

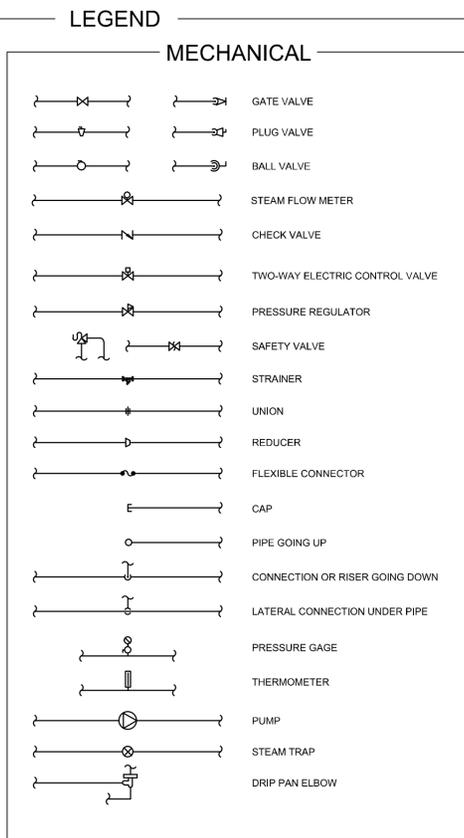
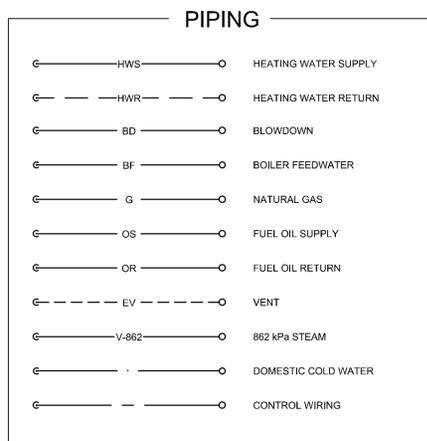
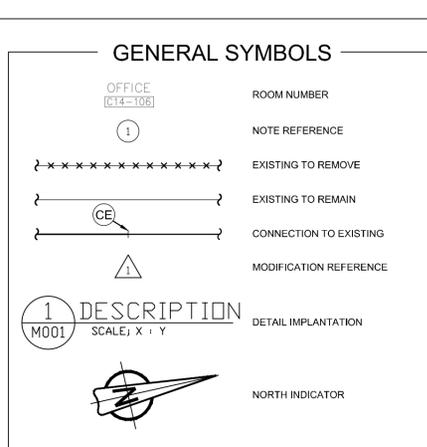
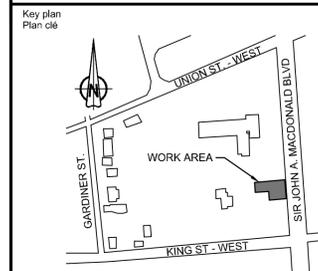
ISSUED FOR TENDER
2014/07/24

KINGSTON PENITENTIARY HEATING PLANT UPGRADE

Public Works and Government Services Canada / **Travaux Publics et Services Gouvernementaux Canada**

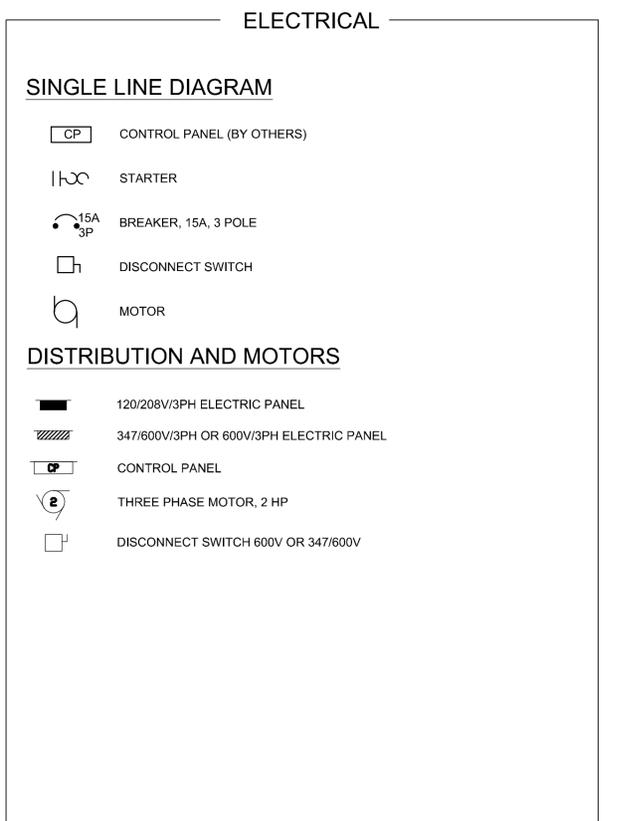
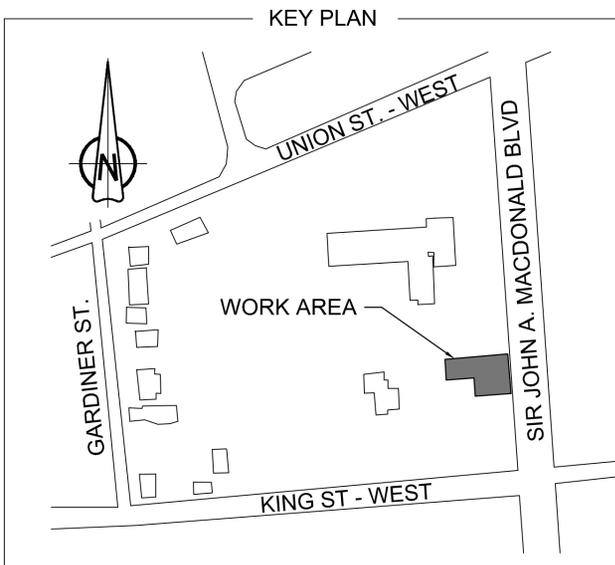
560 KING STREET WEST, KINGSTON, ONTARIO

Public Works and Government Services Canada
Architectural and Engineering Services
Ontario Region
Travaux publics et Services gouvernementaux Canada
Services d'architecture et de génie
Région de l'Ontario



GENERAL NOTES

1. TSSA P-NUMBER FOR EXISTING SYSTEM IS R-7998.



DRAWINGS LIST

ISSUED

| COVER PAGE | | |
|------------|---|--|
| ● G001 | COVER PAGE, LEGEND & DRAWING LIST | |
| MECHANICAL | | |
| ● M100 | BASEMENT / PIPING / DEMOLITION | |
| ● M101 | GROUND FLOOR / PIPING / DEMOLITION | |
| ● M102 | GROUND FLOOR / PIPING / DEMOLITION | |
| ● M103 | MEZZANINE / PIPING / DEMOLITION | |
| ● M200 | BASEMENT / PIPING / NEW | |
| ● M201 | GROUND FLOOR / PIPING / NEW | |
| ● M202 | GROUND FLOOR / PIPING / NEW | |
| ● M203 | MEZZANINE / PIPING / NEW | |
| ● M300 | SCHEMATIC EXISTING | |
| ● M301 | SCHEMATIC DEMOLITION | |
| ● M302 | SCHEMATIC NEW | |
| ● M400 | DETAILS AND SCHEDULES | |
| ● M500 | NEW CONTROLS / EXISTING BOILER #1 | |
| ELECTRICAL | | |
| ● E100 | SINGLE LINE DIAGRAM / DEMOLITION AND NEW EQUIPMENT | |
| ● E200 | BASEMENT ELECTRICAL LAYOUT / EQUIPMENT DEMOLITION AND NEW | |
| ● E201 | GROUND FLOOR ELECTRICAL LAYOUT / DEMOLITION | |
| ● E202 | GROUND FLOOR ELECTRICAL LAYOUT / NEW EQUIPMENT | |

| revision | description | date |
|----------|-----------------------|------------|
| 00 | ISSUED FOR TENDER | 2014/07/24 |
| 0A | ISSUED FOR 99% REVIEW | 2014/05/22 |

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|---|-------------------------------------|
| A | Detail No. |
| B | drawing no. - where detail required |
| C | drawing no. - where detailed |

project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**DRAWING LIST
COVER PAGE &**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

approved by
approuvé par
CARY MCGEE, P.ENG

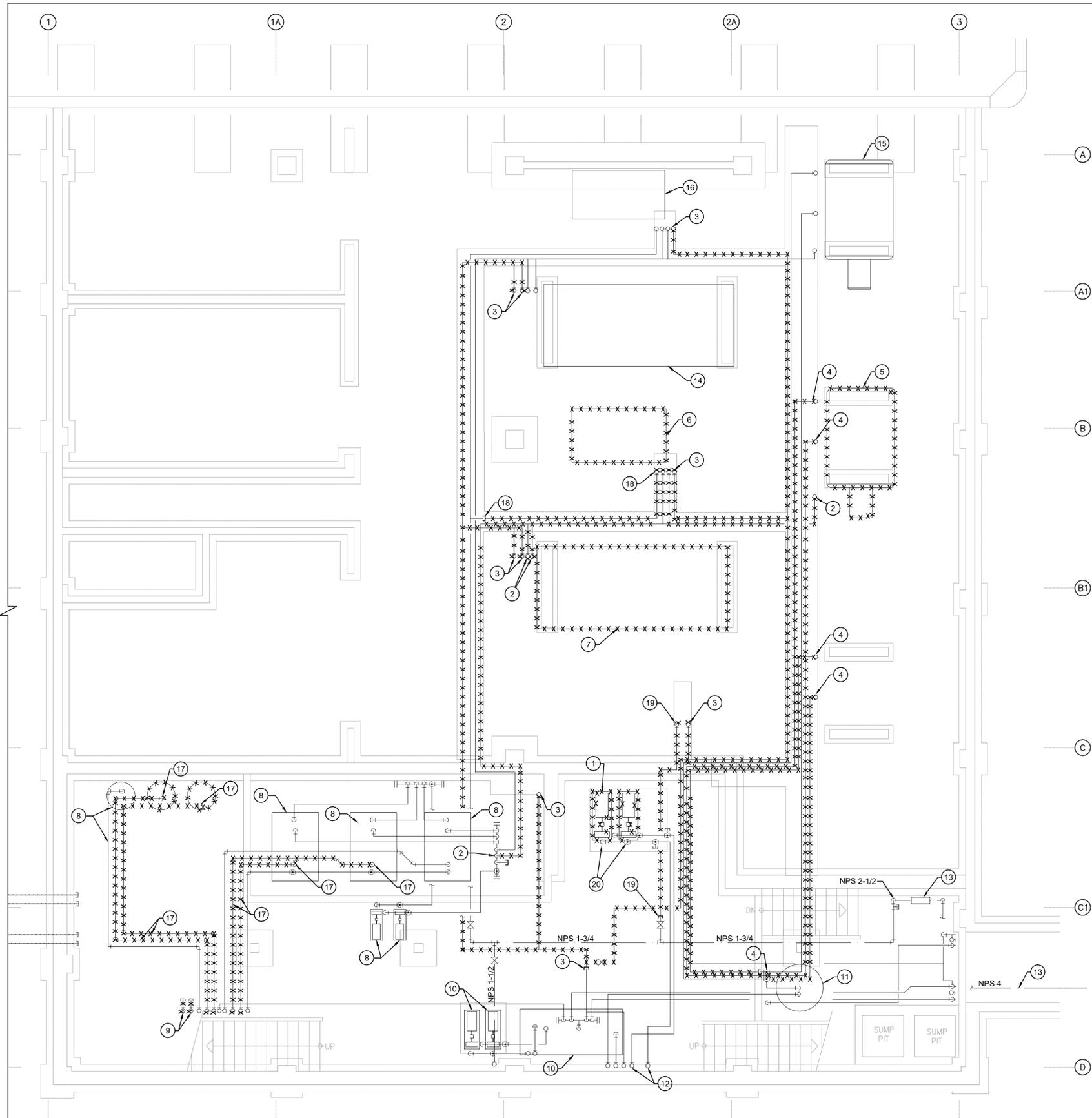
tender
soumission
DUNCAN PARKER, P.ENG.

