

TOWN OF LA RONGE

MOWERY SUBDIVISION PHASE 1 (2010)

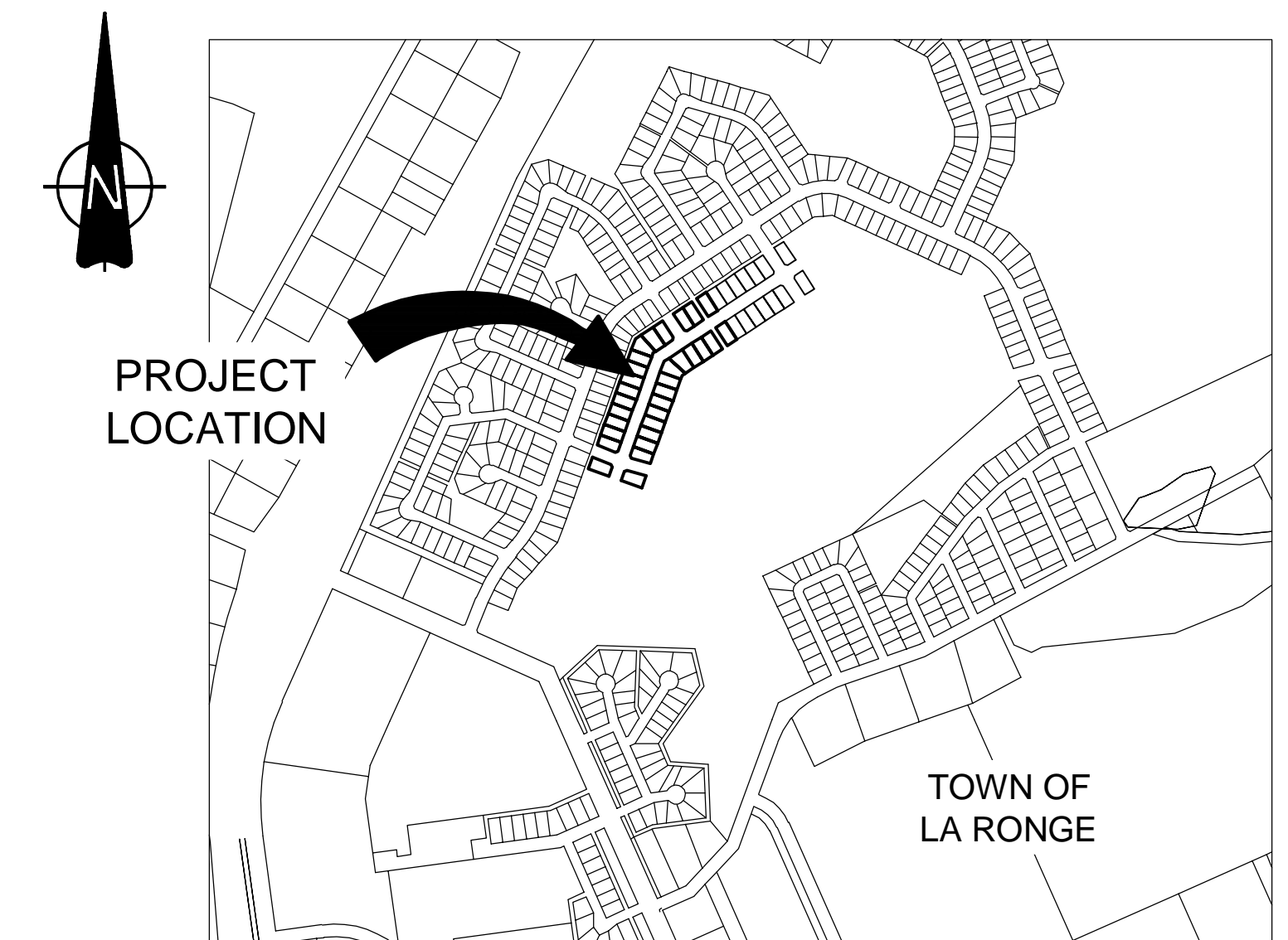
AE Project No. 20084372

SWC Contract No. 2008C-20106

RECORD DRAWING



DRAWING LIST			
SHEET No.	DRAWING No.	REV.	DRAWING TITLE
GENERAL			
-	000	2	COVER SHEET
-	001	2	LEGEND SHEET
CIVIL			
1	100	2	OVERALL LOCATION PLAN
2	101	2	LOT GRADING PLAN
3	102	2	SEWER AND WATER PLAN
4	103	2	PLAN AND PROFILE - SHEET 1
5	104	2	PLAN AND PROFILE - SHEET 2
6	105	2	PLAN AND PROFILE - SHEET 3
7	106	2	DETAILS - SHEET 1
8	107	2	DETAILS - SHEET 2



**Associated
Engineering**

*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

WATER SYMBOLS

SYMBOL	DESCRIPTION
	GUARD POST
	WATER METER VAULT
	IRRIGATION BOXES
	IRRIGATION SLEEVES
	WATER WELL
	MONITORING WELL LOCATION
	PIEZOMETER LOCATION

FIRE HYDRANTS

	3-NOZZLE
	SIAMESE TWIN BUILDING
	2-NOZZLE

JOINTS AND FITTINGS

	BLIND FLANGE
	FLANGE
	CAP/PLUG
	COUPLING
	DISMANTLING JOINT
	REDUCER
	THRUST BLOCK
	BEND 90°
	BEND 45°
	TEE FLANGE

VALVES

	AIR RELEASE VALVE
	AIR VACUUM VALVE
	AIR RELEASE/VACUUM VALVE
	BLOW-OFF
	BUTTERFLY
	CHECK
	FLAP GATE
	GATE VALVE
	PLUG VALVE
	BALL VALVE
	GLOBE VALVE
	CURB STOP

SEWER SYMBOLS

	SAN. SEWER CLEAN OUT
	SAN. SEWER MANHOLE
	STORM MANHOLE
	STORM CATCH BASIN
	STORM CULVERT
	STORM CATCH BASIN MANHOLE
	STORM OUTFALL
	STORM SEWER FLOW ARROWS
	CURB INLET

FUEL/ELECTRICAL/COMMUNICATION SYMBOLS

	GAS METER
	GAS VALVE
	TRANSFORMER, PAD MOUNT
	POWER VAULT
	POWER KIOSK
	TRANSMISSION TOWER
	UTILITY POLE
	UTILITY POLE ANCHOR
	WALK WAY LIGHTING
	SINGLE STREET LIGHT
	DOUBLE STREET LIGHT
	BRIDGE TRAFFIC LIGHT
	CANTILEVER TRAFFIC LIGHT
	POST TRAFFIC LIGHT
	CANTILEVER/POST TRAFFIC LIGHT
	UNDERGROUND CONDUIT
	TELEPHONE RISER
	TELEPHONE VAULT
	TELEPHONE PEDESTAL

SURFACE FEATURES

	SIGN ON POST
	SIGN ON CANTILEVER
	SIGN ON BRIDGE
	CONIFEROUS TREE

LINE TYPES

SYMBOL	DESCRIPTION
	FENCE
	CABLE TELEVISION (AERIAL)
	CABLE TELEVISION (BURIED)
	TELEPHONE (AERIAL)
	TELEPHONE (BURIED)
	FIBER OPTICS (BURIED)
	POWER (AERIAL)
	POWER (BURIED)
	SANITARY SEWER
	SANITARY FORCE MAIN
	STORM SEWER
	NATURAL GAS (BURIED)
	POTABLE WATER/TOP OF PIPE ELEVATION
	RAW WATER/T.O.P.
	IRRIGATION
	CHILL WATER SUPPLY
	CHILL WATER RETURN
	HIGH PRESSURE STEAM
	CONDENSATE
	OIL

SYMBOL	DESCRIPTION
	DITCH/SWALE
	MARSH/SWAMP PERIMETER
	RAILROAD
	EDGE OF TREES/SHRUBS

SYMBOL	DESCRIPTION
	CONTOUR (DEPRESSION)
	INTERMITTENT CONTOUR
	INDEX CONTOUR
	EASEMENT (PERMANENT)
	EASEMENT (TEMPORARY)
	PROPERTY LINE
	TOP OF SLOPE
	TREE LINE

PROFILE LINE TYPES

SYMBOL	DESCRIPTION
	POTABLE WATER MAIN
	SANITARY SEWER MAIN
	STORM SEWER MAIN
	GROUND

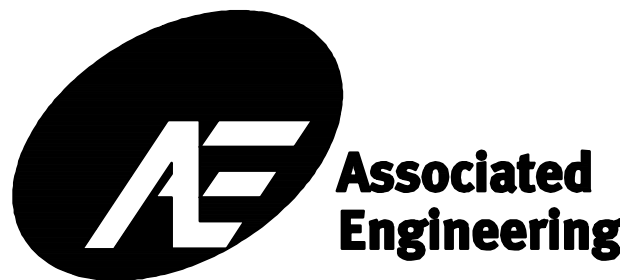
SURVEY SYMBOLS

SYMBOL	DESCRIPTION
	LEGAL IRON PIN (PIP/FIP)
	LOCAL CONTROL POINT
	MONUMENT (SURFACE)
	MONUMENT (INCASED)
	TEST PIT
	FIRST ORDER CONTROL POINT
	HORIZONTAL PHOTO CONTROL POINT
	VERTICAL PHOTO CONTROL POINT
	SPOT ELEVATION
	GUTTER ELEVATION
	TESTPIT / TESTHOLE LOCATION

PROFILE SYMBOLS

SYMBOL	DESCRIPTION
	POINT OF INTERSECTION
	VERTICAL POINT OF INTERSECTION
	BEGINNING OF VERTICAL CURVE

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PROJECT No.	20084372			TOWN OF LA RONGE	MOWERY SUBDIVISION PHASE 1			
SCALE	N/A							
DRAWN								
DESIGNED	N.A.							
CHECKED	N.A.							
APPROVED	N.A.			GENERAL LEGEND SHEET	DRAWING NUMBER		REV. NO.	SHEET
DATE	MARCH 2010	INITIAL	DATE		4372-001		2	<div><div>:</div><div>8</div></div>

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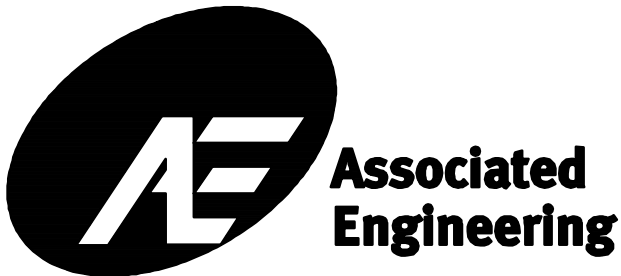
LEGEND

- EXISTING LOTS
- PHASE 1 LOTS
- FUTURE LOTS



NO.	DATE	ENG.	BY	SUBJECT
2	2012/07/13	D.T.	B.M.	RECORD DRAWING
1	2010/05/12	D.T.	R.M.	ISSUED FOR CONSTRUCTION
0	2010/03/16	D.T.	C.F.	ISSUED FOR TENDER

