8200448
(13)	Luminaire	4 ea	8190536
(20)	Case Sign, One Way, 610x 762mm (24 x 30 in.)	1 ea	-
Conduit, Encased, 1, 75 mm (1-3")		m(ft)	8190033
Conduit, Encased, 2, 75 mm (2-3")		23 m(75.44ft)	8190034
Conduit, Encased, 3, 100 mm (3-4")		8 m(26.24ft)	8190047
Conduit, Encased, 4, 100 mm (4-4")		64 m(209.9ft)	8190048
Sec Cables, 2Kv, 2, 1/c *2		150 m(492 ft)	8190440
Shielded Cable, 300V, 1, 6 Twisted Pair *16, Intercn		150 m(492 ft)	8190446

CONSTRUCTED PER PLAN
SIGNATURE
2-21-06
DATE

approved as noted

SCALE: 200
REVISIONS

Date	Description	Chkd. by
01-08-01	BID	
8-27-01	Owner Review	
3-13-02	Traffic Review	
5-29-02	CEA Review For City Eng.	
11-17-02	BIDS	

Improvement of Traffic Signals at ATWATER & ST. ANTOINE

DEPARTMENT OF PUBLIC WORKS CITY OF DETROIT

Checked by | Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by | Approved by | File No. 52-2495

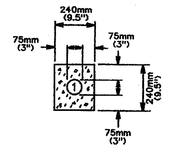
Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5707 FAX: 341-0205

Designed by C.E.A. | Drawn by | Checked by

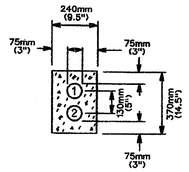
Disk File Name 1325-1-3 | Job File No. CEA 132500

Date MAY 2000 | Sheet No. TS 1.3

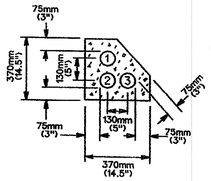
FEET 0 10 20 30 40 50
METERS 0 5 10 15



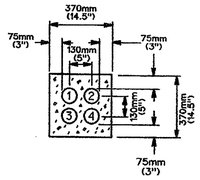
1-75mm (3") CONDUIT



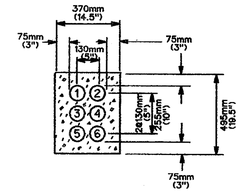
2-75mm (3") CONDUITS



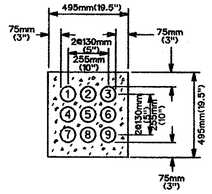
3-75mm (3") CONDUITS



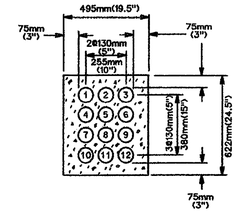
4-75mm (3") CONDUITS



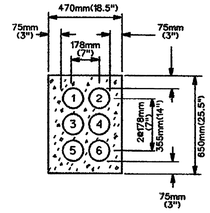
6-75mm (3") CONDUITS



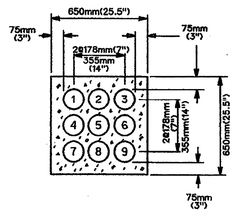
9-75mm (3") CONDUITS



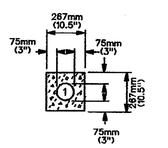
12-75mm (3") CONDUITS



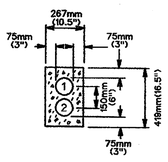
6-130mm (5") CONDUITS



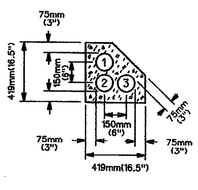
9-130mm (5") CONDUITS



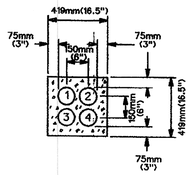
1-100mm (4") CONDUIT



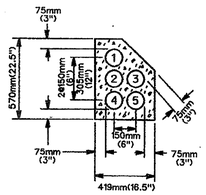
2-100mm (4") CONDUITS



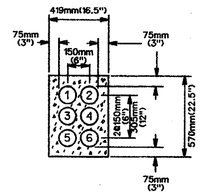
3-100mm (4") CONDUITS



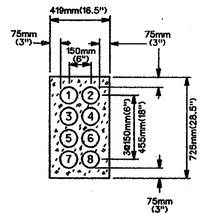
4-100mm (4") CONDUITS



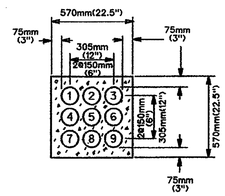
5-100mm (4") CONDUITS



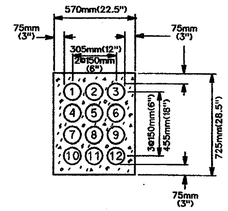
6-100mm (4") CONDUITS



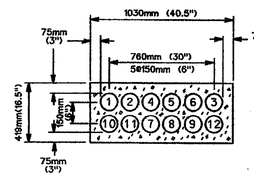
8-100mm (4") CONDUITS



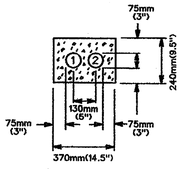
9-100mm (4") CONDUITS



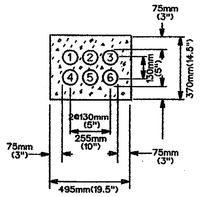
12-100mm (4") CONDUITS



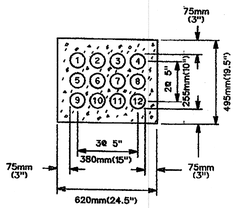
12-100mm (4") CONDUITS IN BRIDGE APPROACH



2-75mm (3") CONDUITS



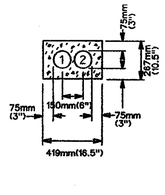
6-75mm (3") CONDUITS



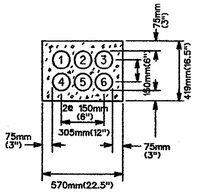
12-75mm (3") CONDUITS

ALTERNATE ARRANGEMENT OF 75mm (3") CONDUIT

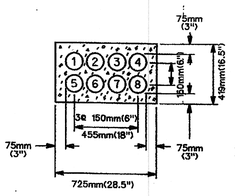
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



2-100mm (4") CONDUITS



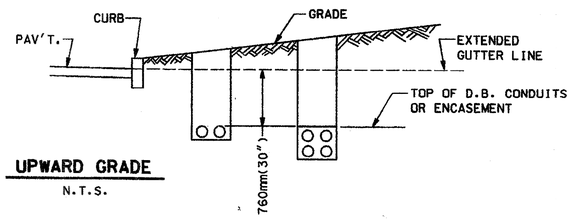
6-100mm (4") CONDUITS



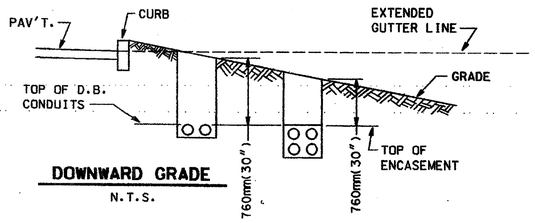
8-100mm (4") CONDUITS

ALTERNATE ARRANGEMENT OF 100mm (4") CONDUIT

(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)

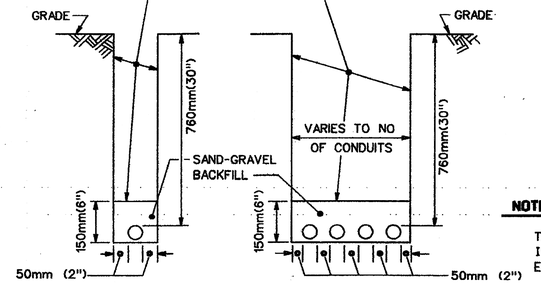


UPWARD GRADE
N.T.S.

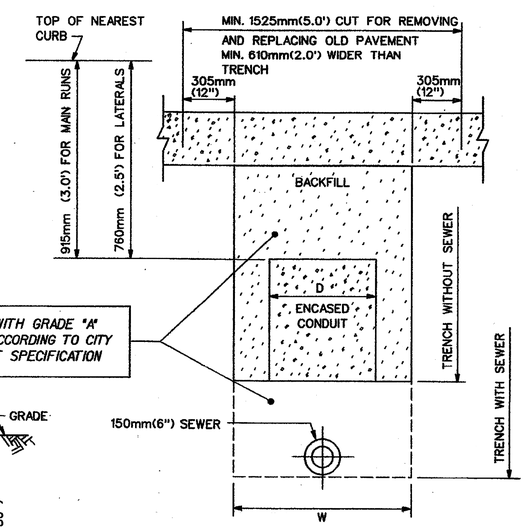


DOWNWARD GRADE
N.T.S.

CONSTRUCTED PER PLAN
SIGNATURE
2-21-96
DATE



DIRECT BURIAL CONDUIT(S)



ENCASED CONDUIT(S)

NOTE:

THE PREFERRED TRENCH WIDTH "W" IS THE WIDTH OF "D" OF CONDUIT ENCASEMENT.

DISK FILE: 101PLDM.MTR

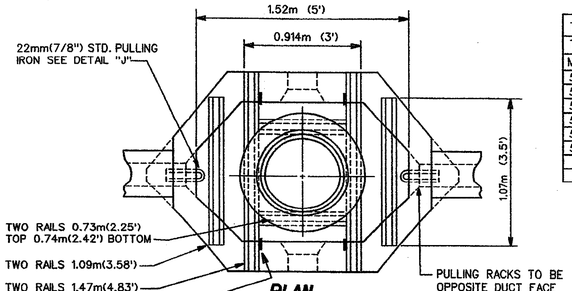
REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT
FRANKLIN & RIVARD

MISCELLANEOUS CONDUIT SECTIONS

Designed by CEA	Consulting Engineering Associates, Inc.	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by	15580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Checked by	File No.
Checked by	Disk File Name: 101PLDM / File No. CEA 132500	Approved by	Sheet No. 1TS 2.1 / Date

101

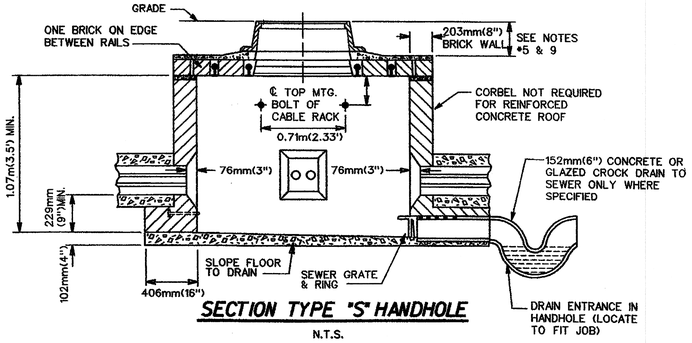


PLAN

TYPE "S" HANDHOLE

N.T.S.

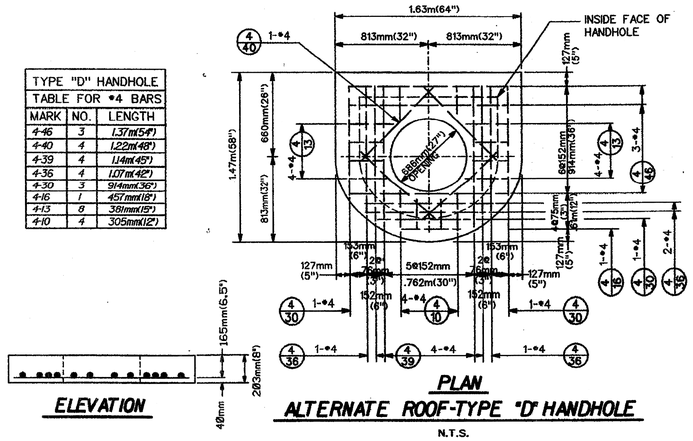
TYPE "S" HANDHOLE TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-50	2	1.524m(5')
5-46	8	11.37m(45')
5-36	4	1.07m(3.5')
5-30	6	.8096m(2')
5-19	10	533mm(21")
5-10	8	3048mm(12')



SECTION TYPE "S" HANDHOLE

N.T.S.

TYPE "D" HANDHOLE TABLE FOR #4 BARS		
MARK	NO.	LENGTH
4-46	3	1.37m(54")
4-40	4	1.22m(48")
4-39	4	1.14m(45")
4-36	4	1.07m(42")
4-30	3	914mm(36")
4-16	1	457mm(18")
4-13	8	381mm(15")
4-10	4	305mm(12")

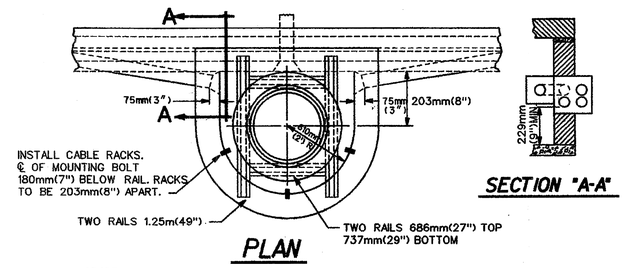


ELEVATION

PLAN

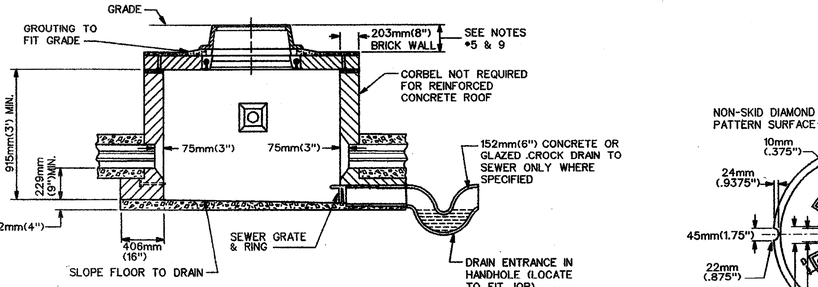
ALTERNATE ROOF-TYPE "D" HANDHOLE

N.T.S.



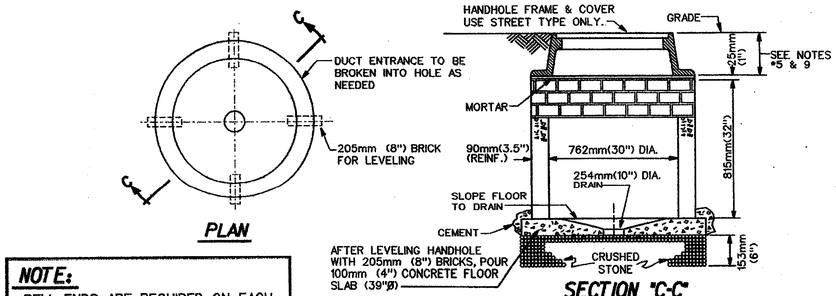
PLAN

SECTION "A-A"



SECTION TYPE "D" HANDHOLE

N.T.S.



PLAN

SECTION "C-C"

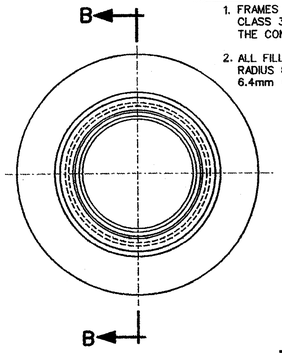
REINFORCED CONCRETE PIPE (CLASS III) ROUND HANDHOLE

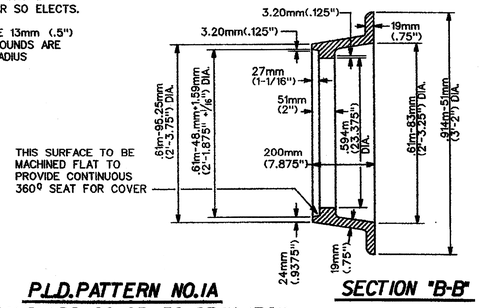
NOTE:

BELL ENDS ARE REQUIRED ON EACH CONDUIT BROKEN OUT IN HANDHOLE. TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE.

NOTE:

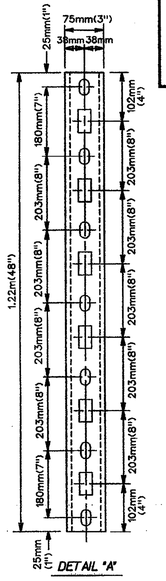
1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
2. ALL FILLETS ARE 13mm (.5") RADIUS & ALL ROUNDS ARE 6.4mm (.25") RADIUS



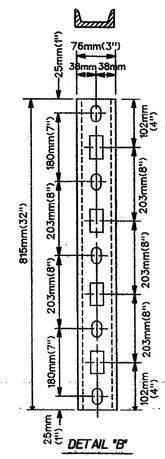


P.I.D. PATTERN NO. 1A
A.S.T.M. CLASS 20 OR 30 GRAY IRON
APPROX. 251 LBS.
HANDHOLE FRAME

SECTION "B-B"



DETAIL "A"



DETAIL "B" DETAIL "C" DETAIL "D"

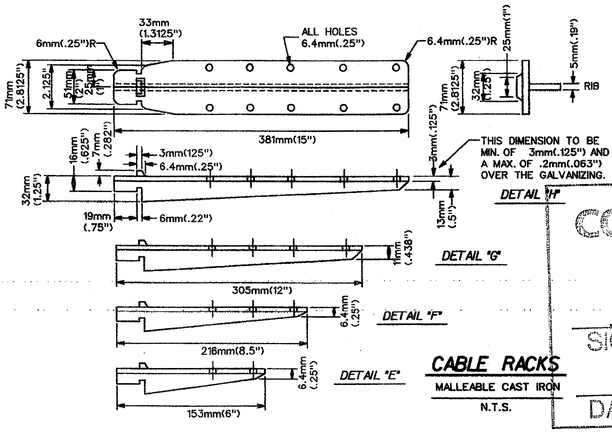
CABLE RACKS

75mm(3") STD. 4.1# CHANNEL

N.T.S.

NOTE:

1. DUCT ENTRANCE TO BE BUILT AS REQUIRED.
2. ALL RAILS TO BE 60#/YD. OR HEAVIER.
3. CABLE PULLING IRONS TO BE GALVANIZED
4. CABLE RACKS AND ARMS TO BE GALVANIZED.
5. IN PAVEMENT PROVIDE AT LEAST 75mm(3") BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQ'D.) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
6. BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
7. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
8. INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
9. WHERE HANDHOLES ARE LOCATED BACK OF CURBS ROOF MUST BE BUILT 457mm(18") BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.



CABLE RACKS

MALLEABLE CAST IRON

N.T.S.

NOTE:

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.

CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.

ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.

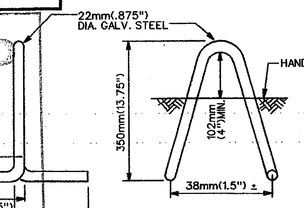
USE 13mm (.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

CONSTRUCTED PER PLAN

SIGNATURE

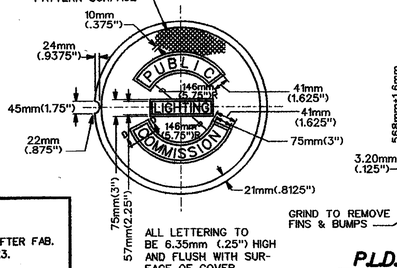
2-21-06

DATE

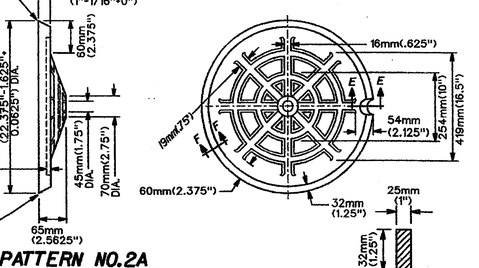


PULLING IRON

N.T.S.



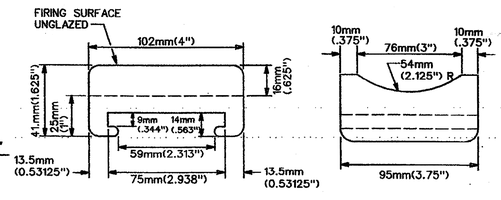
SECTION "D-D"



P.I.D. PATTERN NO. 2A
A.S.T.M. CLASS 30 GRAY IRON
APPROX. WT. 145 LBS.
STREET TYPE COVER
TO BE USED IN STREETS & DRIVES

SECTION "E-E"

SECTION "F-F"



DETAIL "J"

CABLE ARM INSULATORS

WHITE GLAZED PORCELAIN DRY PROCESS

N.T.S.

103

REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT
FRANKLIN & RIVARD

HANDHOLE

Designed by CEA	Consulting Engineering Associates, Inc.	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by	18580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Checked by	File No.
Checked by	Disk File Name: 103PLDM	Approved by	Sheet No. 1TS 2.2
	File No. CEA 132500		Date

DISK FILE: 103PLDM.MTR

DISK FILE: 205PLDM.MTR

USE	VOLT RATING	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETH-YLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTORS	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
OVERHEAD LINE WIRE	——	1	*2-*6 AWG. H.D.,UNCOATED SOLID COPPER A.S.T.M. B1													1.2mm(.047") BLACK NEOPRENE
	——	2	*4/0-*2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B1													1.6mm(.063") BLACK NEOPRENE
	——	3	*2- AWG.H.D., UNCOATED SOLID COPPER A.S.T.M. B1													.8mm(.032") BLACK POLYETHYLENE
	——	4	*2-AWG.,H.D., UNCOATED SOLID COPPER A.S.T.M. B1													1.2mm(.047") BLACK POLYETHYLENE
	——	5	*4/0-*2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B8													1.6mm(.063") BLACK POLYETHYLENE
SPECIAL EVENT FEEDER,	2000V.	6														
MULT. ST. LTG.	2000V.	7														
TRAFFIC SIGNAL SECOND-ARY	2000V.	8														
RECEPTA-CLE BRACKET & LAMP POST WIRE	600V.	9	*8 AWG.1/C UNCOATED,SOFT 7/STR. COPPER A.S.T.M. B8				1.6mm(.062") 75°C,BLACK, (167 F) OR WHITE AS REQ'D PIGMENTED NOT PRINTED										
2/C AERIAL SERVICE	600V.	10	2/C*8 AWG UNCOATED,SOFT 7/STR. COPPER A.S.T.M. B8				1.6mm(.062") 75°C,BLACK, (167 F) FIGURE 8 CONSTRUCTION										
DISTRIBU-TION CABLES	5000V. BELTED	11	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER AEIC		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.4mm(.095") COPPER BEARING LEAD	2.3mm(.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	12	3/C*2/0AWG. SECTOR, SOFT UNCOATED COPPER AEIC		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2mm(.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	13	3/C*2AWG. ROUND, SOFT UNCOATED COPPER AEIC		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2mm(.08") COPPER BEARING LEAD	2mm(.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	14	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER AEIC		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.4mm(.095") COPPER BEARING LEAD	2.3mm(.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	15	3/C*2AWG. SECTOR, SOFT UNCOATED COPPER AEIC		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2.3mm(.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	16	3/C 350 MCM ROUND, SOFT UNCOATED COPPER AEIC		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2mm(.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
SERIES ST. LTG. CABLE, IN DUCT	7500V.	17	1/C*8 AWG. SOLID, SOFT UNCOATED COPPER ASTM B3			4.8mm(.188") HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	1.2mm(.047") 60°C BLACK					1.6mm(.063") COMMERCIALLY PURE				
SERIES ST. LTG. CABLE, DIRECT BURIAL	7500V.	18	1/C*8 AWG. SOLID, SOFT UNCOATED COPPER ASTM B3			4.8mm(.188") HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	1.2mm(.047") 60°C BLACK OVER INSULATED CONDUCTOR					1.6mm(.063") COMMERCIALLY PURE	1.2mm(.047") ASPHALTUM SATURATED JUTE OVER LEAD	TWO LAYER .51mm(.02") GALV. STEEL TAPE	ASPHALTUM SATURATED JUTE OVER STEEL TAPE	
TRANS-MISSION CABLES	24000V. SHIELDED	19	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER * AEIC		5.8mm(.230") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OR OR METALIZED PAPER TAPE	**			2.8mm(.11") COPPER BEARING LEAD	2.8mm(.11") HEAT LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V. SHIELDED	20	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER * AEIC		5.8mm(.230") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OR OR METALIZED PAPER TAPE	**			2.7mm(.105") COPPER BEARING LEAD	2.8mm(.11") HEAT LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V. SHIELDED	21	3/C *2/0 AWG. SECTOR, SOFT UNCOATED COPPER * AEIC		6.2mm(.245") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OR OR METALIZED PAPER TAPE	**			2.5mm(.10") COPPER BEARING LEAD	2.3mm(.09") HEAT LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULTI-CONDUCTOR SIGNAL CABLE, IN DUCT	——	22	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3													
MULTI-CONDUCTOR SIGNAL CABLE, AERIAL(I.M.)	——	23	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3													
8/C SERIES ST. LTG. IN DUCT	7500V.	24	8/C*8 AWG. SOLID, SOFT TINNED COPPER ASTM B33													
OVERHEAD FLEXIBLE TRAINER WIRE (SHIELDED)	——	25	1/C*2 AWG. & LARGER, SOFT CLASS G OR H STANDING TINNED COPPER ASTM B173	SEMI-CONDUCTING COTTON TAPE OVER CON-DUCTOR & 0.268 OZONE RESISTING BUTYL							1.6mm(.063") GENERAL PURPOSE OR HEAVY DUTY BLACK NEØPRENE					

ALL MULTIPLE STREET LIGHTING, TRAFFIC SIGNAL SECONDARY AND SPECIAL EVENT CABLES INSTALLED IN CONDUIT SHALL BE AS PER THE FOLLOWING: CONDUCTORS: COATED, STRANDED COPPER CONDUCTOR PER ASTM B-8 AND B-189. INSULATION: MEETS OR EXCEEDS ALL REQUIREMENTS OF LATEST EDITION OF ICEA S-68-516, NEMA WC 8 FOR ETHYLENE-PROPYLENE RUBBER INSULATION AND ASTM D2802-78 AND UL STANDARD 44. JACKET: MEETS OR EXCEED ALL REQUIREMENTS OF LATEST EDITION OF ICEA S-68-516, NEMA WC8 FOR HEAVY DUTY CHLOROSULFONATED-POLYETHYLENE. LISTED BY UNDERWRITER'S LABORATORIES INC. AS TYPE RHH OR RHW.

NOTE: PRIOR TO PLACING ORDER FOR PURCHASE OF THIS CABLE, A SAMPLE LENGTH OF CABLE MUST FIRST BE SUBMITTED TO P.L.D. FOR THEIR APPROVAL.

COLOR CODED AS FOLLOWS:
RED - A CIRCUIT
BLACK - B CIRCUIT
WHITE - NEUTRAL

ACCORDING TO SPECIFICATIONS

SPECIAL INSTRUCTION
1.6mm(.063") OF 30% HEAVEA RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR CENTRAL CONDUCTOR HAS ADDITIONAL 4.3mm(.17") VARNISHED CAMBRIC TAPE REMAINING 7 CONDUCTORS EACH HAVE ADDITIONAL 2.4mm(.094") VARNISHED CAMBRIC TAPE ONE OF 7 OUTSIDE CONDUCTORS WRAPPED WITH WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLED WITH PARAFFINED JUTE (OUTSIDE FILLER). 2.4mm(.094") BELT OF OIL SATURATED PAPER OVERALL (2.9mm/0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.

