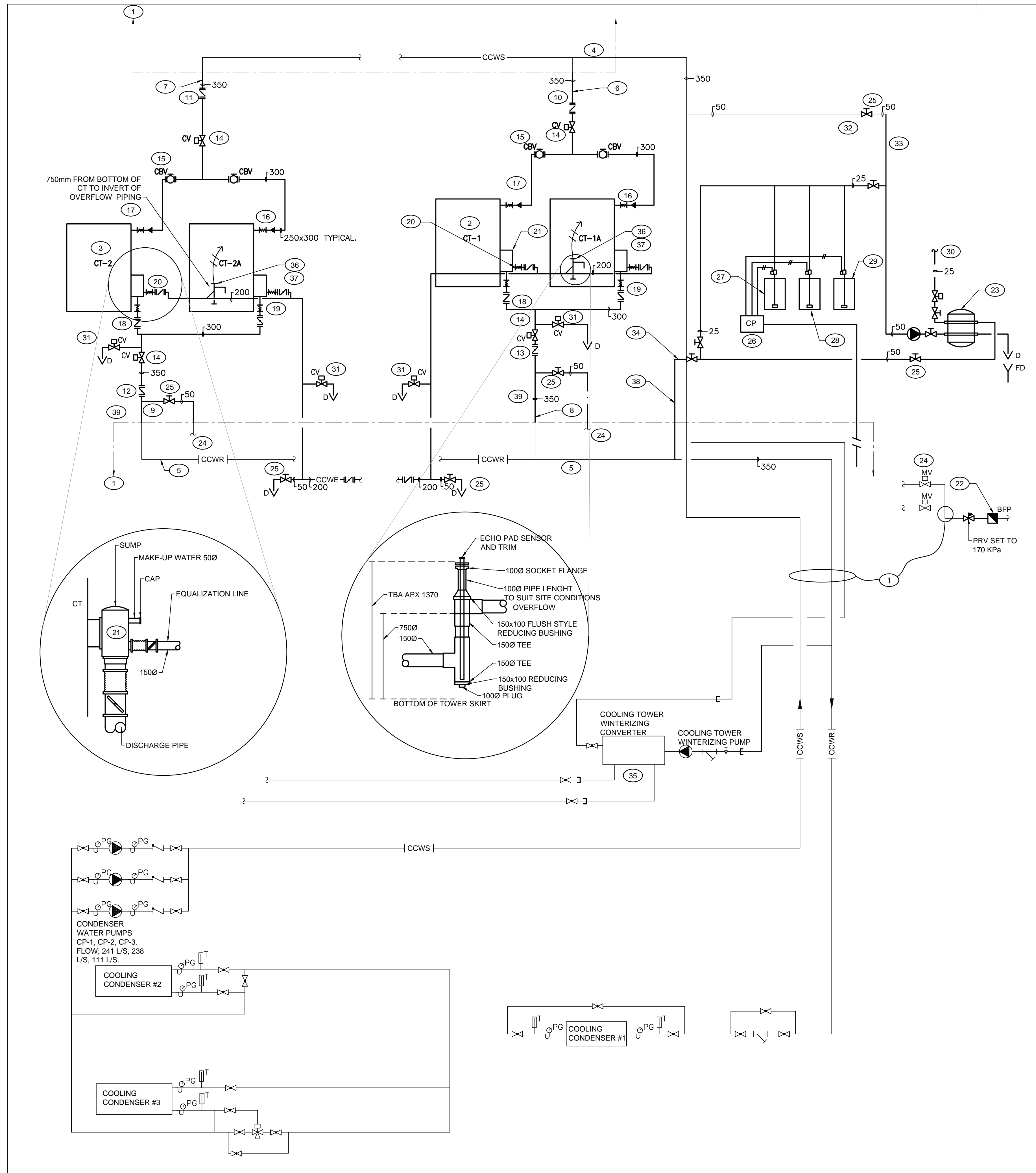