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DRAWN	C. FRANKLIN
DESIGNED	R. MCDOWELL
CHECKED	J. FOREST
APPROVED	D. THOMSON
DATE	MARCH 2010

TOWN OF LA RONGE

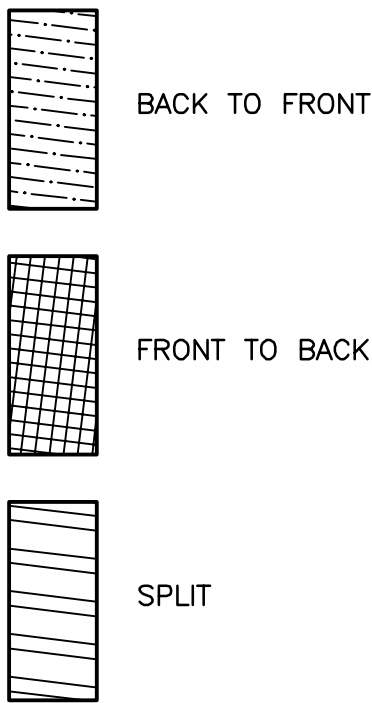
CIVIL
OVERALL LOCATION PLAN

MOWERY SUBDIVISION PHASE 1

DRAWING NUMBER	REV. NO.	SHEET
4372-100	2	1/8

WATER CURB STOP LOCATION	
TOP OF CURB ELEVATION @ C/L OF LOT SEWER INVERT AT PROPERTY LINE	512.04 509.21
MINIMUM GROUND AT FRONT OF HOUSE	512.40
LOT NUMBER	16
MINIMUM GROUND AT BACK OF HOUSE	512.60
GROUND ELEVATION AT BACK OF LOT	511.87 511.79

LOT GRADING



NOTES:

1. LOT LAYOUT IS BASED ON PROPOSED PLAN OF SUBDIVISION PROVIDED BY MERIDIAN SURVEYS AND DATED FEBRUARY 15, 2010.
2. ALL LOT FILL SHALL BE COMPACTED AS PER RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION AND REPORT PREPARED BY P. MACHIBRODA ENGINEERING LTD. DATED FEBRUARY 9, 2009.
3. ELEVATIONS ARE GEODETIC AND REFER TO THE GEODETIC BENCHMARK 90S3001 LOCATED ON THE SOUTHEAST SIDE OF LA RONGE AVENUE AT THE INTERSECTION WITH MACKAY STREET, BEHIND "CAMECO CORPORATION" BROWN WOOD SIDED BUILDING. THE GEODETIC ELEVATION IS 367.005

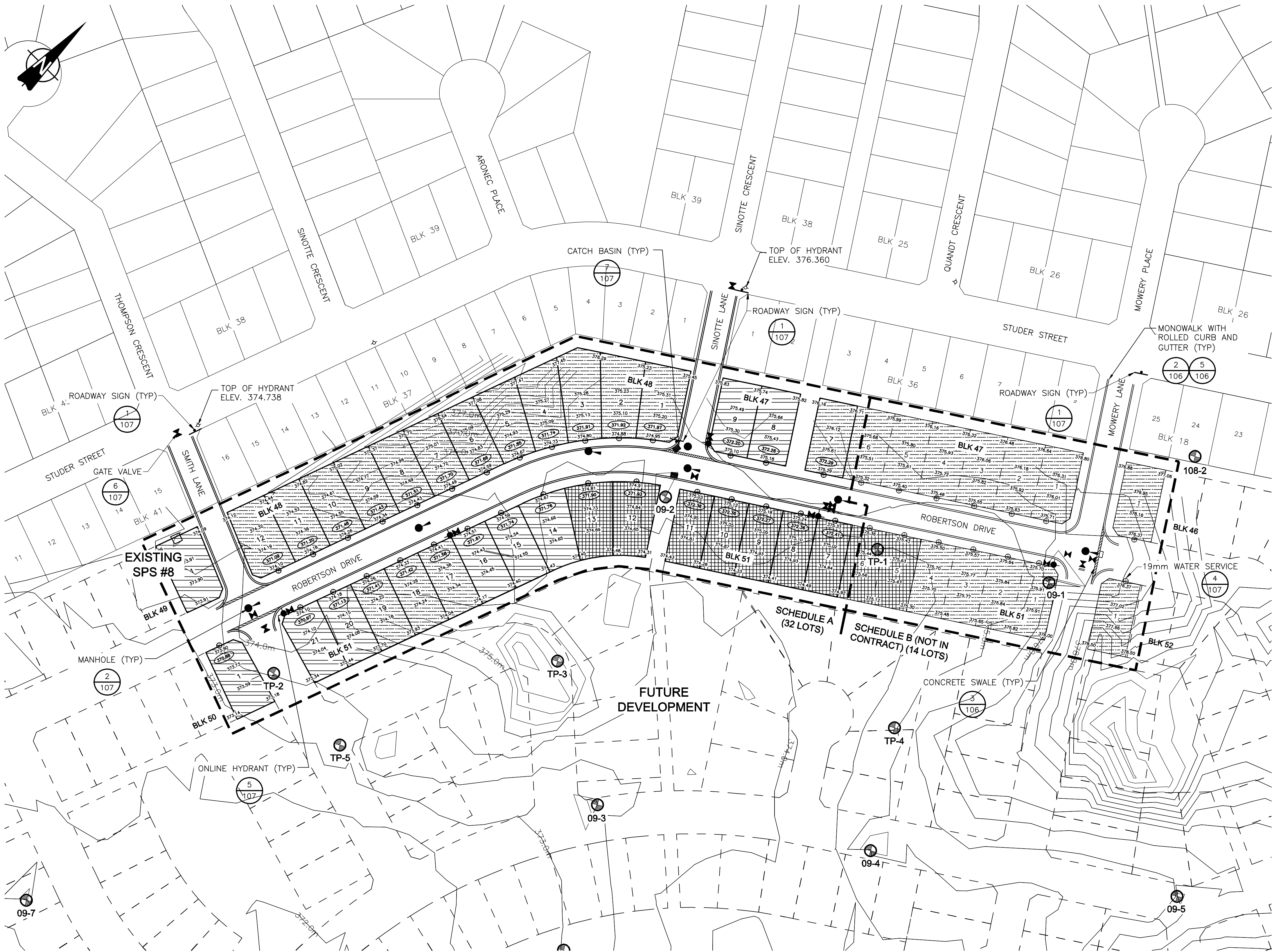
ROAD DESIGN WIDTH TABLE

STREET	WIDTH	STRUCTURE
ROBERTSON DRIVE	11.0m TRAVEL WIDTH ROLLED CURB & GUTTER BOTH SIDES	75mm AC (FUTURE) 125mm GRANULAR BASE 175mm GRANULAR SUB-BASE 150mm PREPARED SUB-GRADE
SMITH LANE	11.0m TRAVEL WIDTH ROLLED CURB & GUTTER BOTH SIDES	75mm AC (FUTURE) 125mm GRANULAR BASE 175mm GRANULAR SUB-BASE 150mm PREPARED SUB-GRADE
SINOTTE LANE	11.0m TRAVEL WIDTH ROLLED CURB & GUTTER BOTH SIDES	75mm AC (FUTURE) 125mm GRANULAR BASE 175mm GRANULAR SUB-BASE 150mm PREPARED SUB-GRADE
MOWERY LANE	11.0m TRAVEL WIDTH ROLLED CURB & GUTTER BOTH SIDES	75mm AC (FUTURE) 125mm GRANULAR BASE 175mm GRANULAR SUB-BASE 150mm PREPARED SUB-GRADE

TESTHOLE / TESTPIT DATA TABLE

TESTHOLES (JAN 22/09) — P. MACHIBRODA ENGINEERING LTD.			
09-1	GND. ELEV. 375.09	WATER TABLE ELEV. 374.19	(0m-0.25m) PEAT, ORGANIC, BLACK, ROOTLETS, FROZEN (0.25m-2.3m) GLACIAL TILL, SAND, SILTY, SOME GRAVEL, TRACE CLAY, COMPACT, WELL GRADED, FINE TO COARSE GRAINED, MOIST BROWN, COBBLES AND BOULDERS. WET, SEEPAGE, SOUGHING BELOW 900mm. AUGER REFUSAL ON ASSUMED BEDROCK @ 2.3m.
09-2	GND. ELEV. 374.56	WATER TABLE ELEV. 373.26	(0m-0.2m) PEAT, ORGANIC, BLACK, ROOTLETS, FROZEN (0.2m-3.5m) SILT, SOME SAND, TRACE CLAY, FIRM, NON TO LOW PLASTIC, MOIST, OLIVE BROWN. WET, SEEPAGE, SOUGHING BELOW 1.3m. TRACE SAND, COBBLES AND BOULDERS BELOW 1.8m. GRACIAL TILL, SAND, SILTY, SOME GRAVEL, TRACE CLAY, COMPACT, WELL GRADED, FINE TO COARSE GRINED, WET, BROWN, SEEPAGE, SOUGHING, COBBLES AND BOULDERS.
TESTPITS (JAN 22/09) — P. MACHIBRODA ENGINEERING LTD.			
TP-1	GND. ELEV. 374.47	WATER TABLE ELEV. 372.47	TOTAL DEPTH: 3.0m, 2 BIG BOULDERS.
TP-2	GND. ELEV. 373.51	WATER TABLE ELEV. 369.01	TOTAL DEPTH: 5.0m, COBBLES, BOULDERS.

*NOTE: COMPLETE TESTHOLE/TESTPIT INFORMATION IS AVAILABLE. CONTACT ASSOCIATED ENGINEERING 306-653-4969.