CONSTRUCTED PER PLAN
SIGNATURE
DATE 2-21-96

* CARBON BLACK PAPER TAPE OVER CONDUCTOR

** BINDER TAPE OVER SHIELDED INSULATED CONDUCTOR AND FILLERS TO BE COPPER OR BRONZE TAPE INTERCALATED WITH PAPER TAPE OR (2) METALIZED PAPER TAPES

CONTINUED ON 207

TRAFFIC SIGNAL AT FRANKLIN & RIVARD
CABLE & WIRE SPECIFICATIONS, DETAILS

Designed by CEA
Drawn by
Checked by
Disk File Name: 205PLDM
File No. CEA 132500
Consulting Engineering Inc.
Scale No Scale
Checked by
Approved by
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT
Sheet No. 1TS 2.3
File No. 205

1. DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24 KV., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A.E.I.C. "SPECIFICATION FOR IMPREGNATED PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1.

ALL DISTRIBUTION CABLES, (7 & 5 KV, ITEMS 19 & 21 INCLUSIVE) ARE FOR CIRCUITS WITH UNDERGROUND NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE 1.

2. OVERHEAD LINE WIRE

OVERHEAD LINE WIRE SHALL BE IN ACCORDANCE WITH LATEST REVISION OF ASA C8.34 (NEOPRENE COVERING) OR THE LATEST REVISION OF ASA C8.35 (POLYETHYLENE COVERING).

3. 8/C,#8AWG, STREET LIGHTING CABLE, 7500 V.

THIS IS A SPECIAL CONSTRUCTION AND SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE DESCRIPTION IN TABLE 1. APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

4. OTHER RUBBER OR THERMOPLASTIC INSULATED CABLES, LEADED & NON-LEADED

WIRE SIZE, INSULATION TYPE AND NORMAL THICKNESSES, OTHER CONSTRUCTION FEATURES SHALL BE AS SHOWN IN TABLE 1, AND APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

			POLYVINYL-CHLORIDE 60° C (140°F)	POLYVINYL-CHLORIDE 75° C (167°F)	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75° C(167° F) HEAT & MOISTURE RESISTANT	OZONE RESISTING BUTYL RUBBER
ORIGINAL	TENSILE STRENGTH PSI		2300, MIN.	2300, MIN.	1400, MIN.	700, MIN.	600, MIN.
	ELONGATION AT RUPTURE, PERCENT		250, MIN.	250, MIN.	250, MIN.	300, MIN. & 13mm(.5") SET, MAX.	350, MIN. & 13mm(.5") SET, MAX.
AIR OVEN TEST, TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL		65, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)	120, MAX. 80, MIN. 168 HRS., 120 ± 1 C° (248± 1.8° F)	75, MIN. 48 HRS., 100 ± 1 C° (212 ± 1.8° F)	———	60, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)
	ELONGATION % OF ORIGINAL		• 65, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)	•• 75, MIN. 168 HRS., 120 ± 1 C° (248± 1.8° F)	75, MIN. 48 HRS., 100 ± 1 C° (212 ± 1.8° F)	———	60, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL		———	———	———	50, MIN. 168 HRS., 80 ± 1 C° (176 ± 1.8° F)	———
	ELONGATION % OF ORIGINAL		———	———	———	50, MIN. 168HRS., 80 ± 1 C° (176 ± 1.8° F)	———
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL		———	———	———	50, MIN. 20 HRS., 127 ± 1 C° (260± 1.8° F)	50, MIN. 40 HRS., 127 ± 1 C° (260± 1.8° F)
	ELONGATION % OF ORIGINAL		———	———	———	50, MIN. 20 HRS., 127 ± 1 C° (260± 1.8° F)	50, MIN. 40 HRS., 127 ± 1 C° (260± 1.8° F)
HEAT DISTORTION 121 ± 1 C (250±1.8°F)	% OF ORIGINAL		50, MAX.	25, MAX.	———	———	———
OIL IMMERSION 4 HRS., 70 ± 1 C° (158±1.8°F)	TENSILE STRENGTH % OF ORIGINAL		• 85, MIN.	•• 85, MIN.	———	———	———
	ELONGATION % OF ORIGINAL		• 85, MIN.	•• 85, MIN.	———	———	———
HEAT SHOCK 121± 1 C° (250±1.8° F)	———		NO CRACKS	NO CRACKS	———	———	———
COLD BEND	———		NO CRACKS -30 ± 1 C° (-22 ± 1.8° F)	NO CRACKS -30 ± 1 C° (-22 ± 1.8° F)	NO CRACKS -55 ± 1 C° (-67 ± 1.8° F)	———	———
INSULATION RESISTANCE CONSTANT AT 15.6 °C (60±1.8° F)	———		1,000 MIN.	2,000 MIN.	50,000 MIN.	4,000 MIN.	20,000 MIN.
FLAME RESISTANCE PROPERTIES	———		SECT. 6.5 IPCEA S-61-402	SECT. 6.5 IPCEA S-61-402	———	———	———
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRICAL METHOD	DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	———	5, MAX.	———
		% CAPACITANCE INCREASE	1-14 DAYS-10,MAX. 7-14 DAYS-5,MAX.	1-14 DAYS-4.0,MAX. 7-14 DAYS-2.0,MAX.	———	1-14 DAYS-10.0,MAX. 7-14 DAYS-4.0,MAX.	1-14 DAYS-5.0,MAX. 7-14 DAYS-3.0,MAX.
		TEMP.	50 ± 1 C° (122 ± 1.8 F°)	75 ± 1 C° (167 ± 1.8 F°)	———	75 ± 1 C° (167 ± 1.8 F°)	75 ± 1 C° (167 ± 1.8 F°)
	— OR — GRAVIMETRIC METHOD		20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	10 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	———	20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	15 MILLIGRAMS PER SQ. 25.4mm(1") MAX.
TEST IN ACCORDANCE WITH LATEST REVISION OF:			IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)		IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUFFED DIE-CUT SPECIMENS, THE FOLLOWING VALUES SHALL APPLY:
- • ELONGATION AFTER AIR OVEN TEST 45% MIN.
- •• ELONGATION AFTER AIR OVEN TEST 50% MIN.

• OR •• TENSILE STRENGTH AFTER OIL IMMERSION 80% MIN.
• OR •• ELONGATION AFTER OIL IMMERSION 60% MIN.

INSULATIONS

THE MINIMUM INSULATION THICKNESS OF ANY OF THESE CABLES SHALL BE LESS THAN 90% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

THE PHYSICAL AND AGING PROPERTIES OF THERMOPLASTIC AND RUBBER INSULATIONS SHALL BE AS FOLLOWS:

CONSTRUCTED PER PLAN
SIGNATURE
2-21-06
DATE

CONDUCTORS

ALL CONDUCTORS SHALL BE COPPER, COMPLYING WITH THE LATEST REVISIONS OF ASTM SPECIFICATIONS, AS FOLLOWS:

SOFT OR ANNEALED, BARE COPPER WIRE	ASTM B3
MEDIUM HARD DRAWN COPPER WIRE	ASTM B2
HARD DRAWN COPPER WIRE	ASTM B1
CONCENTRIC-LAY-STRANDED COPPER CONDUCTORS, HARD, MEDIUM HARD OR SOFT, COATED OR UNCOATED, AS REQUIRED.	ASTM B8
ROPE-LAY-STRANDED, SOFT, COPPER CONDUCTORS, COATED OR UNCOATED, AS REQUIRED.	ASTM B173
SOFT, SOLID COPPER CONDUCTORS, TINNED	ASTM B33
SOFT, SOLID COPPER CONDUCTORS, LEAD OR LEAD ALLOY COATED	ASTM B189

JACKETS

THE MINIMUM JACKET THICKNESS SHALL NOT BE LESS THAN 80% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

		NEOPRENE BLACK, HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE COVER'G OVER LEAD SHEATH
ORIGINAL	TENSILE STRENGTH PSI	1800, MIN.	1500, MIN.	1500, MIN.	1400, MIN.
	ELONGATION AT RUPTURE, %	300, MIN. & 10mm(.375") MAX.SET	250, MIN. & 10mm(.375") MAX.SET	100, MIN.	350, MIN.
AIR OVEN TEST, TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL	———	———	75 MIN. 120 HRS. 121 ± 1°C (250 ± 1.8°F)	75, MIN.
	ELONGATION % OF ORIGINAL	———	———	60 MIN. 120 HRS. 121 ± 1°C (250 ± 1.8°F)	75, MIN.
OXYGEN PRESSURE TEST 168 HRS. 80 ± 1 C° (176 ± 1.8 °F)	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	———	———
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	———	———
AIR PRESSURE HEAT TEST 20 HRS. 127 ± 1 C° (260 ± 1.8° F)	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	———	———
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	———	———
OIL IMMERSION TEST, TIME & TEMP. AS NOTED	TENSILE STRENGTH % OF ORIGINAL	60 MIN. 18 HRS 121 ± 1°C (250 ± 1.8° F)	60 MIN. 18 HRS 121 ± 1°C (250 ± 1.8° F)	60 MIN. 4 HRS 70 ± 1°C (158 ± 1.8° F)	———
	ELONGATION % OF ORIGINAL	60 MIN. 18 HRS 121 ± 1°C (250 ± 1.8° F)	60 MIN. 18 HRS 121 ± 1°C (250 ± 1.8° F)	60 MIN. 4 HRS 70 ± 1°C (158 ± 1.8° F)	———
HEAT DISTORTION PERCENT OF UNAGED VALUE	———	———	———	50, MAX. 90 ± 1°C (194 ± 1.8°F)	25, MAX. 90 ± 1°C (194 ± 1.8°F)
HEAT SHOCK 121 ± 1°C (250 ± 1.8° F)	———	———	———	NO CRACKS	———
COLD BEND TEST -35 ± 1°C (-31 ±1.8°F)	———	———	———	NO CRACKS	NO CRACKS
ENVIRONMENTAL CRACKING	———	———	———	———	NO CRACKS
LIGHT ABSORPTIVITY	———	———	———	———	24,000, MIN.
TEST IN ACCORDANCE WITH LATEST REVISION OF:		IPCEA S-19-82		IPCEA S-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

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REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT FRANKLIN & RIVARD

CABLE & WIRE SPECIFICATIONS

Designed by CEA	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by		Checked by	File No. ———
Checked by ———	Disk File Name: 206PLDM File No. CEA 132500	Approved by	Sheet No. 1TS 2.4
			Date ———

CERTIFIED TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR VARIOUS ITEMS OF WIRE AND CABLE SHOWN ON SHEET 1 SHALL CONTAIN THE FOLLOWING TEST RESULTS:

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH AND ELONGATION TESTS.
2. COVERING THICKNESS, PHYSICAL AND AGING TESTS.
3. WEIGHT OF FINISHED WIRE.

ALL TESTS IN ACCORDANCE WITH THE LATEST REVISION OF ASA 8.34 (NEOPRENE COVERING) OR ASA 8.35 (POLYETHYLENE COVERING).

ITEMS 6 - 10 INCLUSIVE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH, AND ELONGATION TESTS IN ACCORDANCE WITH THE LATEST REVISIONS OF ASTM B8, B33 OR B189.
2. THE PHYSICAL AND OTHER TESTS FOR THE SPECIFIED INSULATION SHOWN ON SHEET 2.
3. INSULATION THICKNESS MEASUREMENTS.
4. THE ALTERNATING-CURRENT VOLTAGE TEST IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET 2.
6. (CABLE ITEM 8 ONLY) MINIMUM, MAXIMUM AND AVERAGE LEAD THICKNESS MEASUREMENTS SHALL ALSO BE INCLUDED.
7. (CABLE ITEM 10 ONLY) A RIP TEST SHALL ALSO BE INCLUDED AS FOLLOWS:

   A 1.83m SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF -(-23.3° C). -10° F FOR ONE HOUR, WHILE STILL COLD, THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY (76.mm) 3 INCHES AND THEN SHALL BE TORN APART WITH STEADY PULL AT A RATE OF (838mm) 33 INCHES IN ONE SECOND OR LESS. THERE SHALL BE NO DAMAGE TO THE INSULATION.

ITEMS 11 - 16 INCLUSIVE - DISTRIBUTION CABLES UNDER 10KV. RATING

1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENTS.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH IF COVERING IS SPECIFIED.

   ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID TYPE IMPREGNATED-PAPER-INSULATED LEAD-COVERED CABLE SPECIFICATION" PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 17 - 18 INCLUSIVE - SERIES STREET LIGHTING CABLE

1. CONDUCTOR RESISTANCE AND CONTINUITY, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. THE PHYSICAL AND OTHER TESTS FOR HIGH MOLECULAR WEIGHT POLYETHYLENE INSULATION AS SHOWN ON SHEET 2.
3. THE PHYSICAL AND OTHER TESTS FOR 60°C (140° F) POLYVINYL-CHLORIDE INSULATION AS SHOWN ON SHEET 2.
4. THE FOLLOWING TESTS SHALL ALSO BE MADE AND REPORTED:

HIGH VOLTAGE TEST-AFTER NOT LESS THAN SIX(6)HOURS IMMERSION IN WATER AT (15.6° C). (60° F) AND WHILE STILL IMMERSED, EACH REEL OF INSULATION CABLE WITHOUT LEAD, SHALL WITHSTAND A 60 CYCLE POTENTIAL OF 30,000 VOLTS FOR A PERIOD OF FIVE (5) MINUTES.

INSULATION RESISTANCE TEST-THE INSULATION RESISTANCE SHALL NOT BE LESS THAN 25,500 MEGOHMS PER THOUSAND FEET AT (15.6°C). 60°F THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

SHORT-TIME DIELECTRIC STRENGTH TEST - A (3.05m)TEN(10)FT.) SAMPLE OF THE FINISHED CABLE WITH ONLY THE LEAD REMOVED, AFTER TWELVE (12) HOURS SUBMERSION IN WATER AND WHILE STILL IMMERSED, SHALL WITHSTAND A VOLTAGE TEST OF 60,000 VOLTS 60 CYCLE A.C. FOR FIVE (5) MINITUES. ON COMPLETION OF THIS TEST, THE VOLTAGE WILL BE GRADUALLY RAISED IN ACCORDANCE WITH I.P.C.E.A. SPECIFICATIONS, UNTIL THE INSULATION IS PUNCTURED. THIS VOLTAGE SHALL BE RECORDED AND SHALL BE NOT LESS THAN 72,000 VOLTS.

EXTERNAL CORONA TEST-THIS TEST SHALL BE CONDUCTED ON ONE(1)SAMPLE PER 10,000 FT. OF COMPLETED CABLE EIGHTEEN(18)INCHES LONG WITH ONLY THE LEAD SHEATH REMOVED, AFTER WHICH SHALL BE WIPED WITH A CLEAN DRY CLOTH. THESE SAMPLES SHALL BE BENT AND MAINTAINED IN A "U-SHAPE" HAVING A BENDING DIAMETER EQUAL TO FIVE TIMES THE INSULATED CABLE DIAMETER. THE BENT SAMPLES SHALL THEN BE PLACED IN A VERTICAL POSITION ON A FLAT METALLIC GROUNDED PLATE AND 60 CYCLE A.C. VOLTAGE SHALL BE GRADUALLY APPLIED WITH A CORONA-LEVEL TEST APPARATUS OF THE FILTER-CIRCUIT TYPE, MAINTAINING SUFFICIENT AMPLIFICATION TO INDICATE THE EXISTENCE OF CORONA DISCHARGE. THIS VOLTAGE SHALL BE RAISED UNTIL CORONA IS INDICATED, AND SHALL NOT BE LESS THAN 8,200 VOLTS RMS.

THE VOLTAGE SHALL THEN BE RAISED TO 25,000 VOLTS AND MAINTAINED FOR SIX(6) HOURS WITHOUT FAILURE OF THE INSULATION. THE VOLTAGE SHALL NOT BE RAISED IN 10% STEPS AT TEN(10) MINUTE INTERVALS UNTIL FAILURE OF THE INSULATION OR FLASHOVER OCCURS.

THESE VOLTAGES SHALL BE RECORDED AND REPORTED.

INTERNAL-CORONA-LEVEL-EACH LENGTH OF COMPLETED CABLE SHALL BE TESTED IN ACCORDANCE WITH SECTION 6.13 OF THE LATEST REVISION OF I.P.C.E.A. STANDARD S-61-402, EXCEPT THAT THE MINIMUM CORONA LEVEL SHALL BE 8,200 VOLTS.

ITEMS 19 - 21 INCLUSIVE - TRANSMISSION CABLES.

1. CONDUCTOR RESISTANCE
2. SHEATH THICKNESS MEASUREMENT
3. HIGH VOLTAGE TEST
4. MECHANICAL INTEGRITY TEST
5. BENDING TEST
6. IONIZATION TEST — ONE TEST PER ORDER OR
7. HIGH VOLTAGE-TIME TEST) — THERE IS A QUANTITY LIMITATION OF
8. DIELECTRIC POWER TEST) — 7.62m (25') ON THESE TESTS PER AEIC
9. POWER FACTOR TEST
10. SPARK TEST ON COVERING OVERHEAD SHEATH ON EACH LENGTH

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID-TYPE IMPREGNATED-PAPER=INSULATED LEAD-COVERED CABLE SPECIFICATION," PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 22 -23 INCLUSIVE - MULTI-CONDUCTOR TRAFFIC SIGNAL CABLE

1. INDIVIDUAL CONDUCTOR RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B3.
2. INSULATION THICKNESS MEASUREMENTS.
3. INSULATION PHYSICAL AND OTHER TESTS FOR 60° C (140° F) POLYVINYL CHLORIDE IS SHOWN ON SHEET 2.
4. ALTERNATING CURRENT VOLTAGE TEST.
5. INSULATION RESISTANCE TEST INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET 2.
6. (CABLE ITEM 23 ONLY)
   a. POLYVINYL CHLORIDE JACKET PHYSICAL AND OTHER TESTS SHOWN ON SHEET 2.
   b. JACKET THICKNESS MEASUREMENTS.
7. (CABLE ITEM 22 ONLY), LEAD SHEATH THICKNESS MEASUREMENTS.

   TESTS NO. 4-7, INCLUSIVE, SHALL BE MADE IN ACCORDANCE WITH THE LATEST REVISION OF I.P.C.E.A. S-61-402, EXCEPT THAT THE INSULATION RESISTANCE CONSTANT SHALL BE 1000 AT 15.6° C (60° F).

ITEM 24 - 8/C SERIES STREET LIGHTING CABLE

1. CONDUCTOR CONTINUITY AND RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-33.
2. LEAD SHEATH THICKNESS MEASUREMENTS.
3. A HIGH VOLTAGE TEST CONSISTING OF 22,500 VOLTS, 60 CYCLES A.C. FOR A DURATION OF 5 MINUTES, BETWEEN CONDUCTORS AND FROM EACH CONDUCTOR TO THE LEAD SHEATH.

ITEM 25 - FLEXIBLE OVERHEAD TRAINER WIRE

1. CONDUCTOR RESISTANCE, TENSIL STRENGTH AND ELONGATION IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-173.
2. INSULATION PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
3. ADDITIONAL INSULATION TESTS IN ACCORDANCE WITH THE LATEST REVISION OF I.P.C.E.A. S-19-81 AS FOLLOWS:

   a. ALTERNATING-CURRENT VOLTAGE TEST.
   b. INSULATION RESISTANCE TEST.
   c. DIRECT-CURRENT VOLTAGE TEST.
   d. CORONA LEVEL TEST.
   e. SHORT-TIME DIELECTRIC STRENGTH TEST.
   f. COLD-BENDING AND LONG-TIME DIELECTRIC STRENGTH TEST.
   g. CAPACITY AND POWER FACTOR TEST.
   h. OZONE RESISTANCE TEST.
4. PHYSICAL AND OTHER TESTS ON THE NEOPRENE JACKET (GENERAL PURPOSE OR HEAVY DUTY), AS SHOWN ON SHEET 2.
5. JACKET THICKNESS MEASUREMENTS

ITEM 26 - SUPERVISORY CONTROL CABLE (MULTI-CONDUCTOR)

1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. INSULATION PHYSICAL FOR 60° C (140° F) PVC INSULATION AND OTHER TESTS SHOWN ON SHEET 2.
3. INSULATION RESISTANCE TESTS.
4. VOLTAGE TESTS PER IPCEA S-61-402.
5. INSULATION THICKNESS.
6. LEAD SHEATH THICKNESS.
7. THICKNESS OF COVERING OVER LEAD SHEATH.
8. SPARK TEST ON COVER LEAD SHEATH ON EACH LENGTH.

ITEM 27 - INTEGRAL MESSENGER COMMUNICATIONS CABLE (MULTI-PAIR)

ITEM 28 - COMMUNICATIONS CABLE

ITEM 29 - COMMUNICATIONS CABLE, LEAD SHEATH

ITEM 30 - COMMUNICATIONS CABLE, LEAD SHEATH, DIRECT BURIAL

MULTI-PAIR COMMUNICATION CABLES (Maximum Mutual Capacities = 90 nf per mile) (ALSO FOR TRAFFIC SIGNAL CHRONOPLAN) AND SUPERVISORY

ITEM NO.	USE AND RATING	CONDUCTOR	INSULATION[b]	TAPE OVER INSULATION CONDUCTORS	INNER BELT	SHIELD OVER TAPE OR BELT	JACKET OR SHEATH	COVERING OVER SHEATH
27	[a] AERIAL 600V.	#6 ØR #19 AWG, SOLID, UNCOATED COPPER (ASTM B3)-NUMBER OF PAIRS AS REQUIRED	.635mm(.025")[c] CLASS B POLYETHYLENE (ASTM D 1351)	12.5 PERCENT MINIMUM LAP, POLYETHYLENE TEREPHTHALATE		CORRUGATED, LONGITUDINAL, ANNEALED, .1mm (.004")[c] COPPER	BLACK POLYETHYLENE (ASTM D 2308). THICKNESSES OVER CORE AND MESSENGER AND WEB DIMENSIONS IN ACCORDANCE WITH REA SPECIFICATION PE-38.	
28	IN DUCT 600V.				BLACK POLY-ETHYLENE (ASTM D 2308) .254mm(.010") MIN. .76mm(.030") MAX. THICKNESS		BLACK POLYETHYLENE (ASTM D 2308). THICKNESS IN ACCORDANCE WITH PARAGRAPH 3.6.7.3.7 AND TABLE IV OF FED. SPEC. J.C.111.	
29	IN DUCT 600V.		.79mm(.031")[c] DIOCTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT 1.6mm (.063") MIN. THICKNESS [c]	
30	DIRECT BURIAL 600V.	#6 ØR #19 AWG, SOLID, TINNED COPPER (ASTM B 33)-NUMBER OF PAIRS AS REQUIRED					COMMERCIALLY PURE LEAD, THICKNESS PER ITEMS 22 & 23.	ASPHALTUM-SATURATED JUTE STEEL ARMOR PER ITEMS 17 & 18.

TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS ABOVE SHALL SHOW COMPLIANCE WITH CITED SPECIFICATIONS, LISTING TEST RESULTS, AS WELL AS THE FOLLOWING TESTS:

1. CONDUCTOR RESISTANCE OF EACH LENGTH OF EACH CONDUCTOR IN OHMS PER 304.80m (1000')
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.

(a) "FIGURE .203m (8") CONSTRUCTION. MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 6mm (.25") NORMAL DIAM. (ASTM A 475) AND SHALL BE FULL FLOODED.
(b) COLOR CODED PER FEDERAL SPECIFICATION J-C-111.
(C) NOMINAL THICKNESS, mm (INCHES).

CONSTRUCTED PER PLAN
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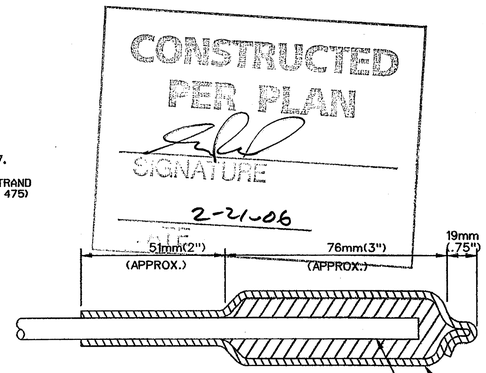
2-21-06

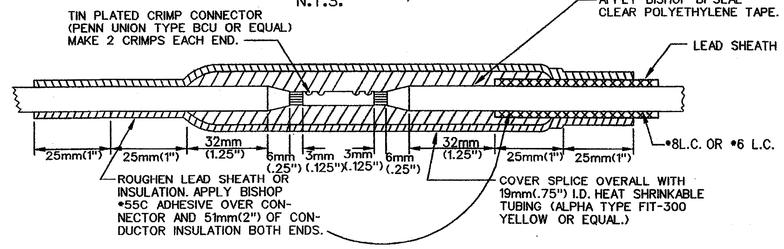


COVER CABLE END WITH 19mm(0.75") I.D. HEAT SHRINKABLE TUBING (ALPHA TYPE FIT 300 YELLOW OR EQUAL).

APPLY BISHOP BI-SEAL CLEAR POLYETHYLENE TAPE.

TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING CABLE DETAIL OF SEALING OF CABLE END

N.T.S.



TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING SPLICE DETAIL "A"

P.J. CABLE TO #8 OR #6 L.C. CABLE OR P.J. CABLE TO P.J.CABLE
N.T.S.

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TRAFFIC SIGNAL AT FRANKLIN & RIVARD

CABLE & WIRE SPECIFICATIONS

Designed by: CEA
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File No.: CEA 132500

Scale: No Scale
Checked by:
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

207
File No. ----------
Sheet No. 1TS 2.5
Date -------

TABLE 1: POLE, BASEPLATE, & ANCHOR BOLTS

POLE	POLE TYPE xx	POLE TUBE BASE DIA. (mm)	POLE TUBE TOP DIA. (mm)	POLE TUBE LENGTH (m)	POLE TUBE WALL THICK-NESS (mm)	POLE TUBE MINIMUM YIELD STRENGTH (MPa)	BASEPLATE SQUARE (mm)	BASEPLATE BOLT CIRCLE (mm)	BASEPLATE THICKNESS (mm)	ANCHOR BOLTS * DIA. (mm)	ANCHOR BOLTS * LENGTH (m)	ANCHOR BOLTS * HOOK (mm)	ANCHOR BOLTS * THREAD LENGTH (mm)
1A		330.2	255.5	8.4	6.073	379.2	469.9	457.2	38.10	44.45	2.9	152.4	228.6
2A		330.2	227.1	8.8	6.073	379.2	469.9	457.2	38.10	44.45	2.9	152.4	228.6
2B		330.2	255.5	8.8	8.733	379.2	469.9	457.2	44.45	44.45	2.9	152.4	228.6
2B		330.2	227.1	8.8	8.733	379.2	469.9	457.2	44.45	44.45	2.9	152.4	228.6

* NOTE: ANCHOR BOLT BOLT CIRCLE IS 457.2 mm

xx POLE TYPE A - WITHOUT LUMINAIRE

xx POLE TYPE B - WITH LUMINAIRE

TABLE 2: MAST ARM DATA

MAST ARM SPAN (m)	MAST ARM TUBE FIXED END DIA. (mm)	MAST ARM TUBE FREE END DIA. (mm)	MAST ARM TUBE GAUGE (mm)
6.1	152.4	81.28	4.554
7.6	177.8	88.90	4.554
9.1	203.2	96.52	4.554
10.6	228.6	104.14	4.554
12.1	254.0	111.76	4.554
13.6	266.7	106.68	4.554
15.1	304.8	127.00	4.554

TABLE 3: LUMINAIRE ARM DATA

SPAN (m)	FIXED END DIA. (mm)	FREE END DIA. (mm)	GAUGE (mm)	RISE (mm)
1.8	83.31	60.45	3.038	457.2
2.4	90.93	60.45	3.038	558.8

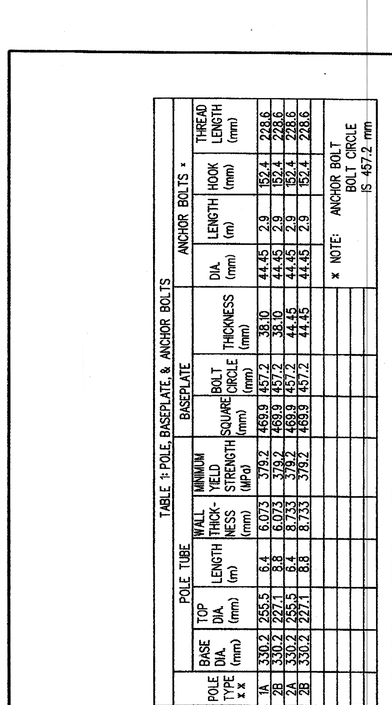
TABLE 4: MATERIAL DATA

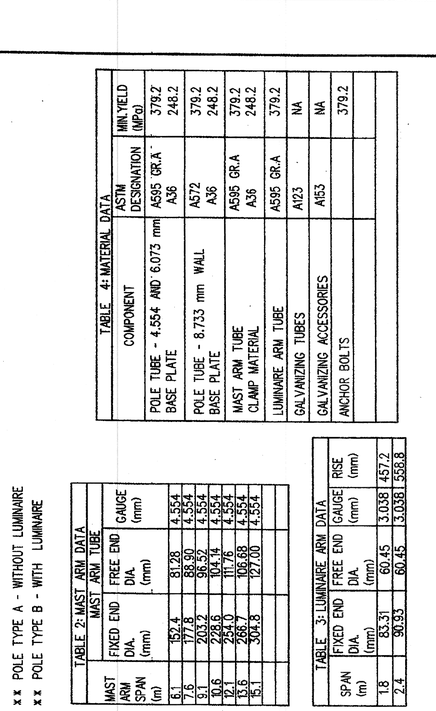
COMPONENT	ASTM DESIGNATION	MIN. YIELD (MPa)
POLE TUBE - 4.554 AND 6.073 mm BASE PLATE	A595 GR.A A36	379.2 248.2
POLE TUBE - 8.733 mm WALL BASE PLATE	A572 A36	379.2 248.2
MAST ARM TUBE CLAMP MATERIAL	A595 GR.A A36	379.2 248.2
LUMINARE ARM TUBE	A595 GR.A	379.2
GALVANIZING TUBES	A123	NA
GALVANIZING ACCESSORIES	A153	NA
ANCHOR BOLTS		379.2

SH. 2 OF 4 ST-33

MAST ARM POLE AND MAST ARM

DATE | SCALE | CONT. SEC. | JOB NO. | T & S | CONST.