project manager
administrateur
de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
G001



1
BASEMENT
EXISTING + DEMOLITION
 M100 SCALE: 1:50

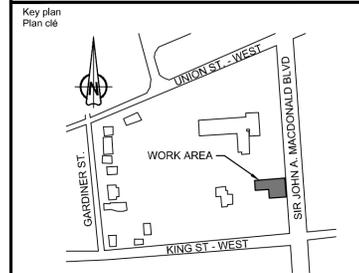
DRAWING NOTES

- 1 EXISTING PUMPS P-6 (PARTIALLY DEMOLISHED), P-7, AND P-8 TO BE DEMOLISHED. NEW PUMPS TO BE INSTALLED IN-PLACE. PHASING TO BE UTILIZED TO ELIMINATE DOWNTIME FOR FEEDWATER SYSTEM. REFER TO PROPOSED PHASING ON DRAWING M400.
- 2 DEMOLISH EXISTING THERMAL FLUID PIPING BACK TO HEADER AND CAP REMAINING STUB. THERMAL FLUID FROM DEMOLISHED PIPING IS TO BE DRAINED AND CAPTURED IN EXISTING THERMAL FLUID STORAGE TANKS ON-SITE.
- 3 DEMOLISH EXISTING CONDENSATE PIPING, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS, CAP AND STUB WHERE INDICATED, AS WELL AS AT CONNECTION TO THERMAL FLUID BOILER #1.
- 4 DEMOLISH EXISTING PIPING FROM STEAM GENERATORS #2 AND #3 (PREVIOUSLY REMOVED) BACK TO BLOWDOWN HEADER AND CAP REMAINING STUB.
- 5 DEMOLISH EXISTING STEAM GENERATOR #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 6 DEMOLISH EXISTING THERMAL FLUID PUMP #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 7 DEMOLISH EXISTING THERMAL FLUID BOILER #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 8 EXISTING THERMAL FLUID BASEMENT STORAGE TANK ASSEMBLY TO REMAIN, INCLUDING TANKS, PUMPS, AND PIPING NETWORK.
- 9 EXISTING OBSOLETE FUEL OIL PIPING TO BE DEMOLISHED THROUGH CEILING, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. CEILING TO BE MADE GOOD UPON COMPLETION OF DEMOLITION.
- 10 EXISTING CONDENSATE RECEIVER AND ASSOCIATED PUMPS, SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 11 EXISTING BLOWDOWN TANK, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS, TO REMAIN.
- 12 EXISTING FEEDWATER PIPING TO FEEDWATER PUMPS P-6, P-7, AND P-8 TO REMAIN.
- 13 EXISTING BUILDING DOMESTIC WATER SUPPLY TO REMAIN.
- 14 EXISTING THERMAL FLUID BOILER #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 15 EXISTING STEAM GENERATOR #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 16 EXISTING THERMAL FLUID LOOP #1 PUMP AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 17 DEMOLISH EXISTING THERMAL FLUID EXPANSION LOOP PIPING, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING IS TO BE CAPPED AT STORAGE TANKS IN BASEMENT AND DEMOLISHED THROUGH CEILING. CEILING TO BE MADE GOOD UPON COMPLETION OF WORK. EXISTING BASEMENT VENT STORAGE TANKS ARE TO BE DEMOLISHED.
- 18 DEMOLISH EXISTING DOMESTIC COLD WATER PIPING IN TRENCH AND CAP WHERE INDICATED. PIPING IS TO BE DEMOLISHED UP TO THERMAL FLUID PUMP #2.
- 19 DEMOLISH EXISTING DOMESTIC COLD WATER PIPING IN TRENCH AND CAP WHERE INDICATED. PIPING IS TO BE DEMOLISHED UP TO FORMER LOCATION OF THERMAL FLUID PUMP #3.
- 20 CAP EXISTING DROPS AFTER COMPLETION OF PUMP DEMOLITION. REFER TO M400 FOR PHASING.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL EXISTING UNUSED HANGERS ON-SITE.
2. ALL HANGERS REMOVED FROM SITE ARE TO BE DEMOLISHED UP TO ANCHOR POINT.
3. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

Public Works and Government Services Canada
 Architectural and Engineering Services
 Ontario Region
 Travaux publics et Services gouvernementaux Canada
 Services d'architecture et de génie
 Région de l'Ontario



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**KINGSTON PENITENTIARY
 HEATING PLANT UPGRADE**

drawing title
 titre du dessin
**BASEMENT
 PIPING
 DEMOLITION**

drawn by
 dessiné par
PATRICK BOURGEOIS

designed by
 conçu par
CARY MCGEE, P.ENG

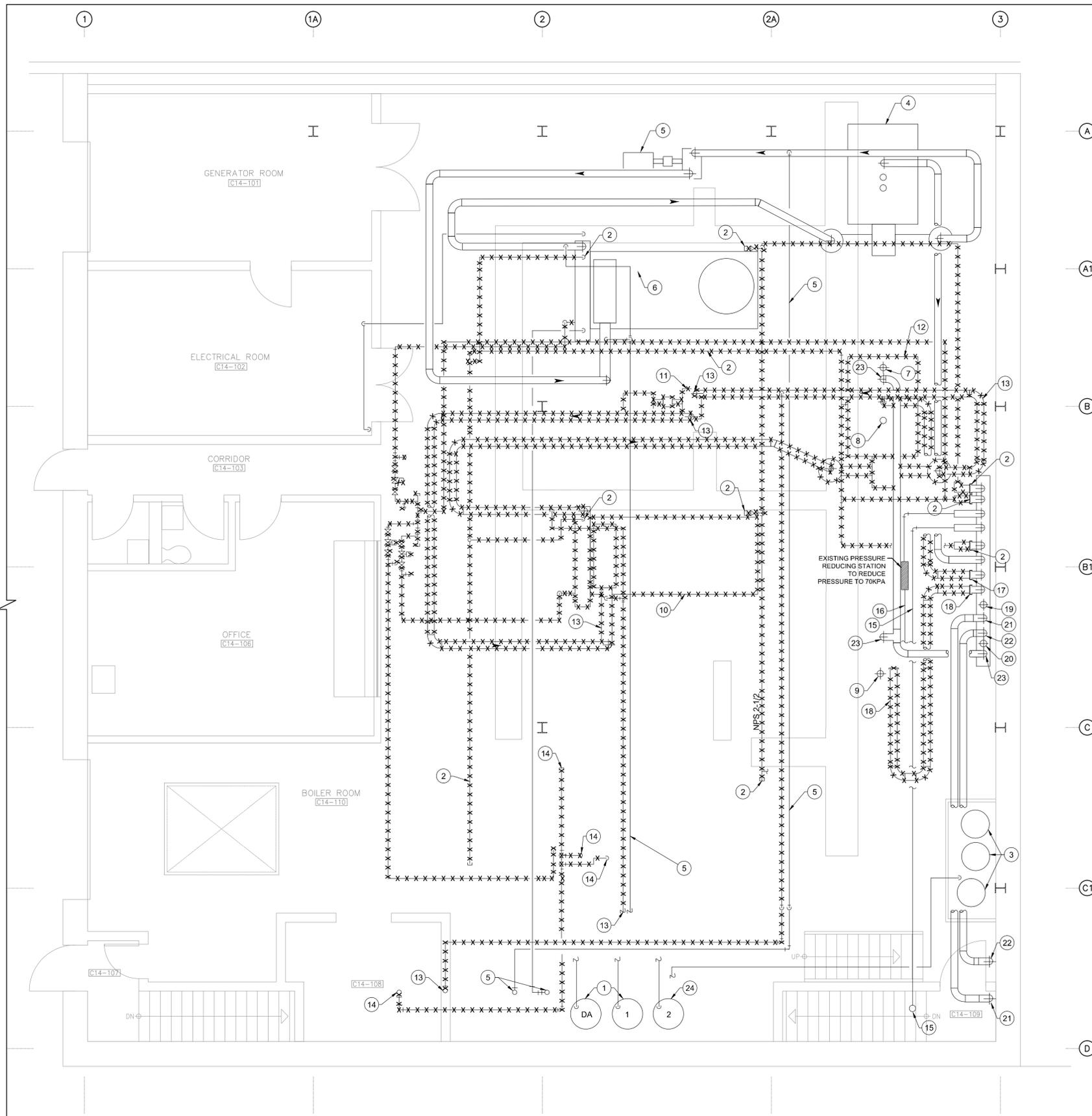
approved by
 approuvé par
CARY MCGEE, P.ENG

lender
 soumission
DUNCAN PARKER, P.ENG. project manager
 administrateur de projets