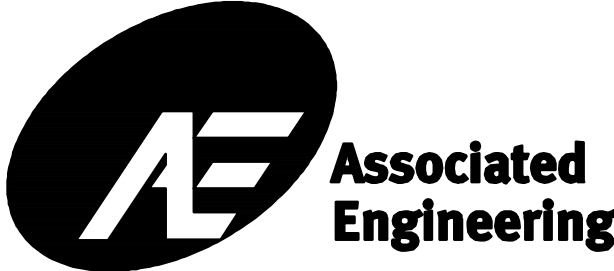
PLAN

SCALE 1:1000



NO.	DATE	ENG.	BY	SUBJECT
2	2012/07/13	D.T.	R.M.	RECORD DRAWING
1	2010/06/12	D.T.	R.M.	ISSUED FOR CONSTRUCTION
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SCALE	AS NOTED
DRAWN	C. FRANKLIN
DESIGNED	R. MCDOWELL
CHECKED	J. FOREST
APPROVED	D. THOMSON
DATE	MARCH 2010

TOWN OF LA RONGE

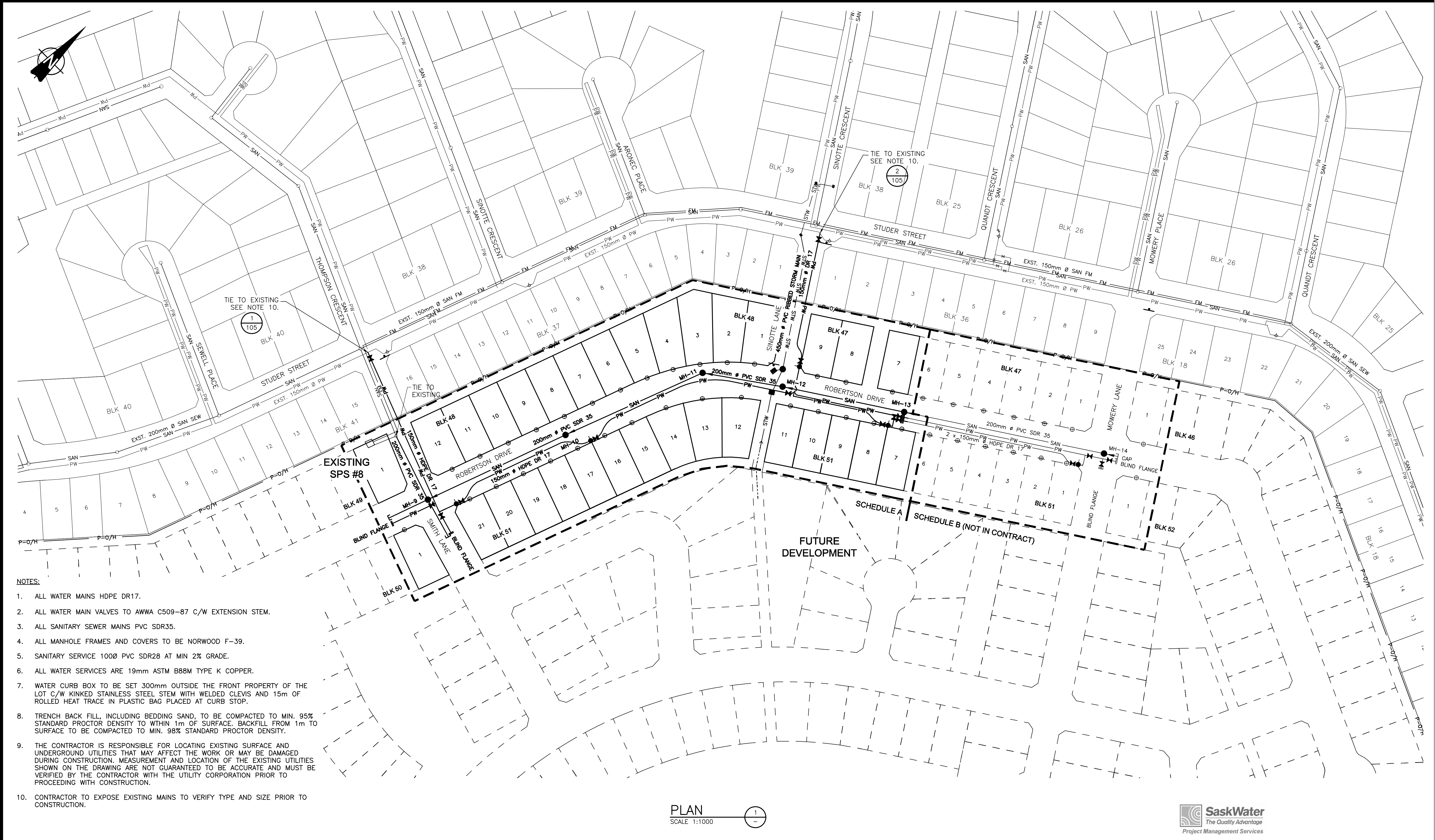
CIVIL
LOT GRADING PLAN

MOWERY SUBDIVISION PHASE 1

DRAWING NUMBER
4372-101

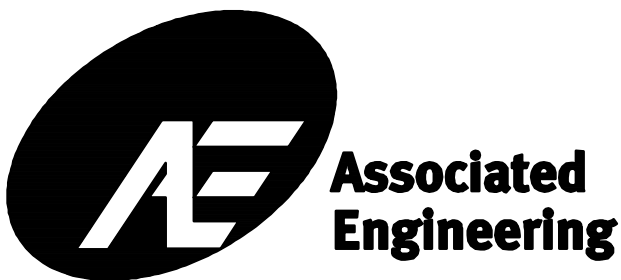
REV. NO.
2

SHEET
2/8



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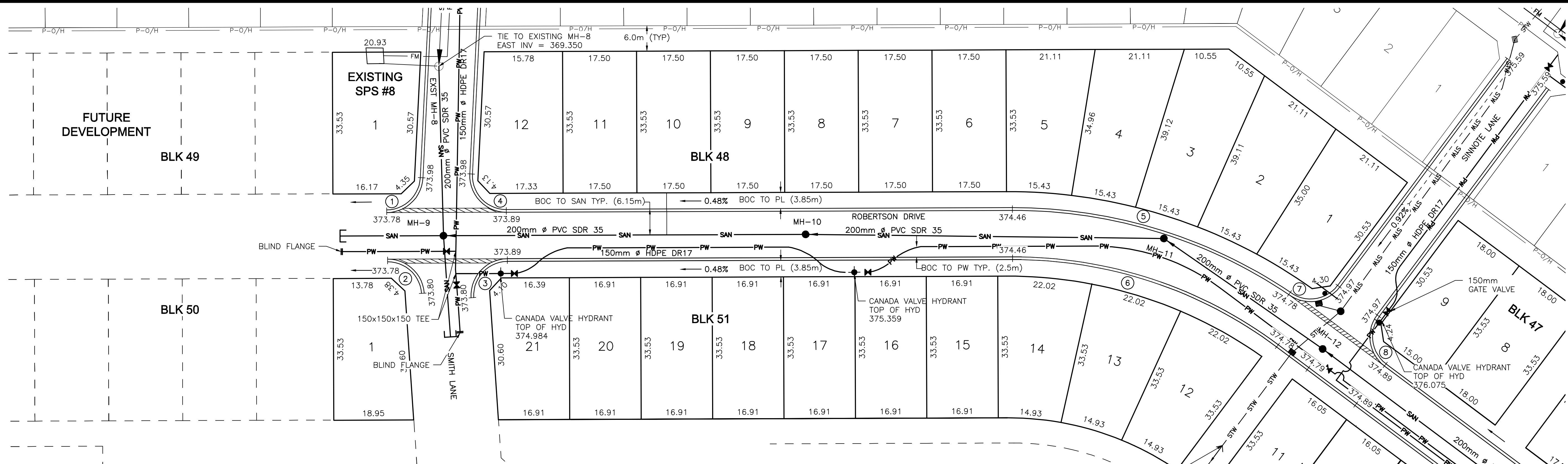
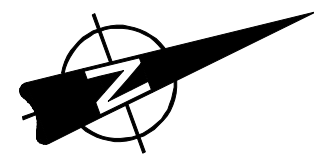


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TOWN OF LA RONGE
CIVIL SEWER AND WATER PLAN

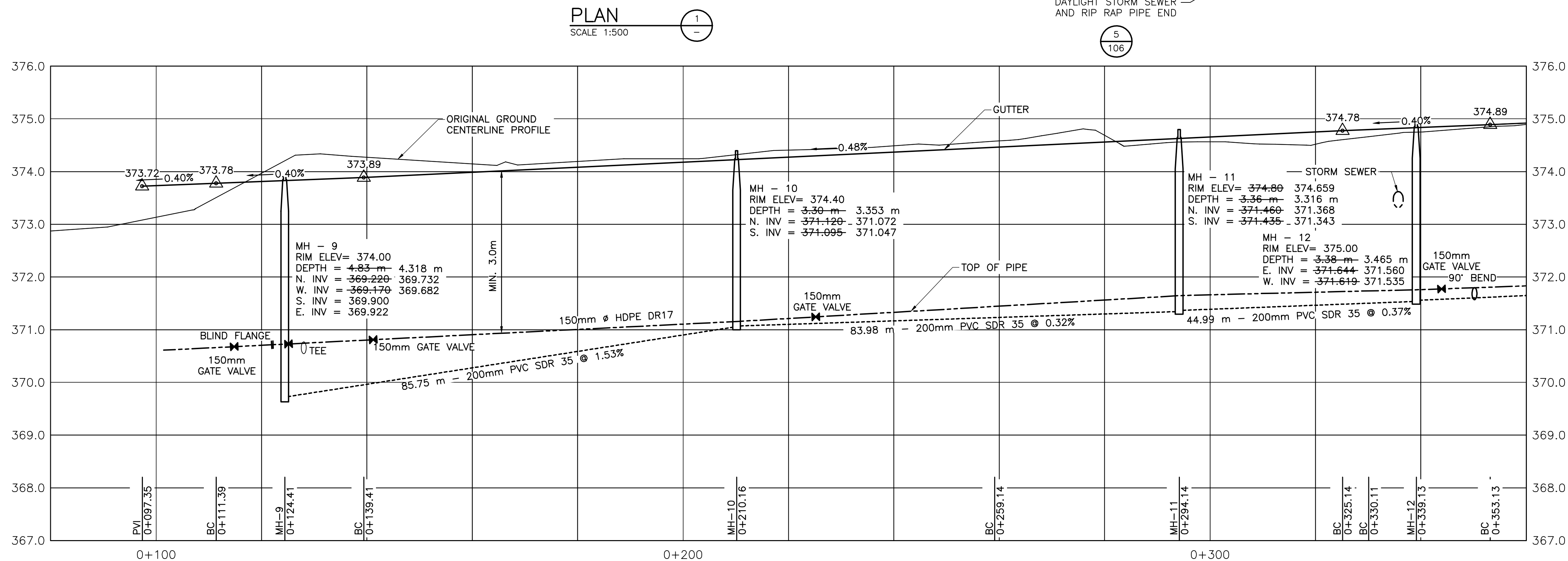
MOWERY SUBDIVISION PHASE 1		
DRAWING NUMBER	REV. NO.	SHEET
4372-102	2	3/8

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CURVE DATA

- ① 8.00 R TO BOC
 $\Delta = 92^{\circ}58'12''$
 $L_c = 12.15$
- ② 8.00 R TO BOC
 $\Delta = 93^{\circ}44'8''$
 $L_c = 12.04$
- ③ 8.00 R TO BOC
 $\Delta = 86^{\circ}15'52''$
 $L_c = 13.09$
- ④ 8.00 R TO BOC
 $\Delta = 87^{\circ}1'48''$
 $L_c = 12.96$
- ⑤ 117.53 R TO BOC
 $\Delta = 34^{\circ}1'56''$
 $L_c = 69.81$
- ⑥ 103.85 R TO BOC
 $\Delta = 36^{\circ}57'49''$
 $L_c = 67.00$
- ⑦ 8.00 R TO BOC
 $\Delta = 95^{\circ}10'8''$
 $L_c = 12.56$
- ⑧ 8.00 R TO BOC
 $\Delta = 90^{\circ}0'0''$
 $L_c = 12.56$