FOR THIS INFORMATION	SEE TABLE
POLE, BASE PLATE & ANCHOR BOLT	1
MAST ARM DATA	2
LUMINAIRE ARM DATA	3
MATERIAL DATA	4

SH. 1 OF 4 ST-33

MAST ARM POLE AND MAST ARM

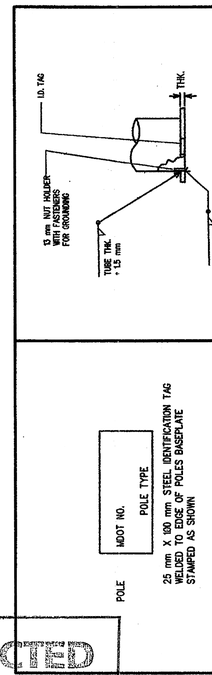
DATE | SCALE | CONT. SEC. | JOB NO. | T & S | CONST.

LAST CHECKED [illegible] 12/23/96 9:53:50AM

CONSTRUCTED PER PLAN

SIGNATURE

2-21-96 DATE



SH. 4 OF 4 ST-33

MAST ARM POLE AND MAST ARM

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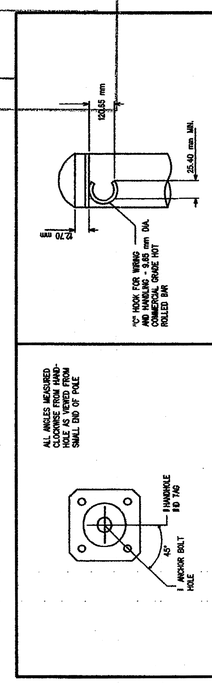


SH. 3 OF 4 ST-33

MAST ARM POLE AND MAST ARM

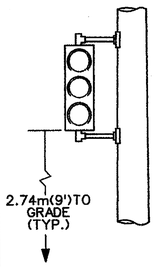
DATE | SCALE | CONT. SEC. | JOB NO. | T & S | CONST.

DISK FILE: 502PLDM.MTR

REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT
FRANKLIN & RIVARD
T.S.CANTILEVER TYPE MAST ARM ASSEMBLY
(CODE 027-06) (CODE 028-00)

Designed by CEA	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by		Checked by	
Checked by ----------	Disk File Name: 502PLDM File No. CEA 132500	Approved by	File No. 502A Sheet No. 1TS 2.6 Date ----------



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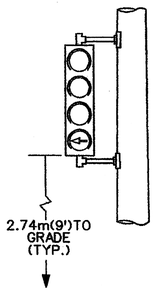

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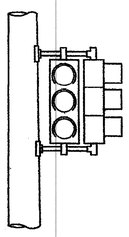

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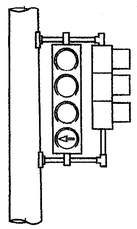

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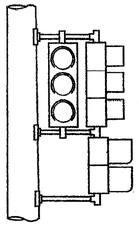

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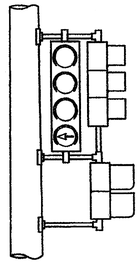

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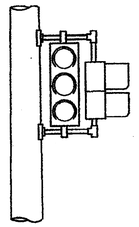

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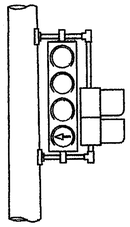

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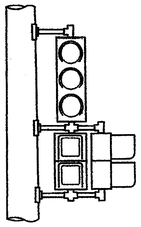

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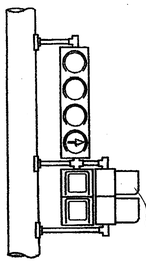

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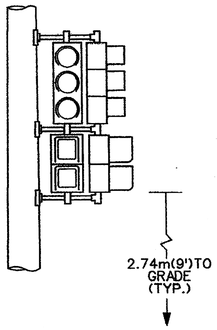

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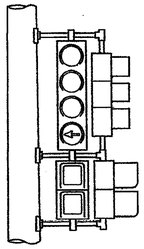

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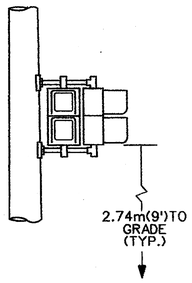

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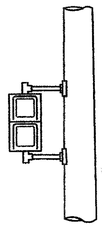

DETAIL "P-I"

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PER PLAN

SIGNATURE

2-21-06
DATE

NOTE:
THE RELATIVE POSITION OF 2-WAY T.S. & PEDESTRIAN BRACKET ARM SIGNALS WITHIN THE BRACKET ASSEMBLY SHALL BE REVERSED (I.E. THE SIGNAL NEAREST THE POLE GOES TO THE OUTSIDE OF THE BRACKET ASSEMBLY & THE OUTSIDE SIGNAL GOES INBOARD OR NEAREST TO POLE) ACCORDING TO THE PLAN VIEW TO PROVIDE CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

NOTE:
PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

DISK FILE: 508BPLDM.MTR

REVISIONS	Date	Description	Chkd. by

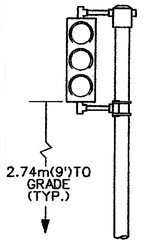
TRAFFIC SIGNAL AT FRANKLIN & RIVARD

T.S. PEDESTAL ASSEMBLY DETAILS

Designed by CEA	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by		Checked by	
Checked by ----------	Disk File Name: 508bPLDM / File No. CEA 132500	Approved by	

508B

File No. ----------
Sheet No. 1TS 2.7
Date -------



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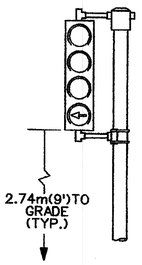

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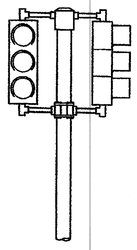

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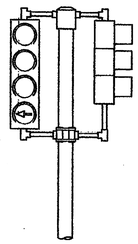

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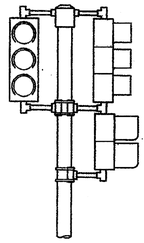

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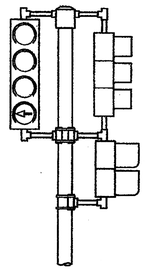

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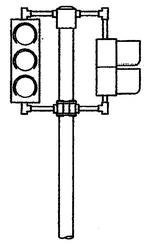

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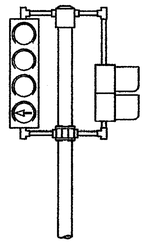

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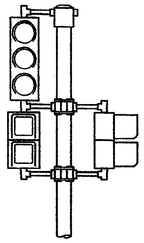

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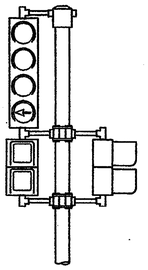

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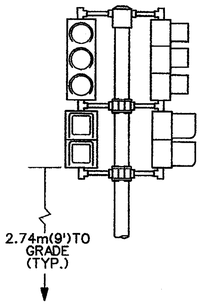

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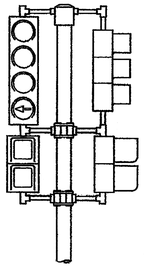

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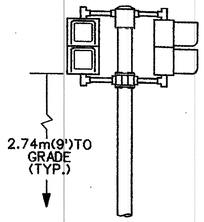

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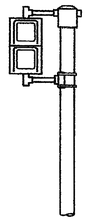

DETAIL "P-2"

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PER PLAN
SIGNATURE
2-21-06
DATE

NOTE:
THE RELATIVE POSITION OF 2-WAY T.S. & PEDESTRIAN BRACKET ARM SIGNALS WITHIN THE BRACKET ASSEMBLY SHALL BE REVERSED (I.E. THE SIGNAL NEAREST THE POLE GOES TO THE OUTSIDE OF THE BRACKET ASSEMBLY & THE OUTSIDE SIGNAL GOES INBOARD OR NEAREST TO POLE) ACCORDING TO THE PLAN VIEW TO PROVIDE CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

NOTE:
PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

DISK FILE: 502PLDM.MTR

REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT
FRANKLIN & RIVARD

T.S. PEDESTAL ASSEMBLY DETAILS

Designed by: CEA
Drawn by:
Checked by: ---------

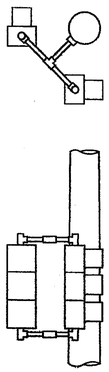
Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Disk File Name: 509BPLDM
File No.: CEA 132500

Scale: No Scale
Checked by:
Approved by:

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

509B
File No. ---------
Sheet No. 1TS 2.8
Date ---------



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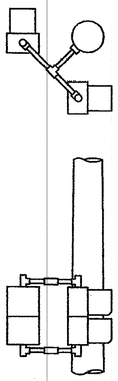

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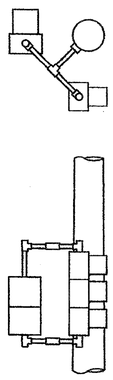

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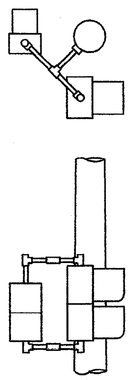

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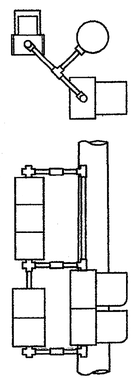

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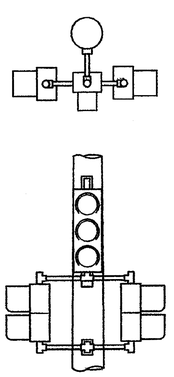

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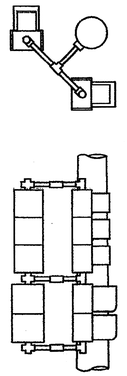

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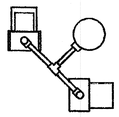

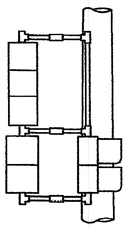

DETAIL "H-3"

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PER PLAN

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2-21-06
DATE

NOTE:
THE RELATIVE POSITION OF 2-WAY T.S. & PEDESTRIAN BRACKET ARM SIGNALS WITHIN THE BRACKET ASSEMBLY SHALL BE REVERSED (I.E. THE SIGNAL NEAREST THE POLE GOES TO THE OUTSIDE OF THE BRACKET ASSEMBLY & THE OUTSIDE SIGNAL GOES INBOARD OR NEAREST TO POLE) ACCORDING TO THE PLAN VIEW TO PROVIDE CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

NOTE:
PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

DISK FILE: 502PLDM.MTR

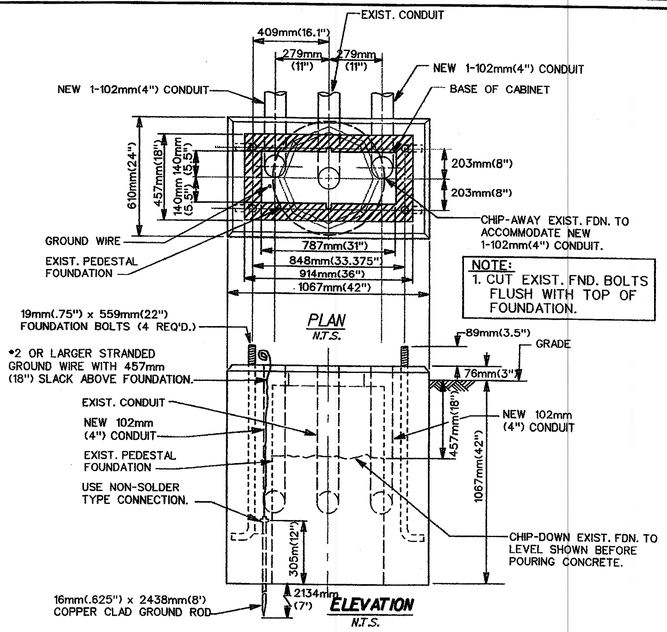
REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT
FRANKLIN & RIVARD

T.S.BRACKET ARM ASSEMBLY DETAILS

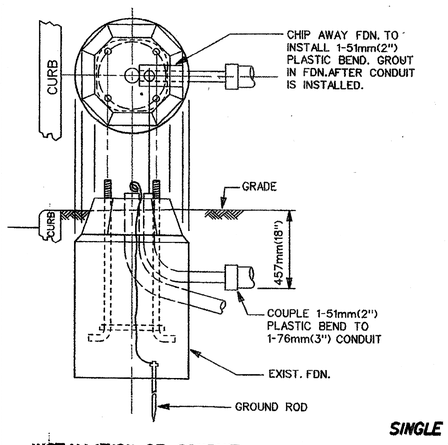
Designed by: CEA	Consulting Engineering Associates, Inc.	Scale: No Scale	PUBLIC LIGHTING DEPARTMENT
Drawn by:	16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE (313) 341-5797 FAX: 341-0205	Checked by:	CITY OF DETROIT
Checked by: ---------	Disk File Name: 510PLDM / File No.: CEA 132500	Approved by:	File No.: -------- Sheet No.: 1TS 2.9 Date: -------

510



NOTE:
1. CUT EXIST. FND. BOLTS FLUSH WITH TOP OF FOUNDATION.

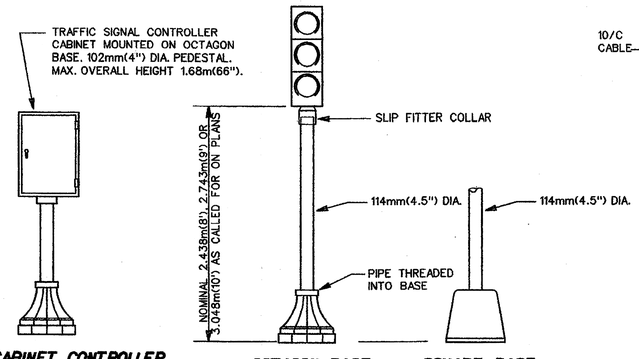
MODIFICATION OF PEDESTAL FDN. FOR BASE MOUNTED T.S. CONTROLLER (M-36)



INSTALLATION OF CONDUIT INTO EXISTING FDN.

N.T.S.

NOTE:
GROUNDING SYSTEM SHALL MEASURE 10 OHM OR LESS TO GROUND.



SINGLE CABINET CONTROLLER OCTAGON BASE

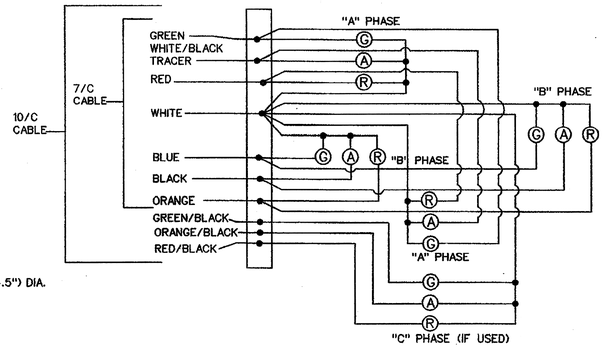
N.T.S.

OCTAGON BASE PEDESTAL

N.T.S.

SQUARE BASE PEDESTAL

N.T.S.

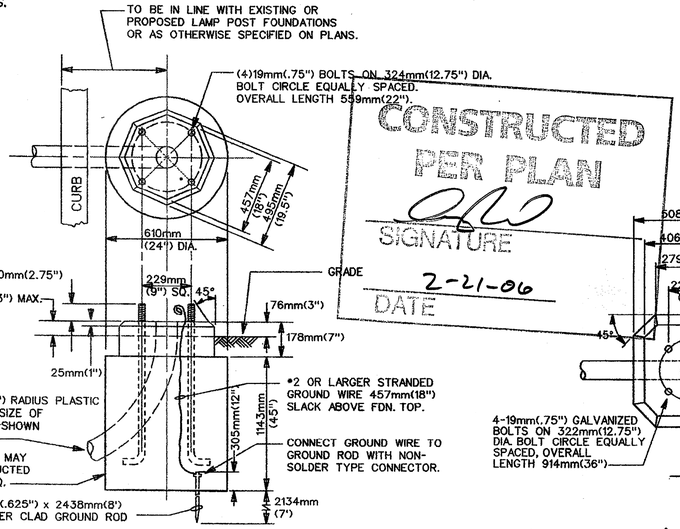


THE INCOMING CABLE FROM THE CONTROLLER IS TO BE CONNECTED TO THE TERMINAL BLOCK IN ONE FACE OF THE SIGNAL ASSEMBLY. THE OTHER FACES IN THE ASSEMBLY ARE TO BE CONNECTED TO THIS TERMINAL BLOCK BY #14 TW WIRES THROUGH THE ASSEMBLY FRAMEWORK.

COLOR CODING & CABLE CONNECTIONS FOR TRAFFIC SIGNAL LAMPS

N.T.S.

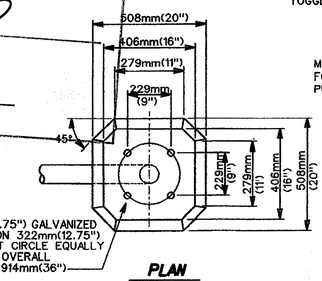
ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTION ABOVE CAP SHALL BE CLEAN OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.

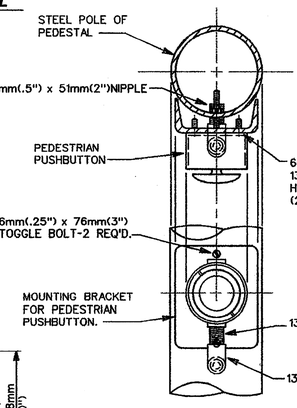


FDN. FOR OCTAGON BASE PEDESTAL FOR TRAFFIC SIGNALS OR CONTROLLER

N.T.S.

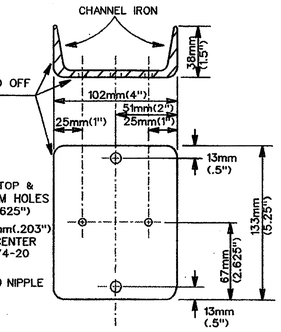
CONSTRUCTED PER PLAN
SIGNATURE
2-21-06
DATE





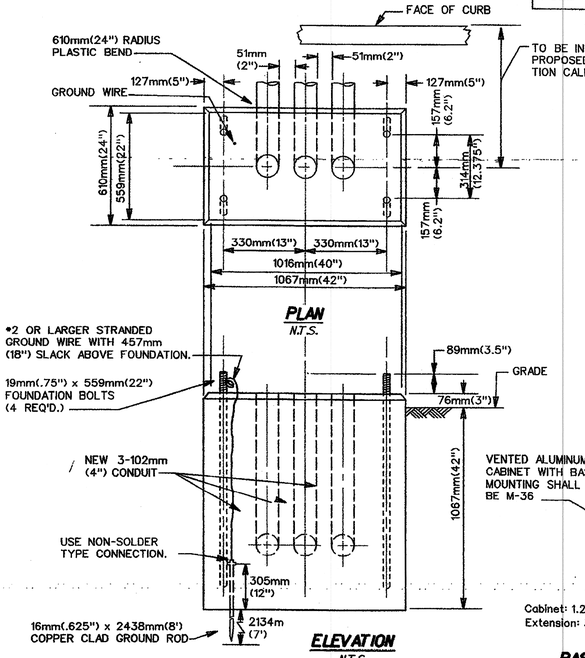
PEDESTRIAN PUSH BUTTON INSTALLATION ON A STEEL POLE

N.T.S.

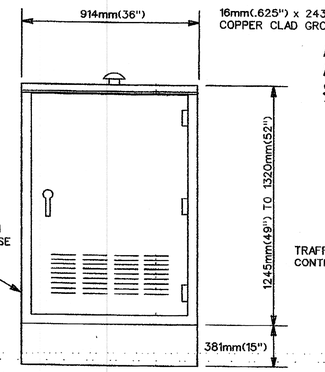


MOUNTING BRACKET FOR PEDESTRIAN PUSH BUTTON

N.T.S.

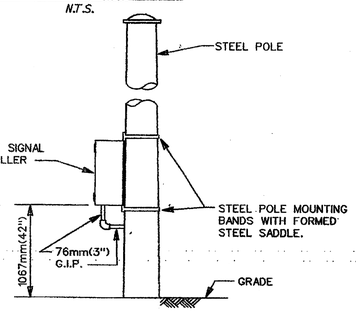


FOUNDATION FOR BASE MOUNTED T.S. CONTROLLER & CABINET (M-36)



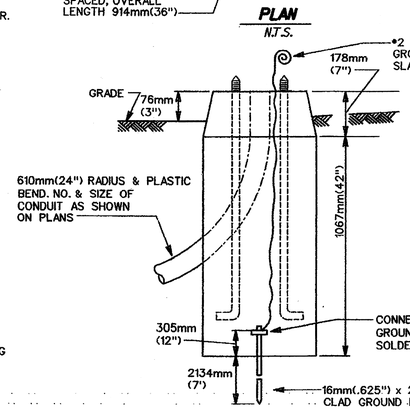
BASE MOUNTED TRAFFIC SIGNAL CONTROLLER, CABINET (M-36) & EXTENSION

N.T.S.



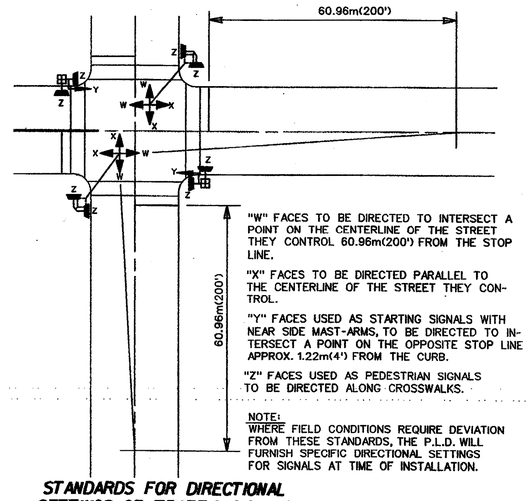
INSTALLATION OF TRAFFIC SIGNAL CONTROLLER ON STEEL POLE

N.T.S.



ELEVATION ALUMINUM PEDESTAL FDN. DETAILS

N.T.S.



"W" FACES TO BE DIRECTED TO INTERSECT A POINT ON THE CENTERLINE OF THE STREET THEY CONTROL 60.96m(200') FROM THE STOP LINE.

"X" FACES TO BE DIRECTED PARALLEL TO THE CENTERLINE OF THE STREET THEY CONTROL.

"Y" FACES USED AS STARTING SIGNALS WITH NEAR SIDE MAST-ARMS, TO BE DIRECTED TO INTERSECT A POINT ON THE OPPOSITE STOP LINE APPROX. 1.22m(4') FROM THE CURB.

"Z" FACES USED AS PEDESTRIAN SIGNALS TO BE DIRECTED ALONG CROSSWALKS.

NOTE:
WHERE FIELD CONDITIONS REQUIRE DEVIATION FROM THESE STANDARDS, THE P.L.D. WILL FURNISH SPECIFIC DIRECTIONAL SETTINGS FOR SIGNALS AT TIME OF INSTALLATION.

STANDARDS FOR DIRECTIONAL SETTINGS OF TRAFFIC SIGNALS

N.T.S.

511a

REVISIONS	Date	Description	Chkd. by

TRAFFIC SIGNAL AT FRANKLIN & RIVARD

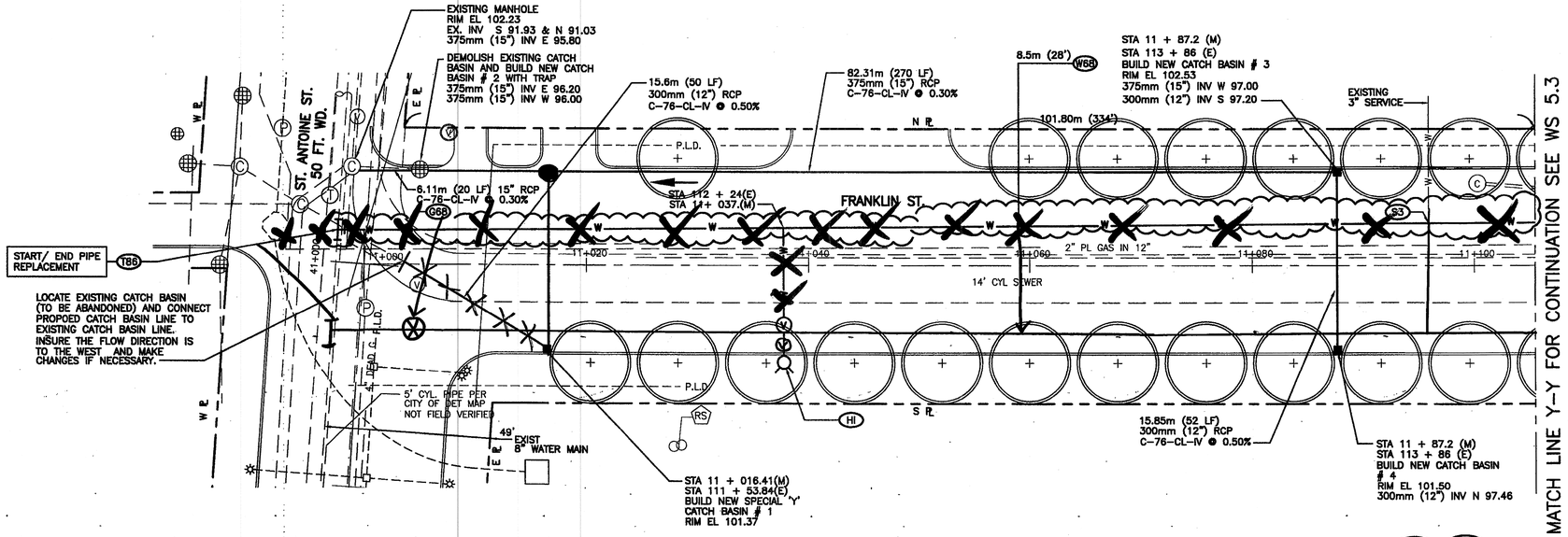
MISCELLANEOUS TRAFFIC SIGNAL DETAILS

Designed by	CEA
Drawn by	
Checked by	
Scale	No Scale
Checked by	
Approved by	
Disk File Name:	511aPLDM
File No.	CEA 132500
File No.	
Sheet No.	1TS 2.10
Date	

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

DISK FILE: 511PLDM.MTR



TRUE N PLAN N

PLAN

SCALE: 1"=20'-0"

WATER MAIN CONSTRUCTION NOTES

- (G68) REPLACE EXIST. 6-INCH DWSD GATE VALVE WITH 8-INCH DWSD GATE VALVE AND REPAIR WELL AS DIRECTED BY THE ENGINEER.
- (HI) INSTALL 6-INCH FIRE HYDRANT. SEE WATERMAIN GENERAL NOTE #5 THIS SHEET.
- (T86) REPLACE EXIST. 8"X6" TEE WITH 8"X8" TEE.
- (W68) REPLACE EXIST. 6-INCH WATER MAIN WITH 8-INCH DUCTILE IRON WATER MAIN.
- (S-3) RECONNECT EXIST. 3-INCH SERVICE. SEE GENERAL NOTE NO. 10 THIS SHEET.

