MINNESOTA DEPARTMENT OF TRANSPORTATION

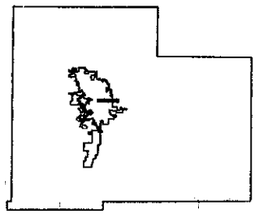
THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, STORM SEWER, BIT. PAVING & CONC. SURFACING

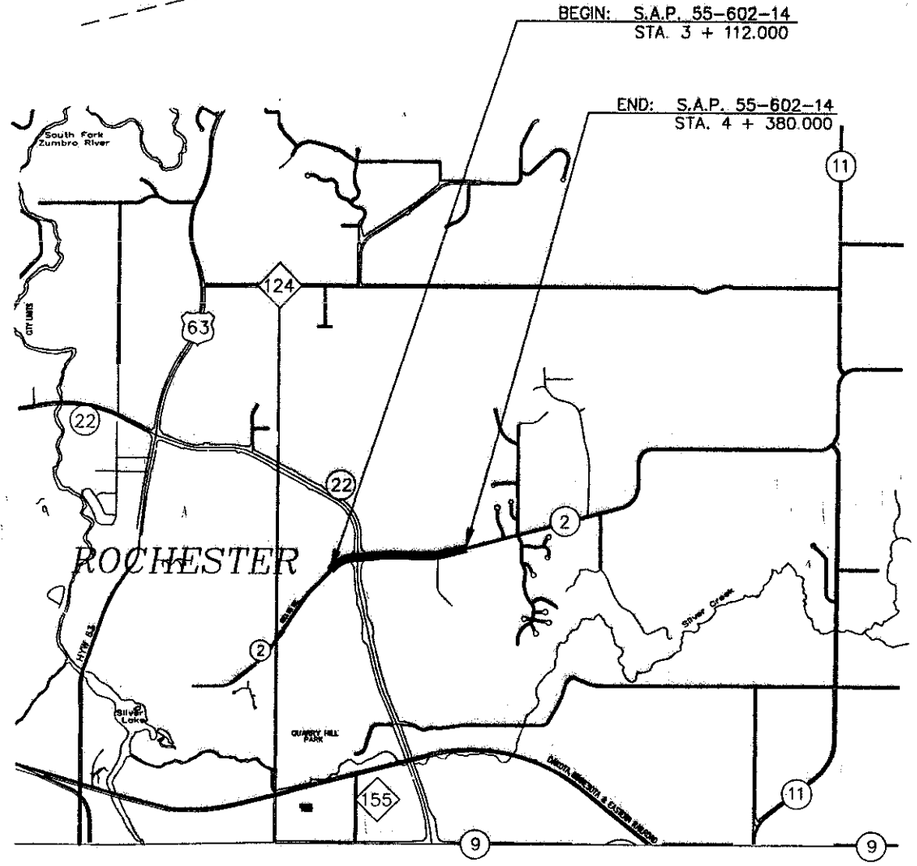
LOCATED ON CSAH 2 BETWEEN 0.2 kilometers W. OF JCT. CSAH 2 & CSAH 22 AND 1.04 kilometers E. OF JCT. CSAH 2 & CSAH 22 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 366 m S. AND 195 m W. OF THE 1/4 COR. OF SEC. 19 & 30 T.107N.-R.13W. TO APPROX. 210 m S. AND 233 m E. OF THE N.E. COR. SEC. 30 T.107N.-R.13W. (LEGAL DESCRIPTION)

S.A.P. NO.	55-602-14			
GROSS LENGTH	1,268.000	meters	1.268	kilometers
BRIDGE-LENGTH	0.00	meters	0.000	kilometers
EXCEPTIONS-LENGTH	0.00	meters	0.000	kilometers
NET LENGTH	1,268.000	meters	1.268	kilometers



OLMSTED COUNTY



N

AS-BUILT

FEB 1 5 2001

ENGINEERING

PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (HIGHWAY OVER)
UNDERPASS (HIGHWAY UNDER)
BRIDGE
BUILDING (ONE STORY FRAME)
F - FRAME C - CONCRETE
S - STONE T - TILE
B - BRICK ST - STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLE
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRICAL MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR SEWER)
SEWER MANHOLE

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 10 METERS
PROFILE 0 10 METERS HORIZ. 0 2 METERS VERT.
INDEX MAP 0 1.0 KM
CROSS SECTIONS 0 2 METERS

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	ESTIMATE OF QUANTITIES
SHEET NO. 3-4	TYPICAL SECTIONS
SHEET NO. 5-8	GRADING, STORM SEWER PLAN & PROFILE
SHEET NO. 9	STORM SEWER SCHEDULE
SHEET NO. 10-14	PAVEMENT PLAN & PROFILES
SHEET NO. 15	MISC. DETAILS
SHEET NO. 16	TABULATIONS
SHEET NO. 17-20	PAVEMENT & JOINT SHEETS
SHEET NO. 21-25	EROSION CONTROL SHEETS
SHEET NO. 26-28	TRAFFIC CONTROL PLANS
SHEET NO. 29-30	PAVEMENT MARKINGS
SHEET NO. 31-41	CROSS SECTIONS

THIS PLAN CONTAINS 41 SHEETS.

DESIGN DESIGNATION (CSAH 2)

ADT (Current Year) = 4,400(1997) Design Speed 90 km/h
ADT (Future Year) = 6,600(2017) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 1070 mm Height of object 150 mm
D (Directional Distr.) = Design Speed not achieved at: MPH
T (Heavy Commercial) = EST. 4% STA TO STA.
SOIL FACTOR = 1.30 STA. TO STA.
METRIC TON DESIGN 9.1

"NO PARKING" RESOLUTION REQUIRED STA. 3+112 TO STA. 4+126
NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES NONE
SHOULDER WIDTH 2.4 meters
FUNCTIONAL CLASSIFICATION: WEST OF 22: MINOR ARTERIAL
EAST OF 22: MAJOR COLLECTOR

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 5/22/97 REG. NO. 19917 ENGR. Kaye M. Reinicke

COUNTY OLMSTED

Approved 5/22 19 97 Michael J. Sheehan OLMSTED COUNTY ENGINEER

Approved 5/22 19 97 Ruth W. Frame ROCHESTER CITY ENGINEER

Recommended for Approval ..... 19 ..... DISTRICT STATE AID ENGINEER

Recommended for Approval ..... 19 ..... DIRECTOR, OFFICE OF TRAFFIC ENGINEERING

Recommended for Approval ..... 19 ..... STATE AID PLANS AND SPECS ENGINEER

Approved 6/1 1997 ..... FOR STATE AID DIVISION

STATE AID PROJ. NO. 55-602-14

~~STATE PROJ. NO.~~ SHEET NO. 1 OF 41 SHEETS

ESTIMATED QUANTITIES

TAB	NOTE	SPECIFICATION NO.	ITEM	UNIT	S.A.P. 55-602-14 PARTICIPATING	S.A.P. 55-602-14 NON PARTICIPATING	S.A.P. 55-602-14 STORM SEWER	TOTAL ESTIMATED QUANTITIES
	(1)	2101.502	CLEARING	TREE	14			14
	(1)	2101.507	GRUBBING	TREE	14			14
A		2102.502	PAVEMENT MARKING REMOVAL	m	761			761
E		2104.501	REMOVE PIPE CULVERTS	m	213			213
C		2104.501	REMOVE CURB & GUTTER	m	128			128
C		2104.503	REMOVE CONCRETE PAVEMENT	m2	6359			6359
C		2104.503	REMOVE BITUMINOUS PAVEMENT	m2	11582			11582
E		2104.509	REMOVE CATCH BASIN	EACH	6			6
		2104.509	REMOVE RC PIPE APRON	EACH	1			1
C		2104.511	SAW CONCRETE PAVEMENT	m	63			63
C		2104.513	SAW BITUMINOUS PAVEMENT	m	44			44
E		2104.521	SALVAGE SPAN RC PIPE ARCH CULVERT	m	39			39
	(2)	2104.523	SALVAGE CONCRETE APRON	EACH	2			2
	(3)	2105.515	UNCLASSIFIED EXCAVATION	m3	12788			12788(P)
		2105.523	COMMON BORROW (CV)	m3	18106			18106(P)
	(4)	2123.503	MOTOR GRADER	HOUR	10			10
	(4)	2123.509	DOZER	HOUR	10			10
	(5)	2130.501	WATER	m3	48			48
	(6)	2211.501	AGGREGATE BASE CLASS 5	t	12382			12382
		2221.501	AGGREGATE SHOULDERING CLASS 2	t	1448			1448
		2301.502	CONCRETE PAVEMENT STANDARD WIDTH 200 mm	m2	15682			15682(P)
		2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 200 mm	m2	914			914(P)
		2301.511	STRUCTURAL CONCRETE	m3	3319			3319(P)
		2301.531	EXPANSION JOINT DESIGN E4D-1	m	10.8			10.8
		2301.538	DOWEL BAR	EACH	12026			12026
		0301.804	PERMANENT TERMINAL HEADER	m	21.6			21.6
		0301.610	DRILL & GROUT REINFORCEMENT BARS	EACH	199			199
		2340.508	TYPE 41 WEARING COURSE MIXTURE	t	866			866
		2340.514	TYPE 41 BASE COURSE MIXTURE	t	2371			2371
		2340.516	TYPE 41 SHOULDER MIXTURE	t	554			554
	(7)	2451.507	GRANULAR BEDDING (CV)	m3	100			100
		2501.511	450 mm C.S. PIPE CULVERT	m	35.4			35.4
		2501.511	600 mm R.C. PIPE CULVERT	m	25			25
		2501.515	450 mm C.S. PIPE APRON	EACH	4			4
		2501.515	375 mm R.C. PIPE APRON	EACH			4	4
		2501.515	450 mm R.C. PIPE APRON	EACH			1	1
		2501.515	600 mm R.C. PIPE APRON	EACH	2			2
		2501.515	750 mm R.C. PIPE APRON	EACH			2	2
		2501.569	LIGHT DUTY SAFETY GRATE FOR 750 mm R.C. PIPE APRON	EACH	2			2
E		2501.571	INSTALL RC PIPE-ARCH CULVERT	m	39			39
	(2)	2501.573	INSTALL CONCRETE APRON	EACH	2			2
		2502.501	100 mm PRE CAST CONCRETE HEADWALL	EACH	4			4
		2502.521	100 mm TP PIPE DRAIN	m	~~16~~ 750			750
		2502.541	100 mm PERF. PE. PIPE DRAIN	m	~~750~~ 16			16
		2503.511	300 mm R.C. PIPE SEWER CLASS IV	m			29.2	29.2
		2503.511	375 mm R.C. PIPE SEWER CLASS III	m			263.8	263.8
		2503.511	450 mm R.C. PIPE SEWER CLASS III	m			20.4	20.4
		2503.511	600 mm R.C. PIPE SEWER CLASS II	m			59.4	59.4
		2503.511	750 mm R.C. PIPE SEWER CL. II	m			40.6	40.6
		2503.511	900 mm R.C. PIPE SEWER CL. III	m			4.9	4.9
	(9)	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN A	EACH			3	3
	(8)	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN C	EACH			1	1
		2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN N	EACH			9	9
	(8)	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4020	EACH			1	1
		2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 60-4020	EACH			1	1
		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 78-4020	EACH			1	1
E		0506.602	RECONSTRUCT DRAINAGE STRUCTURE	EACH			2	2
B		2521.501	100 mm CONCRETE WALK	m2	4311			4311
B		2521.501	150 mm CONCRETE WALK	m2	19			19
B		2531.501	CONCRETE CURB & GUTTER B424	m	2457			2457
		0563.601	TRAFFIC CONTROL	LUMP SUM	1			1
A		0564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	11			11
A		0564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	12			12
A		0564.603	100 mm SOLID LINE WHITE-EPOXY	m	3841			3841
A		0564.603	100 mm BROKEN LINE WHITE-EPOXY	m	388			388
A		0564.603	100 mm SOLID LINE YELLOW-EPOXY	m	2235			2235
A		0564.603	100 mm DOUBLE SOLID LINE YELLOW-EPOXY	m	28			28
A		0564.603	600 mm STOP LINE WHITE-EPOXY	m	35			35
A		0564.603	600 mm SOLID LINE YELLOW-EPOXY	m	500			500
A		0564.603	150 mm CROSSWALK LINE WHITE-EPOXY	m	133			133
D	(9)	2573.501	BALE CHECK	EACH	100			100
D	(9)	2573.502	SILT FENCE, HEAVY DUTY, MAINTAINED	m	530			530
D		2575.501	SEEDING	ha	2.4			2.4(P)
D		2575.502	SEED MIXTURE 50A	kg	120			120
D		2575.502	SEED MIXTURE 110A	kg	240			240
D		2575.505	SODDING TYPE EROSION	m2	11166			11166
D		2575.511	MULCH MATERIAL, TYPE 1	t	14.2			14.2
D		2575.519	DISK ANCHORING	ha	2.0			2.0(P)
D		2575.523	WOOD FIBER BLANKET TYPE, REGULAR	m2	3556			3556
D		2575.532	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	kg	540			540
	(10)	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	m	470			470

NOTES:

(1) TREES FOR REMOVAL WILL BE DESIGNATED BY THE ENGINEER IN THE FIELD.