PROFILE

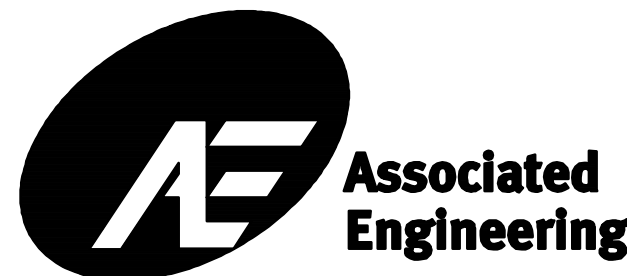
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APPROVED	D. THOMSON
DATE	MARCH 2010

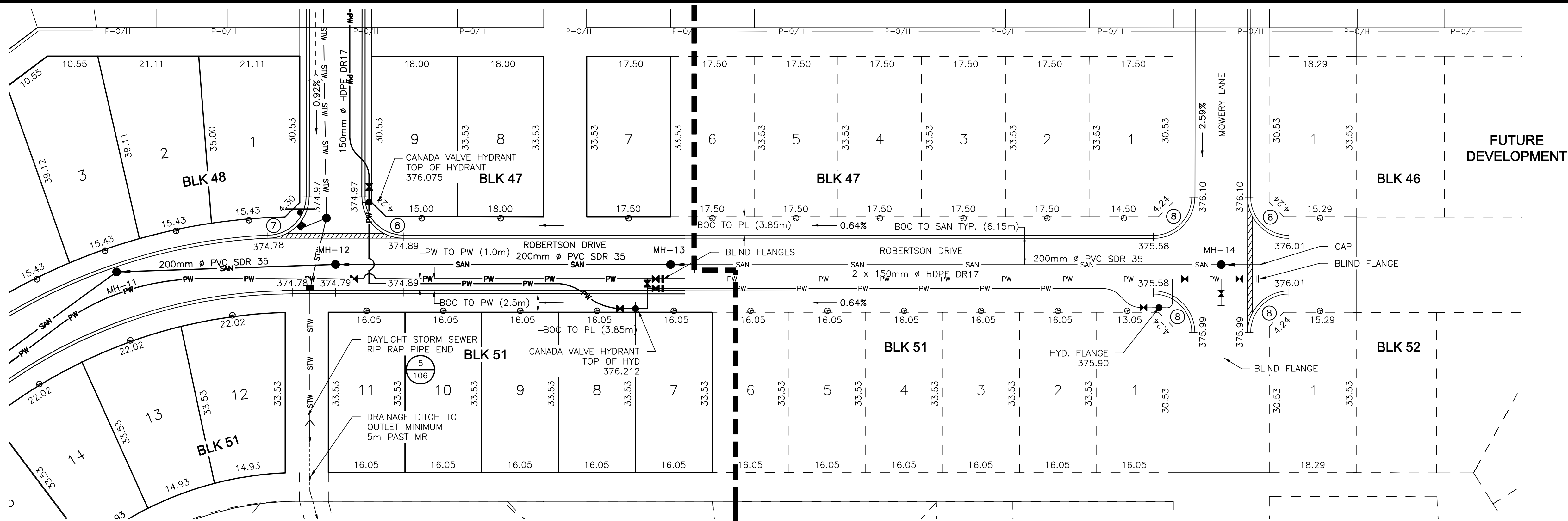
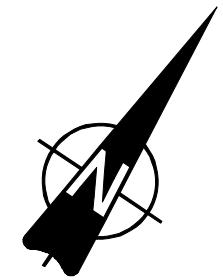
TOWN OF LA RONGE

CIVIL
PLAN AND PROFILE - SHEET 1

MOWERY SUBDIVISION PHASE 1

DRAWING NUMBER	REV. NO.	SHEET
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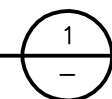
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SCHEDULE A SCHEDULE B (NOT IN CONTRACT)

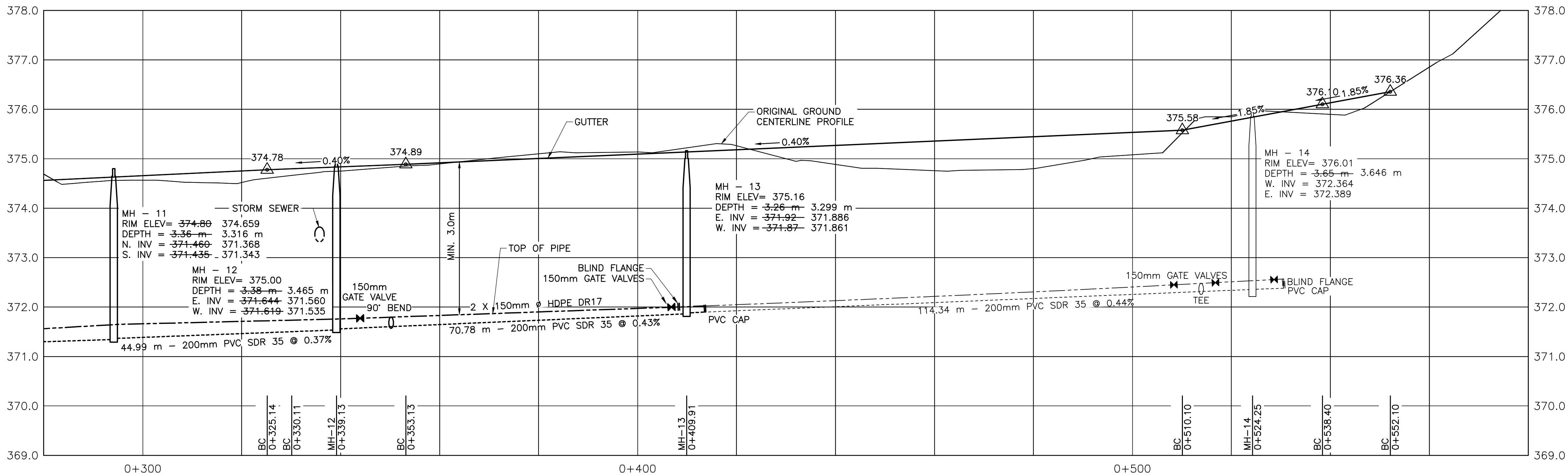
PLAN

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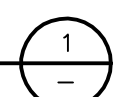
CURVE DATA

- ⑦ 8.00 R TO BOC
 $\Delta = 95^{\circ}10'8''$
 $L_c = 12.56$
- ⑧ 8.00 R TO BOC
 $\Delta = 90^{\circ}0'0''$
 $L_c = 12.56$



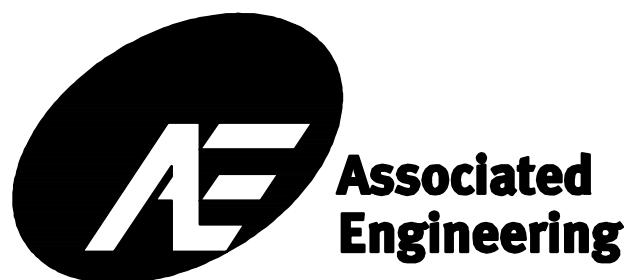
PROFILE

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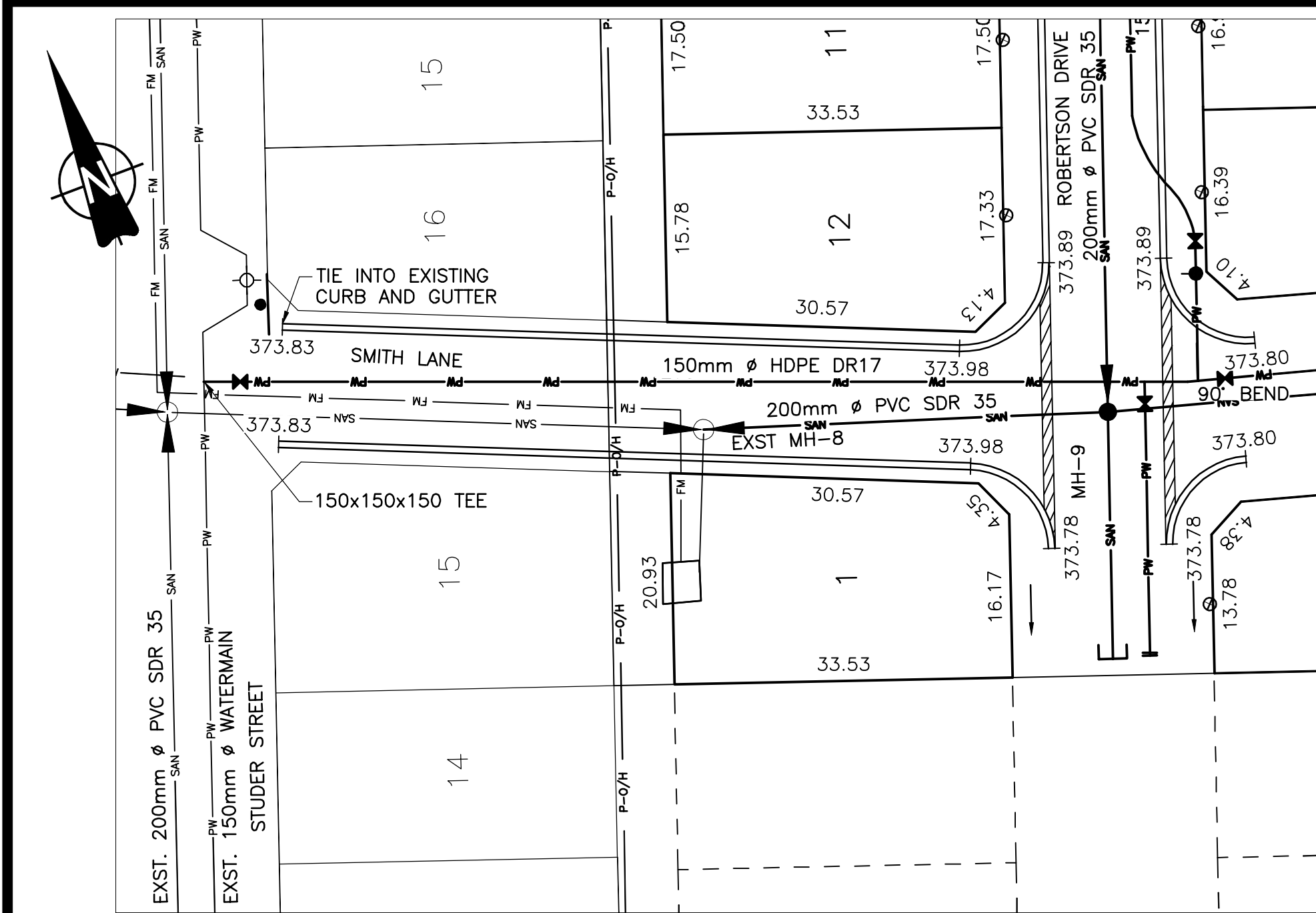
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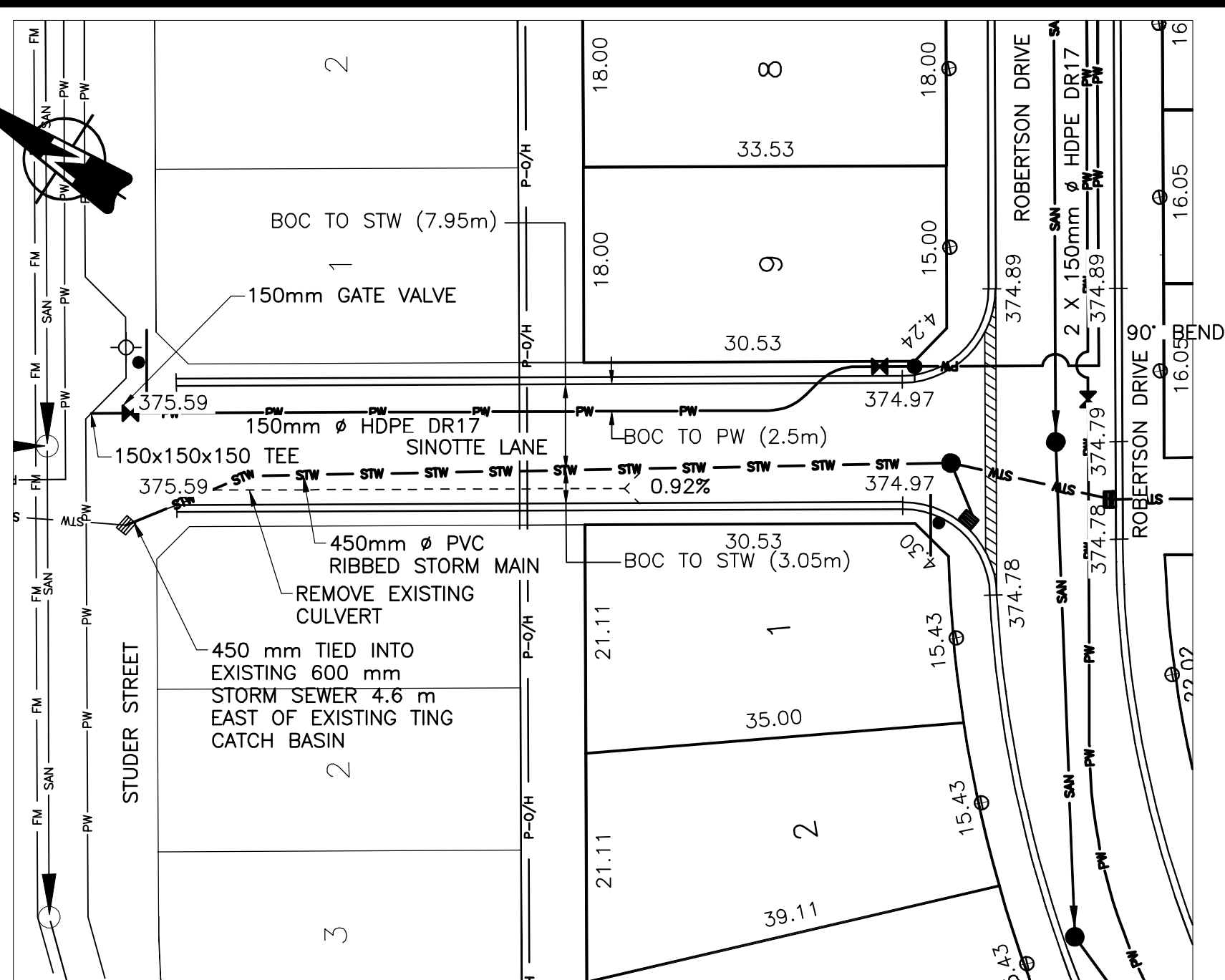