WATER MAIN GENERAL NOTES

(NOTES FOR DRAWINGS WS5.2, WS5.3 AND WS.5.4)

1. WHEREVER CORPORATION STOPS ONE-INCH OR SMALLER ARE ENCOUNTERED IN SERVICE CONNECTIONS. THE CONTRACTOR SHALL REPLACE THEM WITH ONE-INCH CORPORATION STOPS, AND WHEN CORPORATION STOPS LARGER THAN ONE INCH ARE ENCOUNTERED IN SERVICE CONNECTIONS, THE CONTRACTOR SHALL REPLACE THEM WITH SAME SIZES.
2. D.W.S.D.'S STANDARD CONCRETE THRUST BLOCKS SHALL BE PLACED ON ALL FITTINGS, AND OLD THRUST BLOCKS REMOVED. VERTICAL THRUST BLOCKS FOR TOP BENDS WILL REQUIRE REINFORCING STEEL. FOR VERTICALTHRUST BLOCKS AT VERTICAL BENDS, SEE MISC. DETAIL SHEET 4CR10.4. THE CONTRACTORSHALL PLACE VERTICAL THRUST BLOCKS AT ALL VERTICAL BENDS 22-1/2 DEGREES AND LARGER.
3. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL ASSUME THAT ALL EXISTING MAINS SHOWN ON THE DRAWINGS, WHICH REQUIRE CUTTING AND/OR CONNECTING TO, ARE CAST IRON.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY RESTRAINTS (BRACED PLUGS, CAPS, VALVES, ETC.) AS REQUIRED TO KEEP ALL EXISTING WATER MAINS IN SERVICE OR WITH MINIMAL SHUT DOWN TIME AS DIRECTED BY THE ENGINEER, UNLESS TEMPORARY SERVICES ARE PROVIDED. THE BIDDER SHALL INCLUDE THIS WORK IN THE UNIT PRICE OF THE PIPE INSTALLATION.
5. HYDRANT LOCATIONS MARKED "INSTALL NEW 6-INCH FIRE HYDRANT" SHALL INCLUDE FURNISHING AND INSTALLING NEW D.F.D. OR BREAK AWAY (6-BRD), DOUBLE NOZZLE HYDRANT, SHOE, FROST JACKET, D.W.S.D. GATE VALVE, D.W.S.D. GATE VALVE BOX, TEE AND ALL RELATED PIPING AND APPURTENANCES. THE CONTRACTOR SHALL ASCERTAIN THE EXACT LOCATION FOR THE NEW HYDRANT FROM THE D.F.D. AND THE ENGINEER IN SUFFICIENT TIME PRIOR TO CONSTRUCTION. THE HYDRANT TEE SHALL BE CONSIDERED INCIDENTAL WITH MAIN REPLACEMENT. REMOVAL AND/OR ABANDOMENT OF AN EXISTING HYDRANT SYSTEM SHALL BE AS DIRECTED BY THE ENGINEER AND SHALL BE INCIDENTAL TO THE WORK, AND COSTS THEREFOR SHALL BE INCLUDED IN THE UNIT PRICE OF THE INSTALLATION OF NEW HYDRANT ITEM.
6. THE CONTRACTOR SHALL RECONNECT ALL EXISTING HYDRANTS (TO REMAIN) AND EXISTING SERVICES (LARGER THAN 2-INCHES) TO THE NEW WATER MAIN BY INSTALLING REQUIRED TEE, GATE VALVE, GATE BOX AND D.I. PIPES. ALSO, THE CONTRACTOR SHALL PROVIDE THE CORPORATION STOPS, COPPER TUBING, ADAPTERS, ETC., ON EXISTING COPPER SERVICES (2-INCHES AND SMALLER) AND OTHER APPURTENANCES AS DIRECTED BY THE ENGINEER, ALL AT ESTABLISHED UNIT PRICE OF RELEVANT ITEMS.
7. EXISTING WATER MAINS SHOWN ON DRAWINGS TO BE REPLACED, SHALL REQUIRE REPLACEMENT WITH A DUCTILE IRON PIPE (CLASS-56) OF THE SIZE SHOWN AND BE COVERED WITH A POLYETHYLENE WRAP.
8. THE CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS AT POINTS OF CONNECTION AND VERIFY THEIR LOCATION PRIOR TO PIPE LAYING, SO THAT MINIMUM WORK WILL BE REQUIRED.
9. VERTICAL BENDS:

   VERTICAL BENDS AND THE ADDITIONAL DEPTH OF PIPE AND ASSOCIATED EXCAVATION AND BACKFILL, WHERE REQUIRED TO GET OVER OR UNDER EXISTING UTILITIES, MUST BE INSTALLED BY THE CONTRACTOR AND ALL COST SHALL BE CONSIDERED INCIDENTAL WITH WATERMAIN REPLACEMENT.
10. UNLESS OTHERWISE NOTED AND SHOWN ON THE DRAWINGS, ALL SERVICE CONNECTIONS 3 INCHES AND LARGER ON EXISTING WATER MAINS ARE ASSUMED AS TAPPING SLEEVE AND VALVE CONNECTIONS AND SHALL BE RECONNECTED TO THE NEW WATER MAIN BY INSTALLATING TEES, GATE VALVES AND GATE BOXES, ALL AT NO ADDITIONAL COST.

APPROXIMATE NUMBER OF SERVICE CONNECTIONS IN EXISTING WATER MAIN TO BE REPLACED ON FRANKLIN

(SEE WATER MAIN GENERAL NOTE NO 10 ON DWG NO. WS5.2)

	COPPER AND LARGE SERVICES TO BE RECONNECTED	LEAD SERVICE TO BE REPLACED TO PROPERTY LINE WITH COPPER SERVICE
NORTH SIDE	1 - 1 1/2", 2 - 2", 1 - 3"	-
SOUTH SIDE	1 - 3"	-

NOTES

1. ALL CATCH BASINS SHALL BE CONSTRUCTED WITH 18" SUMP.
2. SEE CATCH BASIN TYPE 'A' & TYPE 'B' WITH/ WITHOUT TRAP DETAIL ON SHEET ICR10.1 AND CATCH BASIN SPECIAL 'Y' ON SHEET ICR10.2
3. FIELD VERIFY ALL SEWER CONNECTIONS PRIOR TO START OF CONSTRUCTION.

QUANTITIES

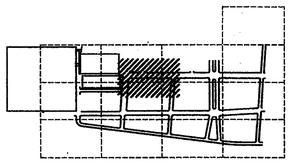
DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH
NEW HYDRANT INSTALLATION	1	1
200mm x 200mm (8" x 8") TEE	1	1
150mm (6") DIP	12.19m	40 FT
SPECIAL 'Y' CATCH BASIN #1	1	1
CATCH BASIN #2 TYPE 'B' WITH TRAP	1	1
CATCH BASIN #3 TYPE 'B' WITHOUT TRAP	1	1
CATCH BASIN #4 TYPE 'A'	1	1
375mm (15") RCP	88.42m	290 FT
300mm (12") RCP	31.10m	102 FT
200mm (8") DIP	107.60m	353 FT
200mm (8") DWSD GATE VALVE AND WELL	1	1

CONSTRUCTED AS NOTED

SIGNATURE

1-26-06

DATE



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DATE	ISSUES/REVISIONS	APPROVAL
7-21-03	BULLETIN #5	
3-19-02	C.E.D. REVIEW	
8-27-01	OWNER REVIEW	
7-28-00	BID - FRANKLIN	
7-21-00	PER DWSD REVIEW	
5-22-00	BID	
5-9-00	FINAL REVIEW	
04-21-00	PROGRESS PRINT	
02-29-00	100% DESIGN DEVELOPMENT	

DWSD SYSTEM ACCEPTANCE

DESIGN REVIEWED:	DATE: 5/24/03
HEAD ENGR. - DES.	7/11/03
CONSTRUCTION INSPECTED:	
HEAD ENGR. - FLD.	
PERMIT NO.	LS #
MDNR / MDPH	D JOB #
R/W #	DRWG/REF # SEWER / WATER

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

UTILITY PLAN

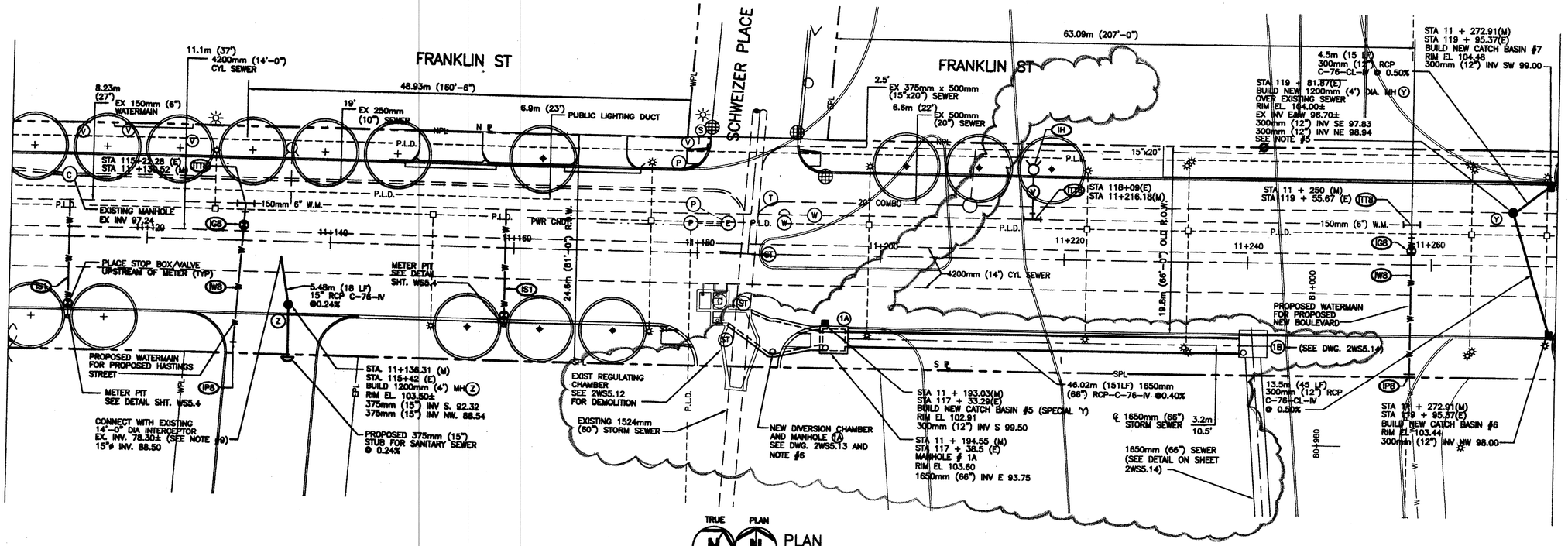
BEI Project No.: 99074

SEAL: STATE OF MICHIGAN LOUIS P. CONTINI ENGINEER No. 41736 PROFESSIONAL ENGINEER

Scale:	1"=20'-0"
Date:	7/21/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	H. JOUBAI
Approved:	R. VIJAYENDRAN

Drawing No.: WS5.2

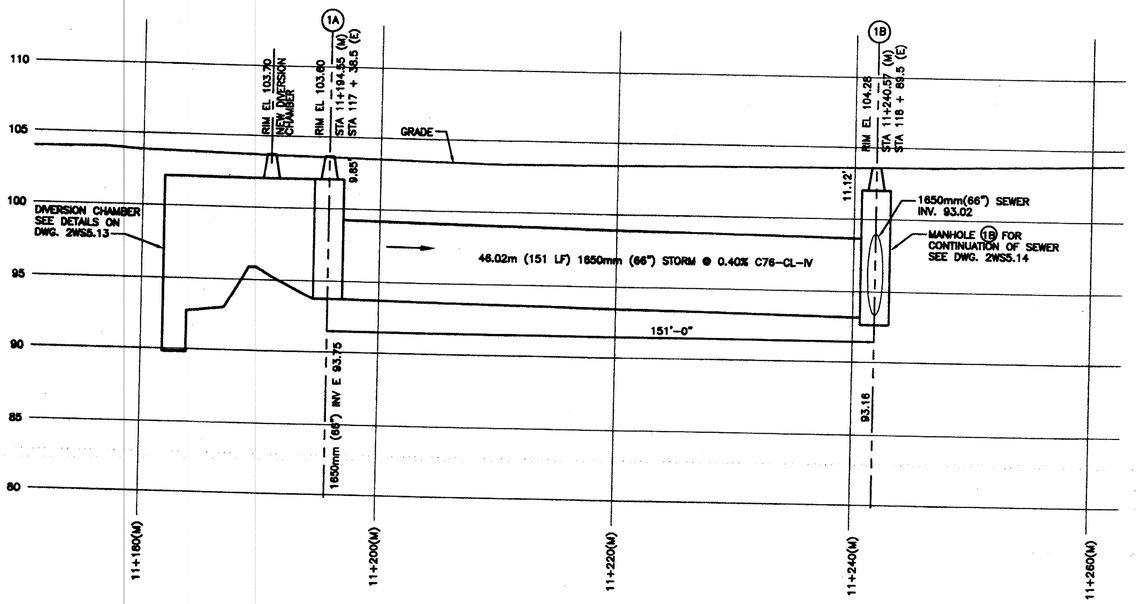
Metco Job No. 9912



PLAN

SCALE: 1"=20'-0"

QUANTITIES		
DESCRIPTION	QUANTITY	
	METRIC	ENGLISH
200mm (8") WATERMAIN	29 m	94 FEET
200mm (8") GATE VALVE AND WELLS	2	2
150mm x 150mm (6" x 6") TEE	1	1
150mm x 200mm (6" x 8") TEE	2	2
200mm (8") PLUG	2	2
HYDRANT INSTALLATION CASE 2	1	1
25mm (1") COPPER WATER SERVICE	24.0 m	80 FEET
1650mm (66") STORM SEWER	46.02 m	151 FEET
CAST-IN-PLACE DIVERSION CHAMBER AND MANHOLE PER DWG. 2WS 5.13	1	1
1200mm (4') MH	2	2
CATCH BASIN #5 SPECIAL 'Y'	1	1
CATCH BASIN #6 & #7 TYPE 'B' WITH TRAP	2	2
300mm (12") RCP	18.00 m	60 FT
375mm (15") RCP	11.56 m	38 FT



PROFILE

SCALE: 1"=20'-0" HORIZONTAL
1"=5'-0" VERTICAL

WATER MAIN CONSTRUCTION NOTES

(IH) INSTALL HYDRANT

(IG8) INSTALL 200mm (8:) GATE VALVE AND CONNECT/FURNISH AND INSTALL WELL AS DIRECTED BY ENGINEER.

(IP8) INSTALL 200mm (8") PLUG AND THRUST BLOCK

(IS1) INSTALL 25mm (1") COPPER WATER SERVICE

(ITT6) INSTALL 150mm x 150mm (6"x6") TEE AND THRUST BLOCK.

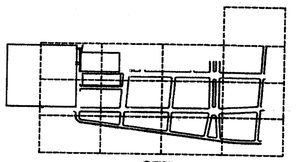
(ITT8) INSTALL 150mm x 200mm (6"x8") TEE AND THRUST BLOCK.

(IW8) INSTALL 200mm (8") DUCTILE IRON WATER MAIN CL 56.

NOTES

1. DEPTH OF WATERMAIN SHALL BE A MIN. 1.5m (5'-0").
2. ALL WORK SHALL BE DONE AS PER DWSD STANDARDS AND UNDER THEIR INSPECTION.
3. THE CONTRACTOR SHALL DEPOSIT INSPECTION FEE (TO BE DETERMINED BY DWSD) PRIOR TO THE COMMENCEMENT OF WORK.
4. SEE SHEET ICR10.2 FOR DETAIL OF SPECIAL 'Y' CATCH BASIN AND SHEET ICR10.1 FOR DETAIL OF CATCH BASIN 'B' WITH TRAP.
5. MANHOLE OVER EXISTING SEWER SHALL BE CONSTRUCTED AFTER ENSURING THAT THE SEWER IS IN WORKING CONDITION. CLEAN/REPLACE EXISTING SEWER BETWEEN PROPOSED MANHOLE AND THE DOWNSTREAM MANHOLE, IF REQUIRED.
6. NEW CONTROL BOX FOR REGULATING CHAMBER SHALL BE INSTALLED SEE DRAWING # EL3.1.*
7. SINCE THE ALIGNMENT OF PROPOSED HASTINGS STREET AND NEW BOULEVARD HAS NOT BEEN FINALIZED, THEREFORE, DWSD WILL NOT BE HELD RESPONSIBLE FOR FUTURE MODIFICATIONS TO THE TWO 8" WATERMAIN CONNECTIONS AND THE 15" SANITARY SEWER STUB SHOWN ON THIS SHEET.
8. THESE DRAWINGS ARE BEING APPROVED TO EXPEDITE FRANKLIN ROAD CONSTRUCTION SUBJECT TO THE ABOVE CONDITION, AS STATED IN NOTE #7.
9. POUR 12" THICK CONCRETE AROUND 15" SANITARY SEWER PIPE CONNECTION WITH EXISTING 14'-0" INTERCEPTOR AFTER COMPLETING THE INSTALLATION OF THE SEWER.
10. SINCE THE ENTIRE DESIGN OF 66" STORM HAS NOT BEEN PREPARED AND SUBMITTED TO DWSD FOR APPROVAL, THEREFORE, DWSD SHALL NOT BE RESPONSIBLE FOR ANY DESIGN MODIFICATIONS REQUIRED IN THE FUTURE.

* PROVIDE LEVEL TRANSMITTER CONTROL BOX PER DWSD STANDARDS



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Chicago, IL 60604

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DATE	ISSUES/REVISIONS	APPROVAL
04-29-03	DWSD REVIEW	
04-17-03	DWSD REVIEW	
04-17-02	BIDS	
3-19-02	C.E.D. REVIEW	
02-02-01	DWSD REVIEW	
7-28-00	BID - FRANKLIN	
7-21-00	PER DWSD REVIEW	
5-22-00	BID	
5-9-00	FINAL REVIEW	
02-29-00	100% DESIGN DEVELOPMENT	

DWSD SYSTEM ACCEPTANCE

DESIGN ENGINEER:	DATE: 5/14/03
HEAD ENGR. - DES.	5/14/03
CONSTRUCTION INSPECTOR:	
HEAD ENGR. - FLD.	
PERMIT NO.	LS #
MDNR	D 4000
MDPH	
R/W #	SOIL/WASTE #
	WATER

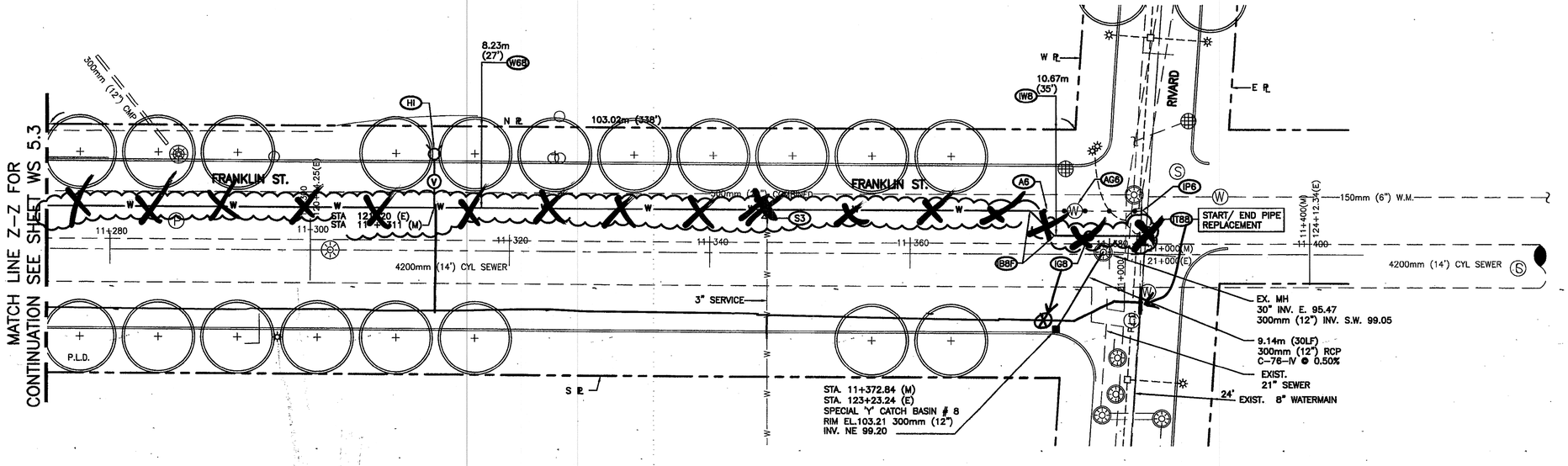
RIVER EAST INFRASTRUCTURE IMPROVEMENTS

UTILITY PLAN

BEI Project No.: 99074

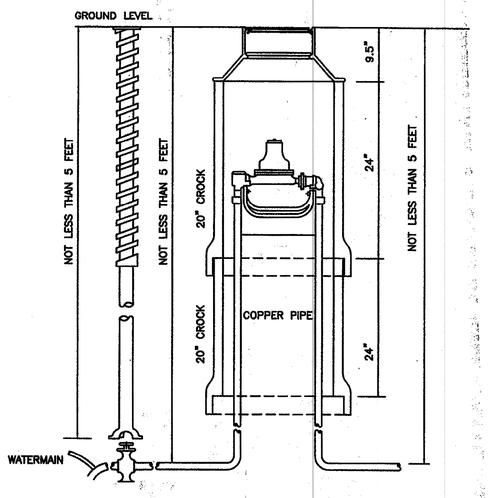
Scale: 1"=20'-0"
Date: 7-21-00
Drawn: R. JOHNSON
Checked: H.B. SWAIN
Arch./Engr.: M. JOHN
Approved: R. VANDERMARK
Drawing No.: WS5.3
Metco Job No. 6972

STATE OF MICHIGAN LICENSED PROFESSIONAL ENGINEER LOUIS P. CONTINI ENGINEER 21730 DESIGN RESPONSIBILITY



TRUE PLAN

PLAN
SCALE: 1"=20'-0"



METER BOX SETTING

SCALE: 3/8"=1'-0"

NOTE:
INSTALL 1" BACKFLOW PREVENTOR DOWNSTREAM OF METER. SEE DRAWING LS4.2.

NOTE

1. CONTROL BOX FOR RIVARD REGULATING CHAMBER SHALL BE RELOCATED AS DIRECTED BY DWSD. SEE DRAWING 1EL3.2.
2. SEE DETAIL OF CATCH BASIN SPECIAL 'Y' ON SHEET ICR10.2

WATER MAIN CONSTRUCTION NOTES

- (A6) ABANDON EXIST 6-INCH WATERMAIN
- (AG6) REMOVE EXIST 6" GATE VALVE & ABANDON WELL AS DIRECTED BY THE ENGINEER
- (HI) INSTALL NEW 6-INCH HYDRANT. SEE WATERMAIN GENERAL NOTE #5 ON DWG. WS5.2.
- (B8F) INSTALL 8"-45° BEND
- (IG8) INSTALL 6-INCH DWSD GATE VALVE & CONSTRUCT/FURNISH & INSTALL WELL AS DIRECTED BY THE ENGINEER
- (IP6) INSTALL 150mm (6") PLUG WITH THRUST BLOCK
- (IT8B) INSTALL 200mm x 200mm (8"x8") TEE AND THRUST BLOCK.
- (S3) RECONNECT EXIST. 3-INCH SERVICE. SEE GENERAL NOTE NO. 10 ON DRAWING WS5.2.