(2) STATION 3+306 LT. & RT. 724 mm SPAN ARCH R.C.

(3) UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTIONS AND CROSS SECTIONS. 1972 m3 UNCLASSIFIED EXCAVATION, TO BE USED AS SALVAGE TOPSOIL AND PLACED AS SHOWN IN THE PLANS.

(4) EQUIPMENT HOURS ARE FOR SHAPING FREEFLOW LOOPS AS DIRECTED BY THE ENGINEER.

(5) WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.

(6) INCLUDES AGGREGATE BASE UNDER CONCRETE REMOVAL AREAS.

(7) GRANULAR BEDDING IS TO BE USED UNDER CONCRETE WALK IN MEDIAN.

(8) TOP OF STRUCTURE MUST HAVE 760 mm OPENING TO ACCEPT REQUIRED FRAME CASTING.

(9) BALE CHECKS AND SILT FENCE TO BE INSTALLED AT LOCATIONS AS DIRECTED BY THE ENGINEER

(10) INCLUDES 280 m OF YELLOW AND 190 m OF WHITE.

BASIS OF PLANNED QUANTITIES

AGGREGATE BASE CLASS 5 –	2160 kg / m3 COMPACTED
AGGREGATE SHOULDER CLASS 2 –	2160 kg / m3 COMPACTED
BITUMINOUS MIXTURE –	60 kg / m2 / 25 mm
SEED MIXTURE 50A –	50 kg / ha
SEED MIXTURE 110A –	100 kg / ha
MULCH MATERIAL –	4.5 t / ha
DISC ANCHOR –	ALL SEEDING AREA'S EXCEPT 2:1 SLOPES
COMMERCIAL FERTILIZER –	225 kg / ha

STANDARD PLATES

THE FOLLOWING STANDARD PLATES AS, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF METRIC STANDARD PLATES.
M1070 K	REINFORCED PANEL OVER CULVERTS
M1103 J	TYPICAL DOWEL BAR ASSEMBLY
M1141 D	PAVEMENT KEY WAY FOR KEYED JOINT CONSTRUCTION
M1150 Q	CONSTRUCTION OF HEADER JOINTS
M3000 L	REINFORCED CONCRETE PIPE
M3014 J	REINFORCED CONCRETE PIPE ARCH
M3040 F	CORRUGATED METAL PIPE CULVERT
M3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE ARCH
M3122 K	METAL APRON FOR C.M. PIPE-ARCH CULVERT
M3123 J	METAL APRON FOR C.S. PIPE
M3131 B	PRE CAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
M3145 E	CONCRETE PIPE TIES
M3221 C	CORRUGATED STEEL PIPE COUPLING BAND
M4000 J	MANHOLE OR CATCH BASIN
M4002 F	MANHOLE OR CATCH BASIN
M4003 B	30" PRE CAST CATCH BASIN
M4010 H	CONC. SHORT CONE & ADJUSTING RING
M4011 E	PRE CAST CONCRETE BASE
M4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
M4125 D	CATCH BASIN FRAME CASTING
M4134 A	CURB BOX CASTING FOR CATCH BASIN
M4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASIN
M4154 B	CATCH BASIN GRATE CASTING
M4180 H	DRAINAGE STRUCTURE OR CATCH BASIN STEP
M7036 D	PEDESTRIAN CURB RAMP
M7100 Q	CONCRETE CURB & GUTTERS
M7109 C	MEDIAN NOSE AND ISLAND
M7111 J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
M7112 C	INSTALLATION & REINFORCEMENT OF CATCH BASINS & MANHOLES
M8000 I	STANDARD BARRICADES
M9000 C	APPROACHES AND ENTRANCES

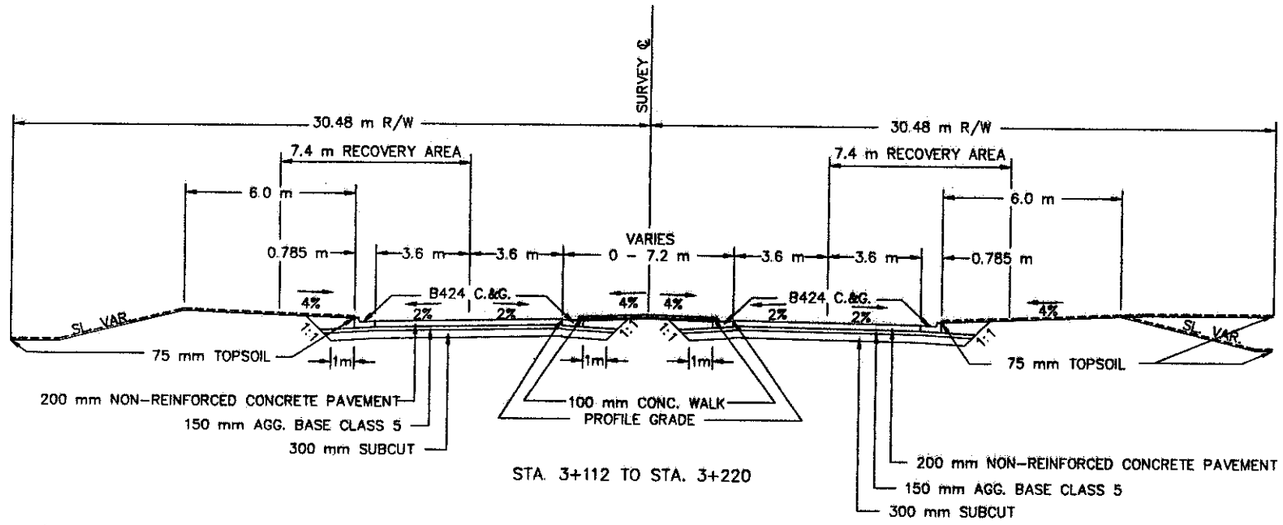
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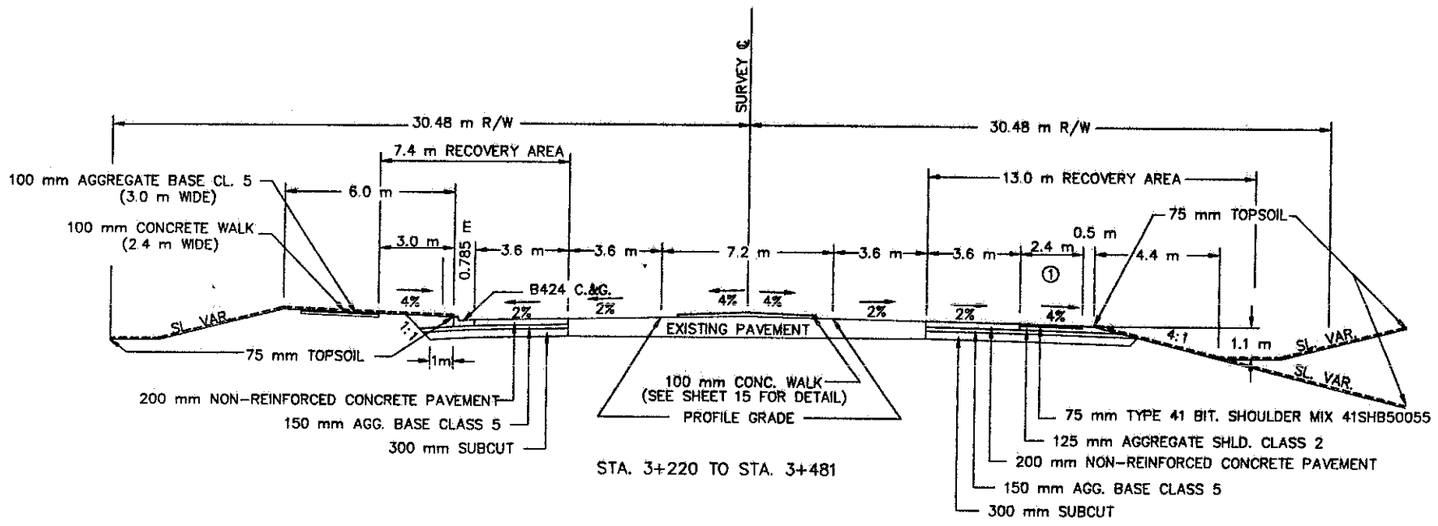
ENGINEERING

CERTIFIED BY Kayne M Brunick PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

State Aid Proj. No. 55-602-14



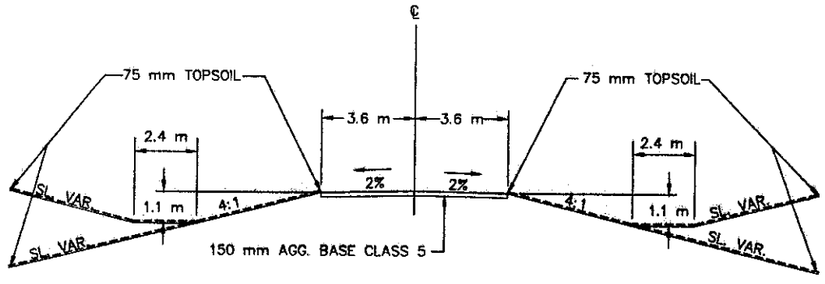
STA. 3+112 TO STA. 3+220



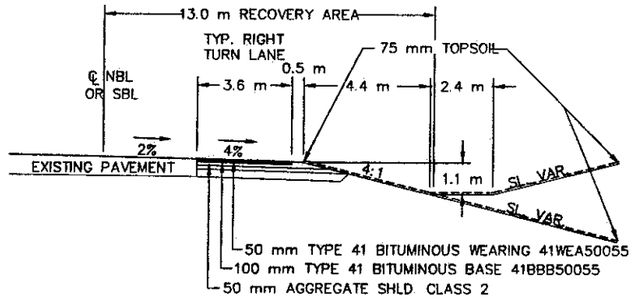
STA. 3+220 TO STA. 3+481

① BIT. SHOULDER STA 3+256 TO 4+316 0.6 m WIDE

AS-BUILT
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ENGINEERING



ENTRANCE RT STA 3+629

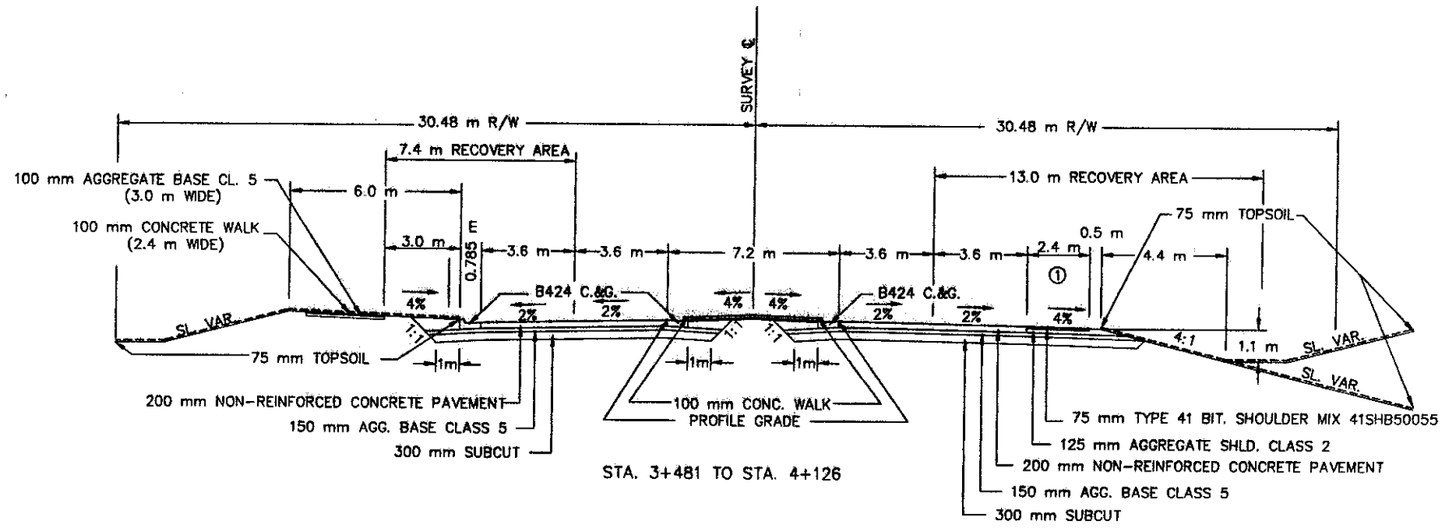


CSAH 22 RIGHT TURN LANE
STA 3+316 LT
STA 3+345 RT

TYPICAL SECTIONS

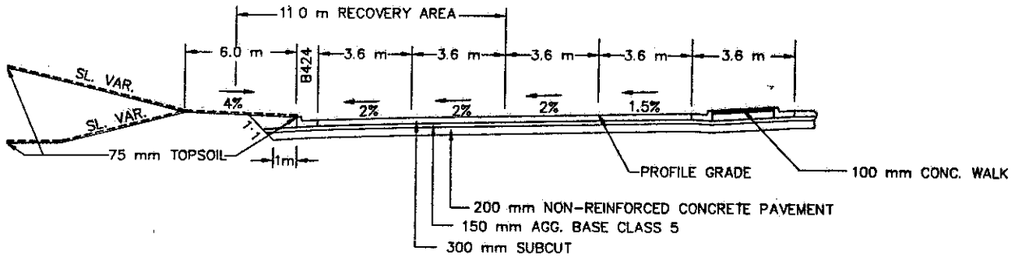
CERTIFIED BY Kay M Pinnick REG NO. 19917 5/22 19 97
PROFESSIONAL ENGINEER