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APPROVED	D. THOMSON			CIVIL PLAN AND PROFILE - SHEET 2	DRAWING NUMBER	REV. NO.	SHEET
DATE	MARCH 2010	INITIAL	DATE		4372-104	2	5 8

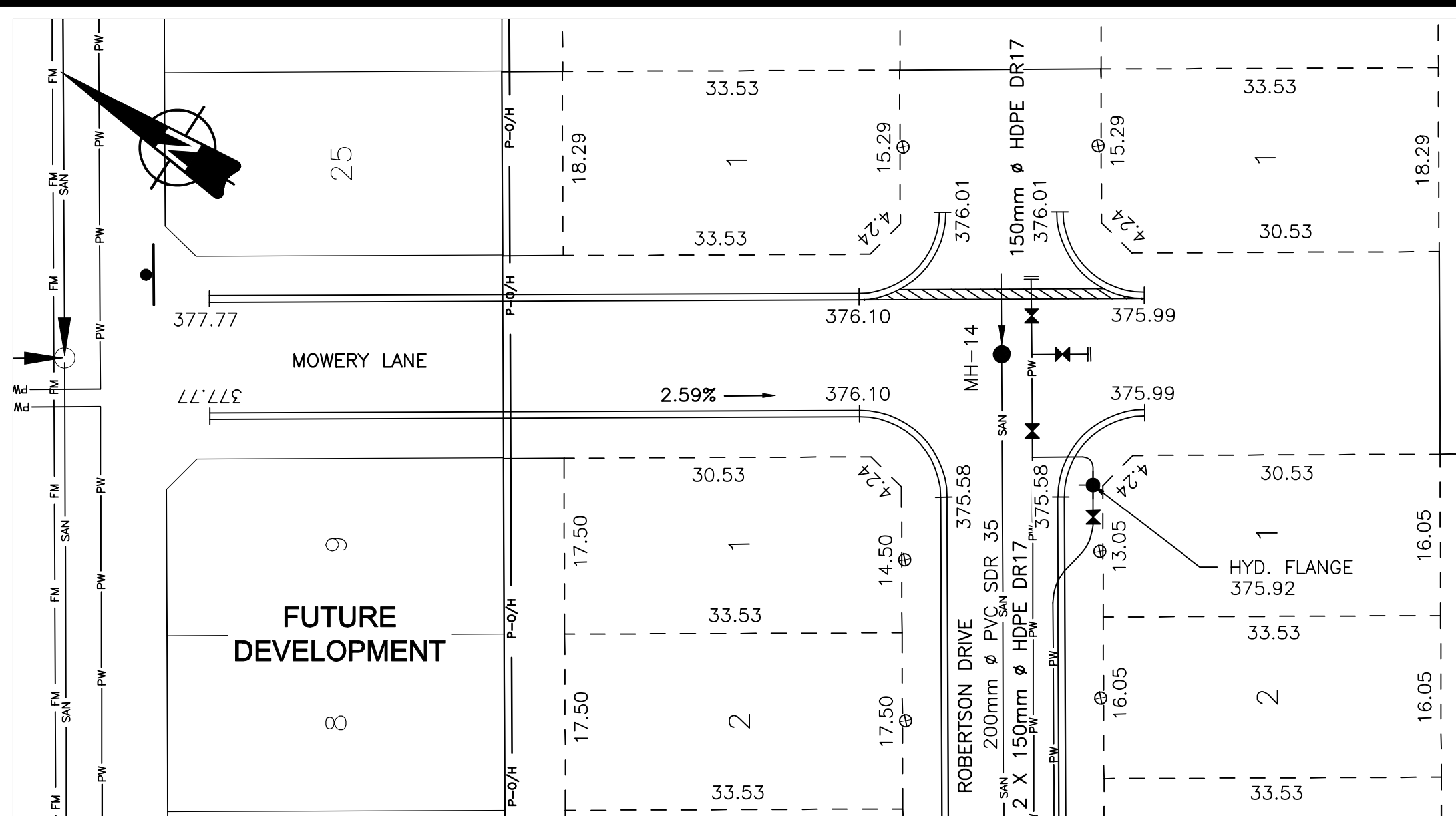
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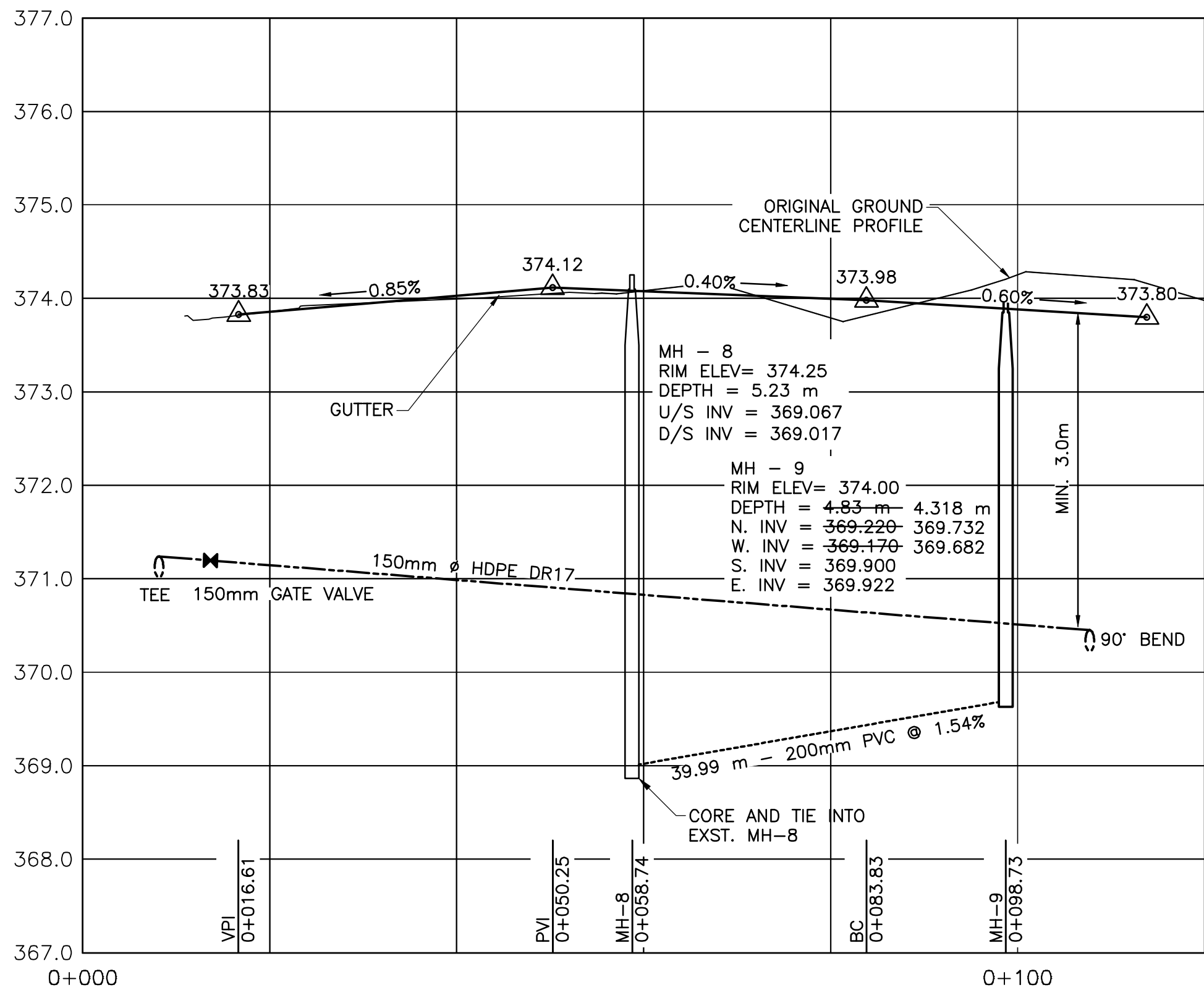
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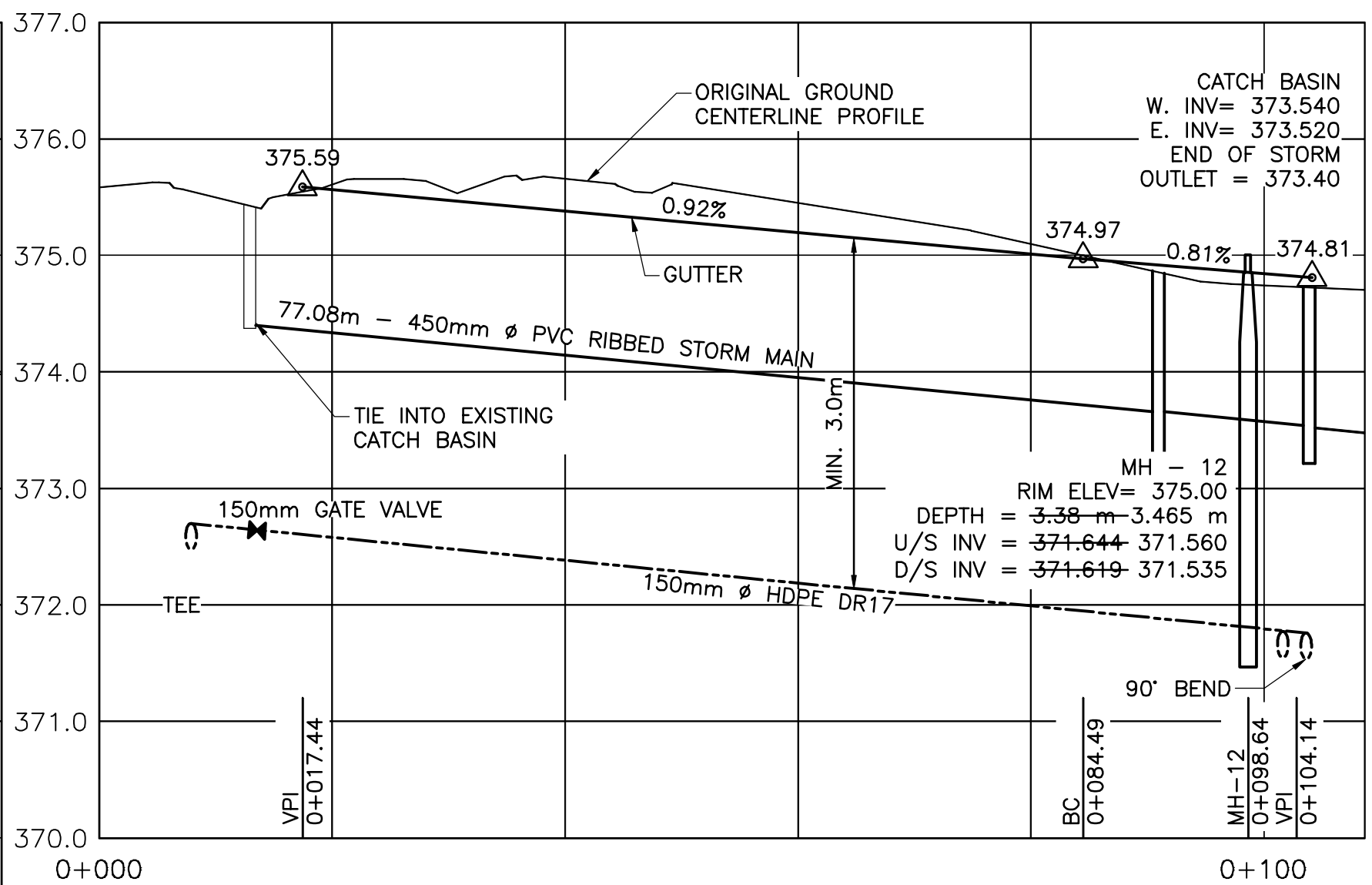
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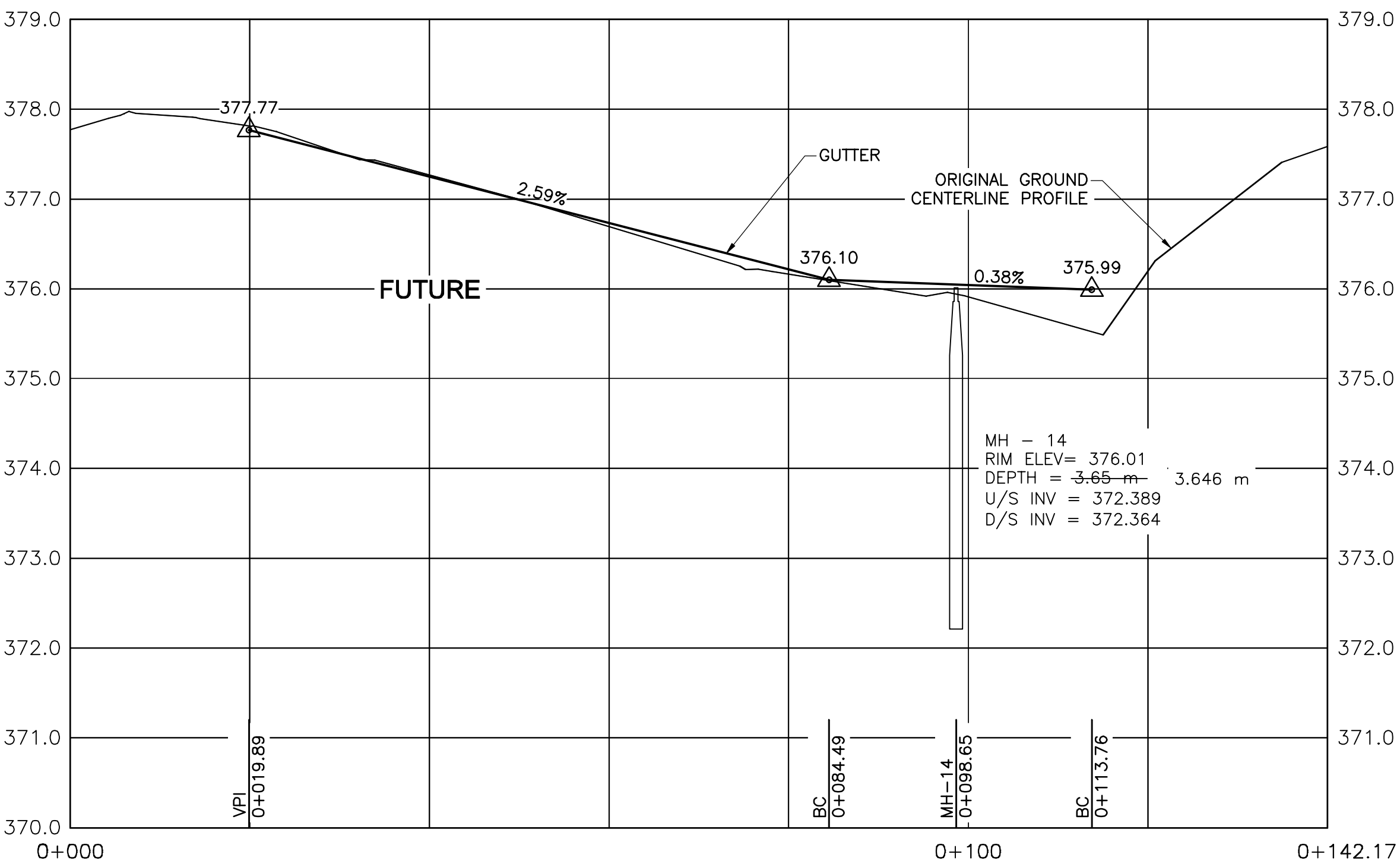
PLAN