project date
 date du projet
2014/04/07

project no.
 no. du projet
R.068125.001

drawing no.
 dessin no.
M100



1 GROUND FLOOR
EXISTING + DEMOLITION
M101 SCALE: 1:50

DRAWING NOTES

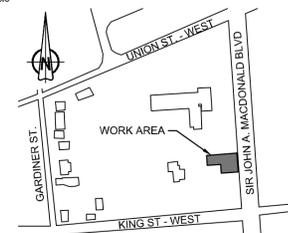
- 1 EXISTING CHEMICAL TREATMENT ASSEMBLY FOR STEAM GENERATOR #1 AND DEAERATOR TO REMAIN, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS.
- 2 DEMOLISH EXISTING STEAM SMOTHERING PIPING, COMPLETE WITH ALL HANGERS AND ACCOUTREMENTS, BACK TO MAIN STEAM HEADER AND CAP STUB AT ISOLATING VALVE. PIPING TO BE CAPPED AND STUBBED AT CONNECTION TO THERMAL FLUID BOILER #1.
- 3 EXISTING BRINE TANK AND SOFTENER ASSEMBLY TO REMAIN, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS.
- 4 EXISTING STEAM GENERATOR #1 TO REMAIN, COMPLETE WITH ALL PIPING, SUPPORTS AND ACCOUTREMENTS.
- 5 EXISTING THERMAL FLUID LOOP #1 PUMP AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 6 EXISTING THERMAL FLUID BOILER #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 7 DEMOLISH EXISTING SAFETY RELIEF SERVING STEAM GENERATOR #2 UP TO ROOF, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. REMAINING PIPING IS TO BE CAPPED AT ROOF. ROOF PENETRATION IS TO REMAIN WEATHERPROOF UPON COMPLETION OF WORK.
- 8 DEMOLISH EXISTING PIPING CONNECTED TO STEAM GENERATOR #2 UP TO ROOF, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. REMAINING PIPING IS TO BE CAPPED AT ROOF. ROOF PENETRATION IS TO REMAIN WEATHERPROOF UPON COMPLETION OF WORK.
- 9 DEMOLISH EXISTING SAFETY RELIEF VENT FORMERLY SERVING STEAM GENERATOR #3 UP TO ROOF, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. REMAINING PIPING IS TO BE CAPPED AT ROOF. ROOF PENETRATION IS TO REMAIN WEATHERPROOF UPON COMPLETION OF WORK.
- 10 DEMOLISH EXISTING THERMAL FLUID BOILER #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 11 DEMOLISH EXISTING THERMAL FLUID PUMP #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 12 DEMOLISH EXISTING STEAM GENERATOR #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 13 DEMOLISH THERMAL FLUID LOOP #2, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. EXPANSION LOOP PIPING IS TO BE DEMOLISHED BACK TO STORAGE TANK ON MEZZANINE.
- 14 DEMOLISH THERMAL FLUID EXPANSION PIPING FORMERLY SERVING THERMAL FLUID BOILER #3, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. PIPING CONTINUED ON MEZZANINE LEVEL ON DRAWING M103.
- 15 EXISTING STEAM PIPING TO DEAERATOR ON MEZZANINE TO REMAIN.
- 16 EXISTING STEAM PIPING TO AIR HANDLERS TO REMAIN.
- 17 DEMOLISH EXISTING STEAM PIPING FROM STEAM GENERATOR #2, COMPLETE WITH ALL HANGERS AND ACCOUTREMENTS, BACK TO STEAM HEADER AND CAP STUB AT ISOLATING VALVE.
- 18 DEMOLISH EXISTING STEAM PIPING FORMERLY FROM STEAM GENERATOR #3, COMPLETE WITH ALL HANGERS AND ACCOUTREMENTS, BACK TO STEAM HEADER AND CAP STUB AT ISOLATING VALVE.
- 19 EXISTING NPS 3 TEE FROM STEAM HEADER CAPPED WITHOUT ISOLATING VALVE. TO REMAIN.
- 20 EXISTING NPS 4 TEE FROM STEAM HEADER CAPPED WITHOUT ISOLATING VALVE. TO REMAIN.
- 21 EXISTING NPS 6 STEAM PIPING FROM STEAM HEADER TO MEN'S PENITENTIARY VIA STEAM TUNNELS. TO REMAIN.
- 22 EXISTING NPS 6 STEAM PIPING FROM STEAM HEADER TO WOMEN'S PENITENTIARY VIA STEAM TUNNELS. TO REMAIN. CONTRACTOR IS TO INSTALL BLANK FLANGE ON OUTLET OF ISOLATING VALVE.
- 23 EXISTING NPS 8 STEAM PIPING FROM STEAM HEADER TO REMAIN. PIPING IS CONNECTED TO SAFETY RELIEF VENT FORMERLY SERVING STEAM GENERATOR #3 AND SAFETY RELIEF VENT SERVING STEAM GENERATOR #2. CONNECTIONS TO THESE VENTS IS TO BE MODIFIED AS PER DETAIL ON DRAWING M400. SAFETY RELIEF VENT CONNECTION TO STEAM GENERATOR #2 IS TO BE DEMOLISHED.
- 24 REPURPOSE EXISTING CHEMICAL TREATMENT SYSTEM CURRENTLY SERVING STEAM GENERATOR #2. DEMOLISH PIPING FROM STEAM GENERATOR #2 AND RECONNECT SYSTEM TO NEW STEAM BOILER. REFER TO M400 FOR INTERVENTION POINT.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL EXISTING UNUSED HANGERS ON-SITE.
2. ALL HANGERS REMOVED FROM SITE ARE TO BE DEMOLISHED UP TO ANCHOR POINT.
3. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

Public Works and
Government Services Canada
Architectural and Engineering Services
Ontario Region
Travaux publics et
Services gouvernementaux Canada
Services d'architecture et de génie
Région de l'Ontario

Key plan
Plan clé



| revision | description | date |
|----------|-----------------------|------------|
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| 0A | ISSUED FOR 99% REVIEW | 2014/05/22 |

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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**GROUND FLOOR
PIPING
DEMOLITION**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

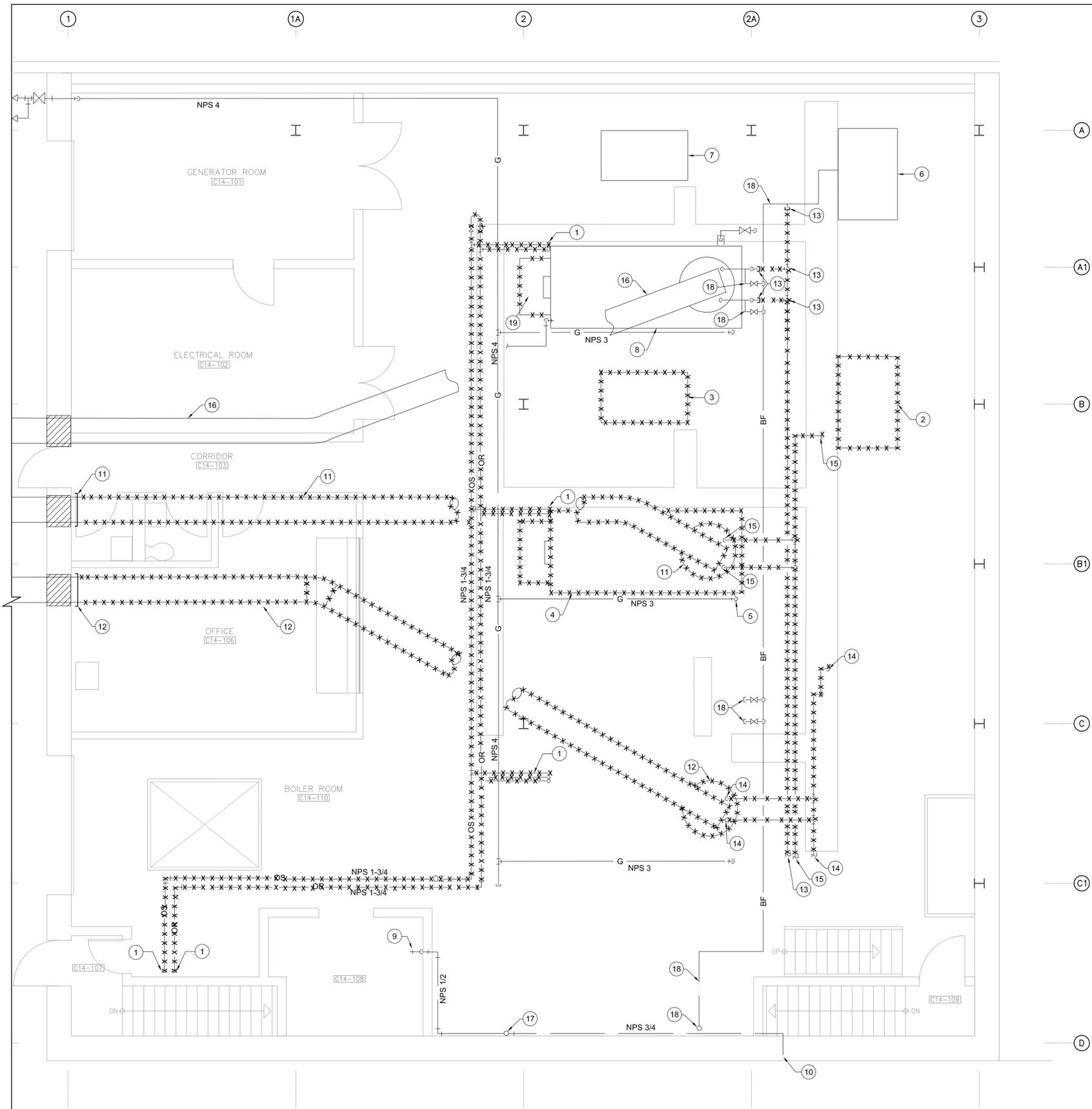
approved by
approuvé par
CARY MCGEE, P.ENG

tender
soumission
DUNCAN PARKER, P.ENG. project manager
administrateur
de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M101



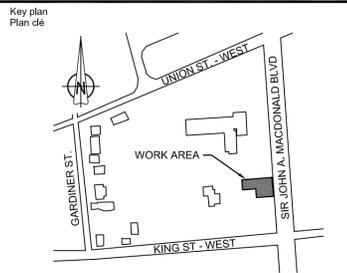
1
GROUND FLOOR
EXISTING + DEMOLITION
M102 SCALE: 1:50