SAP 55 - 602 - 14



STA. 3+481 TO STA. 4+126

① RT TURN LANE STA 3+957 TO 4+108
3.6 m WIDE; 50 mm BIT WEAR. TYPE 41WEA50055
AND 100 mm BIT BASE TYPE 41BBB50055



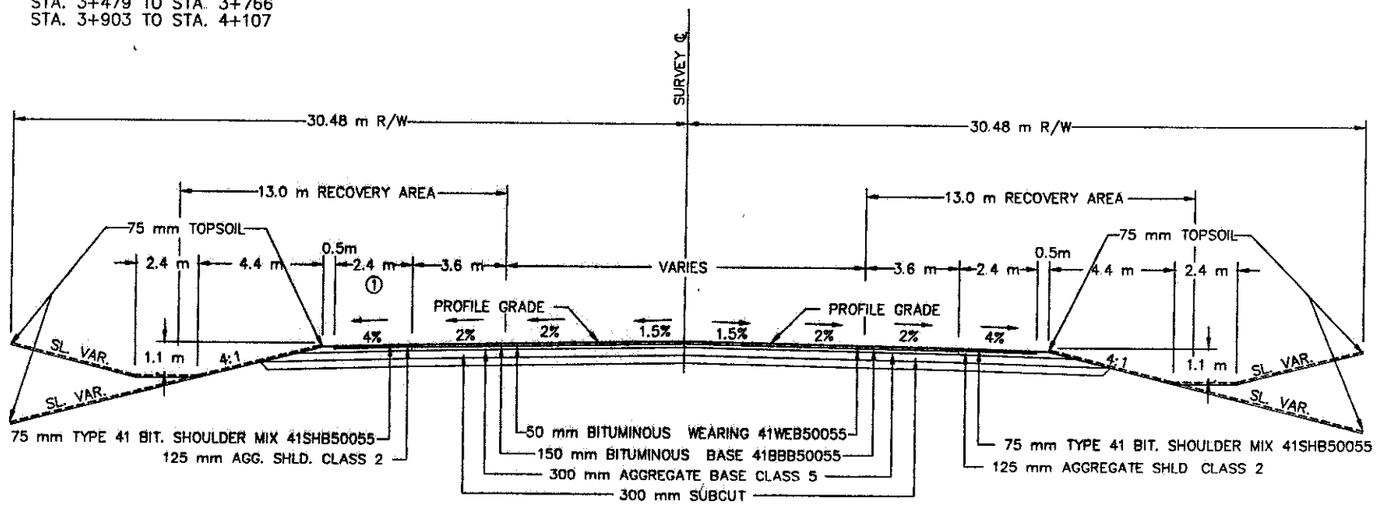
TYPICAL TURN LANE

RIGHT TURN LANE LOCATIONS:

STA. 3+220 TO STA. 3+316
STA. 3+345 TO STA. 3+489
STA. 3+643 TO STA. 3+739
STA 3+781 TO STA. 3+925

LEFT TURN LANE LOCATIONS:

STA. 3+220 TO STA. 3+316
STA. 3+345 TO STA. 3+489
STA. 3+479 TO STA. 3+766
STA. 3+903 TO STA. 4+107



① RT TURN LANE STA 4+118 TO 4+262
3.6 m WIDE; 50 mm BIT. WEAR. TYPE 41WEA50055
AND 150 mm BIT. BASE TYPE 41BBB50055

STA. 4+126 TO STA. 4+380

AS-BUILT

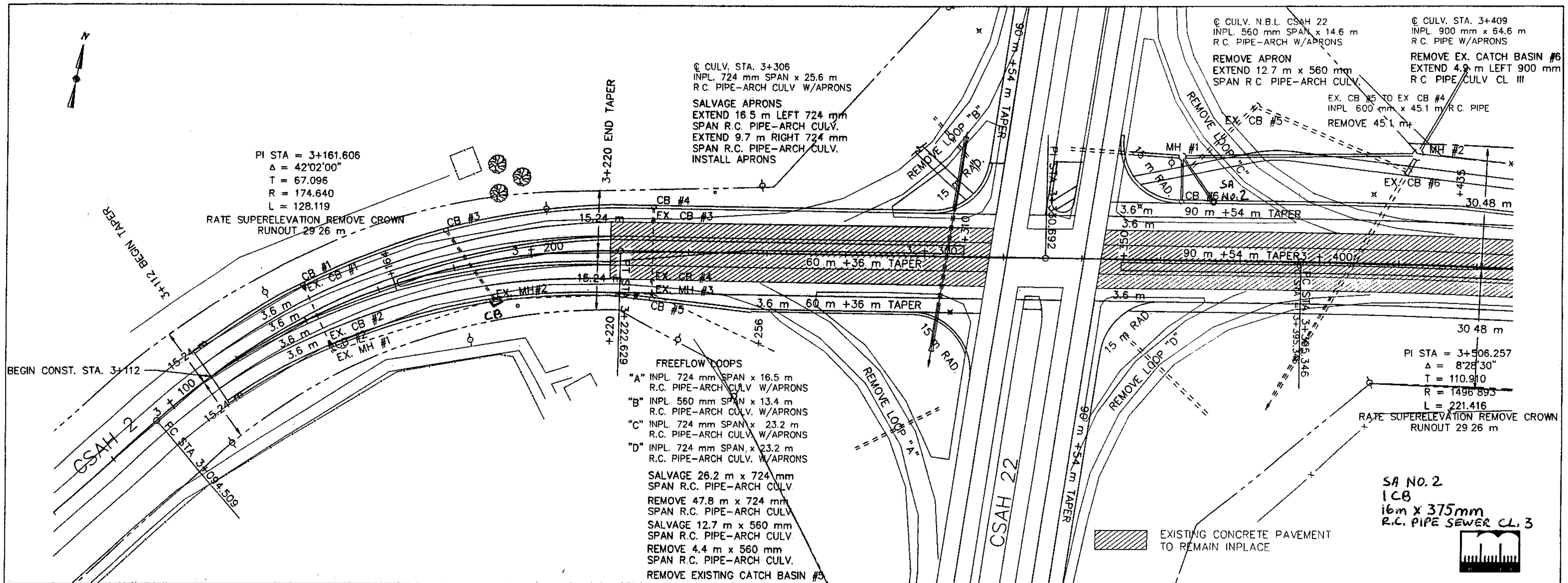
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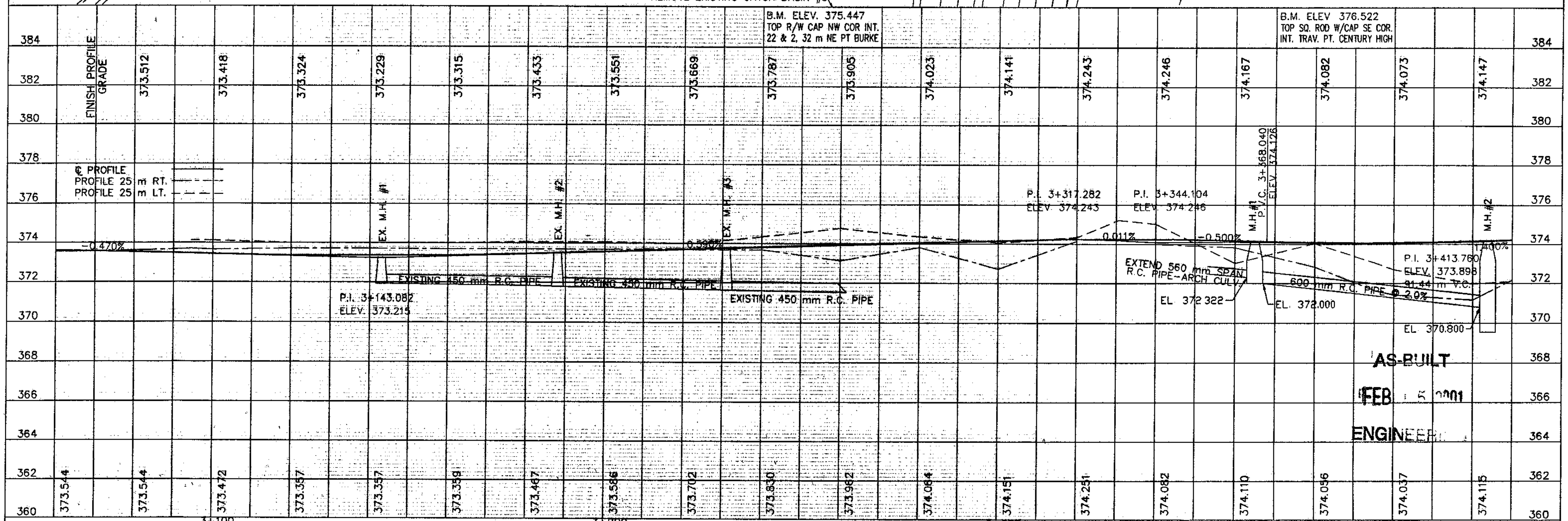
ENGINEERING

TYPICAL SECTIONS

CERTIFIED BY Kevin M Pitsnick REG NO. 19917 5/22 19 97
PROFESSIONAL ENGINEER

SAP 55 – 602 – 14





GRADING & STORM SEWER	CERTIFIED BY *Kay M Bieniek* PROFESSIONAL ENGINEER REG. NO. 19917 5/22 19 97	S.A.P. 55-602-14	SHEET 5 OF 41 SHEETS

Addition
1 CB
28.6 m x 300mm PIPE

MH #2
CB #6
+435
30.48 m
2.4 m CONCRETE PATH
+489
CB #7
CB #8
3 + 500
90 m +54 m TAPER
3 + 600
+461
+479
+533
PI STA = 3+506.257
Δ = 8°28'30"
T = 110.910
R = 1496.893
L = 221.416

CONSTRUCT SCHOOL ENT
LT STA 3+629

CONSTRUCT SCHOOL ENT
RT STA 3+777

+629 (SCHOOL ENT.)
15 m RAD.
C.B.
CB #9
2.4 m CONCRETE PATH
60 m +36 m TAPER
3.6 m
3.6 m
3.6 m
3 + 700
3.6 m
3.6 m
3.6 m
+703
+739
30.48 m
11 m RAD.
+764
+777 (SCHOOL ENT.)
CSAH 2
1+000
PC 1+023.718
+629 (ENT.)
22.86 m
+617.14
PT 1+054.081
PC 1+054.081
PT 1+082.709
1+089.676
+640
+670.48
45.72 m T.E.

Ⓐ PI STA = 1+039.080
Δ = 67°28'42"
T = 15.362
R = 23.0
L = 27.088

Ⓑ PI STA = 1+070.585
Δ = 71°17'23"
T = 16.494
R = 23.0
L = 28.618

N

EXISTING CONCRETE PAVEMENT
TO REMAIN INPLACE

℄ CULV. STA. 3+617
INPL. ~~450~~ 600 mm x 19.2 m
CMP W/APRONS
REMOVE ~~19.2 m CMP~~ 20 m R.C.
NO CULV REQUIRED

ENT. RT. STA. 3+664
INPL. 450 mm x 9.8 m CMP
REMOVE 9.8 m CMP
MOVE ENT. TO STA. 3+629
F & I 450 mm x ~~14.63~~ 22.5 m
C. S. PIPE W/APRONS

386
384
382
380
378
376
374
372
370
368
366
364
362

FINISH PROFILE GRADE
℄ PROFILE
PROFILE 25 m RT.
PROFILE 25 m LT.

374.305 374.545 374.825 375.105 375.385 375.664 375.917 376.132 376.310 376.450 376.552 376.617 376.667 376.717 376.760 376.714 376.668 376.622

P.V.T. 3+459.480
ELEV. 374.538

P.V.C. 3+535.680
ELEV. 375.605

P.V.T. 3+657.600
ELEV. 376.611

P.I. 3+596.640
ELEV. 376.458
121.92 m V.C.