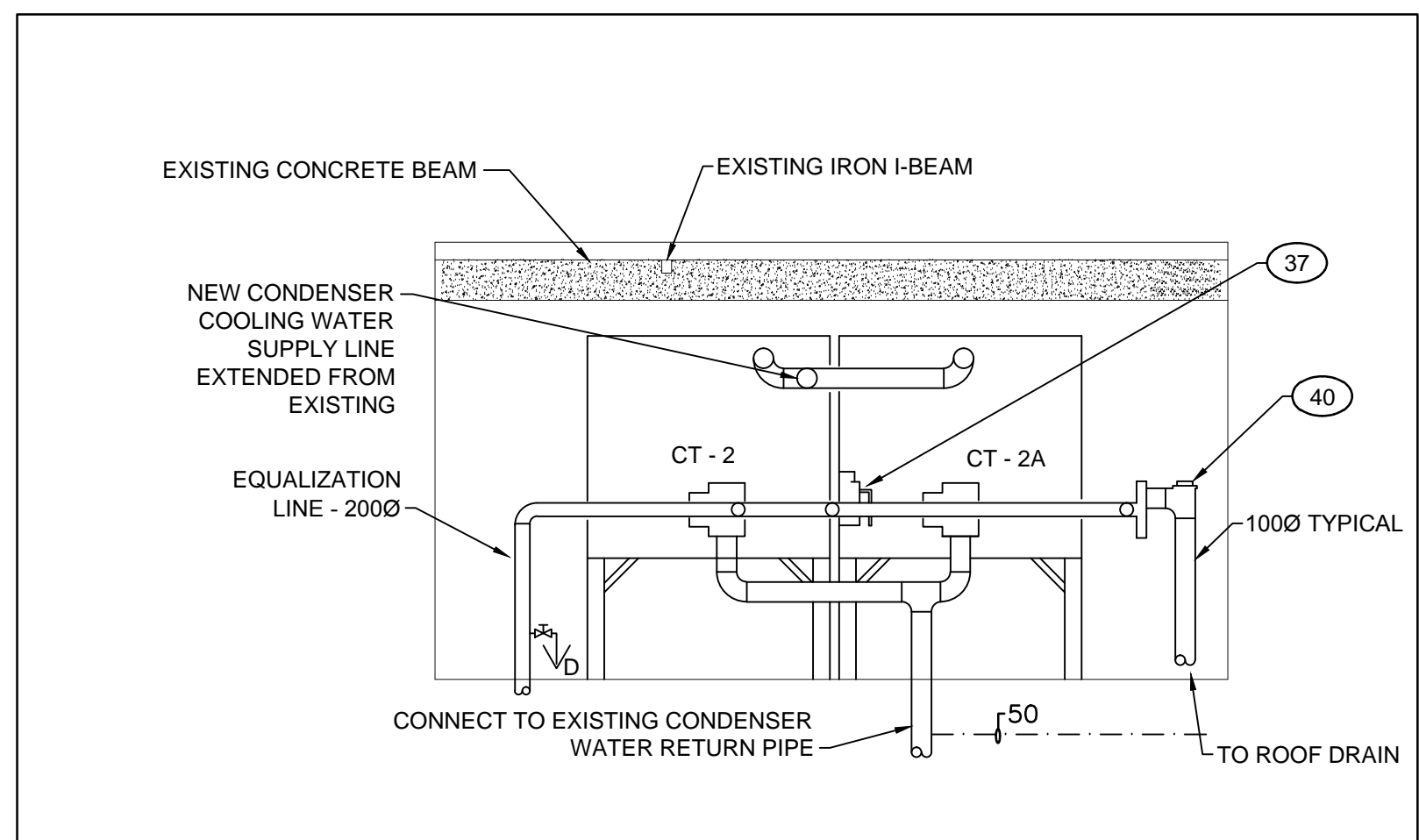