DRAWING NOTES

- 1 DEMOLISH EXISTING OBSOLETE FUEL OIL PIPING, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. FLOOR TO BE MADE GOOD UPON COMPLETION OF DEMOLITION WHERE PIPING PENETRATES FLOOR. PIPING TO BE CAPPED AND STUBBED AT THERMAL FLUID BOILER #1.
- 2 DEMOLISH EXISTING STEAM GENERATOR #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 3 DEMOLISH EXISTING THERMAL FLUID PUMP #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 4 DEMOLISH EXISTING THERMAL FLUID BOILER #2 COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. HOUSEKEEPING PAD TO BE DEMOLISHED, AND FLOOR MADE GOOD UPON COMPLETION OF DEMOLITION.
- 5 DEMOLISH EXISTING GAS PIPING TO THERMAL FLUID BOILER #2, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS, BACK TO PIPE DROP AND CAP REMAINING PIPING. REFER TO DRAWING M400 FOR EXACT INTERVENTION LOCATION.
- 6 EXISTING STEAM GENERATOR #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 7 EXISTING THERMAL FLUID LOOP #1 PUMP AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 8 EXISTING THERMAL FLUID BOILER #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- 9 EXISTING NPS 1/2 HOSE BIBB TO REMAIN.
- 10 EXISTING NPS 3/4 WALL HYDRANT TO REMAIN.
- 11 DEMOLISH EXISTING BREECING, COMPLETE WITH FLUE GAS ECONOMIZER AND ALL SUPPORTS AND ACCOUTREMENTS, SERVING THERMAL FLUID BOILER #2. BREECING IS TO BE DEMOLISHED UP TO PLANT EXTERIOR WALL, THEN CAPPED WITH BLANK FLANGE INSIDE EXTERIOR WALL.
- 12 DEMOLISH EXISTING BREECING, COMPLETE WITH FLUE GAS ECONOMIZER AND ALL SUPPORTS AND ACCOUTREMENTS, FORMERLY SERVING THERMAL FLUID BOILER #3. BREECING IS TO BE DEMOLISHED UP TO PLANT EXTERIOR WALL, THEN CAPPED WITH BLANK FLANGE INSIDE EXTERIOR WALL.
- 13 DEMOLISH OBSOLETE FEEDWATER PIPING FORMERLY SERVING STEAM GENERATOR #1, INCLUDING ALL SUPPORTS AND ACCOUTREMENTS. CAP AND STUB PIPING AS INDICATED. PIPING CONTINUES ON MEZZANINE LEVEL ON DRAWING M103. PIPING BRANCHES TO FLUE GAS ECONOMIZER #1 AND STEAM GENERATOR #1 ARE TO REMAIN AS SHOWN. CLIENT IS RESPONSIBLE FOR CONNECTING ECONOMIZER AND STEAM GENERATOR TO NEW EXISTING FEEDWATER PIPING ALREADY ON-SITE.
- 14 DEMOLISH EXISTING FEEDWATER PIPING FORMERLY SERVING STEAM GENERATOR #3, INCLUDING ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES ON MEZZANINE LEVEL ON DRAWING M103.
- 15 DEMOLISH EXISTING FEEDWATER PIPING SERVING STEAM GENERATOR #2, INCLUDING ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES ON MEZZANINE LEVEL ON DRAWING M103.
- 16 EXISTING BREECING, COMPLETE WITH FLUE GAS ECONOMIZER AND ALL SUPPORTS AND ACCOUTREMENTS, SERVING THERMAL FLUID BOILER #1 TO REMAIN.
- 17 EXISTING NPS 1-1/2 DOMESTIC WATER PIPING FROM BASEMENT UP TO MEZZANINE TO REMAIN. MEZZANINE CONNECTIONS TO THERMAL FLUID EXPANSION TANKS #1 AND #2 ARE TO BE DEMOLISHED AND CAPPED AT TEE FROM COMMON PIPING.
- 18 EXISTING FEEDWATER PIPING FOR NEW FEEDWATER SUPPLY TO STEAM GENERATOR #1, FLUE GAS ECONOMIZER #1, AND NEW BOILER. CLIENT IS TO TIE-IN FEEDWATER LINE TO STEAM GENERATOR #1, FLUE GAS ECONOMIZER #1, AND FEEDWATER SUPPLY PIPING FROM FEEDWATER PUMPS IN BASEMENT. TIE-INS ARE TO BE DONE WHERE INDICATED. CONTRACTOR IS TO DEMOLISH ALL OBSOLETE FEEDWATER PIPING AS INDICATED. EXISTING TIE-INS ARE TO BE USED FOR NEW BOILER FEEDWATER SUPPLY.
- 19 DEMOLISH EXISTING CONTROL PANEL FOR THERMAL FLUID BOILER #1. POWER AND CONDUIT FROM MCC TO BE DEMOLISHED BY DIVISION 26. EXISTING CONNECTIONS FROM CONTROL PANEL TO THERMAL FLUID BOILER #1 AND OTHER EQUIPMENT TO BE DEMOLISHED BY DIVISION 23. WORK TO BE PHASED IN ORDER TO MAINTAIN OPERATIONAL CONTROLS FOR THERMAL FLUID BOILER #1 AT ALL TIMES. COORDINATE WITH INSTALLATION OF NEW CONTROL PANEL.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL EXISTING UNUSED HANGERS ON-SITE.
2. ALL HANGERS REMOVED FROM SITE ARE TO BE DEMOLISHED UP TO ANCHOR POINT.
3. CONTRACTOR IS RESPONSIBLE FOR ENSURING BOILER PLANT MEETS OPERATIONAL REQUIREMENTS OF PWGSC BY OCTOBER 15, 2014. CONTRACTOR IS TO PROVIDE AND INSTALL TEMPORARY BOILERS TO MEET DEMAND IF PLANT IS DEEMED BY PWGSC TO NOT MEET OPERATIONAL REQUIREMENTS ON THIS DATE.
4. REFER TO DRAWING M300, M301, AND M302 FOR SCHEMATICS.



| revision | description | date |
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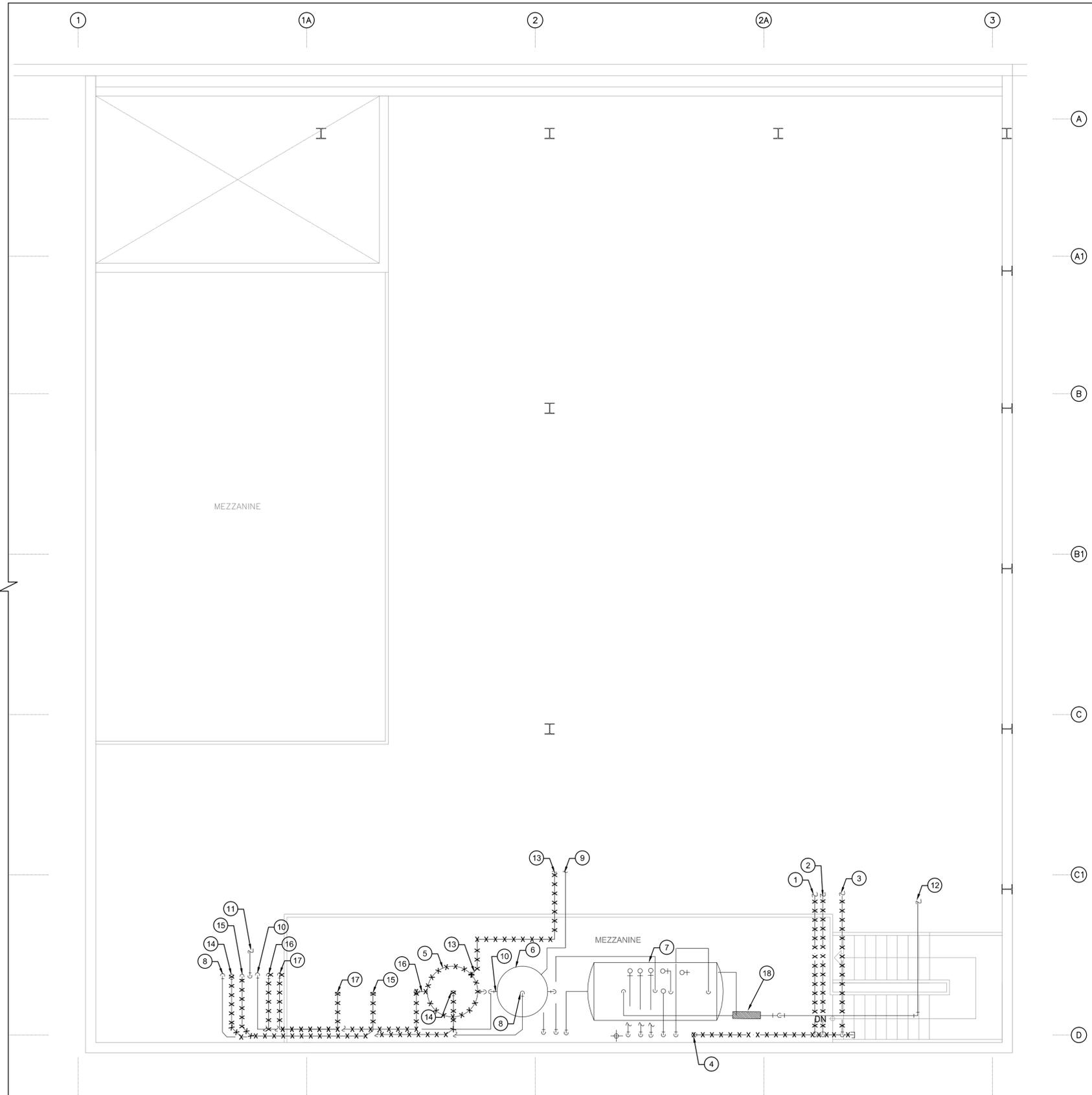
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OTTAWA ONTARIO
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560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**GROUND FLOOR
PIPING
DEMOLITION**

| | | |
|--------------------------------|-----------------------|--|
| drawn by dessiné par | PATRICK BOURGEOIS | |
| designed by conçu par | CARY MCGEE, P.ENG | |
| approved by approuvé par | CARY MCGEE, P.ENG | |
| tender soumission | DUNCAN PARKER, P.ENG. | project manager administrateur de projets |
| project date date du projet | 2014/04/07 | |
| project no. no. du projet | R.068125.001 | |
| drawing no. dessin no. | M102 | |