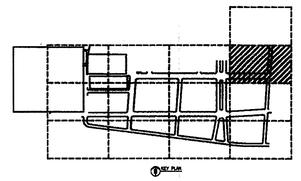
QUANTITIES

DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH
200mm (8") DIP	109.12m	358 FT
200mm x 200mm (8"x8") TEE	1	1
200mm (8") DWSD GATE VALVE AND WELL	1	1
NEW HYDRANT INSTALLATION	1	1
CATCH BASIN #8 SPECIAL "Y"	1	1
300mm (12") RCP-C-76-IV	9.14m	30 FT

CONSTRUCTED AS NOTED

SIGNATURE

1-23-06
DATE



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8-27-01	OWNER REVIEW	
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7-21-00	PER DWSD REVIEW	
5-22-00	BID--	
5-9-00	FINAL REVIEW	
04-21-00	PROGRESS PRINT	
02-29-00	100% DESIGN DEVELOPMENT	

DWSD SYSTEM ACCEPTANCE

DESIGN REVIEWED:	DATE: 5/27/03
HEAD ENGR. - DES.	7/2/03
CONSTRUCTION INSPECTED:	
HEAD ENGR. - FLD.	
PERMIT NO.	LS #
MDNR	D JOB#
MDPH	
R/W #	DRWG/REF # SEWER
	WATER

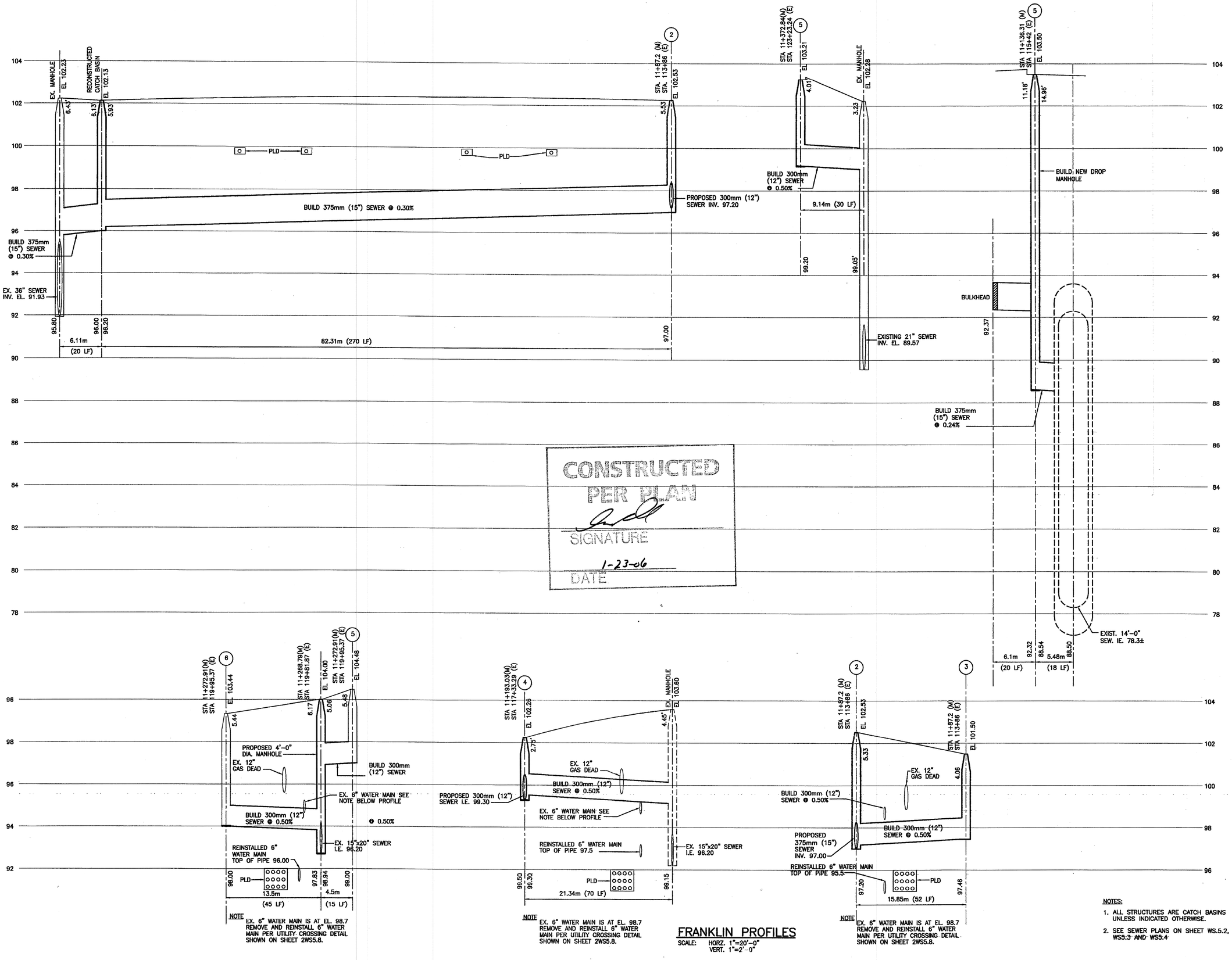
RIVER EAST INFRASTRUCTURE IMPROVEMENTS

UTILITY PLAN

BEI Project No.: 99074

LOUIS P. CONTINI ENGINEER No. 21739 LICENSED PROFESSIONAL ENGINEER

Scale:	1"20'-0"
Date:	5/5/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	H. JOUBAI
Approved:	R. VIJAYENDRAN
Drawing No.:	WS5.4
Metco Job No.	9912



CONSTRUCTED PER PLAN

SIGNATURE

1-23-06

DATE

FRANKLIN PROFILES

SCALE: HORZ. 1"=20'-0"
VERT. 1"=2'-0"

NOTES:

1. ALL STRUCTURES ARE CATCH BASINS UNLESS INDICATED OTHERWISE.
2. SEE SEWER PLANS ON SHEET WS.5.2, WS5.3 AND WS5.4

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DATE	ISSUES/REVISIONS	APPROVAL
4-17-02	BIDS	
3-19-02	C.E.D. REVIEW	
02-22-02	DWSD REVIEW	
01-15-02	DWSD REVIEW	
8-27-01	DWSD REVIEW	
7-16-01	DWSD REVIEW	
05-08-01	DWSD REVIEW	
02-28-01	DWSD REVIEW	
02-02-01	DWSD REVIEW	

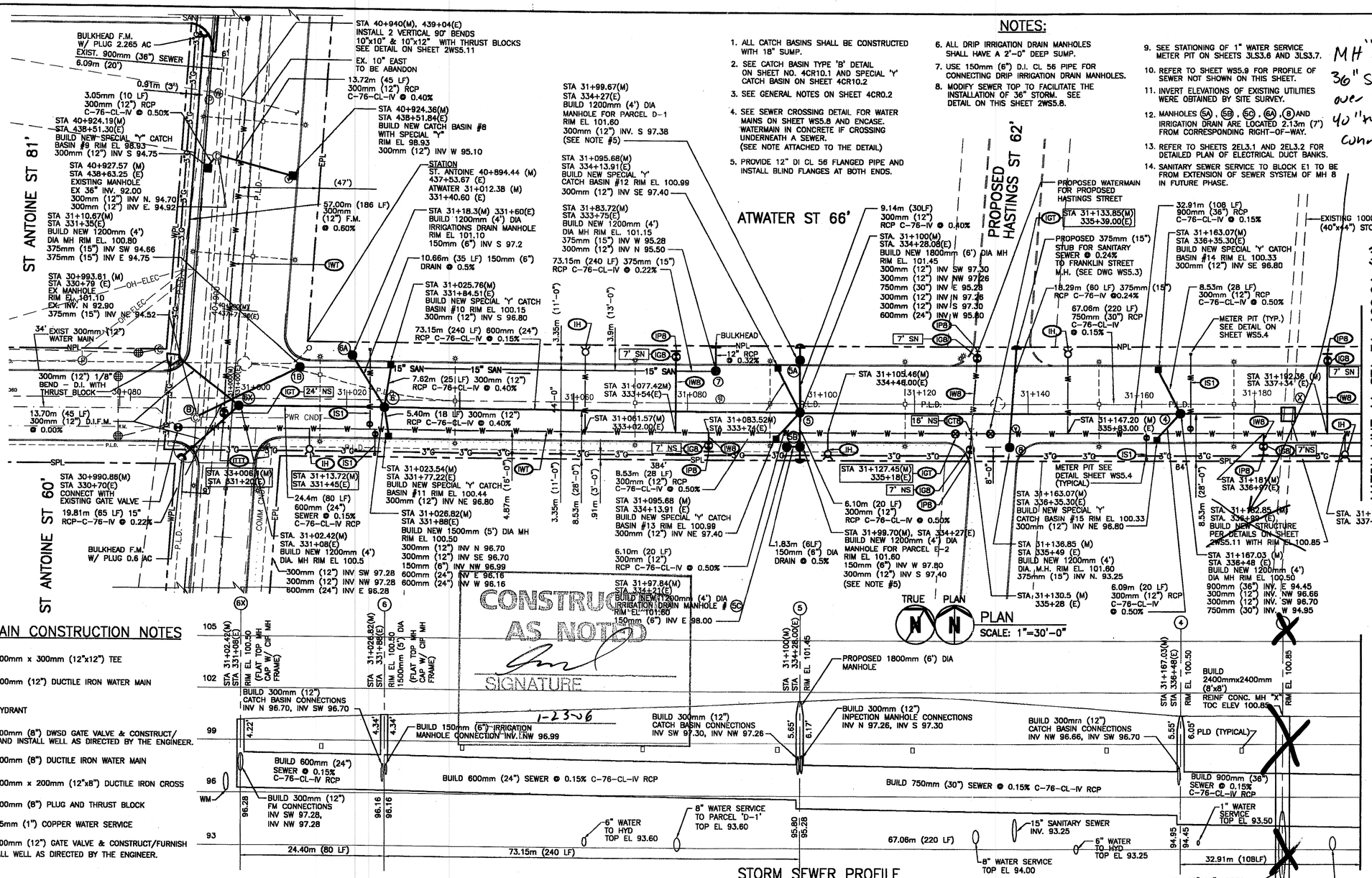
DWSD SYSTEM ACCEPTANCE

DESIGN REVIEWED:	DATE:
HEAD ENGR. – DES.	
CONSTRUCTION INSPECTED:	
HEAD ENGR. – FLD.	
PERMIT NO.	LS #
MDNR	D JOB#
MDPH	
R/W #	DRWG/REF # SEWER
	WATER

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

STORM SEWER PROFILE

BEI Project No.: 99074	Scale: 1"=40'-0"
	Date: 1/19/2001
SEAL:	Drawn: R. JOHNSON
	Checked: H.B. SINGH
	Arch./Engr.:
	Approved: R. VIJAYENDRAN
	Drawing No.: 2WS5.4A
DESIGN REVIEWED:	Metco Job No. 9912



NOTES:

1. ALL CATCH BASINS SHALL BE CONSTRUCTED WITH 18" SUMP.
2. SEE CATCH BASIN TYPE 'B' DETAIL ON SHEET NO. 4CR10.1 AND SPECIAL 'Y' CATCH BASIN ON SHEET 4CR10.2
3. SEE GENERAL NOTES ON SHEET 4CR0.2
4. SEE SEWER CROSSING DETAIL FOR WATER MAINS ON SHEET WS5.8 AND ENCASE. WATERMAIN IN CONCRETE IF CROSSING UNDERNEATH A SEWER. (SEE NOTE ATTACHED TO THE DETAIL)
5. PROVIDE 12" DI CL 56 FLANGED PIPE AND INSTALL BLIND FLANGES AT BOTH ENDS.
6. ALL DRIP IRRIGATION DRAIN MANHOLES SHALL HAVE A 2'-0" DEEP SUMP.
7. USE 150mm (6") D.I. CL 56 PIPE FOR CONNECTING DRIP IRRIGATION DRAIN MANHOLES.
8. MODIFY SEWER TOP TO FACILITATE THE INSTALLATION OF 36" STORM. SEE DETAIL ON THIS SHEET 2WS5.8.
9. SEE STATIONING OF 1" WATER SERVICE METER PIT ON SHEETS 3LS3.6 AND 3LS3.7.
10. REFER TO SHEET WS5.9 FOR PROFILE OF SEWER NOT SHOWN ON THIS SHEET.
11. INVERT ELEVATIONS OF EXISTING UTILITIES WERE OBTAINED BY SITE SURVEY.
12. MANHOLES (5A), (5B), (5C), (6A), (8) AND IRRIGATION DRAIN ARE LOCATED 2.13m (7') FROM CORRESPONDING RIGHT-OF-WAY.
13. REFER TO SHEETS 2EL3.1 AND 2EL3.2 FOR DETAILED PLAN OF ELECTRICAL DUCT BANKS.
14. SANITARY SEWER SERVICE TO BLOCK E1 TO BE FROM EXTENSION OF SEWER SYSTEM OF MH 8 IN FUTURE PHASE.

MH 'X' Deleted. 36" Sewer Installed over top of existing 40"x44" sewer. No connection made.

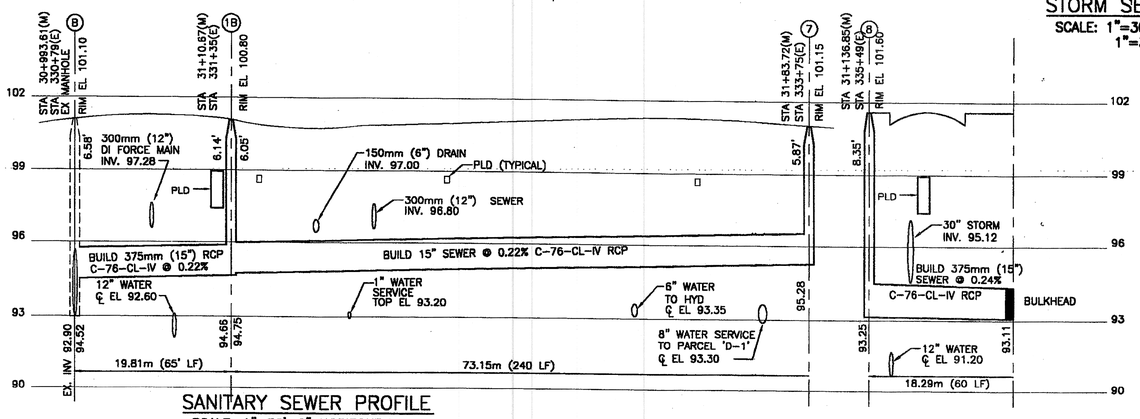
CONSTRUCTION AS NOTED
SIGNATURE
1-23-06

WATER MAIN CONSTRUCTION NOTES

(1TT) INSTALL 300mm x 300mm (12"x12") TEE
(IWT) INSTALL 300mm (12") DUCTILE IRON WATER MAIN
(IH) INSTALL HYDRANT
(IGB) INSTALL 200mm (8") DWSD GATE VALVE & CONSTRUCT/ FURNISH AND INSTALL WELL AS DIRECTED BY THE ENGINEER.
(IW8) INSTALL 200mm (8") DUCTILE IRON WATER MAIN
(1CTB) INSTALL 300mm x 200mm (12"x8") DUCTILE IRON CROSS
(IPB) INSTALL 200mm (8") PLUG AND THRUST BLOCK
(IS1) INSTALL 25mm (1") COPPER WATER SERVICE
(IGT) INSTALL 300mm (12") GATE VALVE & CONSTRUCT/FURNISH AND INSTALL WELL AS DIRECTED BY THE ENGINEER.

STORM SEWER PROFILE

SCALE: 1"=30'-0" HORIZONTAL
1"=3'-0" VERTICAL



SANITARY SEWER PROFILE

SCALE: 1"=30'-0" HORIZONTAL
1"=3'-0" VERTICAL

QUANTITIES

DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH
300mm (12") RCP	79.54 m	261 FT
375mm (15") RCP	111.25 m	365 FT
600mm (24") RCP	97.53 m	320 FT
750mm (30") RCP	67.05 m	220 FT
900mm (36") RCP	32.92 m	108 FT
300mm (12") DIP FM	56.69 m	186 FT
300mm (12") DIP	270.16 m	887 FT
200mm (8") DIP	60.35 m	198 FT
150mm (6") DIP	14.93 m	49
1200mm (4') MH	9	9
1500mm (5') MH	1	1
1800mm (6') MH	1	1

QUANTITIES

DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH
NEW HYDRANT INSTALLATION COMPLETE	5	5
300mmx200mm (12"x8") DI CROSS	1	1
300mmx200mm (12"x8") DI TEE	4	4
200mm (8") DWSD GATE VALVE	6	6
300mmx300mm (12"x12") TEE	1	1
CATCH BASIN WITH SPECIAL "Y"	8	8
200mm (8") PLUG	6	6
300mm (12") PLUG	2	2
300mm (12") DWSD GATE VALVE	4	4

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DATE	ISSUES/REVISIONS	APPROVAL
04-17-02	BIDS	
03-19-02	CED REVIEW	
03-12-01	DWSD REVIEW	
02-22-02	DWSD REVIEW	
01-15-02	DWSD REVIEW	
11-30-01	DWSD REVIEW	
08-27-01	DWSD REVIEW	
07-16-01	DWSD REVIEW	
05-08-01	DWSD REVIEW	
02-28-01	DWSD REVIEW	
02-02-01	DWSD REVIEW	
08-11-00	GRADE INSPECTION	
06-28-00	SECOND INTERIM REVIEW	
05-31-00	INTERIM REVIEW	

DWSD SYSTEM ACCEPTANCE
SEE NOTE SHEET WS5.2

DESIGN REVIEWED: DATE: 3/21/02
HEAD ENGR. - DES. 3/21/02
CONSTRUCTION INSPECTED:
HEAD ENGR. - FLD.

PERMIT NO.
MDNR
MDPH
R/W #

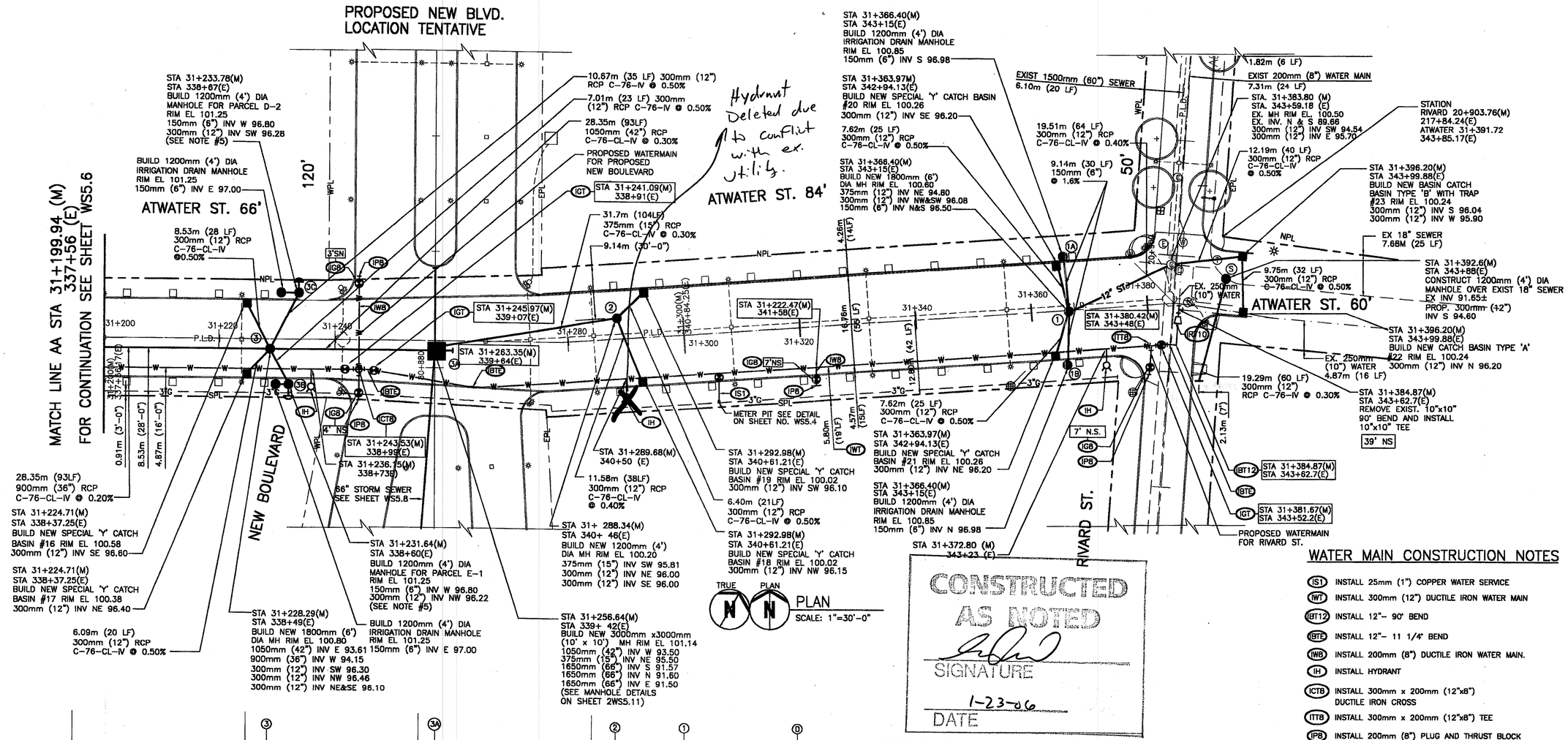
LS #
D JOB#
DRWG/REF # SEWER
WATER

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

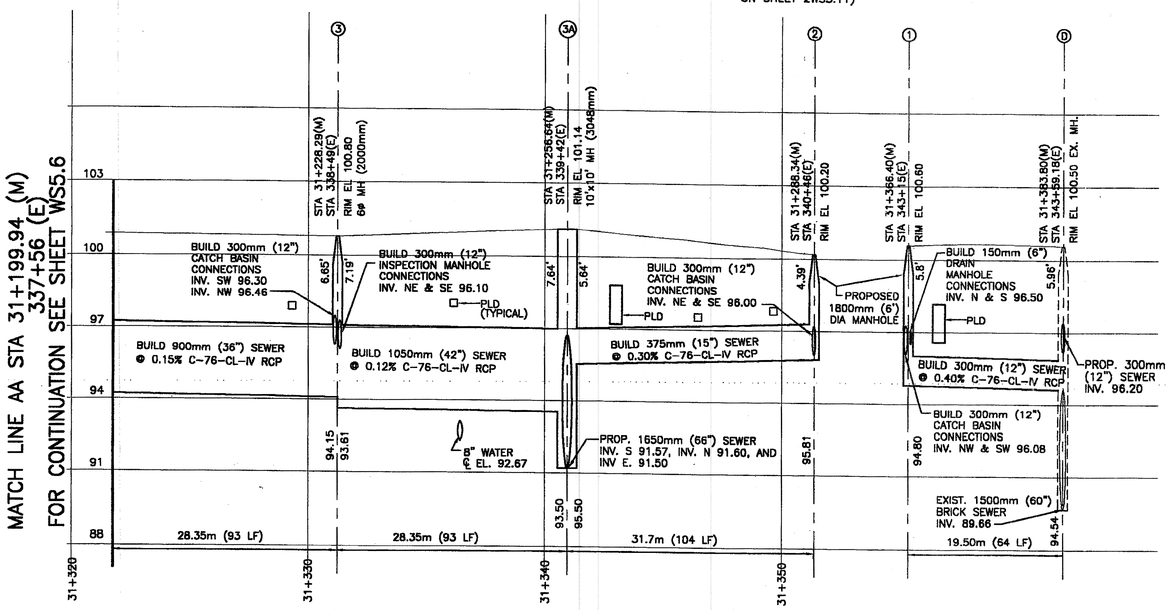
UTILITIES PLAN

BEI Project No.: 99074

Scale: 1"=30'0"
Date: 5/31/00
Drawn: R.JOHNSON
Checked: H.B.SINGH
Arch./Engr.: H.JOUBAI
Approved: R.VIJAYENDRAN
Drawing No.: 2WS5.6
Metco Job No. 9912



CONSTRUCTED AS NOTED
SIGNATURE
1-23-06
DATE



STORM SEWER PROFILE
SCALE: HOR. 1"=30'-0"
VER. 1"= 3'-0"

QUANTITIES

DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH	DESCRIPTION	QUANTITY METRIC	QUANTITY ENGLISH
300mm (12") RCP	125.27m	411 FT	375mm (15") RCP	31.70 m	104 FT
25mm (1") COPPER WATER SERVICE	4.57m	15 FT	900mm (36") RCP	28.35 m	93 FT
300mm (12") DIP	193.55m	635 FT	1050mm (42") RCP	28.35 m	93 FT
300mm (12") 11 1/4° BEND	2	2	300mm x 200mm (12"x 8") TEE	2	2
200mm (8") DIP	34.14m	112.0 FT	1200mm (4') MH	8	8
150mm (6") DIP	5.18m	17 FT	CATCH BASIN SPECIAL "Y"	6	6
NEW HYDRANT INSTALLATION COMPLETE	3	3	CATCH BASIN TYPE 'B' WITH TRAP	1	1
300mm x 200mm (12"x 8") DI CROSS	1	1	200mm (8") DSWD GATE VALVE & WELL	3	3
1800mm (6') MH	2	2	300mm (12") DSWD GATE VALVE & WELL	3	3
CATCH BASIN TYPE 'A'	1	1	200mm (8") PLUG	4	4

WATER MAIN CONSTRUCTION NOTES

- (IS1) INSTALL 25mm (1") COPPER WATER SERVICE
- (IWT) INSTALL 300mm (12") DUCTILE IRON WATER MAIN
- (IBT12) INSTALL 12"– 90° BEND
- (IBTE) INSTALL 12"– 11 1/4° BEND
- (IW8) INSTALL 200mm (8") DUCTILE IRON WATER MAIN.
- (IH) INSTALL HYDRANT
- (ICTB) INSTALL 300mm x 200mm (12"x8") DUCTILE IRON CROSS
- (ITT8) INSTALL 300mm x 200mm (12"x8") TEE
- (IP8) INSTALL 200mm (8") PLUG AND THRUST BLOCK
- (IGT) INSTALL 300mm (12") DWSD GATE VALVE AND CONSTRUCT/FURNISH AND INSTALL WELL AS DIRECTED BY THE ENGINEER.
- (IGB) INSTALL 200mm (8") DWSD GATE VALVES AND CONSTRUCT/ FURNISH AND INSTALL WELL AS DIRECTED BY THE ENGINEER
- (IRT10) INSTALL 300mm x 250mm (12"x10") REDUCER

NOTES:

1. ALL CATCH BASINS SHALL BE CONSTRUCTED WITH 18" SUMP.
2. SEE CATCH BASIN TYPE 'A' AND 'B' DETAIL ON SHEET NO. 4CR10.1 AND SPECIAL 'Y' CATCH BASIN ON SHEET 4CR10.2
3. SEE GENERAL NOTES ON SHEET 4CR0.2
4. SEE SEWER CROSSING DETAIL FOR WATER MAINS ON SHEET WS5.8.
5. PROVIDE 12" DI CL 56 FLANGED PIPE AND INSTALL BLIND FLANGES AT BOTH ENDS.
6. ALL DRIP IRRIGATION DRAIN MANHOLES SHALL HAVE A 2'–0" DEEP SUMP.
7. USE 150mm (6") D.I. CL 56 PIPE AT 0.50% FOR CONNECTING DRIP IRRIGATION DRAIN MANHOLES.
8. SEE STATIONING OF 1" WATER SERVICE AND METER PIT ON SHEET 3LS3.6 AND 3LS3.7
9. REFER TO SHEET WS5.9 FOR PROFILE OF SEWERS NOT SHOWN ON THIS SHEET.
10. INVERT ELEVATIONS OF EXISTING UTILITIES WERE OBTAINED BY SITE SURVEY.
11. MANHOLES (3B) (3C) AND IRRIGATION DRAIN ARE LOCATED 2.13M (7') FROM CORRESPONDING RIGHT OF WAY.
12. MANHOLES (1A) AND (1B) ARE LOCATED 3.35m (11') FROM CORRESPONDING RIGHT OF WAY
13. REFER TO SHEETS 2EL3.1 AND 2EL3.2 FOR DETAIL PLAN OF ELECTRICAL DUCK BANKS.

