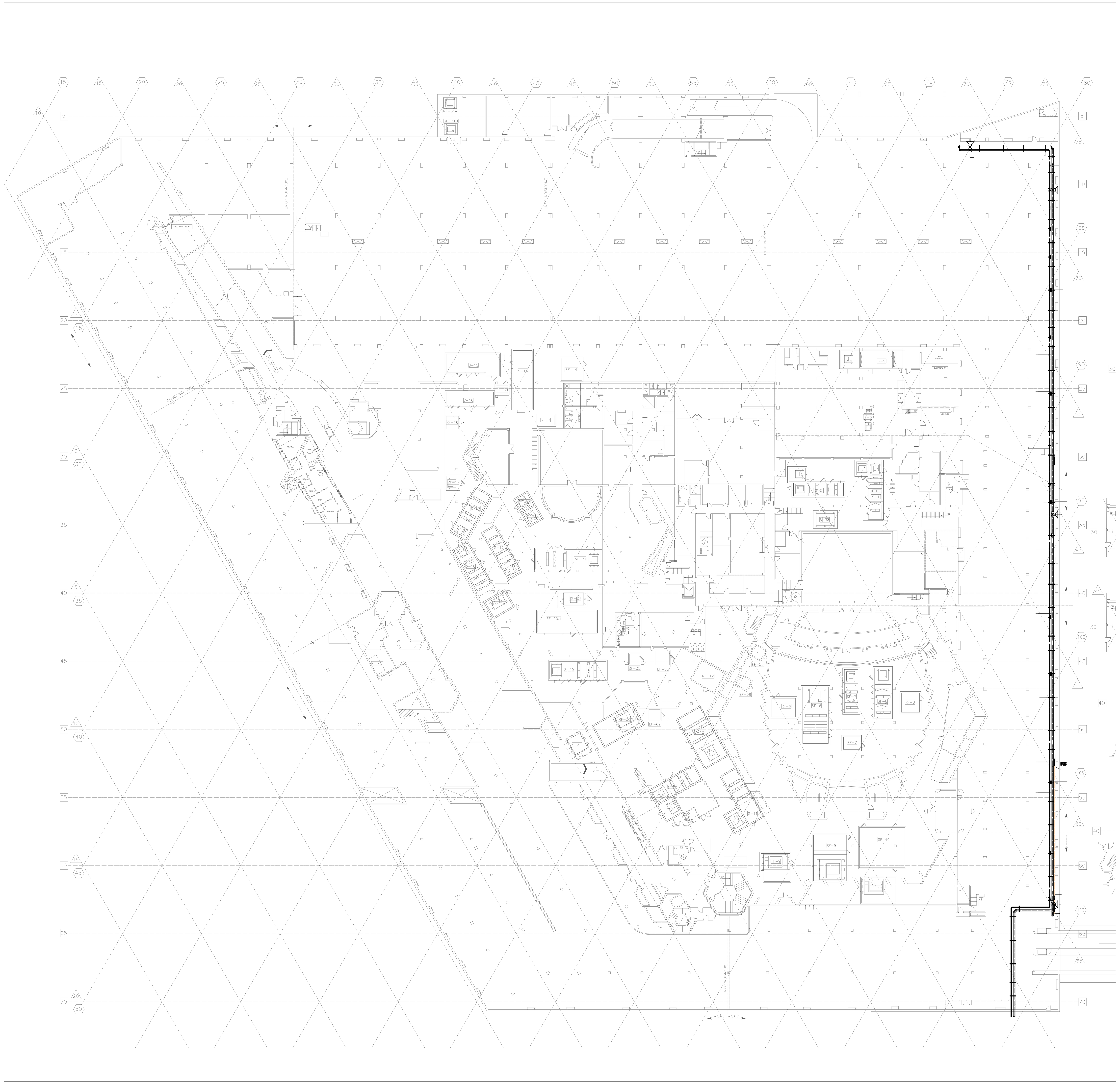

4 / M-1 KEY PLAN
1:400

LEGEND

1 / M-1 LEGEND
NTS

- ISOLATION VALVE
- STRAINER
- UNION
- STEAM TRAP
- CHECK VALVE
- ANCHOR
- GUIDE
- EXPANSION JOINT
- H.P. DRIP
- BRANCH CONNECTION
- S — STEAM (185 PSI)
- C — CONDENSATE
- (X) — PIPING SUPPORT AND REFERENCE NO.