1
MEZZANINE
EXISTING + DEMOLITION
M103 SCALE: 1:50

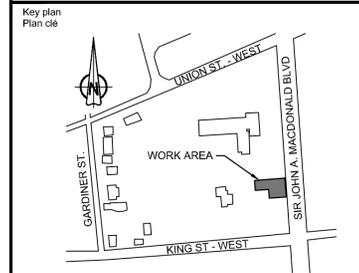
DRAWING NOTES

- 1 DEMOLISH EXISTING FEEDWATER PIPING FORMERLY SERVING STEAM GENERATOR #1, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES ON MAIN LEVEL ON DRAWING M102.
- 2 DEMOLISH EXISTING FEEDWATER PIPING SERVING STEAM GENERATOR #2, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES ON MAIN LEVEL ON DRAWING M102.
- 3 DEMOLISH EXISTING FEEDWATER PIPING FORMERLY SERVING STEAM GENERATOR #3, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES ON MAIN LEVEL ON DRAWING M102.
- 4 DEMOLISH EXISTING FEEDWATER PIPING THROUGH FLOOR, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. FLOOR TO BE MADE GOOD UPON COMPLETION OF DEMOLITION.
- 5 DEMOLISH EXISTING THERMAL FLUID EXPANSION TANK #2, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS.
- 6 EXISTING THERMAL FLUID EXPANSION TANK #3 AND ASSOCIATED PIPING, SUPPORTS, AND ACCOUTREMENTS TO REMAIN.
- 7 EXISTING DEAERATOR AND ASSOCIATED PIPING, SUPPORTS, AND ACCOUTREMENTS TO REMAIN.
- 8 EXISTING THERMAL FLUID VENT PIPING CONNECTED TO EXPANSION TANK #1 TO REMAIN.
- 9 EXISTING THERMAL FLUID EXPANSION LOOP FOR THERMAL FLUID BOILER #1 TO REMAIN.
- 10 EXISTING THERMAL FLUID DRAIN PIPING CONNECTED TO EXPANSION TANK #1 TO REMAIN.
- 11 EXISTING LOW PRESSURE CONDENSATE PIPING TO REMAIN.
- 12 EXISTING STEAM PIPING FROM STEAM HEADER TO DEAERATOR TO REMAIN.
- 13 DEMOLISH THERMAL FLUID LOOP #2, COMPLETE WITH ALL PIPING, SUPPORTS, AND ACCOUTREMENTS. EXPANSION LOOP PIPING IS TO BE DEMOLISHED BACK TO EXPANSION TANK ON MEZZANINE. PIPING CONTINUES ON DRAWING M101.
- 14 DEMOLISH EXISTING THERMAL FLUID VENT PIPING CONNECTED TO EXPANSION TANK #2, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES THROUGH FLOOR. UPON COMPLETION OF DEMOLITION, FLOOR PENETRATION IS TO BE MADE GOOD.
- 15 DEMOLISH EXISTING THERMAL FLUID VENT PIPING FORMERLY CONNECTED TO EXPANSION TANK #3, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES THROUGH FLOOR. UPON COMPLETION OF DEMOLITION, FLOOR PENETRATION IS TO BE MADE GOOD.
- 16 DEMOLISH EXISTING THERMAL FLUID DRAIN PIPING CONNECTED TO EXPANSION TANK #2, COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES THROUGH FLOOR. UPON COMPLETION OF DEMOLITION, FLOOR PENETRATION IS TO BE MADE GOOD.
- 17 DEMOLISH EXISTING THERMAL FLUID DRAIN PIPING FORMERLY CONNECTED TO EXPANSION TANK #3 COMPLETE WITH ALL SUPPORTS AND ACCOUTREMENTS. PIPING CONTINUES THROUGH FLOOR. UPON COMPLETION OF DEMOLITION, FLOOR PENETRATION IS TO BE MADE GOOD.
- 18 EXISTING PRV TO REMAIN.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL EXISTING UNUSED HANGERS ON-SITE.
2. ALL HANGERS REMOVED FROM SITE ARE TO BE DEMOLISHED UP TO ANCHOR POINT.
3. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

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| 00 | ISSUED FOR TENDER | 2014/07/24 |
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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**MEZZANINE
PIPING
DEMOLITION**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

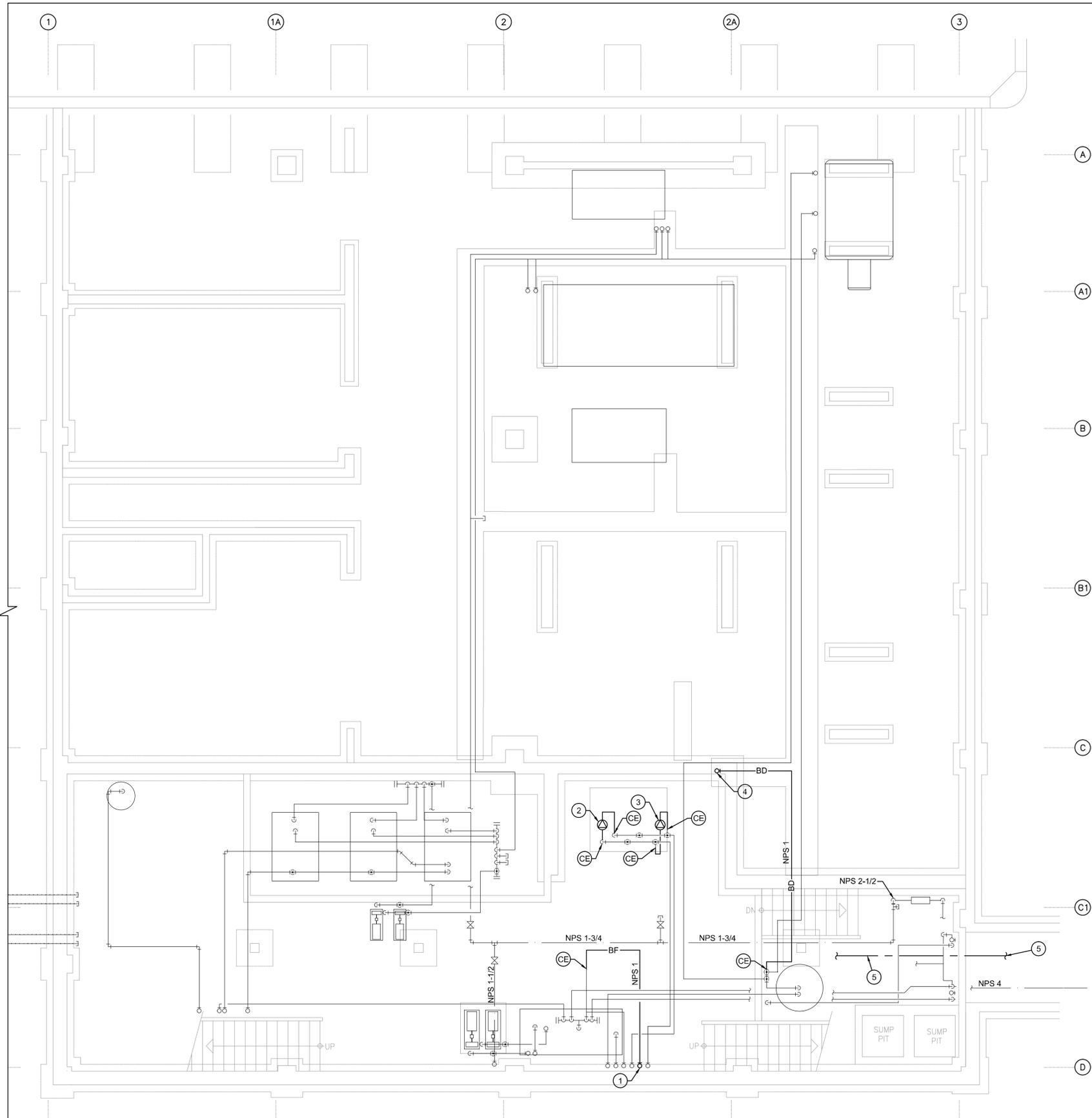
approved by
approuvé par
CARY MCGEE, P.ENG

tender
soumission
DUNCAN PARKER, P.ENG. project manager
administrateur de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M103



1
M200
BASEMENT
EXISTING + NEW CONSTRUCTION
 SCALE: 1:50

DRAWING NOTES

- 1 NEW NPS 1 BOILER FEEDWATER BYPASS THROUGH CEILING FROM FEEDWATER SUPPLY TO NEW BOILER. PIPING CONTINUES ON DRAWING M202.
- 2 NEW PUMP P-8. PHASING OF PUMP DEMOLITION AND INSTALLATION IS SHOWN ON DRAWING M400.
- 3 NEW PUMP P-7. PHASING OF PUMP DEMOLITION AND INSTALLATION IS SHOWN ON DRAWING M400.
- 4 NEW NPS 1 BOILER BLOWDOWN PIPING FROM NEW BOILER TO EXISTING BLOWDOWN TANK HEADER. PIPING IS TO BE ROUTED THROUGH EXISTING FLOOR TRENCHES FROM GROUND FLOOR. PIPING CONTINUES ON DRAWING M202.
- 5 CONTRACTOR TO INSTALL NEW TEMPERATURE SENSOR IN EXISTING STEAM TUNNEL TO KINGSTON PENITENTIARY. REFER TO DRAWING M203 FOR LOCATION AND SCOPE OF INSTALLATION.