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04-17-02 DWSD REVIEW
03-19-02 CEO REVIEW
03-12-02 DWSD REVIEW

DATE	ISSUES/REVISIONS	APPROVAL
02-22-02	DWSD REVIEW	
01-15-02	DWSD REVIEW	
11-30-01	DWSD REVIEW	
08-27-01	DWSD REVIEW	
07-16-01	DWSD REVIEW	
05-08-01	DWSD REVIEW	
02-28-01	DWSD REVIEW	
02-02-01	DWSD REVIEW	
08-11-00	GRADE INSPECTION	
06-28-00	SECOND INTERIM REVIEW	

DWSD SYSTEM ACCEPTANCE
SEE NOTE SHEET WS5.2

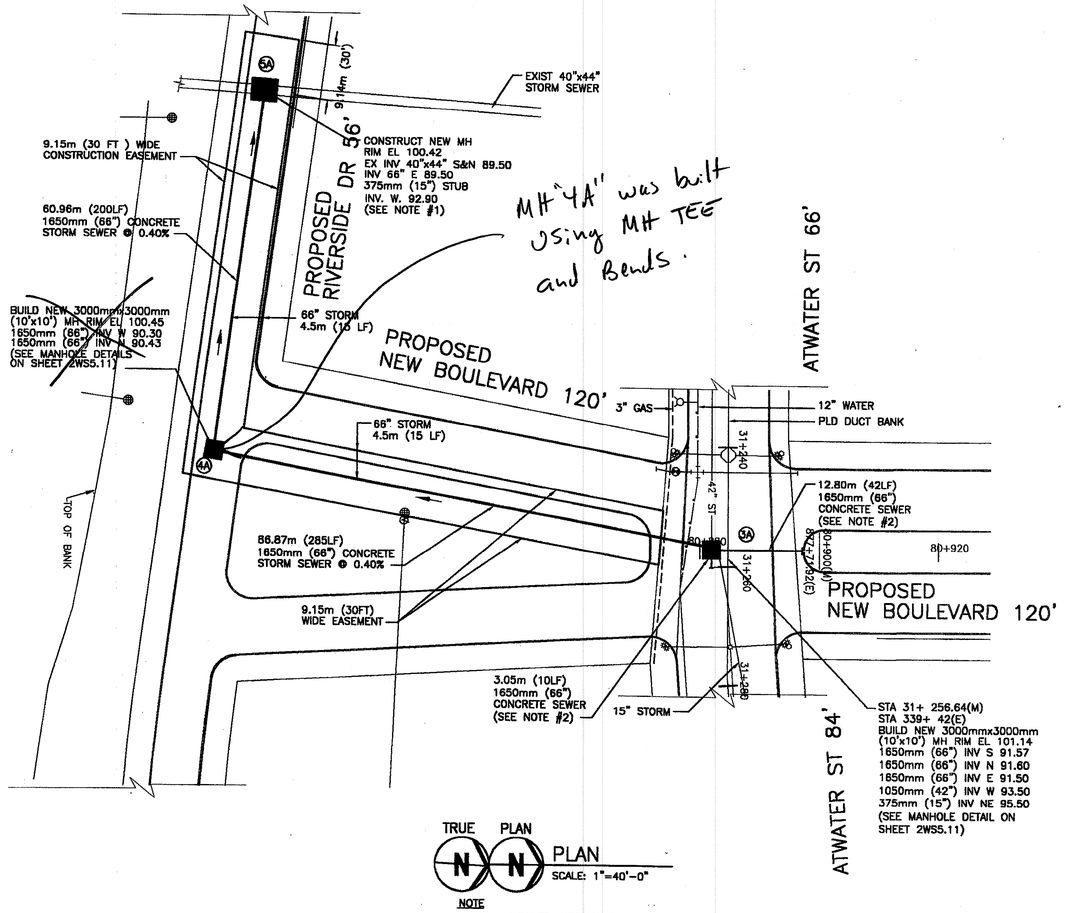
DESIGN REVIEWED:		DATE: 3/21/02
HEAD ENGR. – DES.		3/21/02
CONSTRUCTION INSPECTED:		
HEAD ENGR. – FLD.		
PERMIT NO.	LS #	
MDNR: MDPH	D JOB#	
R/W #	DRWG/REF # SEWER	
	WATER	

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

UTILITIES PLAN

BEI Project No.: 99074	
Scale:	1"=30'-0"
Date:	6/1/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	H. JOUBAI
Approved:	R. VIJAYENDRAN
Drawing No.:	2WS5.7
Metco Job No.	9912

STATE OF MICHIGAN LOUIS P. BENTINE No. 21... REGISTERED ENGINEER



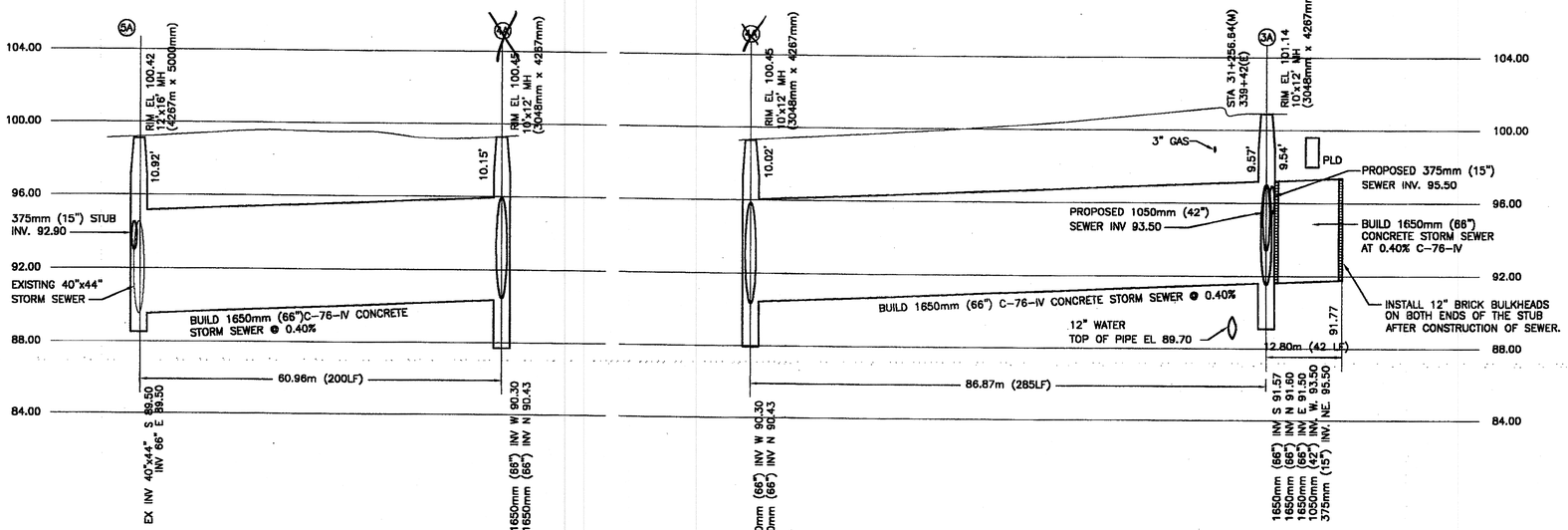
TRUE PLAN

PLAN

SCALE: 1"=40'-0"

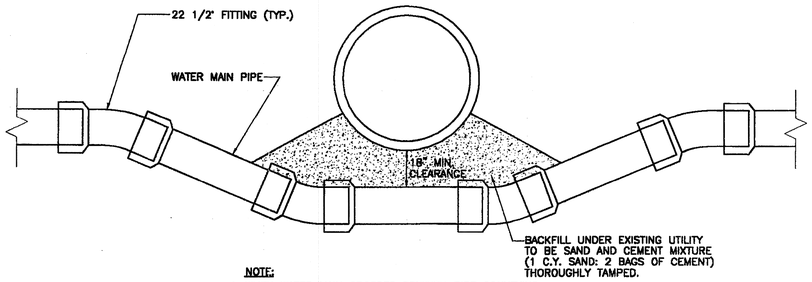
NOTE

SEE DETAILED INFORMATION ON UTILITIES AT ATWATER STREET ON SHEETS 2WS5.6 AND 2WS5.7



PROFILE

SCALE: HOR. 1"= 40'-0"
VERT. 1"= 4'



NOTE:

1. WHEN WATER MAIN CROSSES BENEATH PIPE CONVEYING SEWAGE, WATER MAIN SHALL BE ENCASED IN CONCRETE. (AS PER DWSD'S STANDARD ENCASEMENT DETAIL FOR WATER). ENCASEMENT ALONG WATERMAIN SHALL BE TO A POINT 3 FEET FROM EACH SIDE OF THE OUTSIDE WALL OF UTILITY BEING CROSSED. CONCRETE USED SHALL BE 3500 P.S.I. AND POURED AGAINST UNDISTURBED EARTH.
2. INSTALL THRUST BLOCKS AS PER DWSD'S STANDARD DETAIL.

UTILITY CROSSING

NOT TO SCALE

CONSTRUCTED AS NOTED

SIGNATURE

1-23-06

DATE

NOTES:

1. MANHOLES (5A) & (X) SHALL BE CONSTRUCTED OVER EXISTING 40"x44" SEWER. SEE DETAILS ON DRAWING 2WS5.10
2. INSTALL 12" BRICK BULKHEADS ON BOTH ENDS OF THE STUB AFTER CONSTRUCTION OF SEWER.
3. CONTRACTOR SHALL DEWATER THE 40"x44" DIA. SEWER BEFORE MAKING THE SAW CUT. CONTRACTOR SHALL SUBMIT THE DEWATERING PLAN TO DWSD FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.
4. CONTRACTOR SHALL PROTECT THE 40"x44" DIA. SEWER DURING THE INSTALLATION OF THE 36" SEWER. ANY DAMAGE TO THIS SEWER SHALL BE REPAIRED TO THE SATISFACTION AND AS DIRECTED BY DWSD.
5. CONTRACTOR SHALL MAINTAIN FLOW IN 40"x44" DIA SEWER DURING CONSTRUCTION OF MANHOLES (5A) & (X). BYPASS PLAN SHALL BE SUBMITTED TO DWSD FOR REVIEW AND APPROVAL BEFORE STARTING THE CONSTRUCTION OF MANHOLES (5A) & (X) .
6. MANHOLES (3A) AND (4A) ARE PRECAST STRUCTURES AS MANUFACTURED BY ADVANCE CONCRETE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THESE MANHOLES FOR REVIEW AND APPROVAL. MANHOLES (3A) AND (4A) SHALL BE DESIGNED IN ACCORDANCE WITH THE SIZE AND SHAPE OF EXISTING SEWER.
7. CONTRACTOR TO VERIFY THE SIZE, SHAPE AND INVERT OF EXISTING 40"x44" SEWER IN VACATED SCHWEIZER PLACE PRIOR TO CONSTRUCTION OF THE BYPASS SEWER AND MANHOLES. ANY NECESSARY REVISIONS TO THE PROPOSED BYPASS SEWER AND MANHOLES SHALL BE SUBMITTED TO DWSD FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.
8. ALL MATERIAL USED FOR BUILDING SEWERS AND MANHOLES SHALL BE OBTAINED FROM SUPPLIERS/ MANUFACTURERS APPROVED BY DWSD.

QUANTITIES		
DESCRIPTION	QUANTITY	
	METRIC	ENGLISH
3000mmx3000mm (10'x10') PRECAST MANHOLE	2	2
1650mm (66") STORM SEWER	163.67 m	537 FT

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03-12-02	DWSD REVIEW	
02-22-02	DWSD REVIEW	
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8-27-01	DWSD REVIEW	
7-16-01	DWSD REVIEW	
02-02-01	DWSD REVIEW	

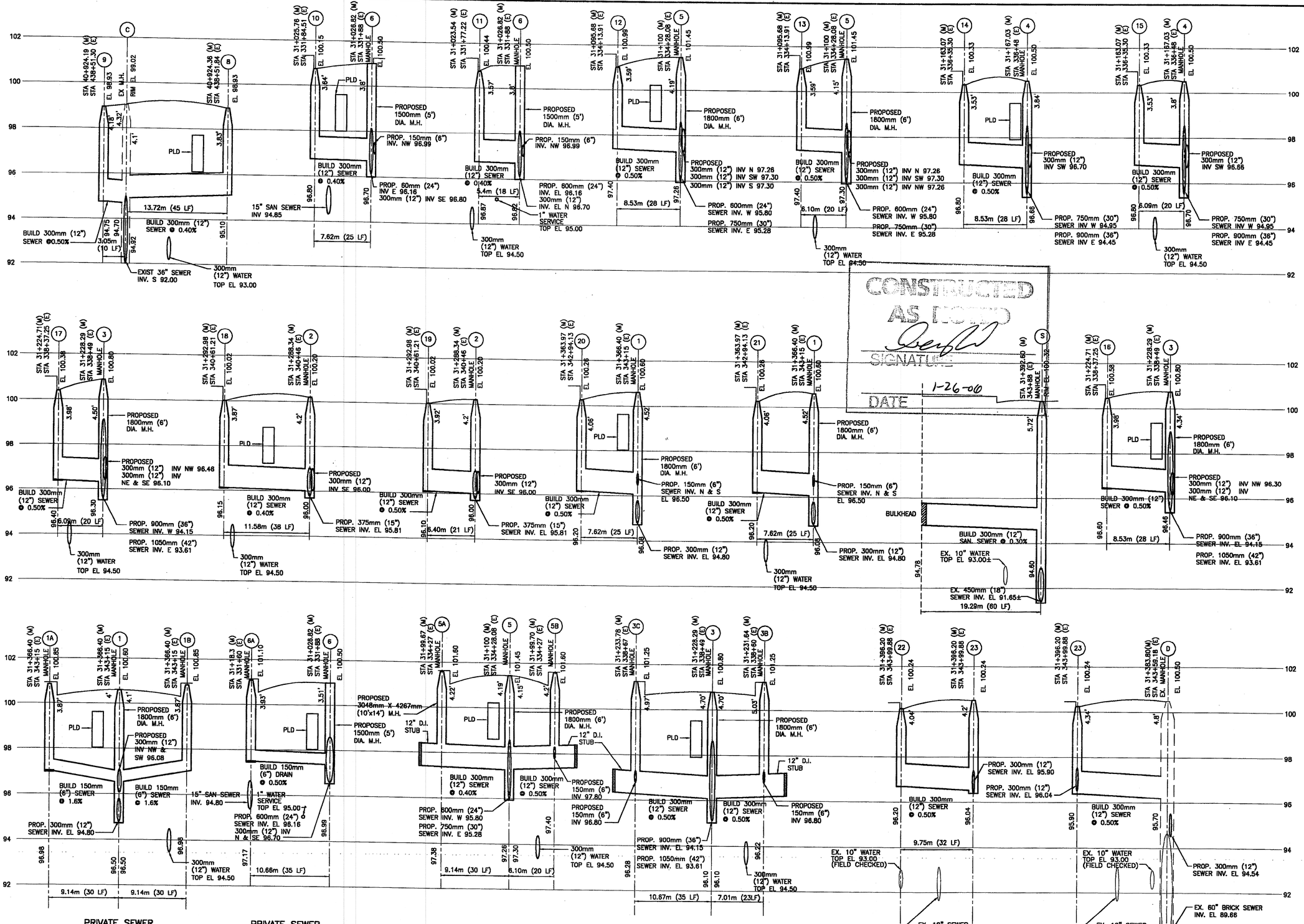
DWSD SYSTEM ACCEPTANCE
SEE NOTE SHEET WS5.2

DESIGN REVIEWED:		DATE: 3/21/02
HEAD ENGR. - DES.		3/21/02
CONSTRUCTION INSPECTED:		
HEAD ENGR. - FLD.		
PERMIT NO.	LS #	
MDNR	D JOB#	
MDPH		
R/W #	DRWG/REF # SEWER	
	WATER	

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

66" STORM SEWER PLAN AND PROFILE

BEI Project No.: 99074	
Scale:	1"=40'-0"
Date:	2/29/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	H. JOUBA
Approved:	R. VIJAYENDRAN
Drawing No.:	2WS5.8
Metco Job No.	9912



CONSTRUCTED AS BUILT
SIGNATURE
DATE 1-26-06

ATWATER PROFILES

SCALE: HORZ. 1"=20'-0"
VERT. 1"=2'-0"

NOTE:

1. ALL CATCH BASINS ARE SPECIAL 'Y', EXCEPT #23 CATCH BASIN 'B' WITH TRAP AND #22 CATCH BASIN 'A'.
2. ALL STRUCTURES ARE CATCH BASINS UNLESS INDICATED OTHERWISE.
3. CONCRETE ENCASE ALL WATER MAINS THAT ARE BENEATH SEWERS.

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05-08-01	DWSD REVIEW	
02-28-01	DWSD REVIEW	
02-02-01	DWSD REVIEW	

DWSD SYSTEM ACCEPTANCE
SEE NOTE SHEET WS5.2

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MDPH	
R/W #	DRWG/REF # SEWER
	WATER

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

STORM SEWER PROFILE

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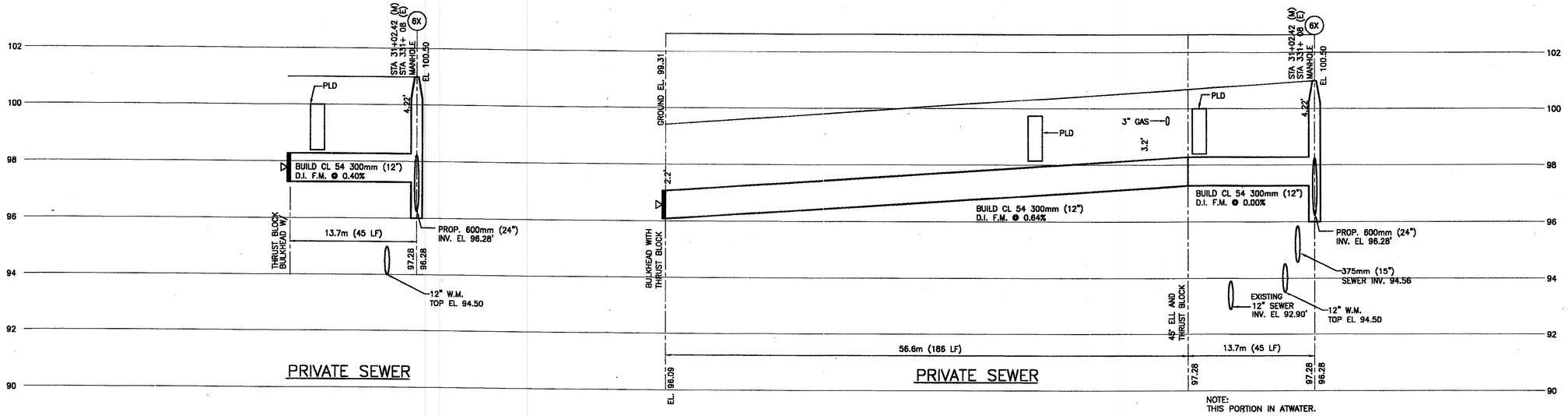
	Arch./Engr.:
	Approved: R. VIJAYENDRAN
	Drawing No.: 2WS5.9
	Metco Job No. 9912



ST. ANTOINE PROFILES

SCALE: HORZ. 1"=20'-0"
VERT. 1"=2'-0"

CONSTRUCTED
PER PLAN
SIGNATURE
1-23-06
DATE

NOTE:

1. ALL CATCH BASINS ARE SPECIAL 'Y', EXCEPT #23 CATCH BASIN 'B' WITH TRAP AND #22 CATCH BASIN 'A'.
2. ALL STRUCTURES ARE CATCH BASINS UNLESS INDICATED OTHERWISE.
3. CONCRETE ENCASE ALL WATER MAINS THAT ARE BENEATH SEWERS.

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DATE	ISSUES/REVISIONS	APPROVAL
04-17-02	BIDS	
03-19-02	GED REVIEW	
03-12-02	DWSD REVIEW	
02-22-02	DWSD REVIEW	
01-15-01	DWSD REVIEW	

DWSD SYSTEM ACCEPTANCE
SEE NOTE SHEET WS5.2

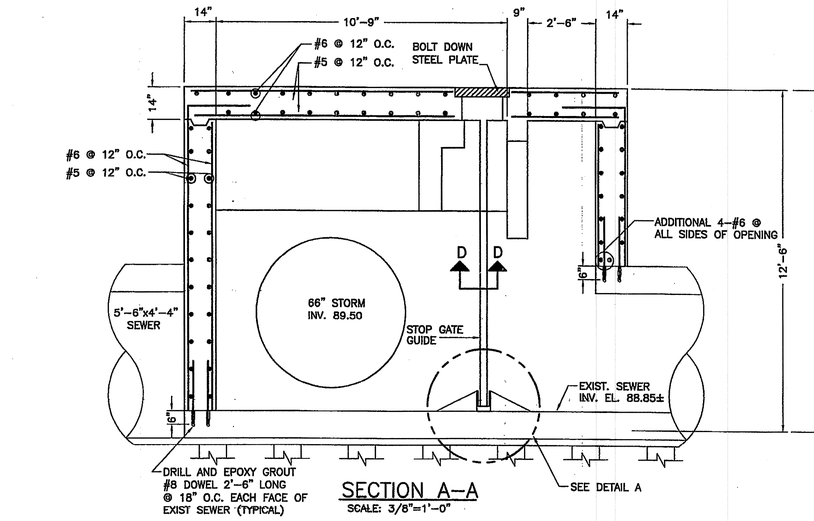
DESIGN REVIEWED:	DATE: 2/21/02
HEAD ENGR. - DES.	3/21/02
CONSTRUCTION INSPECTED:	
HEAD ENGR. - FLD.	
PERMIT NO.	LS #
MDNR / MDPH	O JOB#
R/W #	DRWG/REF # SEWER / WATER

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

STORM SEWER PROFILE

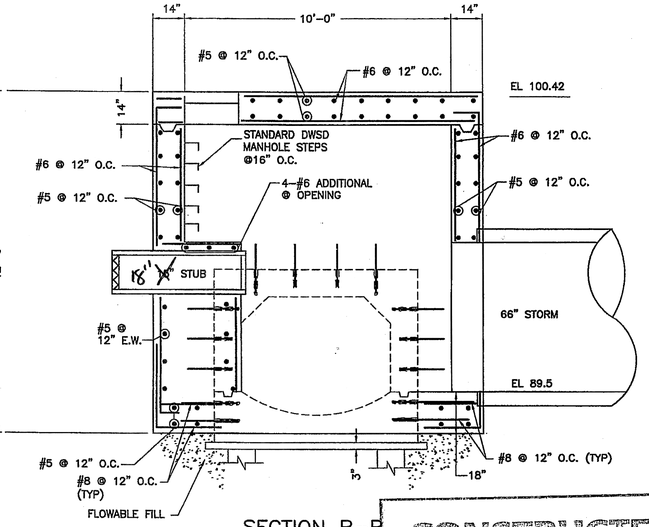
BEI Project No.: 99074	Scale: 1"=40'-0"
	Date: 1/19/2001
	Drawn: R. JOHNSON
	Checked: H.B. SINGH
	Arch./Engr.:
	Approved: R. VIJAYENDRAN
	Drawing No.: 2WS5.9A
	Metco Job No. 9912

SEAL: REGISTERED PROFESSIONAL ENGINEER



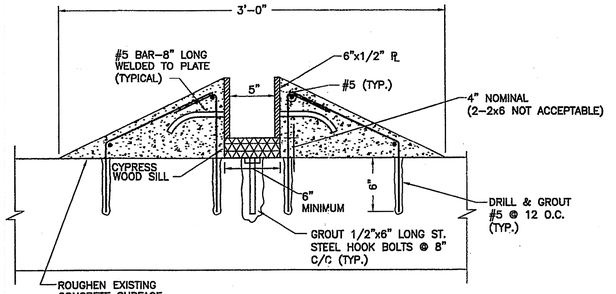
SECTION A-A

SCALE: 3/8"=1'-0"



SECTION B-B

SCALE: 3/8"=1'-0"



DETAIL A

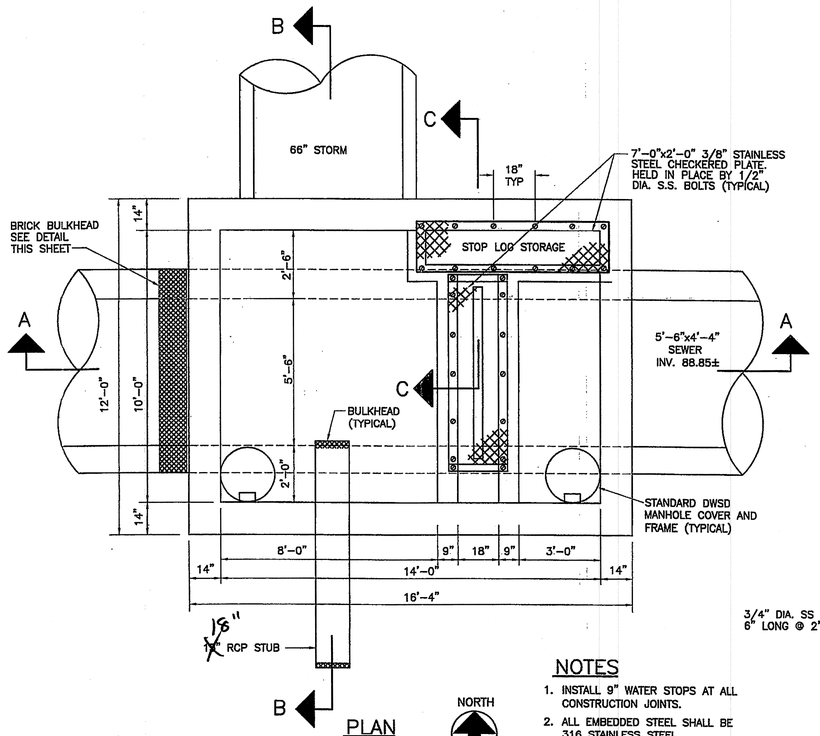
SCALE: 1-1/2"=1'-0"

CONSTRUCTED AS NOTED

SIGNATURE

1-23-06

DATE



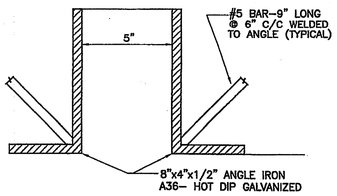
PLAN

SCALE: 3/8"=1'-0"

MANHOLE (5A)

NOTES

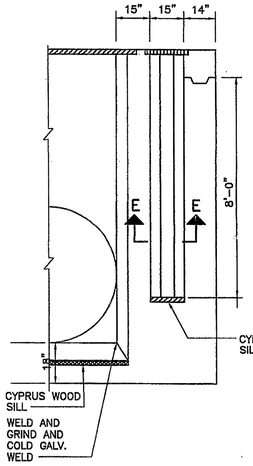
1. INSTALL 9" WATER STOPS AT ALL CONSTRUCTION JOINTS.
2. ALL EMBEDDED STEEL SHALL BE 316 STAINLESS STEEL.
3. MANHOLE SHALL BE CAST-IN PLACE.
4. ALL REINFORCEMENT SHALL HAVE A CONCRETE COVER OF 1 1/2".



SECTION D-D

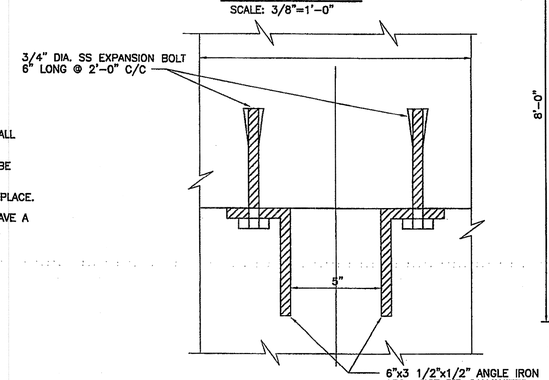
SCALE: 3"=1'-0"

STEEL STOP GATE PAINT SCHEDULE			
	NO. OF COATS	THICKNESS	PAINT TYPE
PRIMER SHOP COAT	1	3 MILS	ORGANIC ZINC
INTERMEDIATE	1	4 MILS	VINYL ACRYLIC
FINISH	1	6 MILS	VINYL



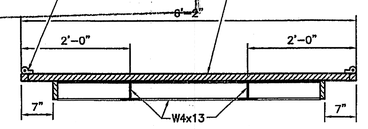
SECTION C-C

SCALE: 3/8"=1'-0"

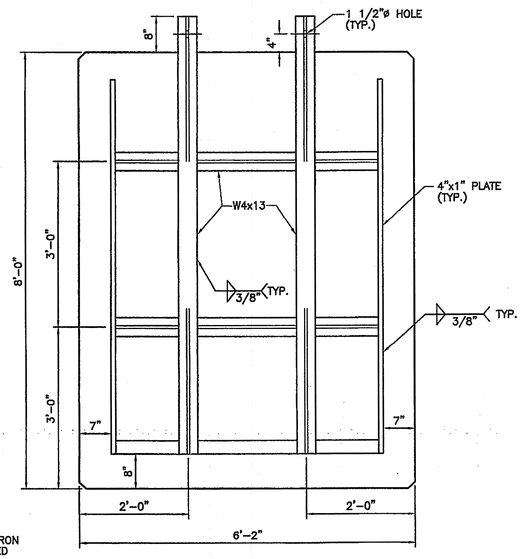


SECTION E-E

SCALE: 3"=1'-0"



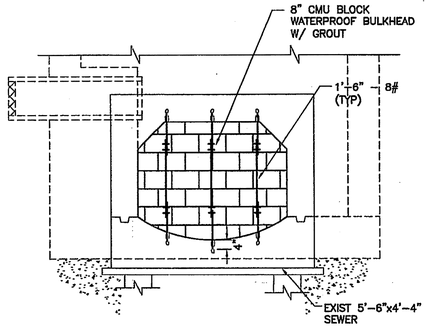
PLAN



ELEVATION

STEEL STOP GATE

SCALE: 3/4" = 1'-0"



BULKHEAD DETAIL

SCALE: 3/8"=1'-0"

NOTE:

BULKHEAD TO BE INSTALLED AFTER CSO SEWER WORK IS COMPLETE.