GENERAL NOTES

2 / M-1 GENERAL NOTES
NTS

1. THIS PROJECT INVOLVES THE REPLACEMENT OF ONE STEAM AND TWO CONDENSATE EXPANSION JOINTS. THE REMEDIATION OF DETERIORATED CONCRETE, CORRODED REINFORCING BARS, GROUTING OF VOID SOLIDS, STEEL BRACKETS AND THRUST BLOCKS. REFER TO STRUCTURAL DRAWINGS FOR SCOPE OF REMEDIAL AND NEW WORK.
2. THE REPLACEMENT OF THE EXPANSION JOINTS AND STRUCTURAL REMEDIAL WORK WILL REQUIRE A STEAM AND CONDENSATE SYSTEM SHUTDOWN. DURATION OF SHUTDOWN IS LIMITED TO 2 DAYS STARTING FRIDAY AT 18:00 HR TO SUNDAY 23:59 HR. THE SHUTDOWN DATE WILL HAVE TO BE COORDINATED AND APPROVED BY CENTRAL PLANT FACILITY OPERATIONS. CENTRAL PLANT OPERATIONS WILL BE RESPONSIBLE FOR SHUTDOWN AND DRAIN OF STEAM AND CONDENSATE SYSTEMS AND INSTRUCT CONTRACTOR WHEN IT IS SAFE TO COMMENCE WORK.
3. THE CONTRACTOR WILL ENSURE ALL MATERIAL AND LABOUR IS READY TO COMPLETE THE REPLACEMENT OF THESE JOINTS AND STRUCTURAL REMEDIATION FOR THE SCHEDULED PERIOD OF SHUTDOWN. EXPANSION JOINTS TO BE SUPPLIED WITH THREADED ADJUSTING RODS FOR FIELD PRESETTING, TO ALLOW ADJUSTMENT FOR INSTALLATION. FACTORY PRESETTING IS FOR STEEL PIPING AT 70 F TEMPERATURE. THE PRESET CAN BE CALCULATED AND ADJUSTED BY THE CONTRACTOR BASED ON DURATION OF SHUTDOWN AND ESTIMATED TEMPERATURE OF PIPE AT THAT TIME INTERVAL. CALCULATIONS TO BE SENT TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW AFTER DATE AND LENGTH OF SHUTDOWN HAVE BEEN DETERMINED.
4. ALL ACTIVITIES WILL BE MONITORED BY CENTRAL PLANT OPERATIONS TO ENSURE SAFETY OF WORKERS.
5. PRIOR TO RE-ENERGIZING STEAM AND CONDENSATE SYSTEM, DEPARTMENTAL REPRESENTATIVE TO INSPECT INSTALLATION TO ENSURE IT MEETS THEIR REQUIREMENTS. DEPARTMENTAL REPRESENTATIVE TO INSPECT ALL CONCRETE AND STEEL REMEDIAL WORK.
6. ONCE DEPARTMENTAL REPRESENTATIVE HAS SIGNED OFF, CENTRAL PLANT OPERATIONS CAN RE-ENERGIZE STEAM AND CONDENSATE SYSTEMS. CONTRACTOR, FACILITY OPERATIONS AND DEPARTMENTAL REPRESENTATIVE TO OBSERVE EXPANSION JOINT DURING WARM-UP.
7. ONCE SYSTEM IS FULLY ENERGIZED A FINAL INSPECTION OF ENTIRE SYSTEM TO BE DONE BY ALL PARTIES AND SIGNED OFF.

DRAWING NOTES

3 / M-1 DRAWING NOTES
NTS

1. REPLACE EXISTING STEAM EXPANSION JOINT NO. 138. NEW EXPANSION JOINT TO BE NPS 14 DUAL SLIP TYPE WITH FIXED 2070kPa FLANGES AND INTEGRAL ANCHOR BASE. AXIAL TRAVERSE IS 200mm x 200mm.
2. ONCE SYSTEM HAS BEEN DE-ENERGIZED AND APPROVED FOR SAFE WORK, REMOVE EXISTING INSULATION AND JOINT BY REMOVING BOLTS AT PIPE FLANGES AND STRUCTURE BASE.
3. COORDINATE ANY STRUCTURAL REPAIRS AT ANCHOR POINT TO BLDG WITH CIVIL CONTRACTOR. ENSURE REPAIRS AND CURING TIME OF MATERIALS USED TO BE SUITABLE FOR ALLOTTED TIME OF SHUTDOWN.
4. INSTALL NEW EXPANSION JOINT TO PIPING AND BUILDING STRUCTURE. LEAVE INSULATION BLANKET OFF UNTIL SYSTEM HAS BEEN RE-ENERGIZED AND INSPECTED.
5. INSTALL NEW H.P. DRIP ASSEMBLY AT LOW POINT IN NPS 14 STEAM MAIN. RUN NEW NPS 1 H.P. PIPING AS SHOWN.
6. CONNECT NEW NPS 1 H.P. DRIP PIPING INTO EXISTING H.P DRIP LINE.
7. REPAIR EXISTING GUIDE. WELD NEW STEEL CHANNEL WHERE BROKEN OFF FROM STEEL SUPPORT HANGER.

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LEGEND

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DATE	REVISION
09-08-2017	ISSUED FOR TENDER REV.1
28-06-2017	ISSUED FOR 100% DESIGN
01-06-2017	ISSUED FOR 99% DESIGN

LICENSED PROFESSIONAL ENGINEER
B.K. ANNIS
PROVINCE OF ONTARIO

project / projet
NAC
STEAM/CONDENSATE
H.P. DRIP REPAIR

drawing / dessin
KEY PLAN, LEGEND, DRAWING & GENERAL NOTES

Drawn By: H.D.
Date
Reviewed By: E.C.
Date
Project no. / No. du projet: R.090544
Drawing no. / No. du dessin: M-1