P.I. 3+718.560
ELEV. 376.763

1.400%
0.250%
-0.230%

374.299 374.517 374.779 375.065 375.352 375.352 375.892 376.130 376.349 376.535 376.633 376.697 376.710 376.719 376.757 376.777 376.784 376.777

3+500 3+600 3+700

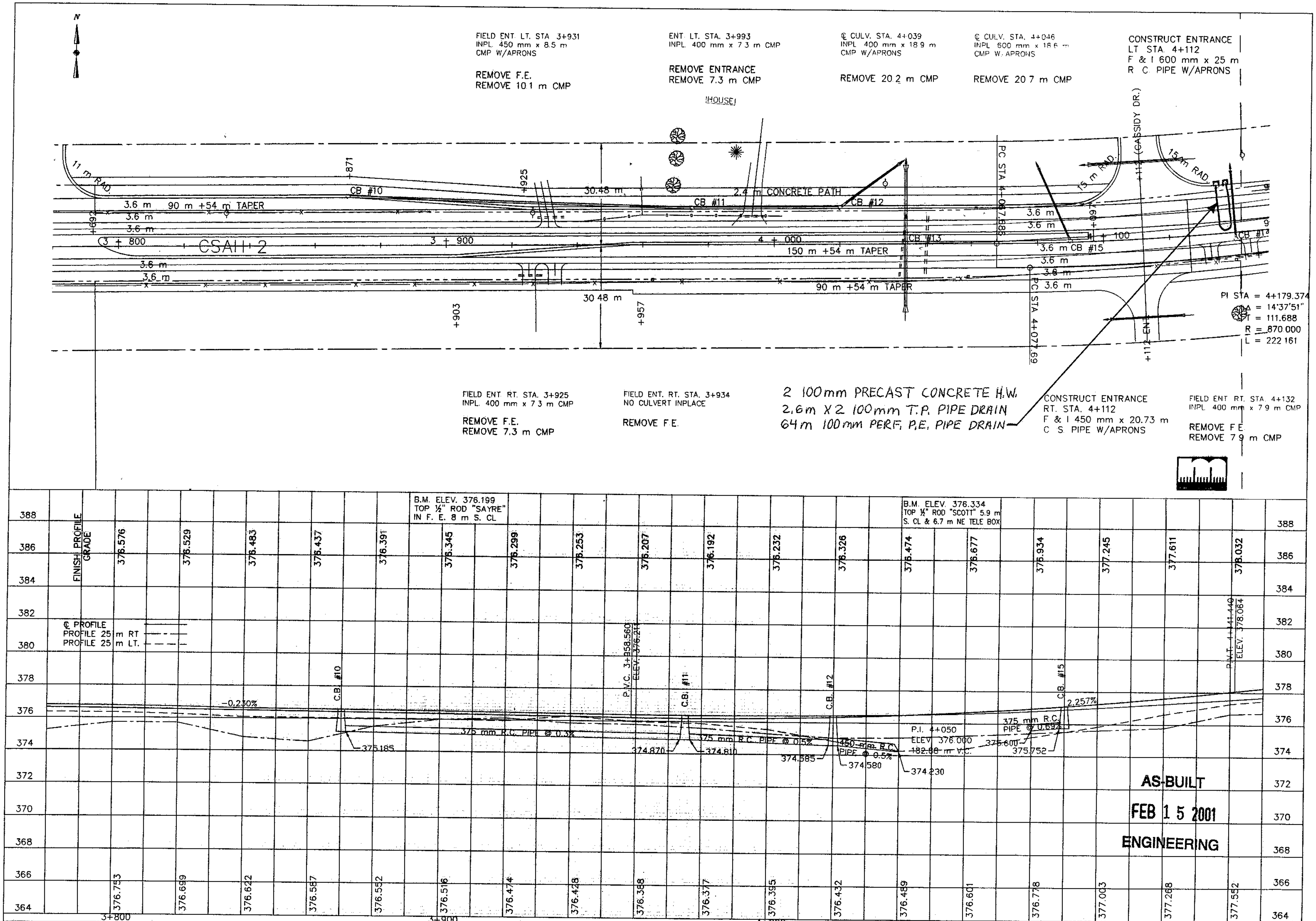
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GRADING & STORM SEWER

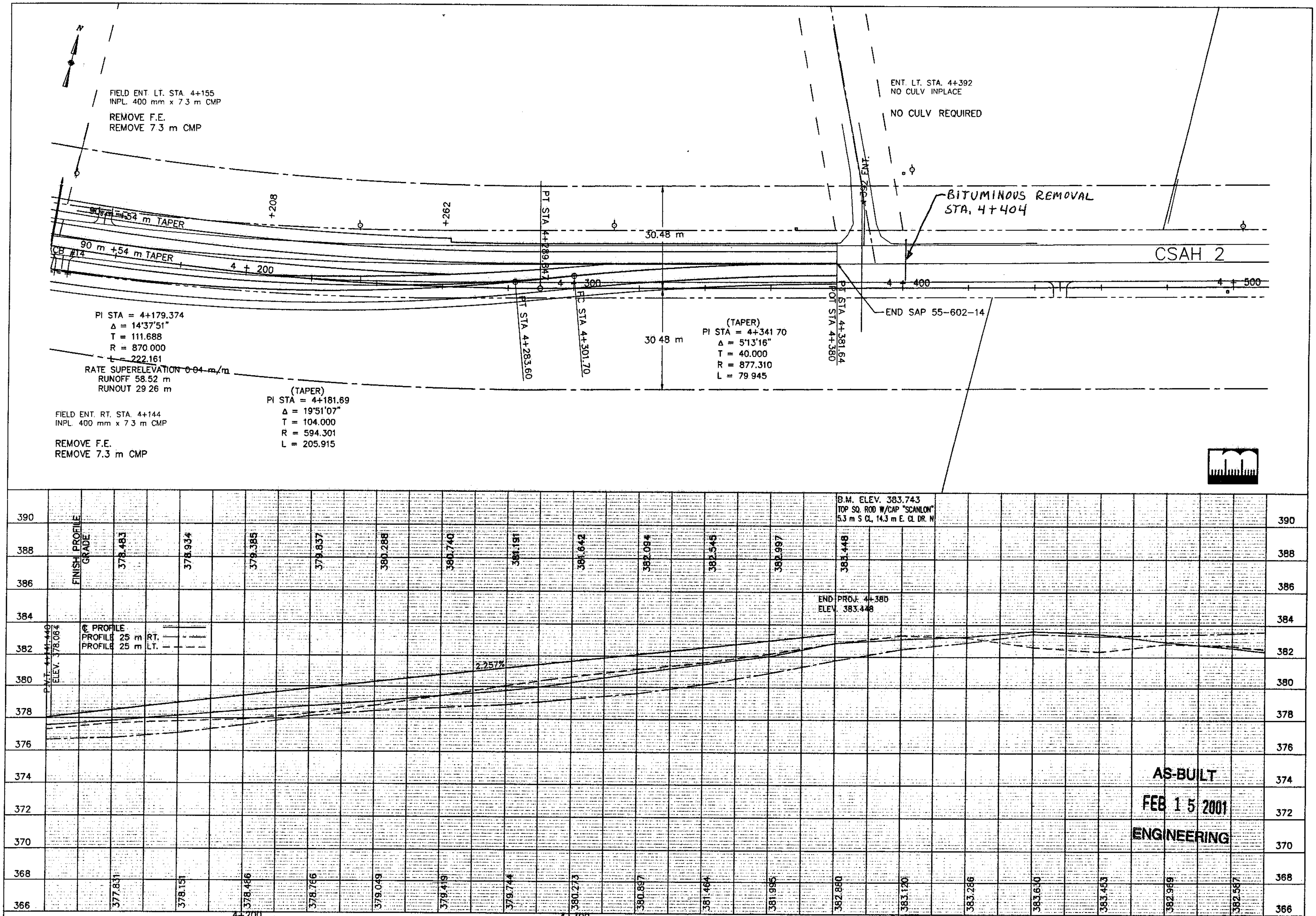
CERTIFIED BY Lee M Brimek PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

S.A.P. 55-602-14

SHEET 6 OF 41 SHEETS



GRADING & STORM SEWER	CERTIFIED BY *Kaye M Bieniek* PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997	S.A.P. 55-602-14	SHEET 7 OF 41 SHEETS	



GRADING & STORM SEWER | CERTIFIED BY Kay M Brienick PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997 | S.A.P. 55-602-14 | SHEET 8 OF 41 SHEETS

STORM SEWER

NOTES	STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION QUANTITY DESIGN M.H.	CONSTRUCTION QUANTITY DESIGN C.B.	CONSTRUCTION QUANTITY E.S.T.	CONSTRUCTION QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	300 mm R.C. PIPE m	375 mm R.C. PIPE m	450 mm R.C. PIPE m	525 mm R.C. PIPE m	600 mm R.C. PIPE m	675 mm R.C. PIPE m	750 mm R.C. PIPE m	900 mm R.C. PIPE m		APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
①	C.B. 1	3+143.08	8.65 LT.		N	1		373.164				372.102 S	806	816	825				1.0											C.B. 2	0.47	III
②	EX. C.B. 1	3+143.08	7.62 LT.		C			373.163				372.097 S																				
①	C.B. 2	3+143.08	8.65 RT.		N	1		373.056	372.021 N			371.945 S	806	816	825				1.0											EX. M.H. 1	0.28	III
②	EX. C.B. 2	3+143.08	7.62 RT.		C			373.035	372.024 N			371.947 S																				
③	EX. M.H. 1	3+143.08	10.06 RT.	C				373.280	371.941 N			371.926 E																	EX. M.H. 2	0.30	IV
④	EX. M.H. 2	3+188.80	10.06 RT.					373.317	371.876 N	371.801 W		371.786 E																	EX. M.H. 3	0.30	IV
	C.B. 3	3+180	9.91 LT.		N	1		373.373				372.093 S	806	816	825			21.8											EX. M.H. 2	0.99	IV
①	C.B. 4	3+230.88	11.2 LT.		A	1		373.629				371.965 S	806	816	825			6.0											EX. M.H. 3	1.03	IV
②	EX. C.B. 3	3+230.88	7.62 LT.		C			373.609				371.932 S																				
	C.B. 5	3+230.88	12.27 RT.		A	1		373.488				371.793 N	806	816	825			1.4											EX. M.H. 3	0.96	IV
②	EX. C.B. 4	3+230.88	8.47 RT.		C			373.538	371.786 N			371.737 S																				
④	EX. M.H. 3	3+230.88	10.91 RT.	C				373.532	371.737 N	371.661 W	371.780 S	371.630 E																	OUTLET		IV
	C.B. 6	3+365	14.8 LT.		N	1		373.871				372.734 N	806	816	825				11.4										M.H. 1	3.80	III
	C.B. 7	3+490	11.2 LT.		N	1		374.977	373.800 S			373.780 N	806	816	825				7.8										C.B. 8	0.50	III
	C.B. 8	3+490	3.4 LT.		N	1		374.941				373.875 N	806	816	825				19.0									1	OUTLET	0.50	III
	C.B. 9	3+646	17.06 LT.		N	1		376.230				375.330 S	806	816	825				32.7									1	OUTLET	0.40	III
	C.B. 10	3+870	14.8 LT.		N	1		376.174				375.185 E	806	816	825				105.1										C.B. 11	0.30	III
	C.B. 11	3+975	11.2 LT.		N	1		376.023	374.870 W			374.810 E	806	816	825				45.0										C.B. 12	0.50	III
	C.B. 12	4+020	11.2 LT.		A	1		376.158	374.585 W			374.580 N	806	816	825					20.4								1	OUTLET	0.50	III
	APRON	4+020	20.1 RT.						374.600 S			374.421 N													19.3		1		C.B. 13	0.82	II
	C.B. 13	4+040	0.4 LT.	54-4020		1		376.422	374.421 S			374.411 N	806	816	825										21.3			1	OUTLET	0.82	II
	C.B. 14	4+140	2.1 RT.		C	1		377.970				376.770 N				700-8	721		18.6									1	OUTLET	1.30	III
	C.B. 15	4+090	0.4 LT.		N	1		376.921				375.752 N	806	816	825				22.2									1	OUTLET	1.54	III
	M.H. 1	3+365	~~26.5 18.91 RT.~~ LT	78-4020		1		373.528	372.300 S	372.322 W	371.780 S	372.000 E				700-8	715						59.4						M.H. 2	2.00	II
⑤	M.H. 2	3+423.82	~~18.91 RT.~~ 27.1 LT	60-4020		1		373.720	369.782 N	370.800 W	371.025 E	369.553 S				700-8	715									4.9			EXISTING CULVERT		III

* ROCK EXCAVATION WILL BE CONSIDERED INCIDENTAL FOR STORM SEWER TRENCH EXCAVATION.

① PIPE LENGTHS SHOWN ARE FOR EXTENDING EXISTING INPLACE PIPE.

② STRUCTURE TO BE REMOVED SPEC. 2104.3B5.

③ NO CHANGE

④ ADJUST STRUCTURE TO MEET NEW TOP OF CASTING ELEVATION.