DETROIT
WATER AND SEWERAGE DEPARTMENT
SEWER FACILITIES ONLY

Date: 10-31-02 By: M. Kubien
Approved for: Revised MH 5A of drawing
Connection to: 2WS 5.10 revised on 10-014-02
Pipe Class:
☐ C-700 or ☐ C-76-CI III or ☐ Cast Iron
☐ Resident Inspector Deposit.....
☐ Sewer Assessment Due.....
Remarks.....
Remarks: ~~Construction is not to~~ begin in MH 5A until:

① Contractor shall dewater the sewer before making the saw cut. Contractor shall submit the dewatering plan to DWSD for review and approval prior to start of construction.

② Contractor shall maintain flow in the sewer during construction of manhole 5A. Bypass plan shall be submitted to DWSD for review and approval befor starting the construction of manhole 5A.

Contractor has to obtain special discharge permit for dewatering from DWSD's Industrial waste division.

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DATE	ISSUES/REVISIONS	APPROVAL
10-14-02	RFI #26	
3-19-02	C.E.D. REVIEW	
02-22-02	DWSD REVIEW	
08-27-01	DWSD REVIEW	
07-16-01	DWSD REVIEW	
02-28-01	DWSD REVIEW	

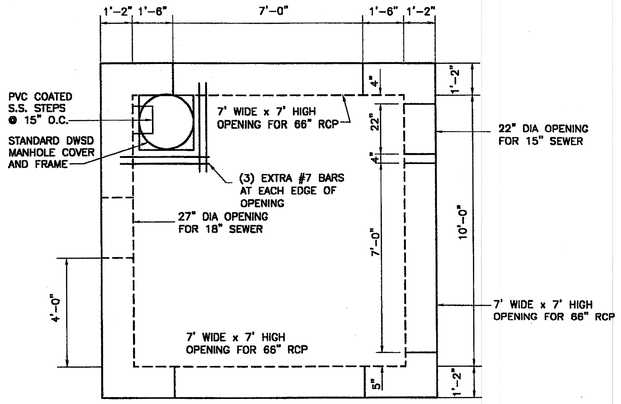
RIVER EAST INFRASTRUCTURE IMPROVEMENTS

STOPGATE MANHOLE DETAILS (MANHOLE (5A))

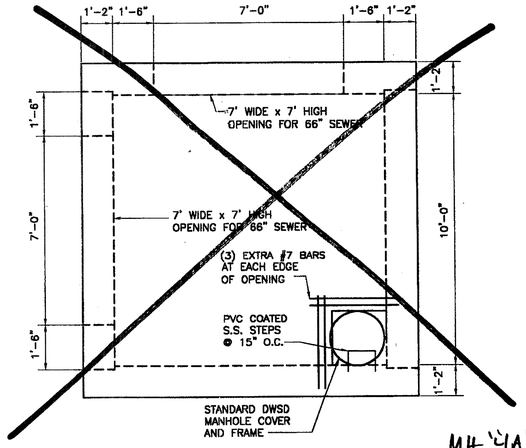
BEI Project No.: 99074

SEAL: STATE OF MICHIGAN LOUIS P. CELMINS No. 21739 REGISTERED PROFESSIONAL ENGINEER

Scale:	3/8"=1'-0"
Date:	2/29/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	
Approved:	R. VIJAYENDRAN
Drawing No.:	2WS 5.10
Metco Job No.	9912

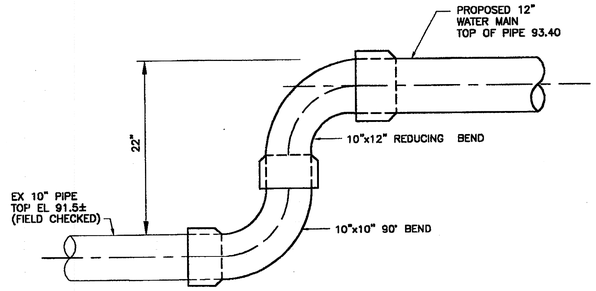


PLAN
SCALE: 3/8"=1'-0"
NORTH



PLAN
SCALE: 3/8"=1'-0"
NORTH

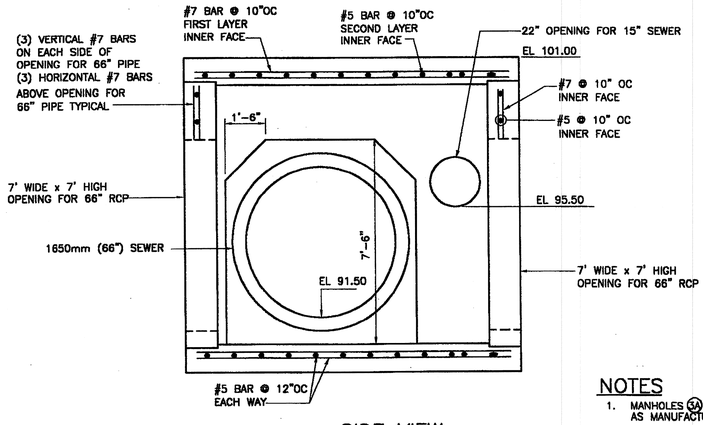
MH "4A" Changed to MH TEE and Bends.



WATER MAIN CONNECTION DETAIL

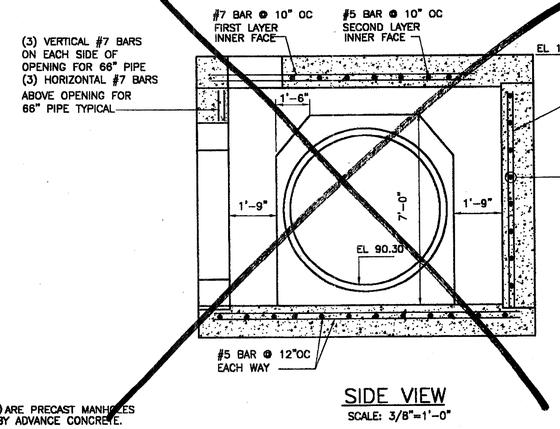
NOT TO SCALE
(SEE PLAN AND NOTES ON SHEET 2WS 5.6)

NOTE: ROTATE THE BENDS AS NECESSARY TO MATCH THE EXISITNG AND PRPOSED WATERMAIN



SIDE VIEW
SCALE: 3/8"=1'-0"

MANHOLE (3A)

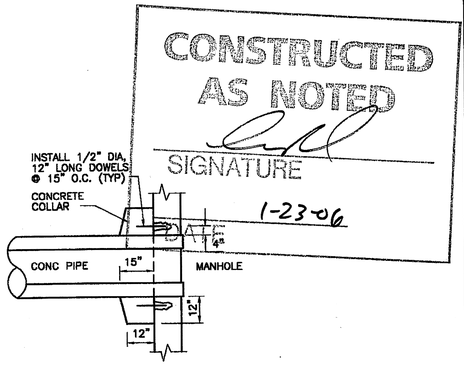


SIDE VIEW
SCALE: 3/8"=1'-0"

MANHOLE (4A)

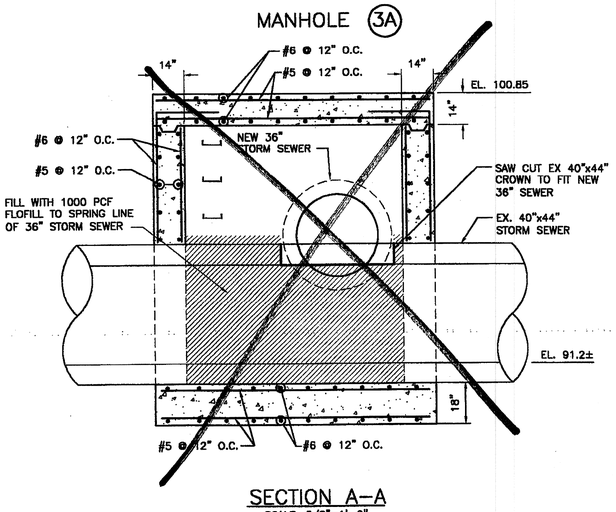
NOTES

1. MANHOLES (3A) AND (4A) ARE PRECAST MANHOLES AS MANUFACTURED BY ADVANCE CONCRETE.



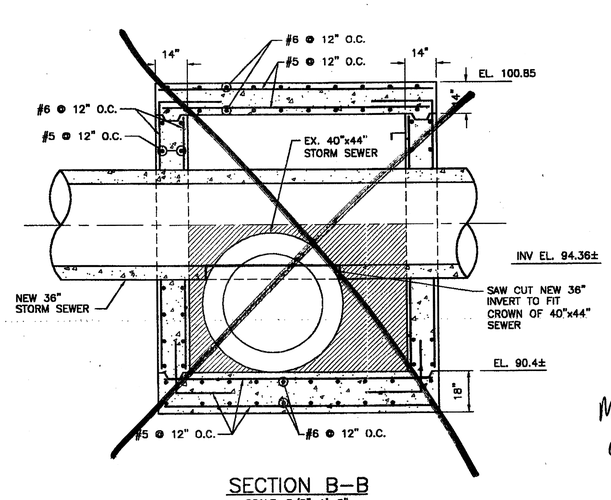
PIPE INSTALLATION DETAIL (15" SEWER)

SCALE: 3/8"=1'-0"



SECTION A–A
SCALE: 3/8"=1'-0"

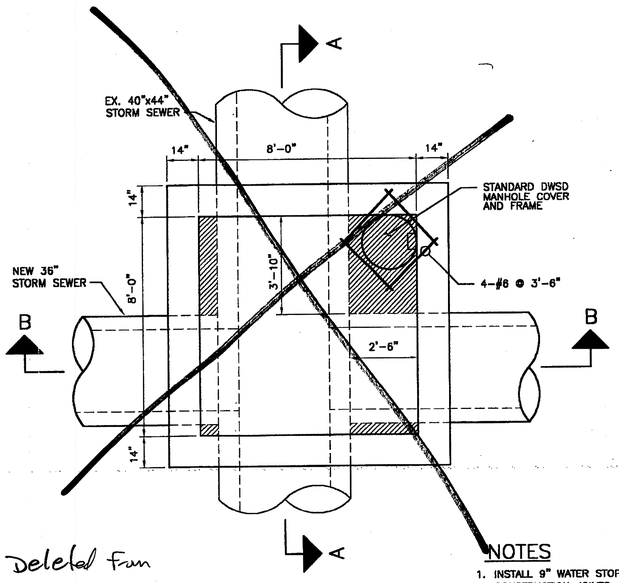
MANHOLE (X)



SECTION B–B
SCALE: 3/8"=1'-0"

MANHOLE (X)

MH X Deleted from Contract.



PLAN
SCALE: 3/8"=1'-0"
NORTH

MANHOLE (X)

NOTES

1. INSTALL 9" WATER STOPS AT ALL CONSTRUCTION JOINTS.
2. ALL EMBEDDED STEEL SHALL BE 316 STAINLESS STEEL.
3. ALL REINFORCEMENT SHALL HAVE A CONCRETE COVER OF 1 1/2".

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SIGNATURE
DATE 1-23-06

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03-19-02	CED REVIEW	
03-12-02	DWSD REVIEW	
02-22-02	DWSD REVIEW	
11-27-01	DWSD REVIEW	
08-27-01	DWSD REVIEW	
07-16-01	DWSD REVIEW	
05-08-01	DWSD REVIEW	

RIVER EAST INFRASTRUCTURE IMPROVEMENTS

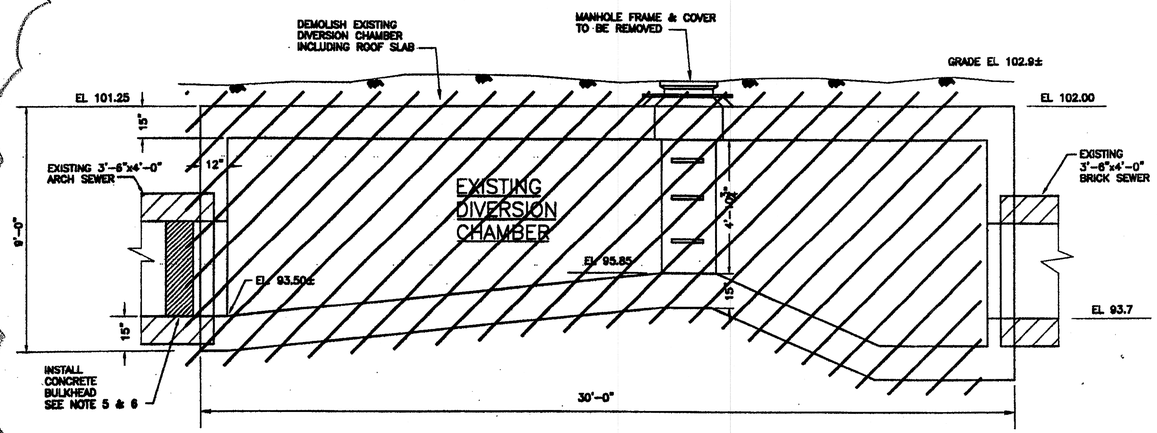
MISCELLANEOUS DETAILS

BEI Project No.: 99074

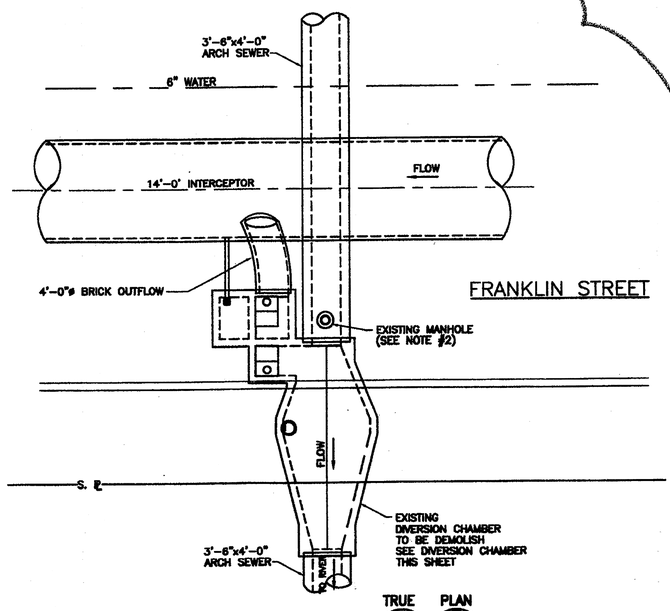
Scale:	3/8"=1'-0"
Date:	2/29/00
Drawn:	R. JOHNSON
Checked:	H.B. SINGH
Arch./Engr.:	
Approved:	R. VIJAYENDRAN
Drawing No.:	2WS 5.11
Metco Job No.	9912

SEAL: STATE OF MICHIGAN LOUIS R CONTINI ENGINEER 21799 LICENSED PROFESSIONAL

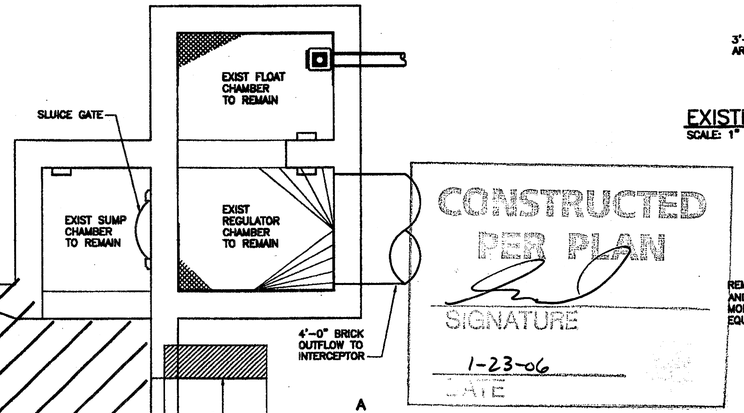
Z:\9912\2WS5-11.dwg Thu Mar 07 12:32:35 2002

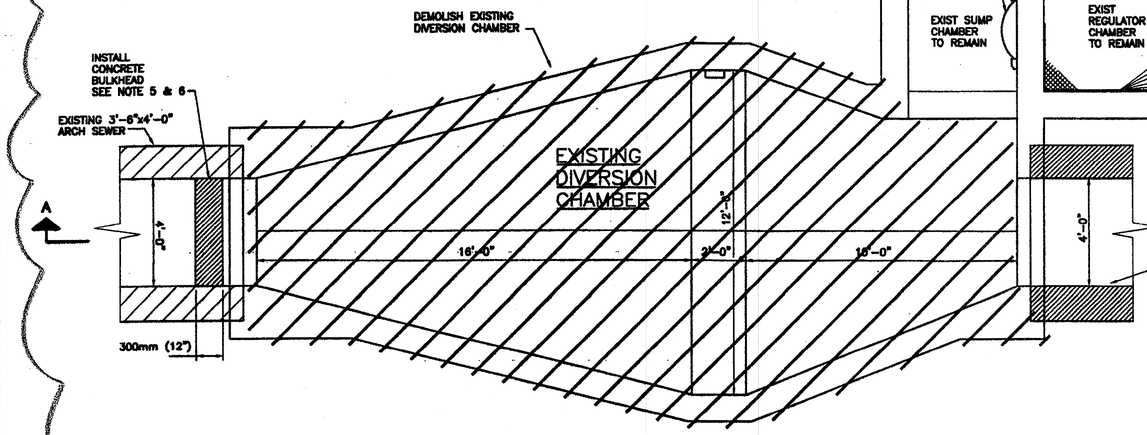


SECTION A-A
SCALE: 3/8"=1'-0"



EXISTING SITE PLAN
SCALE: 1" = 10'-0"





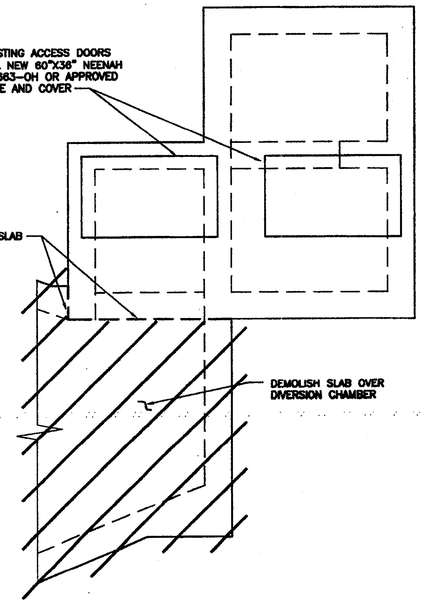
DIVERSION CHAMBER PLAN
SCALE: 3/8"=1'-0"

TRUE PLAN N N

NOTES

1. PROPOSED 66" SEWER SHALL BE OPERATIONAL BEFORE THE DEMOLITION OF THE EXISTING DIVERSION CHAMBER. REFER TO SUGGESTED CONSTRUCTION SEQUENCE ON 2WS5.13.
2. CONTRACTOR SHALL INSTALL PUMPS AT EXISTING MANHOLE TO ENSURE THAT THE DRY WEATHER FLOW OF UPSTREAM SEWER DISCHARGES INTO THE 14'-0"INTERCEPTOR. THROUGH THE REGULATOR CHAMBER.
3. CONTRACTOR SHALL SUBMIT, FOR REVIEW AND APPROVAL. A COMPLETE BYPASS FLOW PLAN FOR DRY AND WET WEATHER FLOWS. MAXIMUM CARRYING CAPACITY OF UPSTREAM SEWER IS 180CFS. *
4. BYPASS WILL NOT BE PERMITTED PRIOR TO OBTAINING PERMIT.
5. THE BYPASS SHALL BE IN OPERATION 24 HOURS A DAY, 7 DAYS A WEEK DURING THE DEMOLITION AND CONSTRUCTION OF THE DIVERSION CHAMBER.
6. CONCRETE BULKHEAD SHALL BE INSTALLED IN EXIST 3'-6"x4'-0" ARCH SEWER AFTER THE PROPOSED 66" SEWER IS OPERATIONAL AND THE STANDING WATER HAS BEEN PUMPED OUT. SEE SHEET 2WS5.13 FOR SUGGESTED CONSTRUCTION SEQUENCING.
7. WATER PUMPED OUT FROM THE EXISTING SEWER SHALL BE DISCHARGED AS DIRECTED BY DWSD. SPECIAL DISCHARGE PERMIT IS REQUIRED. CONTACT DWSD INDUSTRIAL WASTE DIVISION.
8. SALVAGE EXISTING BARS AS SHOWN ON DWG. 2WS5.13.
9. THE MEANS AND METHODS OF THE BYPASS PUMPING ARE TO BE SUBMITTED BY THE CONTRACTOR. THE CONTRACTOR SHALL OBTAIN A SPECIAL DISCHARGE PERMIT THROUGH DWSD INDUSTRIAL WASTE DIVISION. EXISTING FLOW HAS BEEN INDICATED IN NOTE #3 AND THE CONTRACTOR SHALL PROVIDE PUMPS TO ACCOMMODATE THE EXISTING FLOW.

* THE BYPASS SYSTEM WILL HAVE A BACKUP PUMP INCLUDED TO INSURE CONTINOUS OPERATION.



PARTIAL ROOF PLAN
SCALE: 3/8"=1'-0"

TRUE PLAN N N

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05-16-03	BULLETIN NO. 3	
04-28-03	DWSD REVIEW	
04-17-03	DWSD REVIEW	
08-22-02	DWSD REVIEW	

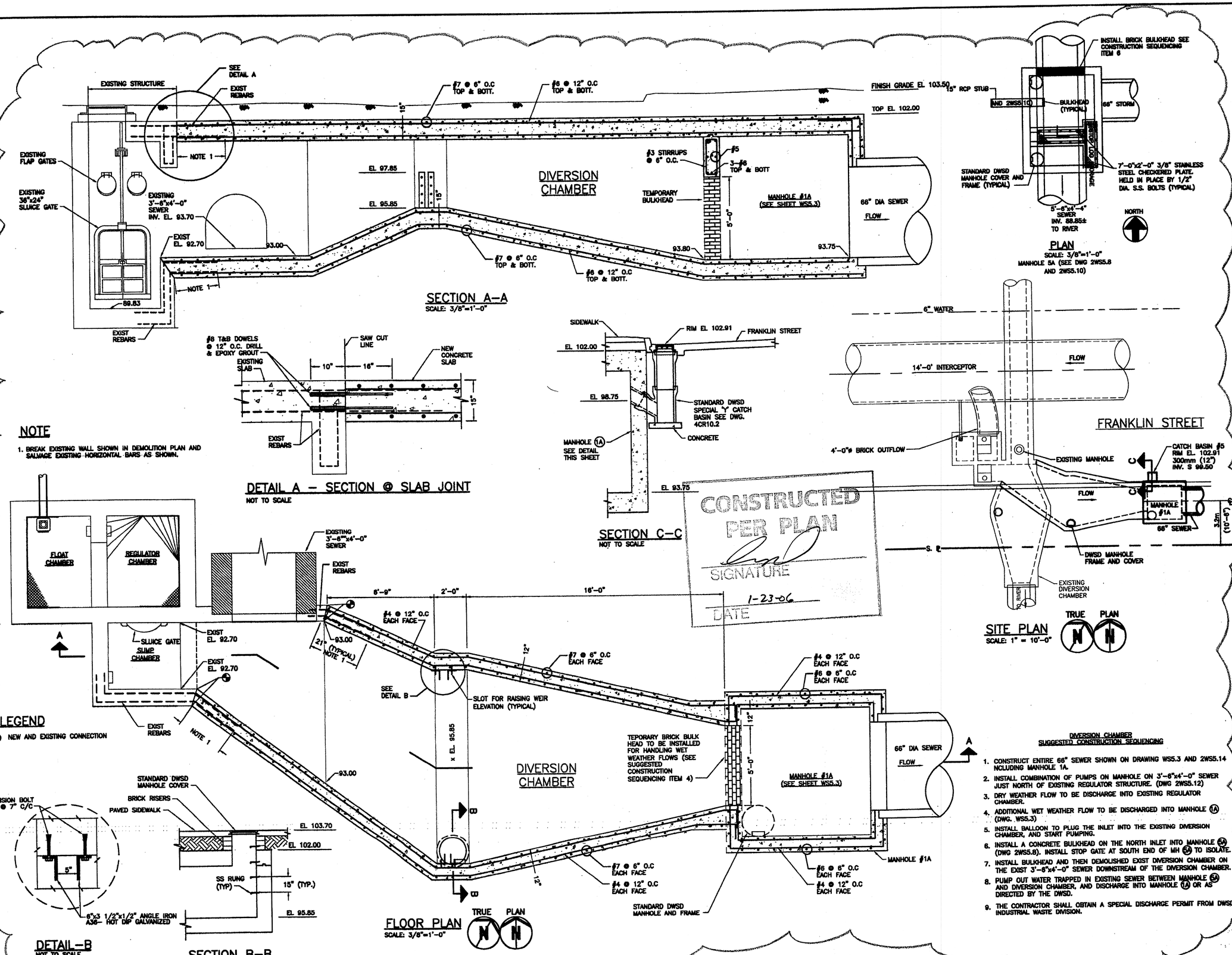
RIVER EAST INFRASTRUCTURE IMPROVEMENTS

SCHWEIZER PLACE REGULATION CHAMBER DEMOLITION

BEI Project No.: 99074

Scale: AS NOTED
Date: 8/26/02
Drawn:
Checked: R. CONTI
Arch./Engr.:
Approved: R. CONTI
Drawing No.: 2WS 5.12
Metco Job No. 0202

STATE OF MICHIGAN LOUIS R CONTI No. 21736 PROFESSIONAL ENGINEER



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DATE	ISSUES/REMARKS	APPROVAL
05-16-02	BULLETIN NO.2	
04-28-03	[illegible]	
04-17-03	[illegible]	
03-28-03	[illegible]	

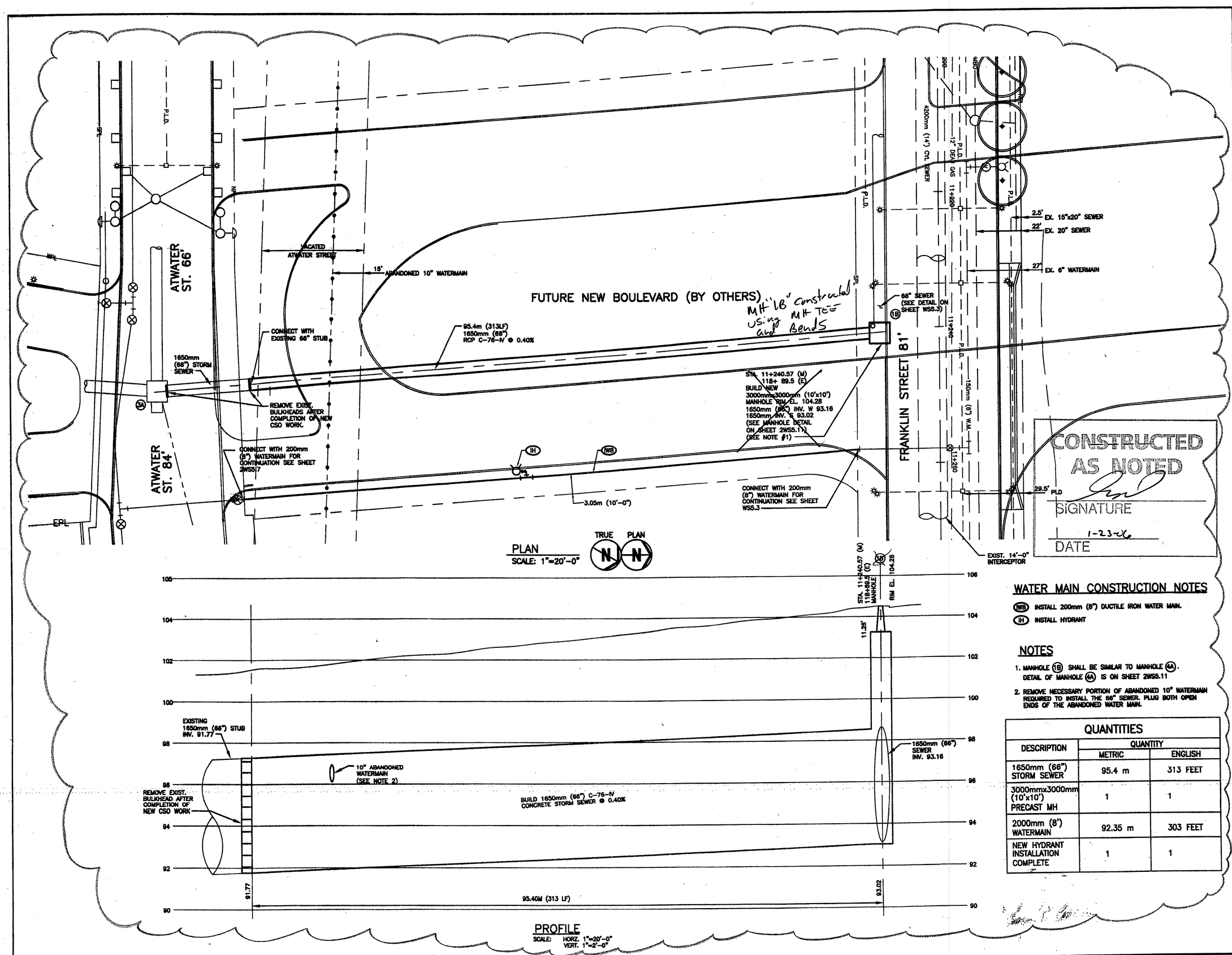
RIVER EAST INFRASTRUCTURE IMPROVEMENTS

SCHWEIZER PLACE DIVERSION CHAMBER

BEI Project No.: 99074

SEAL: STATE OF MICHIGAN LOUIS E. CONTOS ENGINEER 21739 REGISTERED PROFESSIONAL ENGINEER

Scale: AS NOTED
Date: 6/01/02
Drawn: [illegible]
Checked: R. [illegible]
Appvd./Engr.: M.B. [illegible]
Approved: R. [illegible]
Drawing No.: 2WS 5.13
Metco Job No. [illegible]



WATER MAIN CONSTRUCTION NOTES

(IW8) INSTALL 200mm (8") DUCTILE IRON WATER MAIN.