GENERAL NOTES

1. DESIGN DOCUMENTS ARE BASED ON PIPING AND CONNECTION REQUIREMENTS FOR A SPECIFIC BOILER MODEL. CONTRACTOR IS RESPONSIBLE FOR ACCOMMODATING ALL REQUIRED PIPING CONNECTIONS AND OTHER NECESSITIES FOR PROPER INSTALLATION OF NEW STEAM BOILER THAT IS PROVIDED, SHOULD THE PROVIDED BOILER DEVIATE FROM THE REQUIREMENTS IDENTIFIED IN THESE DESIGN DOCUMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING BOILER PLANT MEETS OPERATIONAL REQUIREMENTS OF PWGSC BY OCTOBER 15, 2014. CONTRACTOR IS TO PROVIDE AND INSTALL TEMPORARY BOILERS TO MEET DEMAND IF PLANT IS DEEMED BY PWGSC TO NOT MEET OPERATIONAL REQUIREMENTS ON THIS DATE.
3. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

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project title
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OTTAWA ONTARIO
 CLIENT
 560 KING STREET,
 KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
 HEATING PLANT UPGRADE**

drawing title
 titre du dessin
**BASEMENT
 PIPING
 NEW**

drawn by
 dessiné par
PATRICK BOURGEOIS

designed by
 conçu par
CARY MCGEE, P.ENG

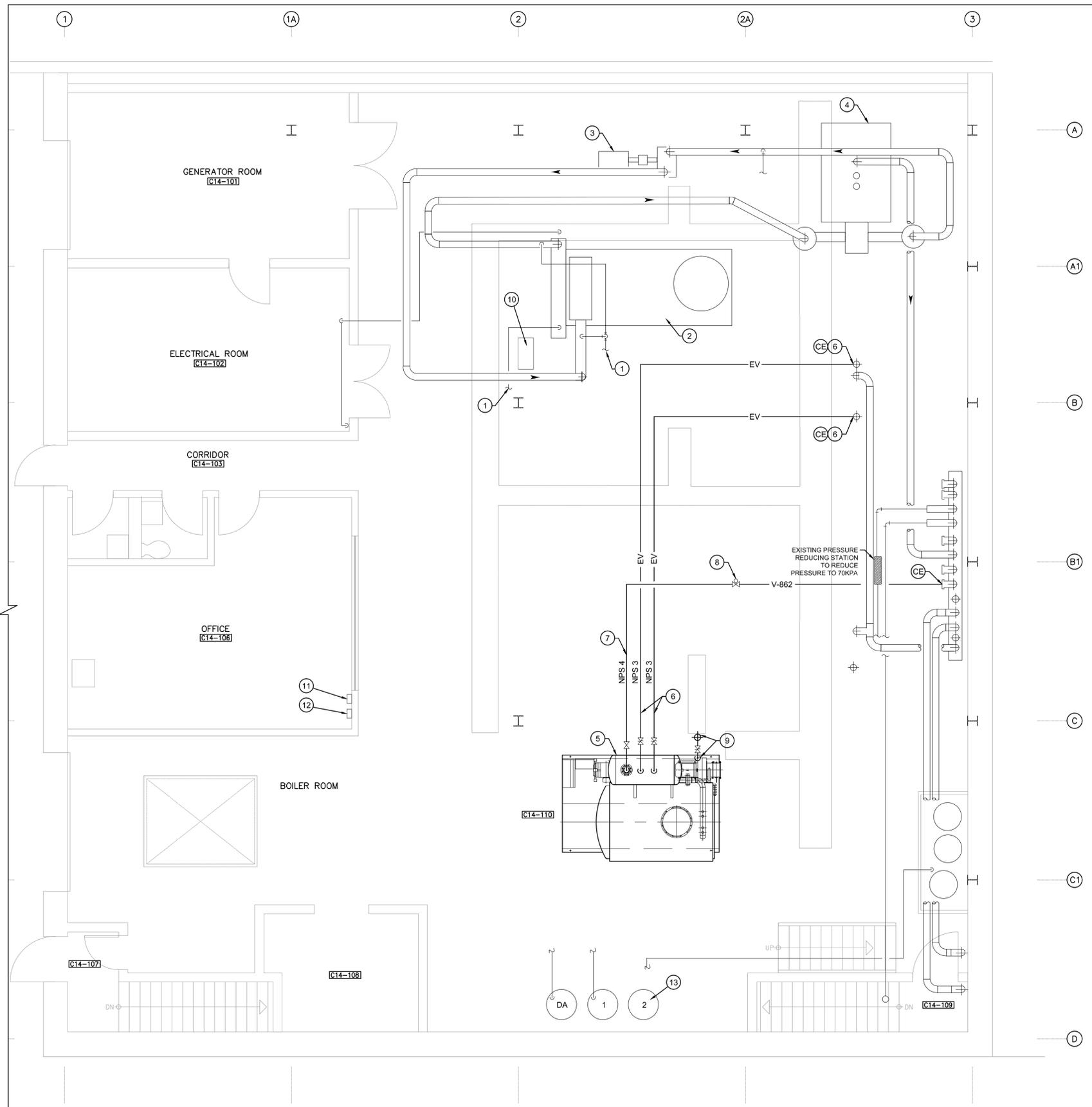
approved by
 approuvé par
CARY MCGEE, P.ENG

tender
 soumission
DUNCAN PARKER, P.ENG. project manager
 administrateur
 de projets

project date
 date du projet
2014/04/07

project no.
 no. du projet
R.068125.001

drawing no.
 dessin no.
M200



1
M201
GROUND FLOOR
EXISTING + NEW
SCALE: 1:50

DRAWING NOTES

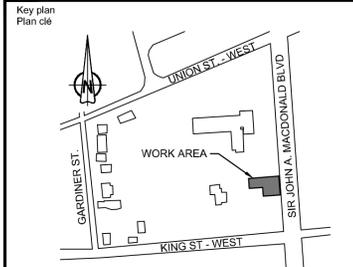
- ① EXISTING THERMAL FLUID EXPANSION LOOP FOR THERMAL FLUID BOILER #1 TO REMAIN.
- ② EXISTING THERMAL FLUID BOILER #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- ③ EXISTING THERMAL FLUID LOOP #1 PUMP AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- ④ EXISTING STEAM GENERATOR #1 AND ASSOCIATED SUPPORTS, PIPING, AND ACCOUTREMENTS TO REMAIN.
- ⑤ NEW LOW WATER VOLUME BOILER TO BE INSTALLED ON EXISTING HOUSEKEEPING PAD FORMERLY OCCUPIED BY BOILER #3. CONTROL PANEL IS TO FACE OFFICE C14-106.
- ⑥ NEW NPS 3 STEAM VENT CONNECTED TO NEW BOILER SAFETY RELIEF VENT AND TIED INTO EXISTING VENT PIPING FORMERLY SERVING STEAM GENERATOR #2. SAFETY RELIEF VALVE DRIP PAN ELBOW TO HAVE A DRAIN LINE PIPED TO NEAREST FLOOR DRAIN.
- ⑦ NEW NPS 4 862 KPA STEAM SUPPLY PIPE FROM NEW BOILER TO BE TIED INTO EXISTING STEAM HEADER WHERE INDICATED.
- ⑧ NEW STEAM FLOWMETER.
- ⑨ NEW NPS 1 SAFETY RELIEF VENT FROM ECONOMIZER UP THROUGH ROOF. ROOF TO BE MADE GOOD UPON COMPLETION OF INSTALLATION AND WEATHERPROOFED. VENT LINE IS TO BE INSTALLED TO ACCOMMODATE 3965 KPA RELIEF PRESSURE.
- ⑩ CONTRACTOR TO SUPPLY AND INSTALL NEW STANDALONE CONTROL PANEL FOR EXISTING THERMAL FLUID BOILER #1. NEW CONTROL PANEL TO BE SAME MANUFACTURER AS CONTROL PANEL FOR NEW STEAM BOILER, AND PANELS TO BE COMPATIBLE WITH EACH OTHER. NEW PANEL TO BE CONFIGURED FOR SEQUENCE OF OPERATIONS SHOWN ON DRAWING M500. ALL CONNECTIONS FROM NEW CONTROL PANEL TO THERMAL BOILER #1 AND OTHER EQUIPMENT TO BE DONE BY DIVISION 23. POWER TO CONTROL PANEL FROM MCC TO BE DONE BY DIVISION 26.
- ⑪ NEW WALL-MOUNTED CONTROLLER FOR TEMPERATURE SENSOR INSTALLED IN STEAM TUNNEL TO KINGSTON PENITENTIARY. REFER TO DRAWING M203 FOR LOCATION AND SCOPE OF INSTALLATION. TIE NEW READOUT PANEL INTO EXISTING PAGER SYSTEM LOCATED ADJACENT TO NEW INSTALL LOCATION FOR CONTROLLER.
- ⑫ EXISTING PAGER SYSTEM.
- ⑬ CONNECT EXISTING CHEMICAL TREATMENT TANK #2 TO NEW BOILER. ADJUST CHEMICALS FOR NEW BOILER AS REQUIRED.

GENERAL NOTES

1. DESIGN DOCUMENTS ARE BASED ON PIPING AND CONNECTION REQUIREMENTS FOR A SPECIFIC BOILER MODEL. CONTRACTOR IS RESPONSIBLE FOR ACCOMMODATING ALL REQUIRED PIPING CONNECTIONS AND OTHER NECESSITIES FOR PROPER INSTALLATION OF NEW STEAM BOILER THAT IS PROVIDED, SHOULD THE PROVIDED BOILER DEVIATE FROM THE REQUIREMENTS IDENTIFIED IN THESE DESIGN DOCUMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING BOILER PLANT MEETS OPERATIONAL REQUIREMENTS OF PWGSC BY OCTOBER 15, 2014. CONTRACTOR IS TO PROVIDE AND INSTALL TEMPORARY BOILERS TO MEET DEMAND IF PLANT IS DEEMED BY PWGSC TO NOT MEET OPERATIONAL REQUIREMENTS ON THIS DATE.
3. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**GROUND FLOOR
PIPING
NEW**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