SCALE 1:500



PROFILE
SCALE: 1:500 (H) / 1:50 (V)



PROFILE
SCALE: 1:500 (H) / 1:50 (V)

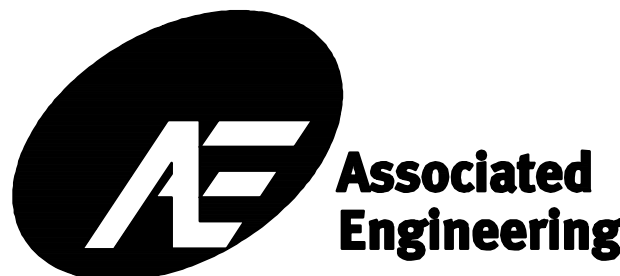


PROFILE
SCALE: 1:500 (H) / 1:50 (V)

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DATE: 7/13/2012 2:03:58 PM, Bred, Journal

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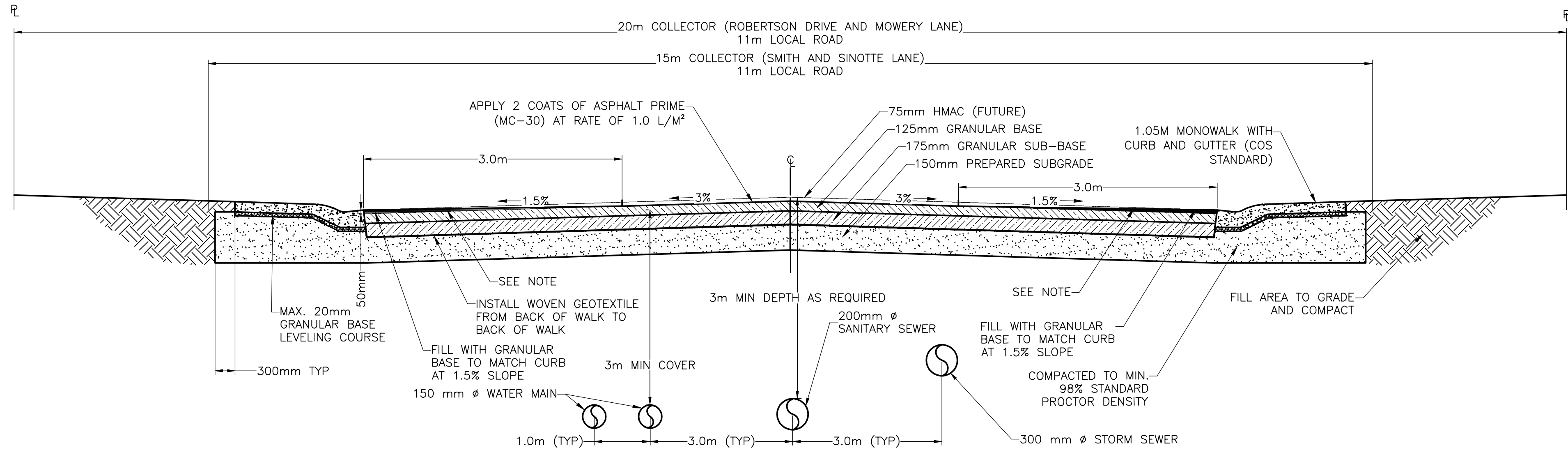
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SCALE	AS NOTED
DRAWN	C. FRANKLIN
DESIGNED	R. MCDOWELL
CHECKED	J. FOREST
APPROVED	D. THOMSON
DATE	MARCH 2010