Drawing name: K:\A\A00135 - L'Esplanade Laurier Cooling Tower Replacement\A00135 Cooling Towers\m\04 - Diagrams and Schedules.dwg Jul 30, 2013 - 4:34pm



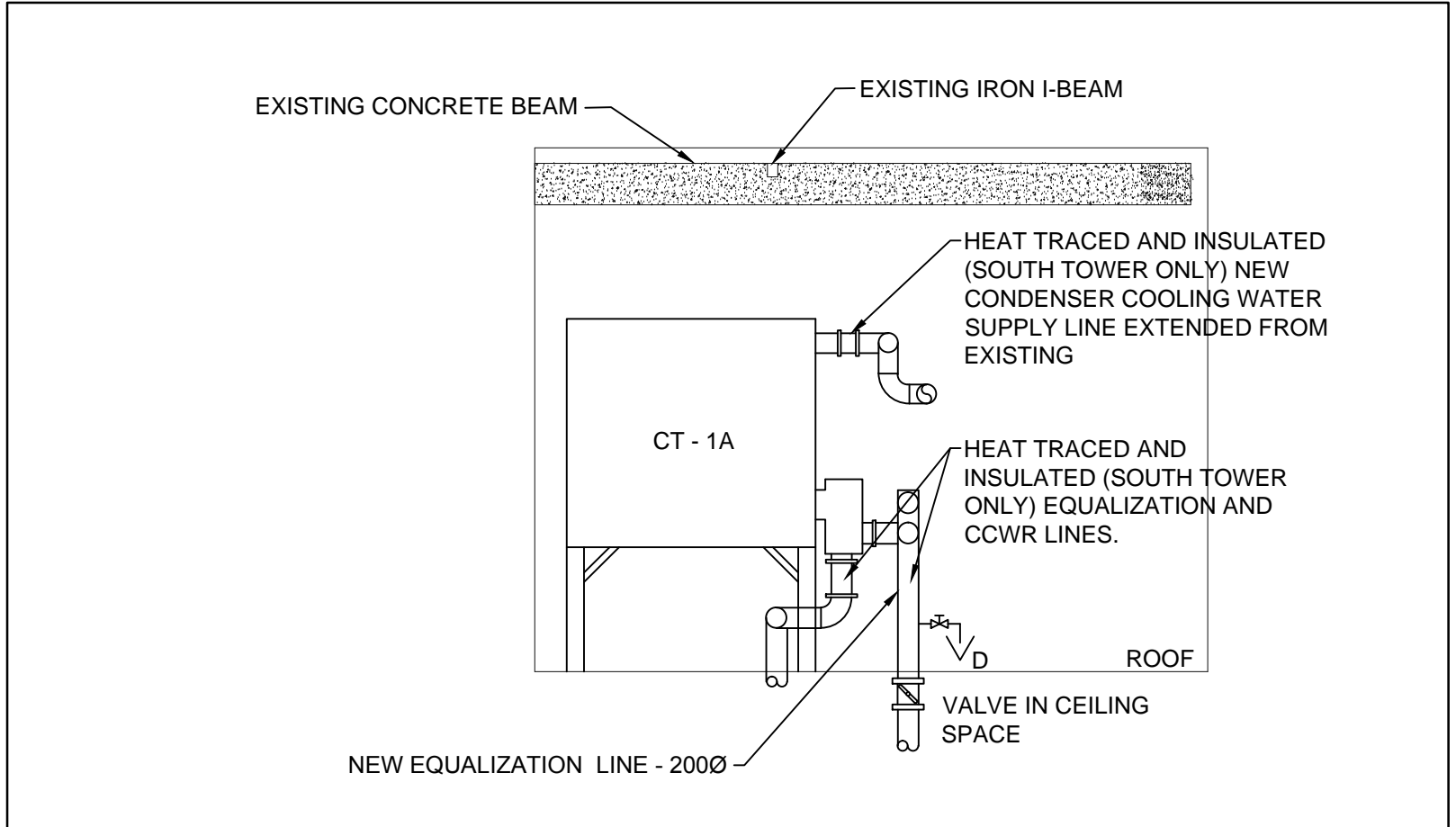
**1**  
**M04** PIPING DIAGRAM  
SCALE N.T.S.