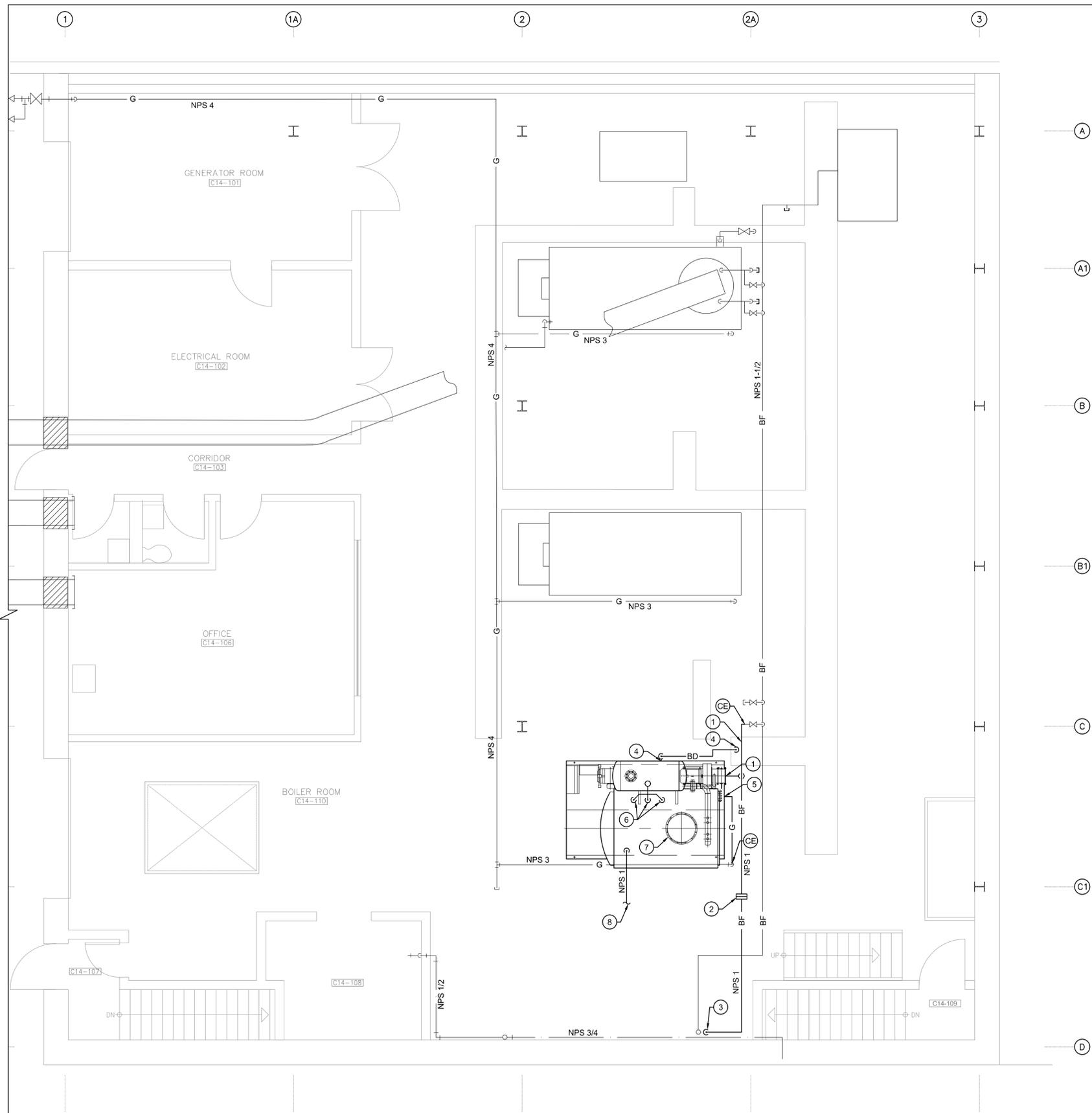
approved by
approuvé par
CARY MCGEE, P.ENG

tender
soumission
DUNCAN PARKER, P.ENG. project manager
administrateur de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M201



1
GROUND FLOOR
EXISTING + NEW
M202 SCALE: 1:50

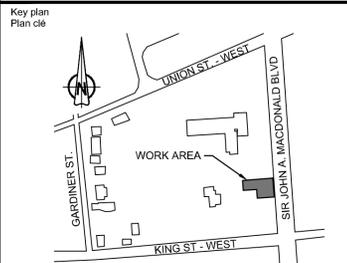
DRAWING NOTES

- ① NEW NPS 1 BOILER FEEDWATER CONNECTION TO NEW BOILER FROM EXISTING FEEDWATER SUPPLY PIPING.
- ② NEW ORIFICE PLATE SUPPLIED AND INSTALLED BY DIVISION 23. ORIFICE PLATE TO BE SIZED FOR THE MINIMUM FLOW THROUGH THE NEW BOILER FEED PUMPS.
- ③ NEW NPS 1 BOILER FEEDWATER BYPASS THROUGH FLOOR TO CONDENSATE RECEIVER IN BASEMENT. PIPING CONTINUES ON DRAWING M200.
- ④ NEW NPS 1 BOILER BLOWDOWN PIPING CONNECTED TO BOILER AND ROUTED THROUGH EXISTING FLOOR TRENCH TO EXISTING BLOWDOWN TANK IN BASEMENT. PIPING CONTINUES ON DRAWING M200.
- ⑤ NEW NPS 2 GAS PIPING TO BE CONNECTED TO EXISTING DROP FORMERLY SERVING THERMAL FLUID BOILER #3 AND ROUTED TO NATURAL GAS CONNECTION FOR NEW BOILER.
- ⑥ NEW GAS VENTS TO BE COMBINED INTO SINGLE NPS 1-1/2 VENT LINE ROUTED THROUGH ROOF. ROOF TO BE MADE GOOD UPON COMPLETION OF INSTALLATION AND WEATHERPROOFED.
- ⑦ NEW 610Ø EXHAUST BREECHING FROM NEW BOILER THROUGH ROOF. ROOF TO BE MADE GOOD UPON COMPLETION OF INSTALLATION AND WEATHERPROOFED. BOILER TO BE INSTALLED SUCH THAT NO OFFSETS OR ELBOWS ARE REQUIRED TO INSTALL NEW EXHAUST BREECHING.
- ⑧ NEW NPS 1 BOILER ECONOMIZER BYPASS LINE FROM BOILER TO DEAERATOR INLET. PIPING CONTINUES ON DRAWING M203.

GENERAL NOTES

- DESIGN DOCUMENTS ARE BASED ON PIPING AND CONNECTION REQUIREMENTS FOR A SPECIFIC BOILER MODEL. CONTRACTOR IS RESPONSIBLE FOR ACCOMMODATING ALL REQUIRED PIPING CONNECTIONS AND OTHER NECESSITIES FOR PROPER INSTALLATION OF NEW STEAM BOILER THAT IS PROVIDED, SHOULD THE PROVIDED BOILER DEVIATE FROM THE REQUIREMENTS IDENTIFIED IN THESE DESIGN DOCUMENTS.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING BOILER PLANT MEETS OPERATIONAL REQUIREMENTS OF PWGSC BY OCTOBER 15, 2014. CONTRACTOR IS TO PROVIDE AND INSTALL TEMPORARY BOILERS TO MEET DEMAND IF PLANT IS DEEMED BY PWGSC TO NOT MEET OPERATIONAL REQUIREMENTS ON THIS DATE.
- UPON COMPLETION OF NEW BOILER INSTALLATION, EXISTING BOILER #1 NEEDS TO BE SEALED OUT OF LOOP TO MEET TSSA REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR MEETING TSSA REQUIREMENTS AND COORDINATING TSSA APPROVAL OF SYSTEM.
1. REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**GROUND FLOOR
PIPING
NEW**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

approved by
approuvé par
CARY MCGEE, P.ENG

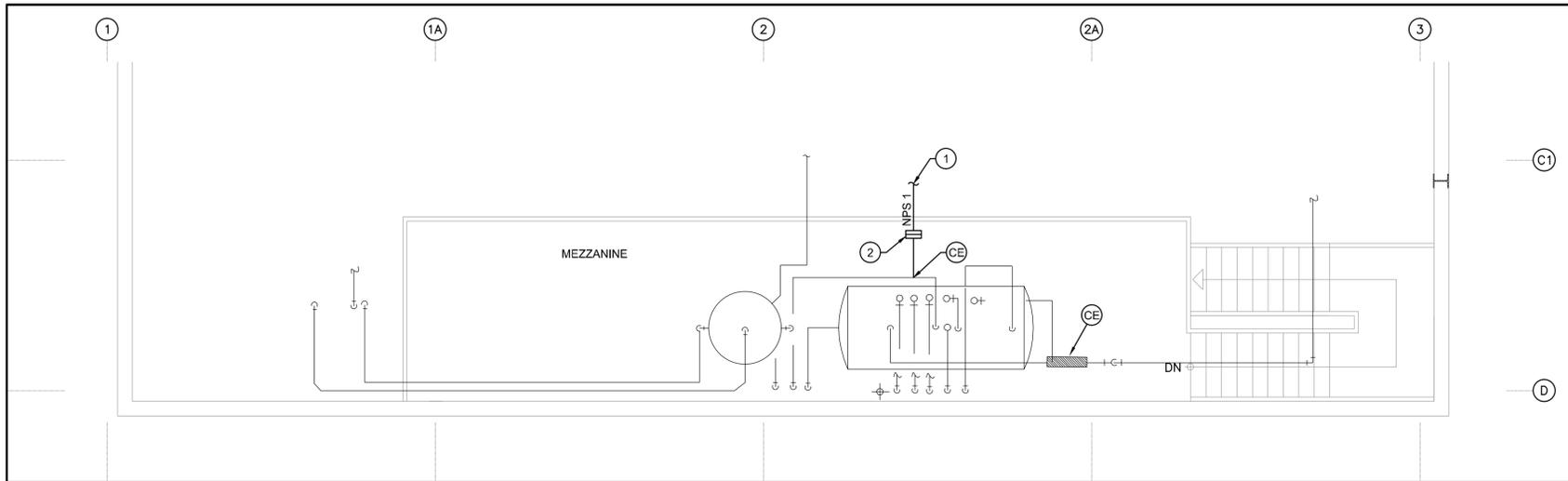
tender
soumission
DUNCAN PARKER, P.ENG.