TOWN OF LA RONGE
CIVIL PLAN AND PROFILE - SHEET 3

DRAWING NUMBER	REV. NO.	SHEET
4372-105	2	6/8



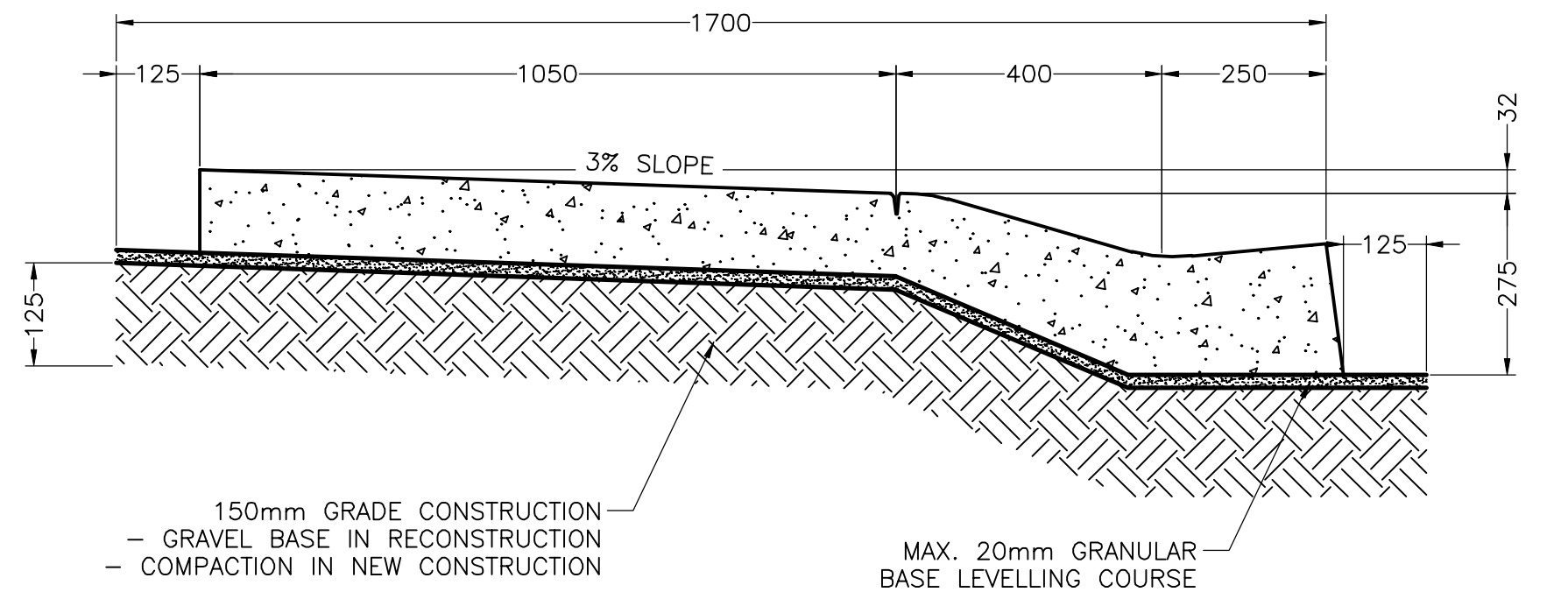
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NOTE: GRANULAR BASE TO BE RE-GRADED TO 3% CROWN AND OVERLAID
WITH NEW ASPHALT PRIME COAT AND 50mm HMAC IN FUTURE BY OTHERS.

ROAD CROSS SECTION (TYP.)

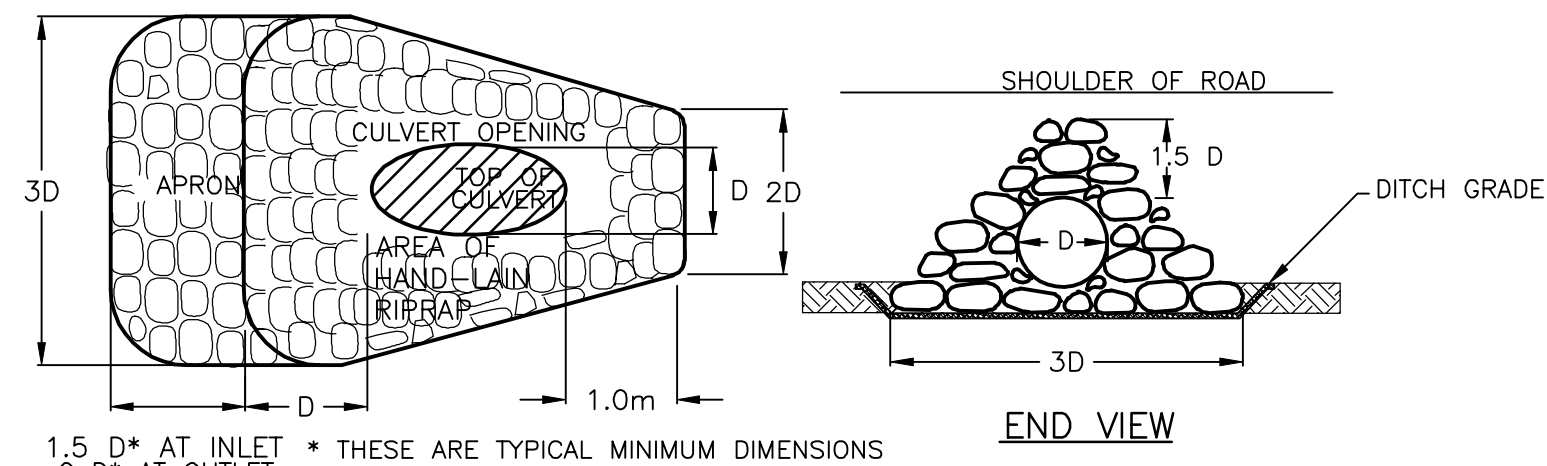
DETAIL 1
N.T.S.



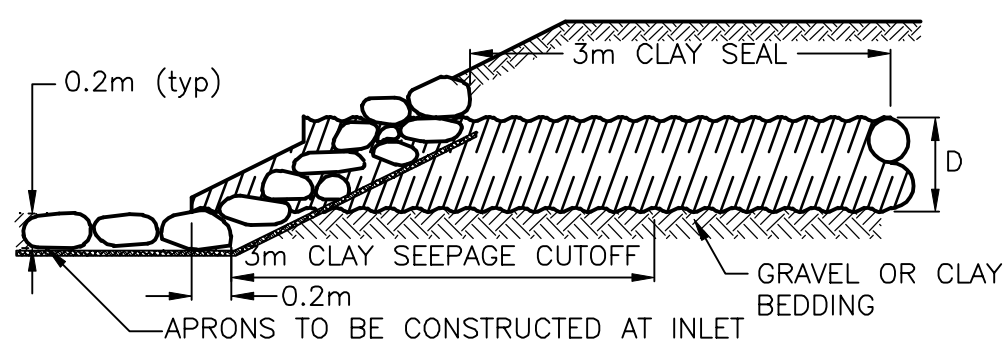
- NOTES:
1. CONCRETE STANDARD: 32MPa DURA-MIX CONCRETE 5-8% AS PER SPEC.
 2. COMPACTION STANDARD: 98% STANDARD PROCTOR AS PER SPEC.
 3. BROOM FINISH WALK TRANSVERSLEY. BROOM FINISH CURB & GUTTER LONGITUDINALLY.
 4. BROOM OVER ALL CONTROL JOINTS.
 5. SPACING OF CONTROL JOINTS TO BE 1.5m.

MONOWALK, ROLLED CURB AND GUTTER

DETAIL 2
N.T.S.



PLAN VIEW



LONGITUDINAL VIEW

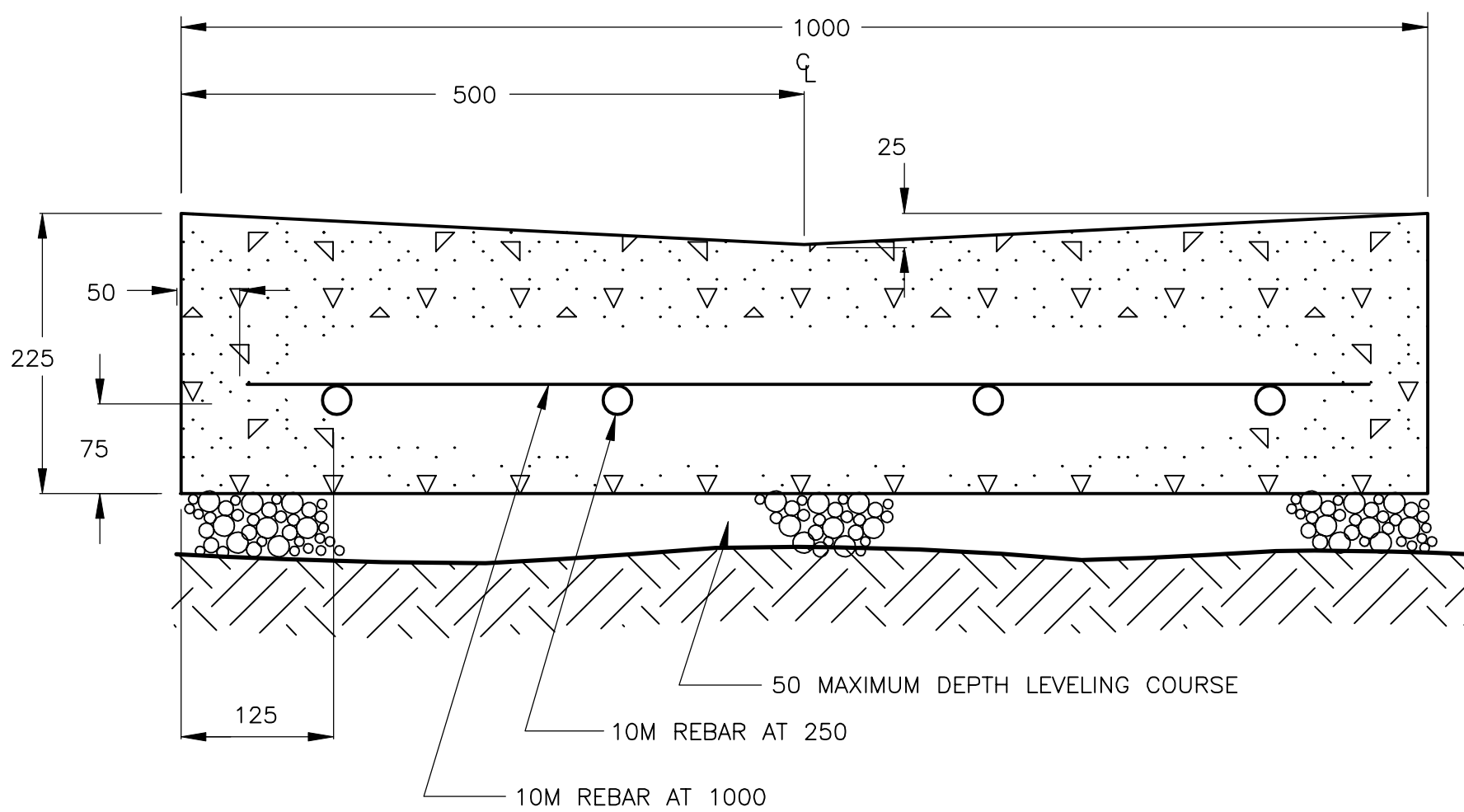
PIPE DIAMETER (mm)	ESTIMATED RIPRAP SURFACE AREAS*		
	AREA OF ONE END EXCLUDING APRON (m ²)	AREA OF ONE END INCLUDING INLET APRON (m ²)	AREA OF ONE END INCLUDING OUTLET APRON (m ²)
500	2	3	4
600	3	5	6
700	4	6	7
800	5	8	9
900	6	10	11
1000	7	12	13
1100	9	14	16
1200	10	16	19
1400	13	22	25