COOLING TOWER SCHEDULE (FOR REFERENCE ONLY)							
	HWT	CWT	MIN SUMMER FLOW RATE (l/s)	MIN WINTER FLOW RATE (l/s)	MAX FLOW RATE (l/s)	INLET AIR VELOCITY (m/s)	AIR VELOCITY PRESSURE
CT 1	40.6	29.4	37.75	64.25	83.6	2.08	15
CT 1A	40.6	29.4	37.75	64.25	83.6	2.08	15
CT 2	40.6	29.4	37.75	64.25	83.6	2.08	15
CT 2A	40.6	29.4	37.75	64.25	83.6	2.08	15



**2**  
**M04** NEW NORTH TOWER SECTION VIEW  
SCALE N.T.S.

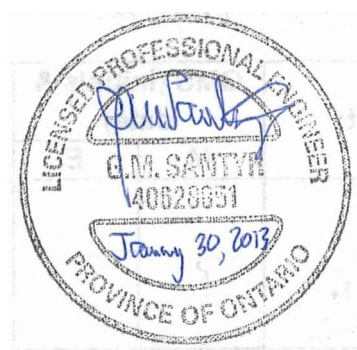
NOTE:  
FOR DRAWING CLARITY, NOT ALL VALVES AND  
PIPE SIZES ARE SHOWN. REFER TO DETAIL  
'1/M04' FOR COMPLETE INSTALLATION DETAILS.