⑤ 600 mm R.C. PIPE INLET NORTH BY OTHERS

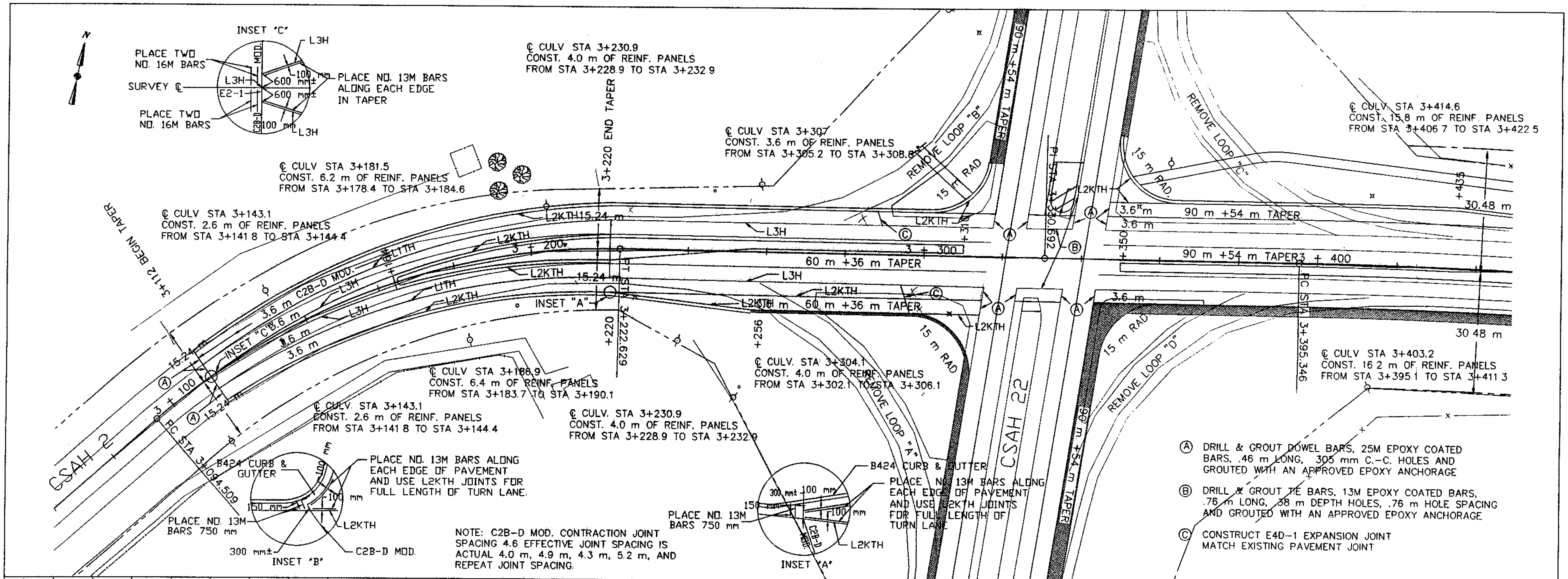
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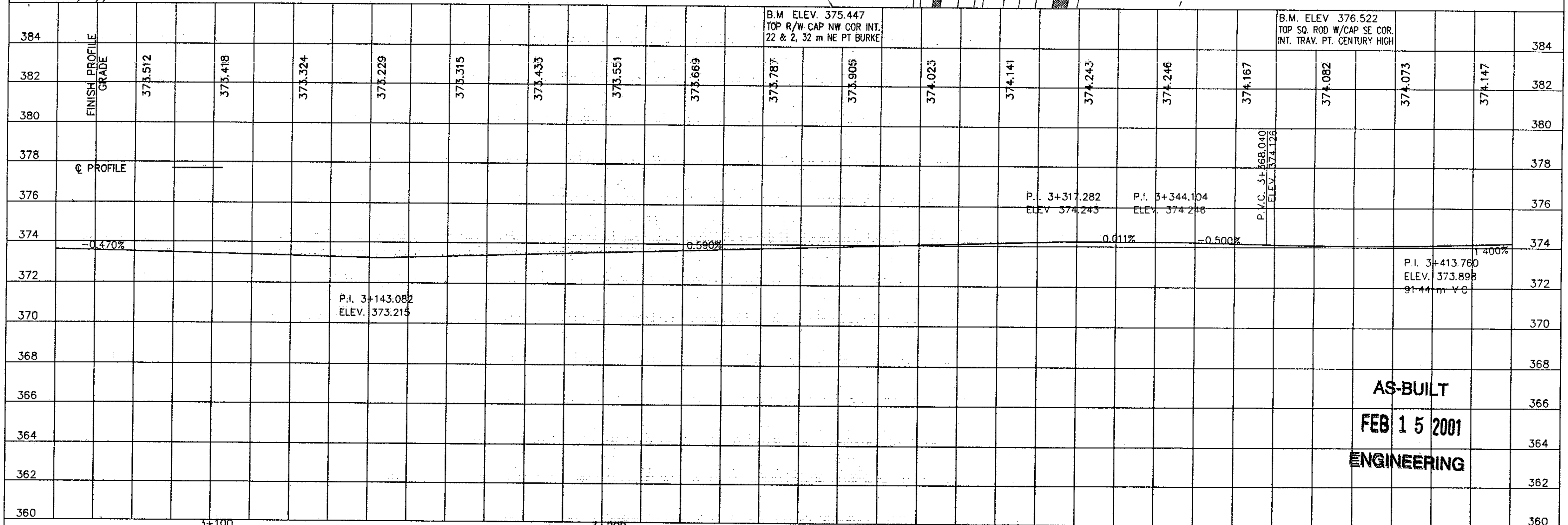
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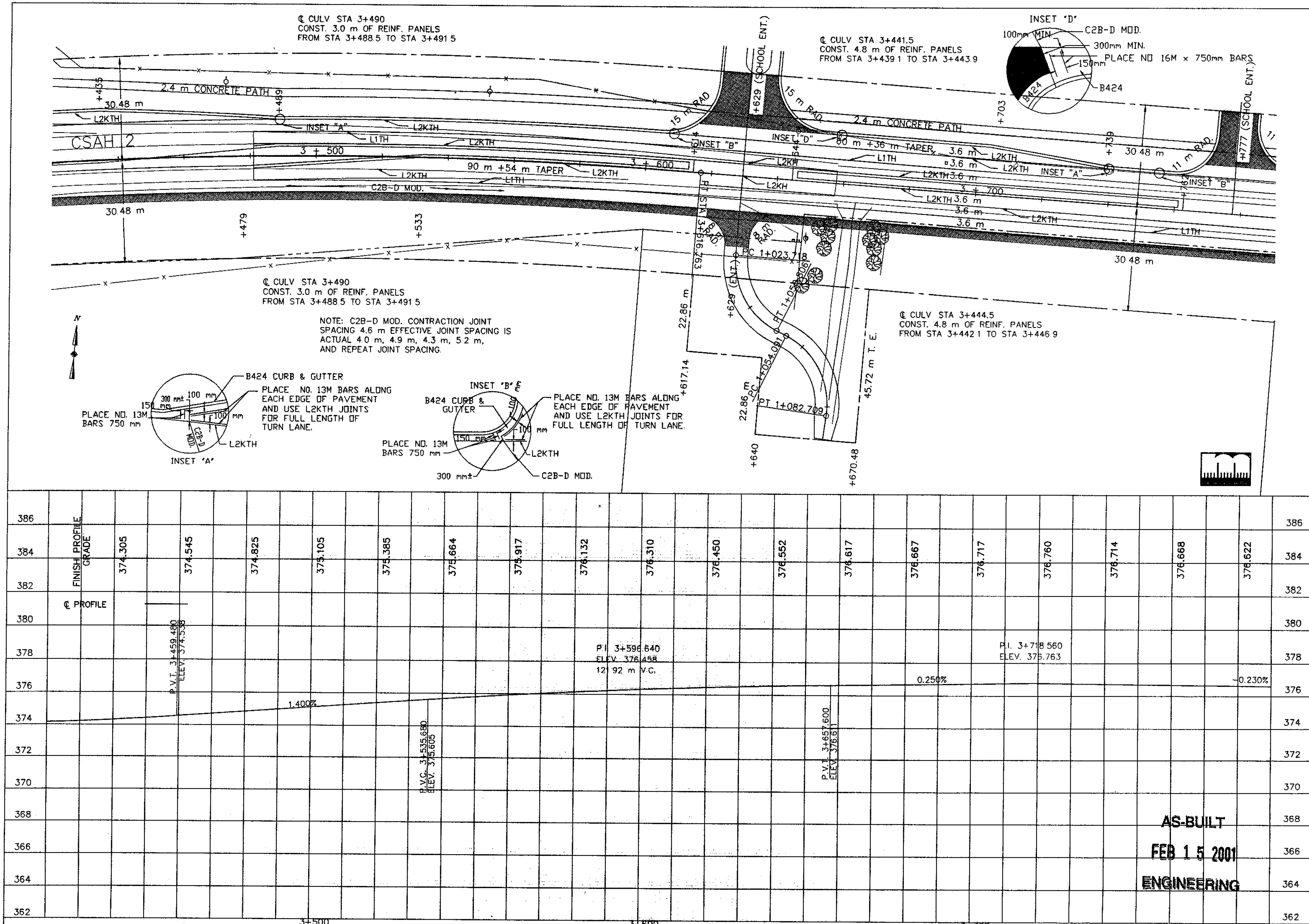
CERTIFIED BY Kaye M Poirier PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

STATE AID PROJ. NO. 55-602-14





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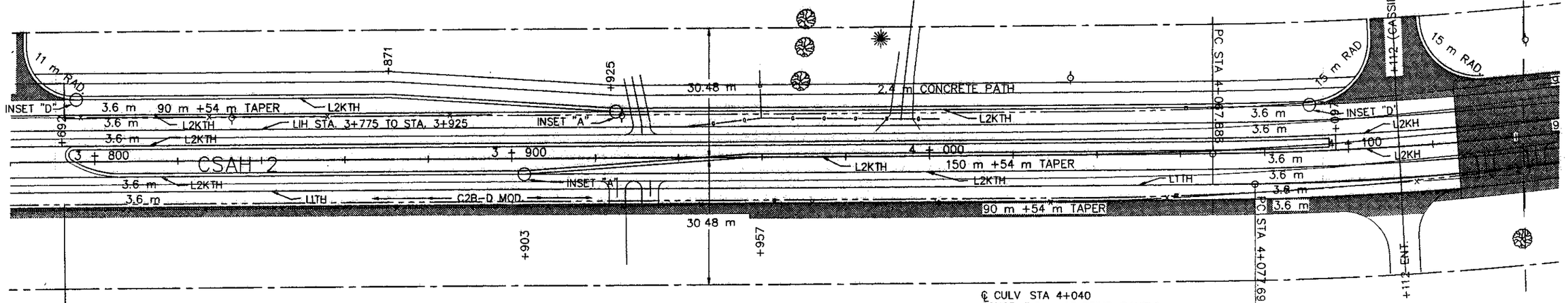
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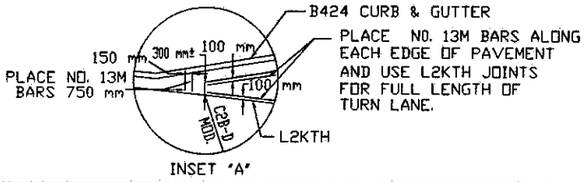
℄ CULV STA 4+098
CONST. 5.8 m OF REINF. PANELS
FROM STA 4+095.1 TO STA 4+100.9

℄ CULV STA 4+040
CONST. 5.0 m OF REINF. PANELS
FROM STA 4+037.5 TO STA 4+042.5

(HOUSE)

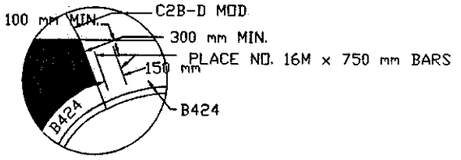


℄ CULV STA 4+040
CONST. 5.0 m OF REINF. PANELS
FROM STA 4+037.5 TO STA 4+042.5

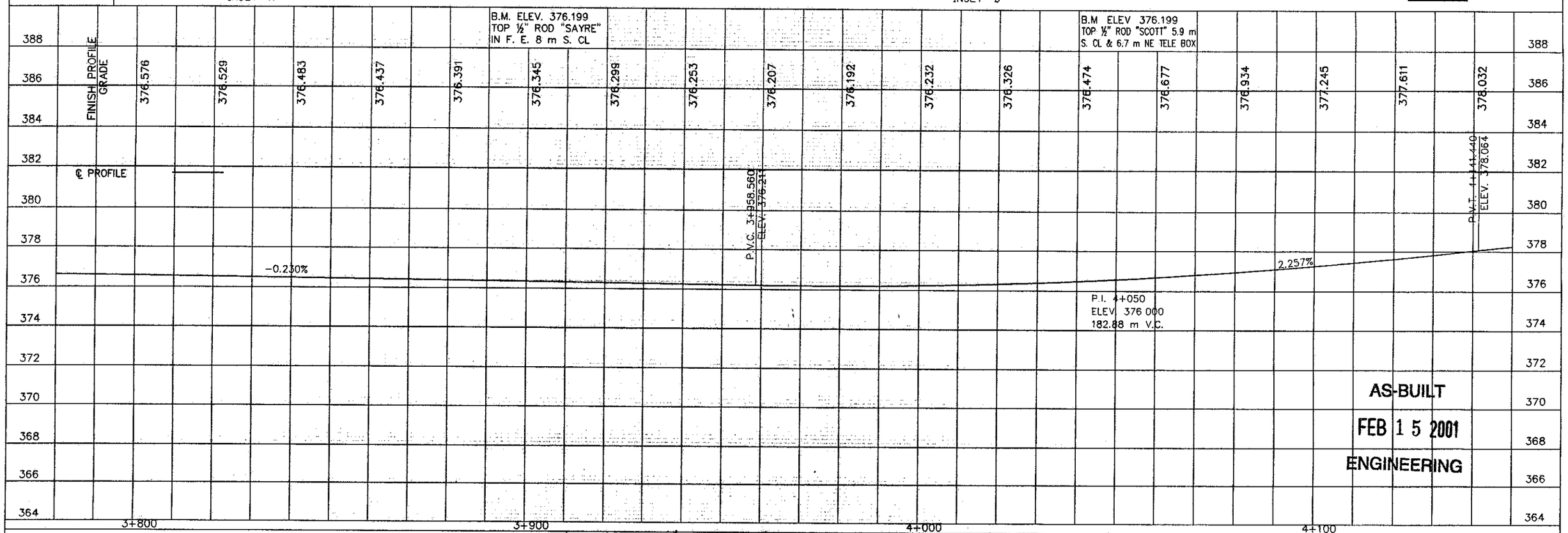


INSET "A"

NOTE: C2B-D MOD. CONTRACTION JOINT SPACING 4.6 m EFFECTIVE JOINT SPACING IS ACTUAL 4.0 m, 4.9 m, 4.3 m, 5.2 m, AND REPEAT JOINT SPACING.