* THE ESTIMATED RIPRAP SURFACE AREAS SHOWN
IN THIS TABLE ARE BASED ON A 4:1 SIDE SLOPE.

- NOTES:
1. ROCKS AND BOULDERS SHALL BE SELECTED AS NEARLY CUBICAL IN FORM AS PRACTICABLE AND SHALL HAVE AT LEAST A MINIMUM DIMENSION OF 200mm. THE STONES SHALL BE PLACED WITH THEIR BEDS AT RIGHT ANGLES TO THE SLOPE. THE LARGER STONES BEING USED IN THE BOTTOM COURSES AND THE SMALLER STONES AT TOP. THEY SHALL BE LAID IN CLOSE CONTACT SO AS TO BREAK JOINTS AND IN SUCH MANNER THAT THE WEIGHT OF THE STONES IS CARRIED BY THE EARTH AND NOT BY THE ADJACENT STONES. THE FINISHED WORK SHALL PRESENT AN EVEN, TIGHT, AND REASONABLY PLANE SURFACE, VARYING NOT MORE THAN 75mm FROM THE REQUIRED CONTOUR.
 2. WHERE NO SPECIAL TREATMENT IS REQUIRED, CULVERT INVERT ELEVATIONS ARE TYPICALLY SET ABOUT 0.15 X DIAMETER BELOW THE DRAINAGE COURSE ELEVATION.
 3. THE MINIMUM INLET APRON IS 1.5 X DIAMETER LONG WHILE THE MINIMUM OUTLET APRON (WHERE WATER VELOCITY IS HIGHER) IS TWO DIAMETERS LONG.
 4. GEOTEXTILE TO ARMTEC 250
 5. CORRUGATED STEEL PIPE TO CAN3-401

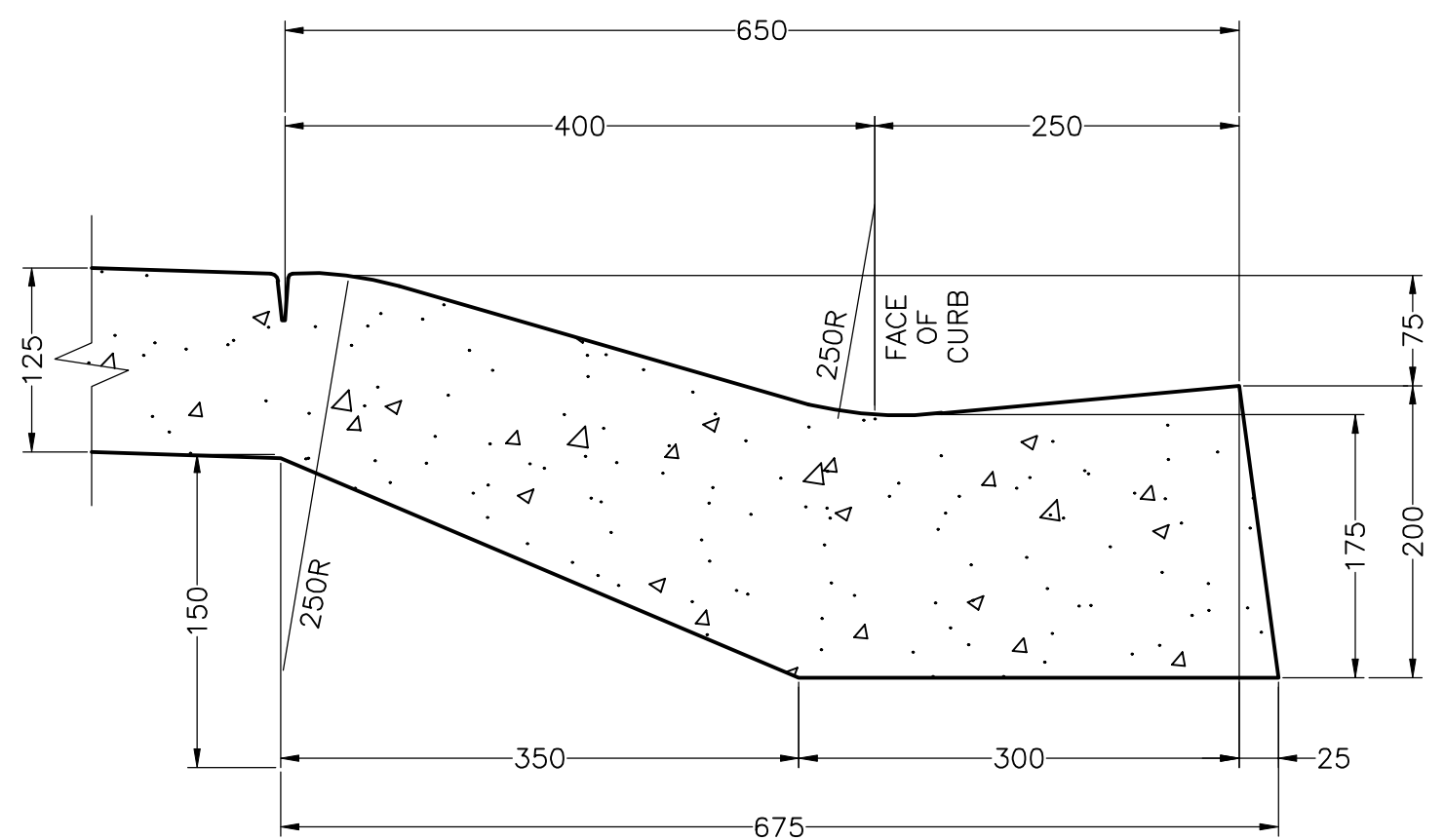
RIP RAP

DETAIL 4
N.T.S.



TYPICAL CONCRETE SWALE

DETAIL 3
N.T.S.



ROLLED CURB AND GUTTER DETAIL

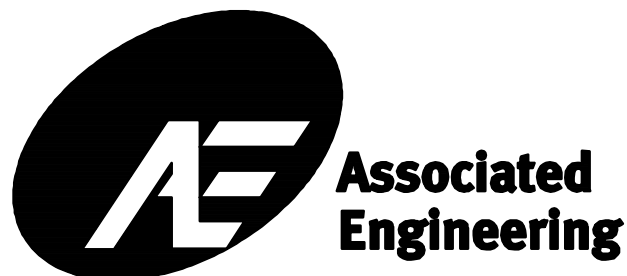
DETAIL 5
N.T.S.

SaskWater
The Quality Advantage
Project Management Services

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BRODIE MERRILL

NO.	DATE	ENG.	BY	SUBJECT
2	2012/07/13	D.T.	B.M.	RECORD DRAWING
1	2010/05/12	D.T.	R.M.	ISSUED FOR CONSTRUCTION
0	2010/03/16	D.T.	C.F.	ISSUED FOR TENDER

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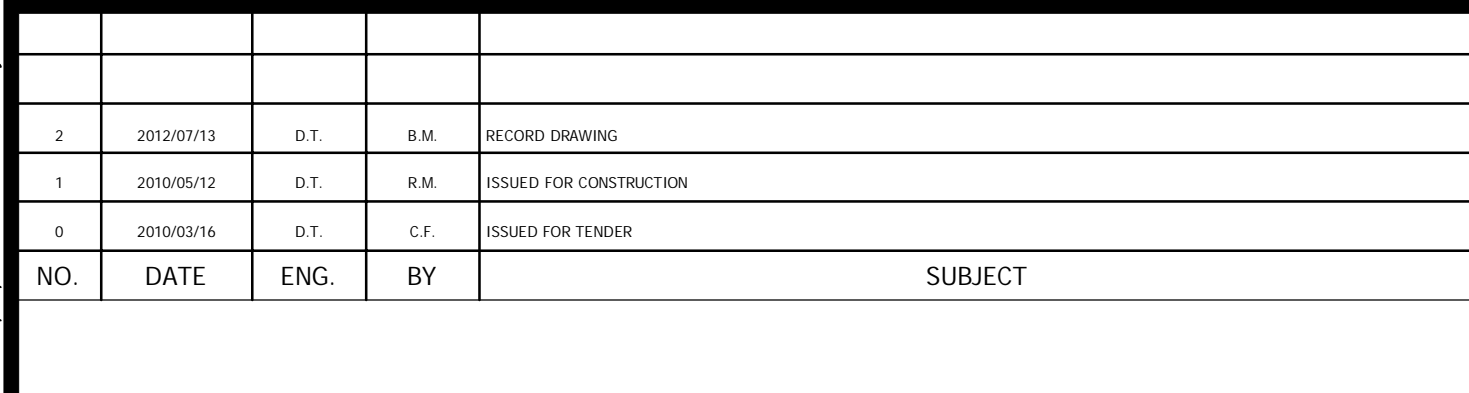


PROJECT No.	20084372
SCALE	AS NOTED
DRAWN	C. FRANKLIN
DESIGNED	R. MCDOWELL
CHECKED	J. FOREST
APPROVED	D. THOMSON
DATE	MARCH 2010

TOWN OF LA RONGE
CIVIL DETAILS - SHEET 1

MOWERY SUBDIVISION PHASE 1		
DRAWING NUMBER	REV. NO.	SHEET
4372-106	2	7/8

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4372-107	2	8 / 8