**3**  
**M04** SOUTH TOWER SECTION VIEW  
SCALE N.T.S.

#### DRAWING NOTES

- EXISTING SERVICES SHOWN IN LIGHT LINE WEIGHT.
- NEW COOLING TOWERS 1 AND 1A SOUTH
- NEW COOLING TOWERS 2 AND 2A NORTH
- MAIN CONDENSER COOLING WATER SUPPLY LINE (CCWS)
- MAIN CONDENSER COOLING WATER RETURN LINE (CCWR)
- CCWS SOUTH
- CCWS NORTH
- CCWR SOUTH
- CCWR NORTH
- MAIN CCWS ISOLATING VALVE SOUTH
- MAIN CCWS ISOLATING VALVE NORTH.
- MAIN CCWR ISOLATING VALVE NORTH PROVIDE DOWNSTREAM 50mm VALVED PIPE CONNECTION FOR MAKE-UP WATER.
- MAIN CCWR ISOLATING VALVE SOUTH. PROVIDE DOWNSTREAM 50mm VALVED PIPE CONNECTION & MAKE-UP WATER.
- CCWS TOWER CONTROL VALVE 350mm DIA (TYPICAL FOR MAIN SUPPLY & RETURN)
- CCWS TOWER BRANCH BALANCING VALVE 300mm DIA (TYPICAL)
- 2500 PVC VAN STONE COOLING TOWER INTAKE FLANGE. (TYPICAL FOR ALL TOWER INLETS)
- CCWS TOWER BRANCH FLEXIBLE CONNECTION 250mm DIA (TYPICAL)
- CCWR TOWER BRANCH BUTTERFLY SERVICE VALVE 300mm DIA (TYPICAL)
- CCWR TOWER BRANCH FLEXIBLE CONNECTION 300mm DIA (TYPICAL)
- EQUALIZATION OVERFLOW 200mm DIAMETER PIPE WITH FLEX CONNECTION AND BUTTERFLY ISOLATING VALVE FOR EACH CELL CONNECTION. (TYPICAL)
- SUMP (SUPPLIED LOOSE) AS PART OF PRE-PURCHASED PACKAGE, WITH 300mm DIAMETER DISCHARGE FLANGE AND 150mm PVC VAN STONE OVERFLOW FLANGE. CAP 50mm MAKE-UP WATER PORT.
- MAKE-UP WATER BFP 50mm INSTALL ON EXISTING MAIN IN ELECTRICAL CLOSET OF 21st FLOOR.
- 50mm FILTER SEE SPEC FOR DETAILS.
- EXISTING 50mm MAKE-UP WATER SOLENOID VALVES FOR SOUTH AND NORTH TOWER (LOCATED ON 22nd FLOOR ELECTRICAL CLOSET) REUSE VALVE, PROVIDE NEW LEVEL CONTROL (INCLUDED IN PRE-PURCHASED PACKAGE).
- ISOLATING VALVE (TYPICAL). MIN 50mm OR AS SHOWN ON DRAWING. GENERAL PURPOSE VALVES. CONNECTION IN CEILING SPACE OF FLOOR BELOW. TYPICAL.
- COOLING TOWER WATER TREATMENT CONTROLLER.
- CORROSION AND DEPOSIT INHIBITOR STORAGE TANK AND METERING PUMP.
- ACID STORAGE TANK AND METERING PUMP.
- BIOCIDES STORAGE TANK AND METERING PUMP.
- EXTEND 25mm MAKE-UP WATER LINE FROM SERVICES IN SOUTH TOWER MECHANICAL ROOM AND CONNECT TO FILTER BACK WASH PORT.
- AUTO DUMP VALVES ASSEMBLY SUPPLIED BY DIVISION 25, INSTALLED BY DIVISION 23. SEE SPECIFICATIONS FOR DETAILS.
- REUSE EXISTING 50mm FEED PIPE FROM EXISTING SUPPLY MAIN. ARRANGE PIPE INSIDE MECHANICAL ROOM TO SERVE FILTER AND CHEMICAL TREATMENT.
- EXTEND 50mm PIPE TO NEW FILTER UNIT. PROVIDE BRANCH OFF TO CHEMICAL FEED SYSTEM. REPLACE PVC PIPES FOR CHEMICAL TREATMENT.
- NEW 50mm DISCHARGE PIPE FROM FILTER AND CHEMICAL TREATMENT TO COOLING TOWER MAIN. CONNECT TO MAIN RETURN LINE. REFER TO DRAWING FLOOR PLAN M03 FOR PIPE ROUTING.
- EXISTING HEAT EXCHANGER AND PUMP IN SOUTH TOWER MECHANICAL ROOM. CUT, REMOVE AND CAP PIPES AT THE MAINS.
- OVERFLOW PIPE. SEE MANUFACTURER INSTRUCTION FOR INSTALLATION DETAIL.
- LEVEL CONTROL STILLING WELL, 2 REQUIRED SUPPLIED AS PART OF PRE-PURCHASED PACKAGE (NORTH AND SOUTH). INSTALL IN THE MIDDLE BETWEEN TOWER OUTLET.
- RUN PIPE IN MECHANICAL ROOM AND DOWN AND OUT TO CORRIDOR CEILING SPACE FLOOR 22. EXTEND PIPE AND CONNECT TO MAIN RETURN LINE.
- SEE DETAIL 3/M03.
- PROVIDE ANTI-SIPHON VALVE ON DISCHARGE OF OVERFLOW PIPE. TYPICAL FOR SOUTH AND NORTH TOWERS.



Contractor to verify all dimensions  
& conditions on site and immediately  
notify the engineer of all discrepancies.

revisions	description	date
01	ISSUED FOR TENDER	30-07-13

A C	A detail no. n° du détail B location drawing no. sur dessin n° C drawing no. dessin n°	A B C
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project project

#### L'ESPLANADE LAURIER COOLING TOWERS REPLACEMENT

140 O'CONNOR ST., OTTAWA (ONTARIO)

drawing dessin

#### DIAGRAMS, SCHEDULES AND SECTIONS

Designed By	C.MODRAK	Conçu par
Date	2012/12/12	(yyyy/mm/dd)
Drawn By	G.TREMBLAY	Dessiné par
Date	2012/12/12	(yyyy/mm/dd)
Reviewed By	D.ROY	Examiné par
Date	2013/01/30	(yyyy/mm/dd)
Approved By	D.ROY	Approuvé par
Date	2013/01/30	(yyyy/mm/dd)
Tender		Soumission

DAVID RUETER

Project Manager Administrateur de projets

Project no. No. du projet

R.049987.003

Drawing no. No. du dessin

M04

C