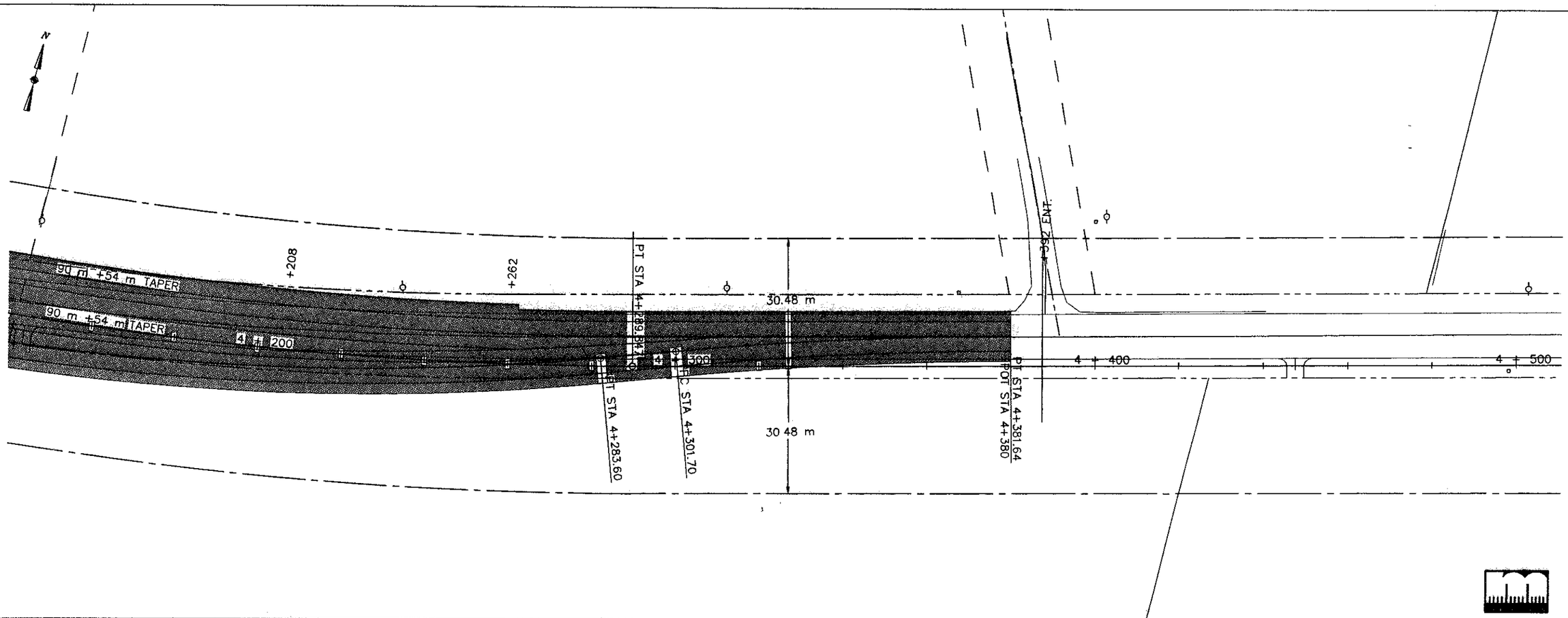


INSET "D"



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SURFACING	CERTIFIED BY Gary M Brunner PROFESSIONAL ENGINEER REG. NO. 19917 5/22 19 97	S.A.P. 55-602-14	SHEET 12 OF 41 SHEETS



AS-BUILT
FEB 15 2001
ENGINEERING

SURFACING	CERTIFIED BY Kay M Brunick PROFESSIONAL ENGINEER REG. NO. 19917 5/22 19 97	S.A.P. 55-602-14	SHEET 13 OF 41 SHEETS

N

3+220 END TAPER

15.24 m

+220
PT STA 3+222.629

+256

60 m +36 m TAPER

3 + 300

REMOVE LOOP "A"

15 m RAD.

BIT. SHLD.
1.8 m

REMOVE LOOP "B"

15 m RAD.

90 m +54 m TAPER

TURN LANE
3.6 m

* NOTE: SEE TYPICAL SECTION FOR TURN LANE DETAILS

PI STA 3+330.692

CSAH 22

90 m +54 m TAPER

3.6 m
TURN LANE

REMOVE LOOP "D"

15 m RAD.

90 m +54 m TAPER

3 + 400

PC STA 3+395.348

15 m RAD.

90 m +54 m TAPER

REMOVE LOOP "C"

1.8 m
BIT SHLD

+435

30.48 m

+30.48 m

CSAH 2

2.4 m CONCRETE PATH

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CERTIFIED BY Lowell M Pierick PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

S.A.P. 55-602-14

SHEET 14 OF 41 SHEETS

UTILITY LOCATIONS
GOPHER STATE ONE CALL 1-800-252-1166
NOTE: CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

PAVEMENT MARKING (A)

STATIONING	MARKING REMOVAL (m)	LEFT ARROW (EACH)	RIGHT ARROW (EACH)	100 mm SOLID LINE WHITE (m)	600 mm SOLID LINE YELLOW (m)	100 mm SOLID LINE YELLOW (m)	100 mm DOUBLE YELLOW (m)	100 mm BROKEN WHITE (m)	150 mm CROSSWALK WHITE (m)	600 mm STOP LINE WHITE (m)
3+122-3+316	244	1	1	528				82		
3+112-3+164					60	104				
3+164-3+316						300				
CSAH 22 TL @ 3+316	60		2	234						
CSAH 22 TL @ 3+345	60		2	234						
3+345-3+618	397	4	2	816		542		110		
3+648-3+761		2	1	399		222		45		
3+791-4+097		2	2	942		615		123		
4+126-4+380		2	2	688	440	452	28	28		
3+310										18.5
3+314-3+331									34	16.5
3+311									70.5	
3+338-3+354									15	
3+339-3+352									13	
TOTALS	761	11	12	3841	500	2235	28	388	132.5	35

TURF ESTABLISHMENT / EROSION CONTROL (D)

STATIONING	LOCATION LT.-RT	SEEDING (ha)	SEED MIXTURE 50A (kg)	SEED MIXTURE 110A (kg)	MULCH MATERIAL TYPE 1 (t)	BALE CHECK (EACH)	SILT FENCE HEAVY DUTY (m)	DISK ANCHOR (ha)	WOOD FIBER BLANKET (m2)	SODDING TYPE EROSION (m2)	COMM FERT. ANALYSIS 12-12-12 (kg)
3+112-3+262	LT									900	
3+262-3+298	LT									368	
3+298-3+316	LT									165	
3+361-3+620	LT									1675	
3+552-3+623	LT									746	
3+656-3+770	LT									522	
3+645-3+771	LT									1210	
3+791-3+925	LT									1715	
3+925-4+097	LT									2889	
3+112-3+220	RT									626	
3+220-3+256	RT									350	
3+370-3+435	LT & RT						300				
3+645-3+771	LT						130				
4+000-4+100	LT						100				
3+500	LT					10					
3+555	LT					10					
4+180	LT					10					
4+235	LT					10					
4+290	LT					10					
3+420	RT					10					
3+475	RT					10					
3+530	RT					10					
3+585	RT					10					
3+680	RT					10					
3+380-3+440	LT								362		
3+440-3+580	LT								316		
CSAH 22 (TL)	RT								2878		
3+420-4+100	LT	0.31	15.5	31.0	1.4						69.75
3+122-4+380		1.47	73.5	147.0	6.6			2.0			330.75
4 LOOPS		0.62	31.0	62.0	2.8						139.5
TOTALS		2.4	120	240	14.2	100	530	2.0	3556	11166	540

CURB & GUTTER AND WALK (B)

STATIONING	CONCRETE C & G B424 (m)	100 mm CONCRETE WALK (m2)	100 mm CONC. PED. RAMP EXP. AGG. (EACH) (1)	150 mm CONCRETE WALK (m2) (2)
3+299-3+311 (WALK)		40.3	1	
3+329-3+336 (WALK)		16.8	2	
3+356-3+620 (WALK)		633.6	2	
3+648-3+768 (WALK)		288.0	2	
3+786-4+100 (WALK)		753.6	2	
3+164-3+220 (MEDIAN)	112	466.3		
3+330 (MEDIAN)	39.8	72.9		
3+345-3+614 (MEDIAN)	274	703.4		
3+648-3+762 (MEDIAN)	226.1	221.4		
3+791-4+097 (MEDIAN)	610	1114.7		
3+112-3+316	358.2			
3+345-3+624	300.0			
3+644-3+751	158.2			
3+781-4+107	351.2			
4+118-4+134	27.4			
3+164				3.75
3+614				3.75
3+644				3.75
3+762				3.75
4+097				3.75
TOTALS	2457	4311	9	18.75

(1) INCIDENTAL TO CURB & GUTTER

(2) USED ON MEDIAN NOSE

PAVEMENT REMOVAL AND SAWING (C)

STATIONING	REMOVE CONCRETE PAVEMENT (m2)	REMOVE CONCRETE C & G (m)	REMOVE BITUMINOUS PAVEMENT (m2)	SAWING CONCRETE PAVEMENT (m)	SAWING BITUMINOUS PAVEMENT (m)
3+122-3+220	1760.00				
LOOP "A"	700.00	40	734.9		6.0
LOOP "B"	632.00	88	514.7		6.0
LOOP "C"	698.00		759.0		6.0
LOOP "D"	615.00		657.3		6.0
3+330			74.2		7.3
3+416-3+658 LT			580.8		
3+435-3+658 RT			535.2		
3+481-3+658	1954.00				
3+658-4+380			7725.4		12.2
3+112				16.3	
3+220				16.3	
3+481				14.4	
3+220-3+236				16	
TOTALS	6359	128	11581.5	63	43.5

EXISTING DRAINAGE ITEMS (E)

STATIONING	INPLACE	REMOVE PIPE-CULV (m)	SALVAGE PIPE-CULV (m)	INSTALL PIPE-CULV (m)	CB OR MH
3+143 LT					EX CB 1(REMOVE)
3+143 RT					EX CB 2(REMOVE)
3+188 RT					EX MH 2(REBUILD)
3+230 LT					EX CB 3(REMOVE)
3+230 RT					EX CB 4(REMOVE)
3+230 RT					EX MH 3(REBUILD)
3+306	724 mm x 25.6 m R.C. PIPE-ARCH W/APRONS			16.5 LT/9.7 RT	
LOOP "A"	724 mm x 16.5 m R.C. PIPE-ARCH W/APRONS	8	12.2		
LOOP "B"	560 mm x 13.4 m R.C. PIPE-ARCH W/APRONS	4.4	12.7		
LOOP "C"	724 mm x 23.2 m R.C. PIPE-ARCH W/APRONS	25			EX CB 5(REMOVE)
LOOP "D"	724 mm x 23.2 m R.C. PIPE-ARCH W/APRONS	13	14		
NBL CSAH 22	560 mm x 14.6 m R.C. PIPE-ARCH W/APRONS			12.7	
EX.CB 5-EX.CB 6	600 mm x 45.7 m R.C. PIPE	45.7			
3+409	900 mm x 64.6 m R.C. PIPE W/APRONS				EX CB 6(REMOVE)
3+617	450 mm x 19.2 m CMP W/APRONS	19.2			
3+664	450 mm x 9.8 m CMP	9.8			
3+925	400 mm x 7.3 m CMP	7.3			
3+931	450 mm x 8.5 m CMP W/APRONS	10.1			
3+993	400 mm x 7.3 m CMP	7.3			
4+039	400 mm x 18.9 m CMP W/APRONS	20.2			
4+046	600 mm x 18.6 m CMP W/APRONS	20.7			
4+132	400 mm x 7.9 m CMP	7.9			
4+144	400 mm x 7.3 m CMP	7.3			
4+155	400 mm x 7.3 m CMP	7.3			
TOTALS		213	38.9	38.9	