(IH) INSTALL HYDRANT

NOTES

1. MANHOLE (1B) SHALL BE SIMILAR TO MANHOLE (4A). DETAIL OF MANHOLE (4A) IS ON SHEET 2WS5.11
2. REMOVE NECESSARY PORTION OF ABANDONED 10" WATERMAIN REQUIRED TO INSTALL THE 66" SEWER. PLUG BOTH OPEN ENDS OF THE ABANDONED WATER MAIN.

QUANTITIES

DESCRIPTION	QUANTITY	
	METRIC	ENGLISH
1650mm (66") STORM SEWER	95.4 m	313 FEET
3000mmx3000mm (10'x10') PRECAST MH	1	1
2000mm (8") WATERMAIN	92.35 m	303 FEET
NEW HYDRANT INSTALLATION COMPLETE	1	1

CONSTRUCTED AS NOTED

SIGNATURE

1-23-06

DATE

DATE	ISSUES/REVISIONS	APPROVAL
06-16-03	BULLETIN NO.3	
04-28-03	DWD REVISE	
04-17-03	DWD REVISE	
03-28-03	DWD REVISE	

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Chicago, IL 60604

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RIVER EAST INFRASTRUCTURE IMPROVEMENTS

NEW BOULEVARD 66" STORM SEWER

BEI Project No.: 99074

Scale: AS NOTED
Date: 6/21/05
Drawn: CHECKED
Checked: P. MOH
Arch./Engr.: M.S. KHAN
Approved: S. VANDERMEER

Drawing No.: 2WS 5.14

Metco Job No. 6912

STATE OF MICHIGAN LOUIS P. CONTINI ENGINEER PROFESSIONAL ENGINEER

RIVER EAST QUANTITY SHEET

ALTERNATE

ITEMS MI III PARTICIPATING	TOTAL	UNITS	ATWATER	FRANKLIN	RIVARD	STANTOINE
MAINTAINING TRAFFIC	1	LS	0.25	0.25	0.25	0.25
CONTRACTOR STAKING	1	LS	0.25	0.25	0.25	0.25
TREE REMOVAL, 50-200mm	8	EA	2	0	0	6
TREE REMOVAL, 200-450mm	6	EA	2	2	0	2
TREE REMOVAL, 450-900mm	2	EA	0	2	0	0
REMOVE CONCRETE RETAINING WALL (9" THICK 1 MH)	200	m	0	0	0	200
STREET PAVEMENT REMOVAL, REINFORCED	12545	m2	4715	2670	3160	2000
SIDEWALK REMOVAL	3069	m2	426	1436	715	492
SEPERATE TYPE CURB REMOVAL, UNREINFORCED	1089	m	794	30	25	240
FENCE POSTs HEIGHT INDICATED	13	EA	0	13	0	0
FENCE, 50 MM MESH CHAIN LINK	400	m	400	0	0	0
WROUGHT IRON FENCE REMOVAL	345	m	345	0	0	0
MASONARY AND CONCRETE, STRUCTURE, REM	80	m3	20	20	20	20
CHAIN LINK FENCE REMOVAL	77	m	40	37	0	0
SPUR TRACK REMOVAL	50	m	0	0	30	20
REMOVE BUS STOP SHELTER	1	LS	0	1	0	0
CATCH BASIN ABANDONMENT	3	EA	0	3	0	0
EXCAVATION	4015	m3	1511	1440	460	604
SUBGRADE UNDERCUTTING TYPE II	500	m3	100	180	120	100
INTEGRAL CURB AND WALK REMOVAL, 2M-3M WIDTH	40	m	10	10	10	10
SIDEWALK STANDARD 125mm	4893	m2	2374	1436	715	368
SIDEWALK STANDARD 150mm	478	m2	127	157	150	44
DRICEWAY STANDARD 200mm	558	m2	0	304	162	92
EMBANKMENT, CIP	600	m3	150	180	120	150
FILL 22A	5232	m3	1875	1940	700	716
FILL (GRADE A)	1405	m3	994	213	124	71
WATER	100	KL	25	25	25	25
SEWER BULKHEAD, 1650mm	2	EA	0	2	0	0
TRENCH UNDERCUT AND BACKFILL	1245	m3	222	865	44	114
MH, ELEC, REM	29	EA	7	6	9	7
REINFRCED CONCRETE BASE PAVEMENT W/REINCORCED INTEGRAL CURB- 260mm	17165	m2	6150	6365	2300	2350
BITUMINOUS PAVEMENT, 100mm	3543	m2	3543	0	0	0
ADJUSTING WATER SHUTOFF	24	EA	0	12	6	6
CATCH BASIN, ADJUSTMENT	65	EA	3	21	29	12
MANHOLE-RECONSTRUCTION CONE	11	EA	2	4	5	1
CATCH BASIN "A", 1200mm DIA	19	EA	17	2	0	0
CATCH BASIN "B", 1500mm DIA	1	EA	1	0	0	0
MANHOLE STANDARD, 1800mm DIA	3	EA	3	0	0	0
CATCH BASIN TYPE B WITH TRAP (TYPE "BT")	11	EA	7	4	0	0
DR STRUCTURE 2400 x 2400 mm	7	EA	3	1	0	3
DR STRUCTURE 3000 x 3000 mm	2	EA	2	0	0	0
SPECIAL "Y" CATCH BASIN	12	EA	8	4	0	0
SEWER, CL C 76M V, 375mm TRENCH DETAIL B	243	m	143	100	0	0
SEWER, CL C76, 1650mm TRENCH DETAIL B	216.5	m	164	52.5	0	0
SEWER, CL C76, 300mm TRENCH DETAIL B	294	m	204	73	0	17

ALTERNATE

REMOVE HYDRANT-METHOD I	5	EA	2	2	0	1
REMOVE HYDRANT-METHOD II	5	EA	2	2	0	1
PAVEMENT MARKING, EPOXY, THRU ARROW SYMBOL	5	EA	0	4	0	1
PAVEMENT MARKING, EPOXY, LT TURN ARROW SYMBOL	10	EA	2	6	0	2
PAVEMENT MARKING, EPOXY, RT TURN ARROW SYMBOL	8	EA	2	4	0	2
PAVEMENT MARKING, EPOXY, ONLY	14	EA	2	7	0	5
PAVEMENT MARKING, EPOXY, 100mm, WHITE	626	m	180	360	0	86
PAVEMENT MARKING, EPOXY, 100mm, YELLOW	2526	m	1286	687	395	164
PAVEMENT MARKING, EPOXY, 150mm, CROSSWALK	426	m	118	50	135	123
PAVEMENT MARKING, EPOXY, 450mm, STOPBAR	105.5	m	28.5	27	25	25
PAVEMENT MARKING, WATERBORNE, 100mm, YELLOW	4490	m	4490	0	0	0
PAVEMENT MARKING, WATERBORNE, 100mm, BLUE	549	m	549	0	0	0
WASHINGTON STYLE LIGHTING POLE, WITH 175 W METAL HALIDE LUMINAIRE, GLOBE, CONDUITS, FIT UP, WITH CONCRETE BASE	5	EA	0	0	0	5
WASHINGTON STYLE LIGHTING POLE, WITH RECEPTACLE, 175 W METAL HALIDE LUMINAIRE, GLOBE, CONDUITS, FIT UP, WITH CONCRETE BASE	14	EA	14	0	0	0
WOOD POLE, REMOVE AND RELOCATE	2	EA	0	1	1	0
CONDUIT, ENCASED, 1, 77mm	840	m	600	60	60	120
CONDUIT, ENCASED, 4, 102mm	130	m	0	100	0	30
CONDUIT, ENCASED, 6, 102mm	260	m	0	80	180	0
CONDUIT, ENCASED, 2, 127mm	245	m	35	40	140	0
CONDUIT, ENCASED, 9, 127mm	95	m	35	30	30	0
CONDUIT, ENCASED, 12, 127mm	1290	m	400	360	310	220
CONCRETE PAD (FOR TRAFFIC SIGNALS) WITH 50 Kva, 4800V TO 120/240v, SINGLE PHASE, TRANSFORMER, PAD TO INCLUDE CONNECTIONS TO TRANSFORMER SECONDARY CONDUIT CONNECTIONS, AND GROUND RODS PER PLD DRAWING 37-0784	2	EA	1	0	0	1
CONCRETE PAD (FOR STREET LIGHTING) WITH 75 Kva, 4800V TO 240/480v, SINGLE PHASE, TRANSFORMER, PAD TO INCLUDE CONNECTIONS TO TRANSFORMER SECONDARY CONDUIT CONNECTIONS, AND GROUND RODS PER PLD DRAWING 37-0784	1	EA	0	1	0	0
STREET LIGHTING CABLE #2, SINGLE CONDUCTOR 2000 V, COLORED RED, BLACK & WHITE	5900	m	2800	800	1500	800
STREET LIGHTING CONTROL CABINET, NEMA TYPE 3R ENCLOSURE, 400A, 600V, SINGLE PHASE, THREE WIRE, WITH EIGHT 50A DOUBLE POLE BREAKERS	1	EA	0	1	0	0
FIRE HYDRANT	11	EA	8	3	0	0
INSTALL 250 W HIGH PRESSURE SODIUM VAPOR, 120V FIXTURE	4	EA	1	0	3	0
INSTALL CROSSARM, 120"	2	EA	0	0	2	0
INSTALL CROSSARM, 96"	2	EA	0	0	2	0
WATER MAIN, DI, 150mm, (6") DI TR DET G	21	m	5.25	16	0	0
WATER MAIN, DI, 200mm, (8") DI, TR DET G	135	m	94	41	0	0
WATER MAIN, DI, 300mm, (12") DI, TR DET F	624	m	555	0	0	69

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RIVER EAST INFRASTRUCTURE IMPROVEMENTS

QUANTITY SHEET

BEI Project No.: 99074	Scale: NO SCALE
	Date: 07-20-00
	Drawn: S. LINDSAY
SEAL:	Checked: N. MCCLAIN
	Arch./Engr.: N. MCCLAIN
	Approved: B. THOMPSON
	Drawing No.: 4Q1.1
	120 OF 122

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RIVER EAST QUANTITY SHEET

ITEMS	TOTAL	UNITS	ATWATER	FRANKLIN	RIVARD	STANTOIN E
MI III PARTICIPATING						
300mm (12") 11¼° BEND	2	EA	2	0	0	0
300mm (12") 90° BEND	1	EA	1	0	0	0
300mm x 200mm (12" x 8") DIC	2	EA	2	0	0	0
300mm x 300mm (12" x 12") TEE	2	EA	0	0	0	2
300mm x 200mm (12" x 8") TEE	6	EA	6	0	0	0
200mm (8") PLUG	13	EA	10	2	0	1
DWSD GATE VALVE, 200mm (8")	11	EA	10	1	0	0
DWSD GATE VALVE, 300mm (12")	7	EA	7	0	0	0
D.I. 150mm x 200mm TEE	2	EA	0	2	0	0
D.I. 150mm x 150mm TEE	2	EA	0	2	0	0
CONDUIT, REM	1100	m	200	400	500	0
MH, ELEC, TWO WAY	2	EA	0	2	0	0
MH, ELEC, THREE WAY	1	EA	0	1	0	0
MH, ELEC, FOUR WAY	10	EA	3	2	2	3
MH, ELEC, RECONST (RIVARD)	2	EA	0	0	2	0
INSTALL ¼" ARM GUY	1	EA	0	0	1	0
MAKE RIGHT-OF-WAY	2	EA	0	0	2	0
REM 2 #6 O.H. LINES SPANS	2	EA	0	0	2	0
REM CODE 009 POLE	10	EA	0	0	10	0
REM #8 DUPLEX SPANS	8	EA	0	0	8	0
REM DSR STRAIN POLE	2	EA	0	2	0	0
REM WOOD POLE	3	EA	0	3	0	0
STRING 2 #6 O.H. LINES SPANS	5	EA	0	0	5	0
REM 2 I/C #8 7.5KV SERIES CABLE	100	m	0	0	100	0
STREET LIGHTING CABLE #8, 7.5KV, SINGLE CONDUCTOR	200	m	0	0	200	0
CABLE POLE, SERIES ST. LTG., FIT UP	1	EA	0	0	1	0
HH, PLD TYPE D (OVER EXISTING CONDUITS)	1	EA	0	0	1	0
HH, PLD TYPE D	25	EA	9	10	4	2
TREE PLANTER, REM	16	EA	16	0	0	0
4" STEEL POSTS, REM	3	EA	3	0	0	0
GUARD SHACK	3	EA	3	0	0	0
CARD READER	8	EA	8	0	0	0
ARM GATE	8	EA	8	0	0	0
6" STEEL POSTS	32	EA	32	0	0	0
PARKING BUMPERS, REMOVE AND RELOCATE	21	EA	21	0	0	0
SHUTTLE SHELTERS, REMOVE AND RELOCATE	5	EA	5	0	0	0
FENCE, TEMP	457	m	457	0	0	0
12' WIDE SLIDING GATE	2	EA	2	0	0	0
14' WIDE SLIDING GATE	2	EA	2	0	0	0
28' WIDE SLIDING GATE	2	EA	2	0	0	0
4' WIDE PEDESTRIAN GATE	4	EA	4	0	0	0
8' WIDE SWING GATE	2	EA	2	0	0	0
ORNAMENTAL FENCING	457	m	457	0	0	0
ISTEA PARTICIPATING						
FILL (GRADE A)	665	m3	123	268	131	143
SIDEWALK, STANDARD, 125mm	2297	m2	426	929	450	492
SIDEWALK, STANDARD, 150mm	46	m2	0	46	0	0
FRANKINUS AMERICAN 'AUTUMN PURPLE' AUTUMN PURPLE ASH, 100mm CAL	23	EA	0	0	13	10
GINGKO BILOBA - MALE GINGKO, 100mm CAL	53	EA	0	53	0	0
HIGH DENSITY POLYETHELENE PLASTIC PIPE 100mm PERFORATED	64	m	0	42	12	10
HIGH DENSITY POLYETHELENE PLASTIC PIPE W SOCK, 100mm PERFORATED	1199	m	483	477	162	77
CAST IRON TREE GRATE	119	EA	68	28	13	10
TURKISH FILBERT	68	EA	68	0	0	0
PLANTING SOIL, MIX A	172	m3	68	76	13	15
PLANTING SOIL, MIX B	1310	m3	608	493	117	92
LAVA ROCK	19.7	m3	10.6	5	2	2.1
PLANTER FENCING	100	m	0	100	0	0
MULCH	7.5	m3	0	7.5	0	0
COBRA HEAD STYLE LIGHTING POLE, 250 W METAL HALIDE LUMINAIRE, GLOBE, CONDUITS, FIT UP, WITH CONCRETE BASE	18	EA	8	5	3	2
WASHINGTON STYLE LIGHTING POLE, WITH 175 W METAL HALIDE LUMINAIRE, GLOBE, CONDUITS, FIT UP, WITH CONCRETE BASE	51	EA	0	34	9	8
WASHINGTON STYLE LIGHTING POLE, WITH RECEPTACLE, 175 W METAL HALIDE LUMINAIRE, GLOBE, CONDUITS, FIT UP, WITH CONCRETE BASE	30	EA	30	0	0	0
CONDUIT, ENCASED, 1, 77mm	660	m	300	90	90	180
CONDUIT, ENCASED, 2, 77mm	400	m	100	100	100	100
NON-PARTICIPATING						
INSTALL 35 FT., CLASS 4 WOOD POLE	2	EA	0	0	2	0
INSTALL 8 FT. BRACKET ARM	3	EA	0	0	3	0
INSTALL #8 DUPLEX SPAN	110	m	0	0	110	0
TYPE K COPPER IRRIGATION 38mm WATER SERVICE AND STOPS	118	m	60	43	5	10
DRIP ZONE KIT (INCLUDING BALL VALVE, 200 MESH FILTER, CONTROL VALVE, PRESSURE REGULATOR	16	EA	9	3	3	1
STATION CONTROL: RAIN BIRD 12 STATION CONTROLLER ESP-LX SERIES	1	EA	0	0	1	0
STATION CONTROL: RAIN BIRD 6 STATION CONTROLLER ESP-LX SERIES	2	EA	1	1	0	0
STATION CONTROL: RAIN BIRD 4 STATION CONTROLLER ESP-LX SERIES	5	EA	5	0	0	0
SLEEVING; SCHEDULE 80 PVC, 50mm	57	m	0	47	0	0
SLEEVING; SCHEDULE 80 PVC, 75mm	133	m	10	123	0	0
SLEEVING; SCHEDULE 80 PVC, 100mm	8	m	0	0	8	0
WATER METER, 1"	5	EA	3	1	1	0
PRESSURE VACUUM BREAKER, 38mm FEBCO 765 SERIES	8	EA	6	1	1	0
QUICK COUPLER	3	EA	0	3	0	0
CONCRETE PAD (FOR SEASONAL LIGHTING) WITH 75 Kva, 4800V TO 120/240v, SINGLE PHASE, TRANSFORMER. PAD TO INCLUDE CONNECTIONS TO TRANSFORMER SECONDARY CONDUIT CONNECTIONS, AND GROUND RODS PER PLD DRAWING 37-0784	1	EA	1	0	0	0
SEASONAL LIGHTING CONTROL CABINET, NEMA TYPE 3R ENCLOSURE, 400A, 600V, SINGLE PHASE, THREE WIRE, WITH FORTY-TWO 20A SINGLE POLE BREAKERS, WITH CONTRACTOR	1	EA	1	0	0	0
SEWER CLEANOUT - NON PARTICIPATING	780	m	195	195	195	195
MISC. CLEANING DRAINAGE STRUCTURE - NON PARTICIPATING	66	EA	21	9	16	20
WATERING AND CULTIVATING, FIRST SEASON	1	LS	0.25	0.25	0.25	0.25
WATERING AND CULTIVATING, SECOND SEASON	1	LS	0.25	0.25	0.25	0.25
ANTIRRHINUM 'FLORAL CARPET YELLOW' FLORAL CARPET YELLOW SNAPDRAGONS	990	EA	0	990	0	0
HEMEROCALLIS 'STELLA D' ORO' STELLA D' ORO DAYLILIES	270	EA	0	270	0	0
STACHYS BYZANTINA 'HELEN VON STEIN' HELEN VON STEIN LAMB'S EAR	240	EA	0	240	0	0
VIOLA X WITTROCKIANA 'MAXIM BLUE' MAXIM BLUE PANSIES	180	EA	0	180	0	0
MAINLINE; PVC CL 160 38mm	526	m	210	160	60	96
POLY LATERAL NSF 100, 19mm	1263	m	613	438	137	75
SLEEVING; SCHEDULE 40 PVC, 50mm	757	m	420	252	85	0
SLEEVING; SCHEDULE 40 PVC, 75mm	298	m	0	298	0	73
SLEEVING; SCHEDULE 40 PVC, 100mm	278	m	217	61	0	0
INSPECTION PIPE; 200mm	147	EA	68	56	13	10
IRRIGATION; DRIP ZONE, DETAIL 'A'	28	EA	0	28	0	0
IRRIGATION; DRIP ZONE, DETAIL 'B'	119	EA	68	28	13	10

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RIVER EAST INFRASTRUCTURE IMPROVEMENTS

QUANTITY SHEET

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	Drawn:	S. LINDSAY
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	Arch./Engr.:	N. MCCLAIN
	Approved:	B. THOMPSON
	Drawing No.:	4Q1.2
		121 OF 122

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RIVER EAST QUANTITY SHEET

ITEMS MI III PARTICIPATING	TOTAL	UNITS	INTERSECTION FRANKLIN ST. AND RIVARD ST. ATWATER	INTERSECTION ST. ANTOINE ST. AND FRANKLIN ST. FRANKLIN	INTERSECTION ATWATER ST. AND ST. ANTOINE ST. RIVARD	INTERSECTION ST ANTOINE
METERING CABINET PER D.T.E STANDARDS	1	EA	1	0	0	0
LIGHTING CONTACTOR, 60A, 3 POLE, 600V	2	EA	2	0	0	0
45 KVA TRANSFORMAER, DRY TYPE, 480-240/120V, 1ø, INDOOR	1	EA	1	0	0	0
MAIN DISTRIBUTION PANEL, 200A, 600V, 3ø, WITH 6-60A FUSED SWITCHES	1	EA	1	0	0	0
2" CONDUIT, RIGID GALVANIZED STEEL	200	m	200	0	0	0
HH D.T.E. STANDARD	1	EA	1	0	0	0
DEMOLISH EXISTING HIGH MAST LIGHT POLE FOUNDATION	7	EA	7	0	0	0
BUILD NEW HIGH MAST LIGHT POLE FOUNDATION	7	EA	7	0	0	0
1½" CONDUIT, RIGID GALVANIZED STEEL	1350	m	1350	0	0	0
15 KVA TRANSFORMER, DRY TYPE, 480-240/120V, 1ø, OUTDOOR	2	EA	2	0	0	0
1/C #14 AWG, STRANDED WITH DIRECT BURIAL INSULATION	150	m	150	0	0	0
¾" CONDUIT, RIGID GALVANIZED STEEL	75	m	75	0	0	0
2/C #18 AWG	50	m	50	0	0	0
6/C #22 AWG	50	m	50	0	0	0
2-#22 SHEILDED PAIR	50	m	50	0	0	0
TRANSFORMER PAD WITH SECONDARY CONNECTIONS AND GROUND RODS PER D.T.E. STANDARDS	1	EA	1	0	0	0
P-LOT LTG. CABLE #4 AWG, SINGLE CONDUCTOR, RHW, 600V, INSULATION	950	m	950	0	0	0
P-LOT LTG. CABLE #6 AWG, SINGLE CONDUCTOR, RHW, 600V, INSULATION	2400	m	2400	0	0	0
P-LOT LTG. CABLE #10 AWG, SINGLE CONDUCTOR, RHW, 600V, INSULATION	1500	m	1500	0	0	0
PANELBOARD 100A, 240/120V, 3ø, 4W, 6@20A-1P, 1@50A-3P, 1@30A-2P	1	EA	1	0	0	0
PANELBOARD 100A, 480/277V, 3ø, 4W, 3@30A-3P, 2@30A-1P	1	EA	1	0	0	0
TS, ONE WAY MAST ARM MTD	28	EA	10	10	8	0
MAST ARM	11	EA	5	2	4	0
MAST ARM STD (8.8m)	11	EA	5	2	4	0
MAST ARM STD FDN	11	EA	5	2	4	0
TS PEDESTRIAN, TWO WAY BRACKET ARM MTD	7	EA	3	0	4	0
CONTROLLER AND CABINET, SOLID STATE, TBC, DELIVERED	3	EA	1	1	1	0
CONTROLLER AND CABINET, SOLID STATE, TBC	3	EA	1	1	1	0
HH, TYPE S	20	EA	5	5	4	0
CONDUIT, ENCASED, 2, 75mm	49	m	21	5	23	0
P.J. CABLE, 600V, 1 7/c #14, INTERCN	510	m	0	150	360	0
CONTROLLER FDN, BASE MOUNT	3	EA	1	1	1	0
CONDUIT, ENCASED, 3, 100mm	18	m	6	4	8	0
SEC CABLES, 2Kv, 2, 1/c #2	500	m	300	50	150	0
TS, PEDESTRIAN, ONE WAY BRACKET ARM MTD	3	EA	2	1	0	0
ILLUMINATED, STREET SIGN	12	EA	5	3	4	0
PUSHBUTTON AND SIGN	20	EA	8	4	8	0
BRACKET ARM, 1830mm, WITH 915mm RISE, CLAMP ON	5	EA	5	0	0	0
LUMINAIRE	5	EA	5	0	0	0
CONDUIT, ENCASED, 4, 100mm	241	m	95	82	64	0
TS, TWO WAY PEDESTAL MTD	3	EA	0	3	0	0
PEDESTAL, ALUM	4	EA	0	4	0	0
PEDESTAL, FDN	4	EA	0	4	0	0
TS, 4TH LEVEL, LTGA	1	EA	0	1	0	0
TS, PEDESTRIAN, ONE WAY PEDESTAL MTD	1	EA	0	1	0	0
CONDUIT, ENCASED, 1, 75mm	16	m	0	16	0	0

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QUANTITY SHEET

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SEAL:

Scale:	NO SCALE
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Drawn:	M. KOZAK
Checked:	M. MCCLAIN
Arch./Engr.:	M. MCCLAIN
Approved:	B. THOMPSON

Drawing No.: 4Q1.3

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