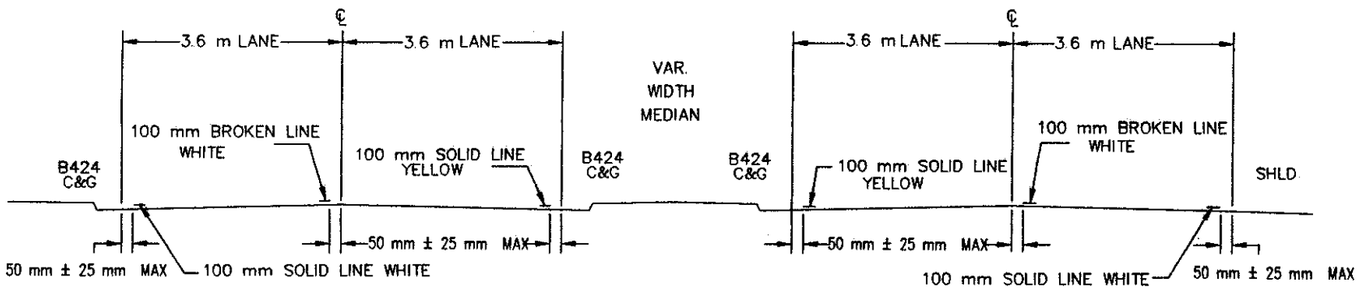
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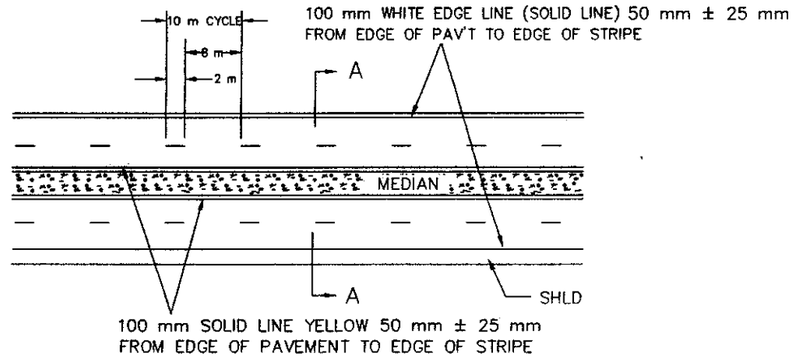
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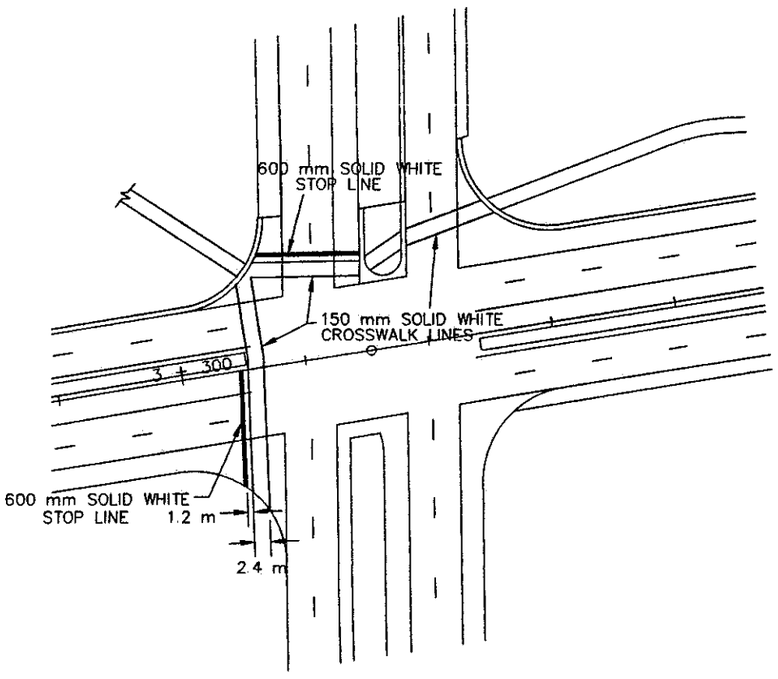
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SECTION A – A



TYPICAL 4–LANE DIVIDED LANE MARKINGS



EPOXY

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON–METALLIC), OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 60 km/h OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO–TRACK SYSTEM.

AN EPOXY RESIN LINE 100 mm WIDE AND 380 µm THICKNESS (WET), REQUIRES AN APPLICATION RATE OF 120 g/L OF COMPONENTS FOR 97 m OF LINE. GLASS BEADS SHALL BE APPLIED AT A RATE SUFFICIENT TO ACHIVE AN ACCEPTABLE NO–TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 10° C OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY MARKINGS.

GENERAL REQUIREMENTS

THE ENGINEERS INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD SPOTTING, LOCATION AND INSPECTION. THE ENGINEER WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. BROKEN LINE INTERVALS WILL NOT BE MARKED. LONGITUDINAL JOINTS. PAVEMENT EDGES, AND EXISTING MARKINGS SHALL SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN, OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF ± 6 mm FROM SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 76 mm FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 50 mm. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINT. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

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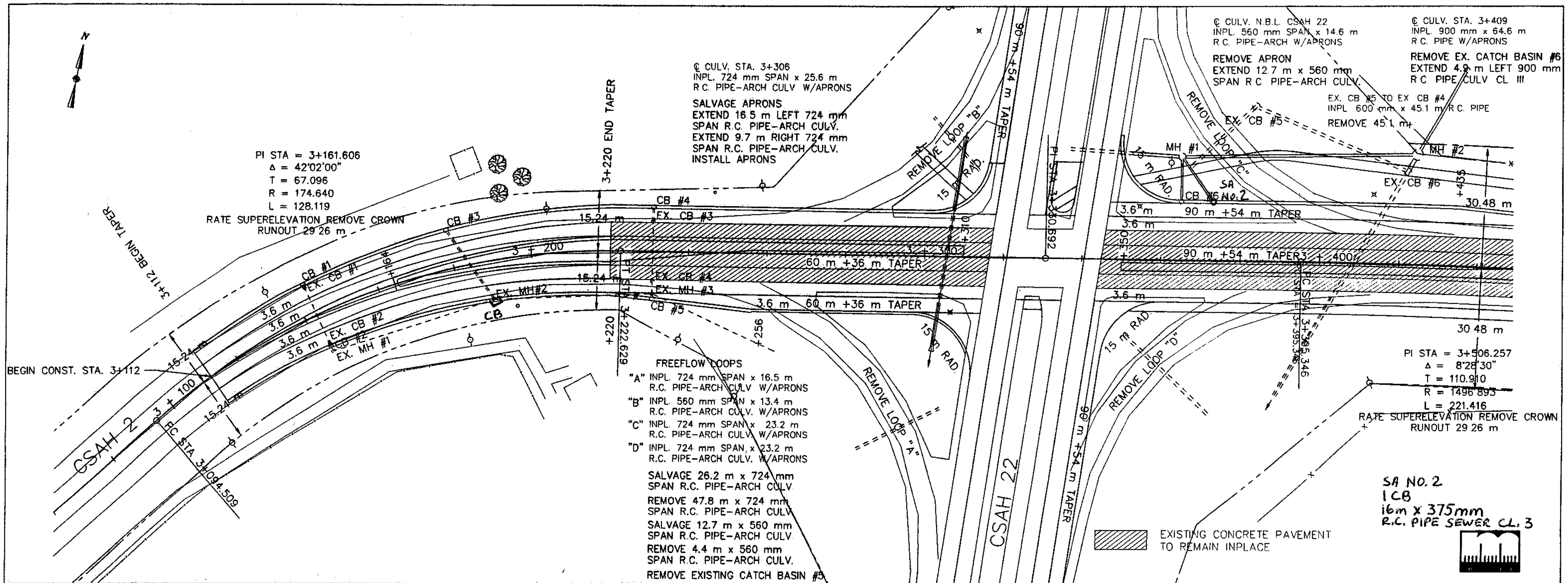
ENGINEERING

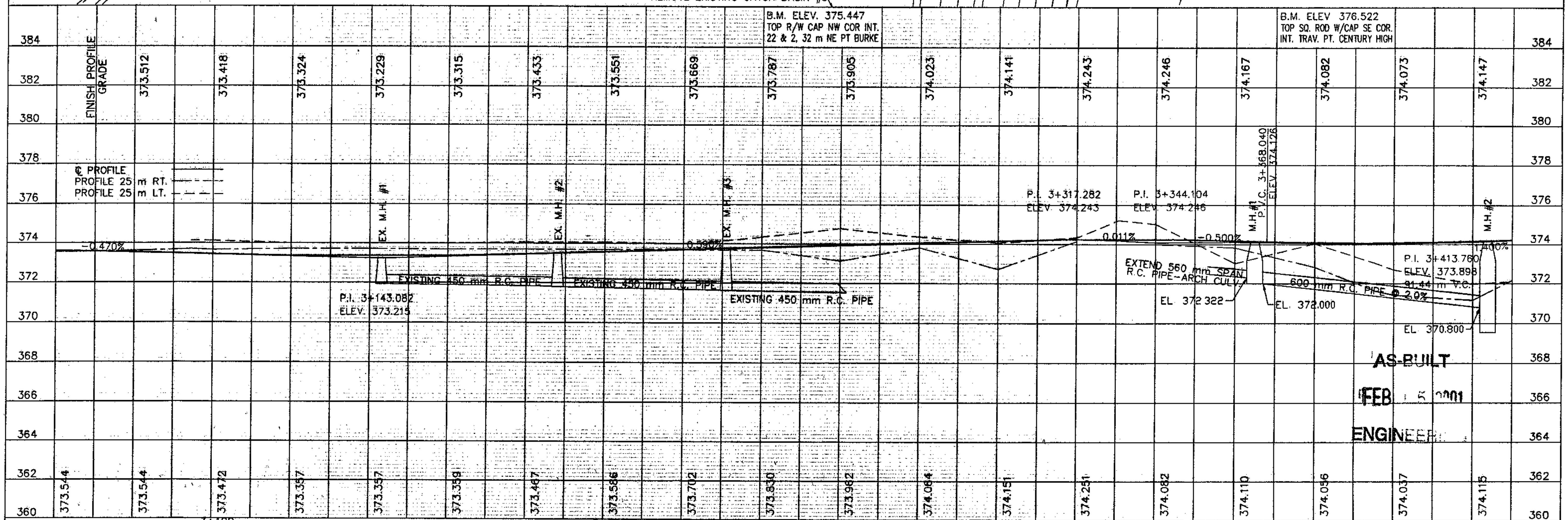
CERTIFIED BY Lance M Bimiuk PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

S.A.P. 55–602–14

PERMANENT
PAVEMENT MARKING DETAILS

SHEET 29 OF 41 SHEETS





GRADING & STORM SEWER | CERTIFIED BY Kay M Bienick PROFESSIONAL ENGINEER REG. NO. 19917 5/22 19 97 | S.A.P. 55-602-14 | SHEET 5 OF 41 SHEETS

Addition
1 CB
28.6 m x 300mm PIPE

MH #2
CB #6
+435
30.48 m
2.4 m CONCRETE PATH
+489
CB #7
CB #8
3 + 500
90 m +54 m TAPER
3 + 600
+461
+479
+533
PI STA = 3+506.257
Δ = 8°28'30"
T = 110.910
R = 1496.893
L = 221.416

CONSTRUCT SCHOOL ENT
LT STA 3+629

CONSTRUCT SCHOOL ENT
RT STA 3+777

+629 (SCHOOL ENT.)
15 m RAD.
C.B.
CB #9
2.4 m CONCRETE PATH
60 m +36 m TAPER
3.6 m
3.6 m
3.6 m
3 + 700
3.6 m
3.6 m
3.6 m
+703
+739
30.48 m
11 m RAD.
+764
+777 (SCHOOL ENT.)
CSAH 2
1+000
PC 1+023.718
+629 (ENT.)
22.86 m
+617.14
PT 1+054.081
PC 1+054.081
PT 1+082.709
1+089.676
+640
+670.48
45.72 m T.E.

Ⓐ PI STA = 1+039.080
Δ = 67°28'42"
T = 15.362
R = 23.0
L = 27.088

Ⓑ PI STA = 1+070.585
Δ = 71°17'23"
T = 16.494
R = 23.0
L = 28.618

N

EXISTING CONCRETE PAVEMENT
TO REMAIN INPLACE

℄ CULV. STA. 3+617
INPL. ~~450~~ 600 mm x 19.2 m
CMP W/APRONS
REMOVE ~~19.2 m CMP~~ 20 m R.C.
NO CULV REQUIRED

ENT. RT. STA. 3+664
INPL. 450 mm x 9.8 m CMP
REMOVE 9.8 m CMP
MOVE ENT. TO STA. 3+629
F & I 450 mm x ~~14.63~~ 22.5 m
C. S. PIPE W/APRONS

386
384
382
380
378
376
374
372
370
368
366
364
362

FINISH PROFILE GRADE
℄ PROFILE
PROFILE 25 m RT.
PROFILE 25 m LT.

374.305 374.545 374.825 375.105 375.385 375.664 375.917 376.132 376.310 376.450 376.552 376.617 376.667 376.717 376.760 376.714 376.668 376.622

P.V.T. 3+459.480
ELEV. 374.538

P.V.C. 3+535.680
ELEV. 375.605

P.V.T. 3+657.600
ELEV. 376.611

P.I. 3+596.640
ELEV. 376.458
121.92 m V.C.

P.I. 3+718.560
ELEV. 376.763

1.400%
0.250%
-0.230%

374.299 374.517 374.779 375.065 375.352 375.352 375.892 376.130 376.349 376.535 376.633 376.697 376.710 376.719 376.757 376.777 376.784 376.777

3+500 3+600 3+700

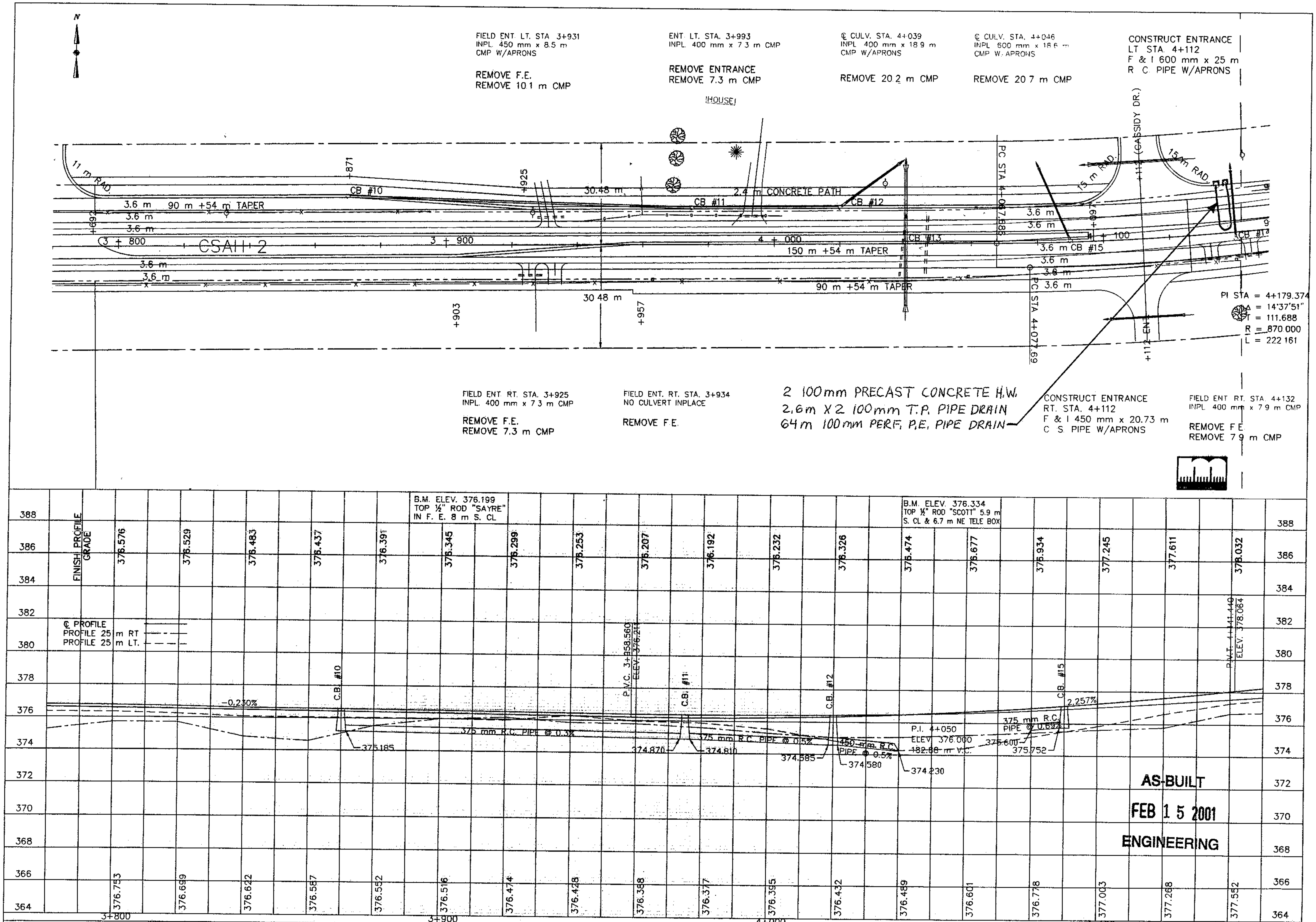
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GRADING & STORM SEWER

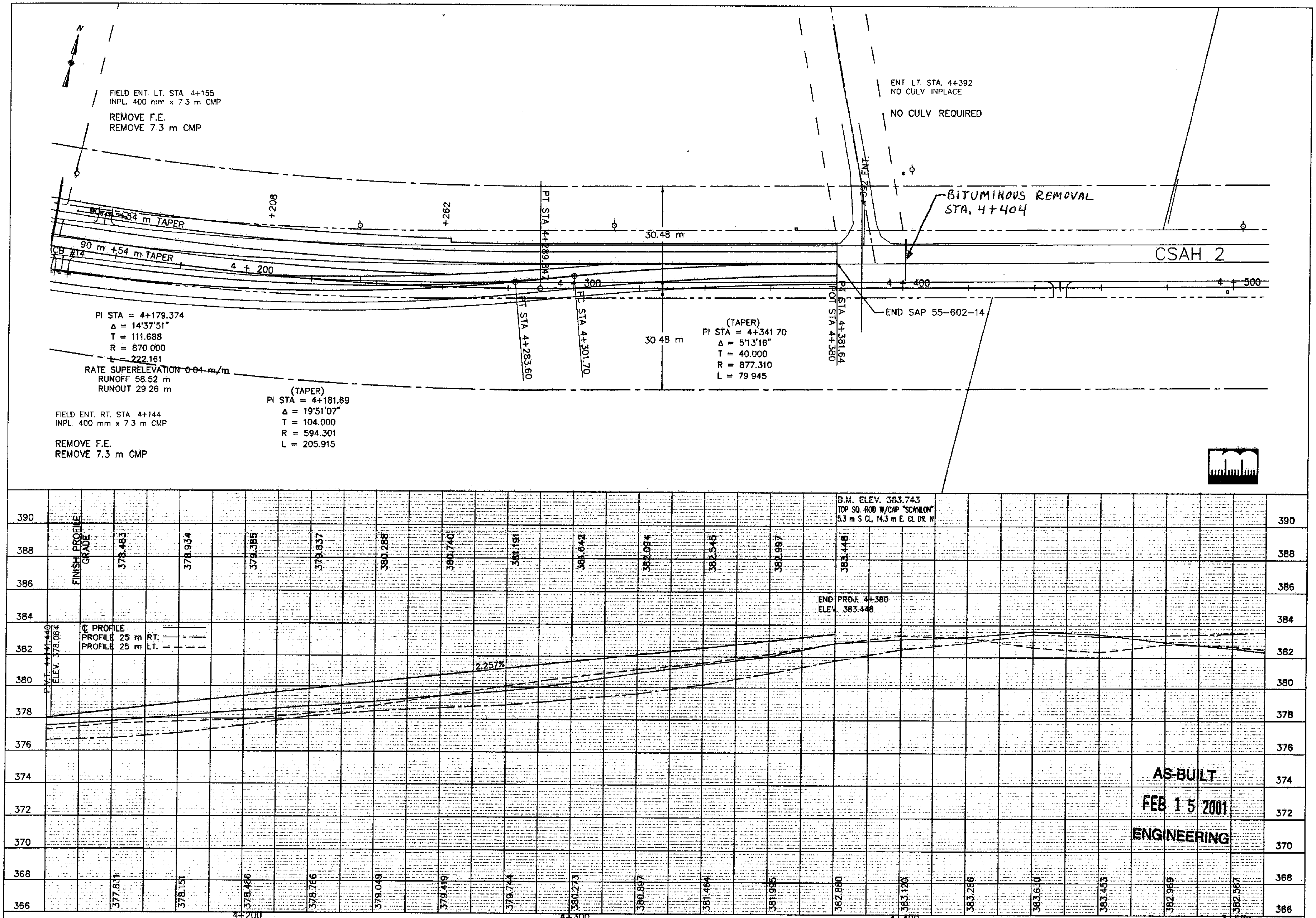
CERTIFIED BY Lee M Brimek PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

S.A.P. 55-602-14

SHEET 6 OF 41 SHEETS



GRADING & STORM SEWER	CERTIFIED BY Kaye M Bieniek (PROFESSIONAL ENGINEER) REG. NO. 19917 5/22 1997	S.A.P. 55-602-14	SHEET 7 OF 41 SHEETS



GRADING & STORM SEWER | CERTIFIED BY Kay M Bieniek PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997 | S.A.P. 55-602-14 | SHEET 8 OF 41 SHEETS

STORM SEWER

NOTES	STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION QUANTITY DESIGN M.H.	CONSTRUCTION QUANTITY DESIGN C.B.	CONSTRUCTION QUANTITY E.S.T.	CONSTRUCTION QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	300 mm R.C. PIPE m	375 mm R.C. PIPE m	450 mm R.C. PIPE m	525 mm R.C. PIPE m	600 mm R.C. PIPE m	675 mm R.C. PIPE m	750 mm R.C. PIPE m	900 mm R.C. PIPE m		APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
①	C.B. 1	3+143.08	8.65 LT.		N	1		373.164				372.102 S	806	816	825				1.0											C.B. 2	0.47	III
②	EX. C.B. 1	3+143.08	7.62 LT.		C			373.163				372.097 S																				
①	C.B. 2	3+143.08	8.65 RT.		N	1		373.056	372.021 N			371.945 S	806	816	825				1.0											EX. M.H. 1	0.28	III
②	EX. C.B. 2	3+143.08	7.62 RT.		C			373.035	372.024 N			371.947 S																				
③	EX. M.H. 1	3+143.08	10.06 RT.	C				373.280	371.941 N			371.926 E																	EX. M.H. 2	0.30	IV
④	EX. M.H. 2	3+188.80	10.06 RT.					373.317	371.876 N	371.801 W		371.786 E																	EX. M.H. 3	0.30	IV
	C.B. 3	3+180	9.91 LT.		N	1		373.373				372.093 S	806	816	825			21.8											EX. M.H. 2	0.99	IV
①	C.B. 4	3+230.88	11.2 LT.		A	1		373.629				371.965 S	806	816	825			6.0											EX. M.H. 3	1.03	IV
②	EX. C.B. 3	3+230.88	7.62 LT.		C			373.609				371.932 S																				
	C.B. 5	3+230.88	12.27 RT.		A	1		373.488				371.793 N	806	816	825			1.4											EX. M.H. 3	0.96	IV
②	EX. C.B. 4	3+230.88	8.47 RT.		C			373.538	371.786 N			371.737 S																				
④	EX. M.H. 3	3+230.88	10.91 RT.	C				373.532	371.737 N	371.661 W	371.780 S	371.630 E																	OUTLET		IV
	C.B. 6	3+365	14.8 LT.		N	1		373.871				372.734 N	806	816	825				11.4										M.H. 1	3.80	III
	C.B. 7	3+490	11.2 LT.		N	1		374.977	373.800 S			373.780 N	806	816	825				7.8										C.B. 8	0.50	III
	C.B. 8	3+490	3.4 LT.		N	1		374.941				373.875 N	806	816	825				19.0									1	OUTLET	0.50	III
	C.B. 9	3+646	17.06 LT.		N	1		376.230				375.330 S	806	816	825				32.7									1	OUTLET	0.40	III
	C.B. 10	3+870	14.8 LT.		N	1		376.174				375.185 E	806	816	825				105.1										C.B. 11	0.30	III
	C.B. 11	3+975	11.2 LT.		N	1		376.023	374.870 W			374.810 E	806	816	825				45.0										C.B. 12	0.50	III
	C.B. 12	4+020	11.2 LT.		A	1		376.158	374.585 W			374.580 N	806	816	825					20.4								1	OUTLET	0.50	III
	APRON	4+020	20.1 RT.						374.600 S			374.421 N													19.3		1		C.B. 13	0.82	II
	C.B. 13	4+040	0.4 LT.	54-4020		1		376.422	374.421 S			374.411 N	806	816	825										21.3			1	OUTLET	0.82	II
	C.B. 14	4+140	2.1 RT.		C	1		377.970				376.770 N				700-8	721		18.6									1	OUTLET	1.30	III
	C.B. 15	4+090	0.4 LT.		N	1		376.921				375.752 N	806	816	825				22.2									1	OUTLET	1.54	III
	M.H. 1	3+365	~~26.5 18.91 RT.~~ LT	78-4020		1		373.528	372.300 S	372.322 W	371.780 S	372.000 E				700-8	715						59.4						M.H. 2	2.00	II
⑤	M.H. 2	3+423.82	~~18.91 RT.~~ 27.1 LT	60-4020		1		373.720	369.782 N	370.800 W	371.025 E	369.553 S				700-8	715									4.9			EXISTING CULVERT		III

* ROCK EXCAVATION WILL BE CONSIDERED INCIDENTAL FOR STORM SEWER TRENCH EXCAVATION.

① PIPE LENGTHS SHOWN ARE FOR EXTENDING EXISTING INPLACE PIPE.

② STRUCTURE TO BE REMOVED SPEC. 2104.3B5.

③ NO CHANGE

④ ADJUST STRUCTURE TO MEET NEW TOP OF CASTING ELEVATION.

⑤ 600 mm R.C. PIPE INLET NORTH BY OTHERS

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FEB 15 2001

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CERTIFIED BY Kaye M Poirier PROFESSIONAL ENGINEER REG. NO. 19917 5/22 1997

STATE AID PROJ. NO. 55-602-14