project manager
administrateur
de projets

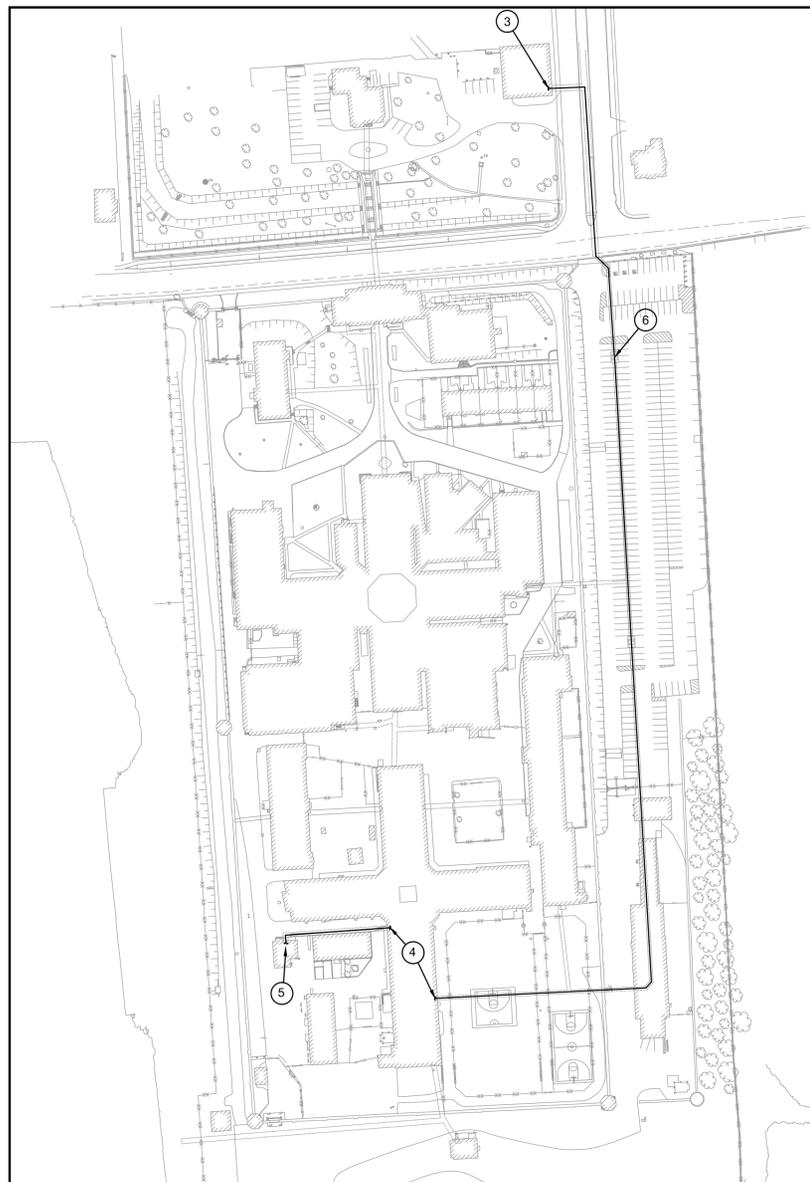
project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M202



1
MEZZANINE
EXISTING + NEW
M203 SCALE: 1:50



2
STEAM TUNNEL
SITE PLAN
M203 SCALE: 1:1500

DRAWING NOTES

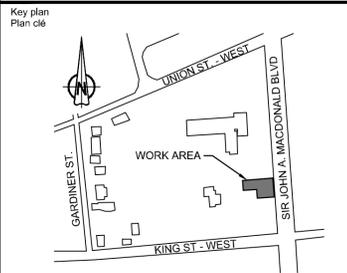
- 1 NEW NPS 1 BOILER ECONOMIZER BYPASS LINE FROM BOILER TO DEAERATOR INLET. CONTRACTOR IS RESPONSIBLE FOR CONNECTING BYPASS LINE TO MAIN DEAERATOR INLET PIPING. PIPING CONTINUES ON DRAWING M202.
- 2 NEW ORIFICE PLATE SUPPLIED BY BOILER MANUFACTURER AND INSTALLED BY DIVISION 23.
- 3 STEAM TUNNEL ENTRANCE FROM CENTRAL PLANT.
- 4 STEAM TUNNEL ENTERS EXISTING BUILDING WITHIN PENITENTIARY.
- 5 STEAM TUNNEL TERMINATION AT MECHANICAL BUILDING WITHIN KINGSTON PENITENTIARY.
- 6 CONTRACTOR TO INSTALL NEW TEMPERATURE SENSOR IN EXISTING STEAM TUNNEL TO KINGSTON PENITENTIARY AT THIS POINT. SENSOR IS TO BE WALL-MOUNTED WITHIN TUNNEL AND IS TO BE TIED BACK TO ELECTRONIC CONTROLLER IN OFFICE C14-106. WIRING IS TO BE INSTALLED IN 19mm C. EMT AND INSTALLED BY DIVISION 25. REFER TO DRAWING M201 FOR LOCATION OF CONTROLLER. CONTROLLER IS TO HAVE PROGRAMMABLE HIGH LIMIT AND LOW LIMIT ALARM SETPOINTS. WHEN TEMPERATURE READING FROM SENSOR INSTALLED IN TUNNEL EXCEEDS HIGH OR LOW LIMIT SETPOINT, CONTROLLER IS TO SEND SIGNAL TO EXISTING PAGER SYSTEM IN OFFICE C14-106. CONTRACTOR IS RESPONSIBLE FOR CONNECTING NEW CONTROLLER TO EXISTING PAGER SYSTEM.
- 7 EXISTING PRV TO REMAIN.

GENERAL NOTES

- DESIGN DOCUMENTS ARE BASED ON PIPING AND CONNECTION REQUIREMENTS FOR A SPECIFIC BOILER MODEL. CONTRACTOR IS RESPONSIBLE FOR ACCOMMODATING ALL REQUIRED PIPING CONNECTIONS AND OTHER NECESSITIES FOR PROPER INSTALLATION OF NEW STEAM BOILER THAT IS PROVIDED, SHOULD THE PROVIDED BOILER DEVIATE FROM THE REQUIREMENTS IDENTIFIED IN THESE DESIGN DOCUMENTS.
- 1 CONTRACTOR IS RESPONSIBLE FOR ENSURING BOILER PLANT MEETS OPERATIONAL REQUIREMENTS OF PWGSC BY OCTOBER 15, 2014. CONTRACTOR IS TO PROVIDE AND INSTALL TEMPORARY BOILERS TO MEET DEMAND IF PLANT IS DEEMED BY PWGSC TO NOT MEET OPERATIONAL REQUIREMENTS ON THIS DATE.
 - 2 REFER TO DRAWINGS M300, M301, AND M302 FOR SCHEMATICS.

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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**MEZZANINE
PIPING
NEW**

drawn by
dessiné par
PATRICK BOURGEOIS

designed by
conçu par
CARY MCGEE, P.ENG

approved by
approuvé par
CARY MCGEE, P.ENG

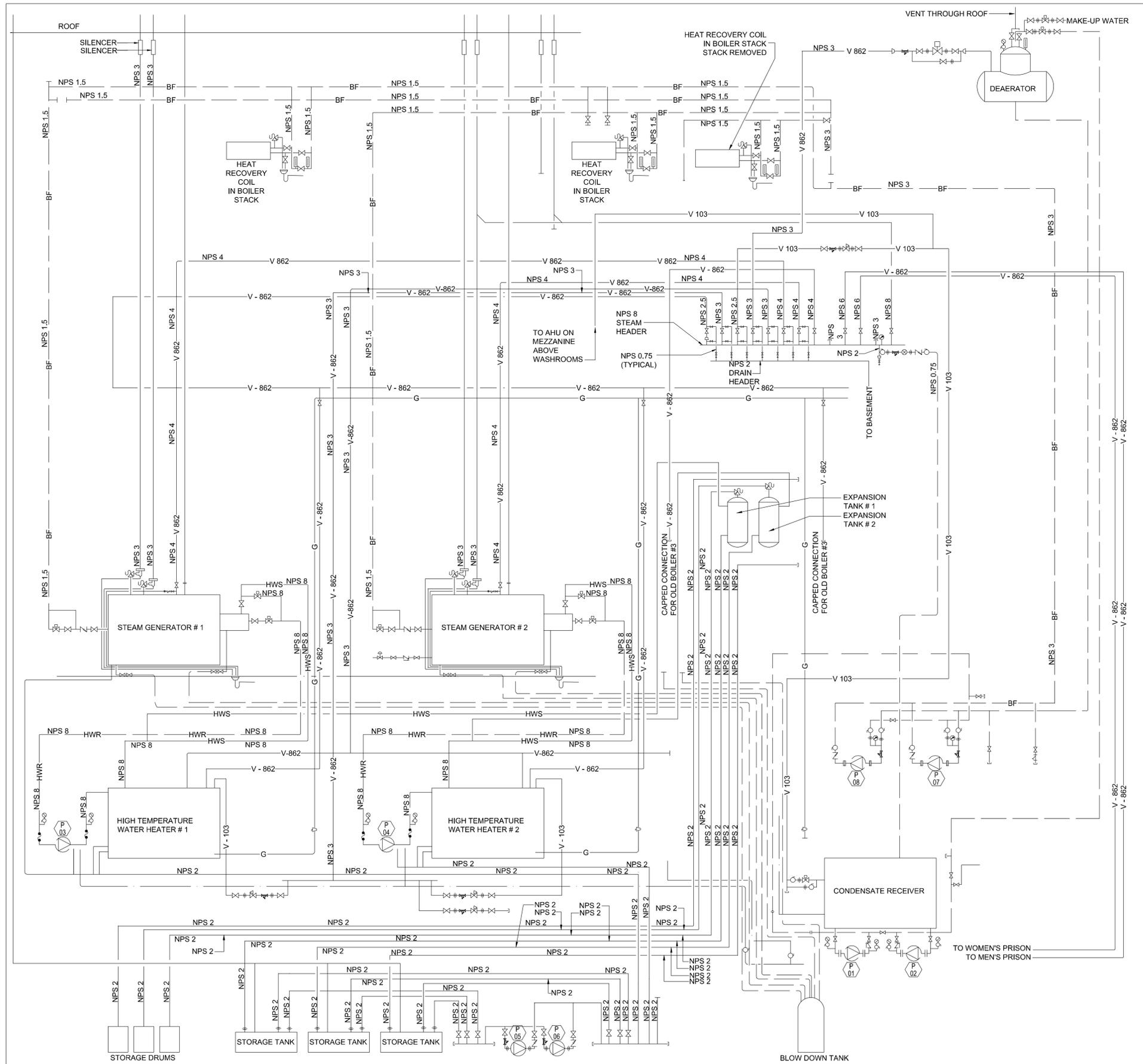
lender
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DUNCAN PARKER, P.ENG.

project manager
administrateur
de projets

project date
date du projet
2014/04/07

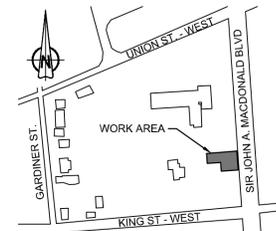
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R.068125.001

drawing no.
dessin no.
M203



1 STEAM SCHEMATIC
 M300 SCALE: N.T.S.

Key plan
 Plan clé



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OTTAWA ONTARIO
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 KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
 HEATING PLANT UPGRADE**

drawing title
 titre du dessin
**SCHEMATIC
 EXISTING**

drawn by
 dessiné par
DEAN PROCTOR

designed by
 conçu par
DEAN PROCTOR

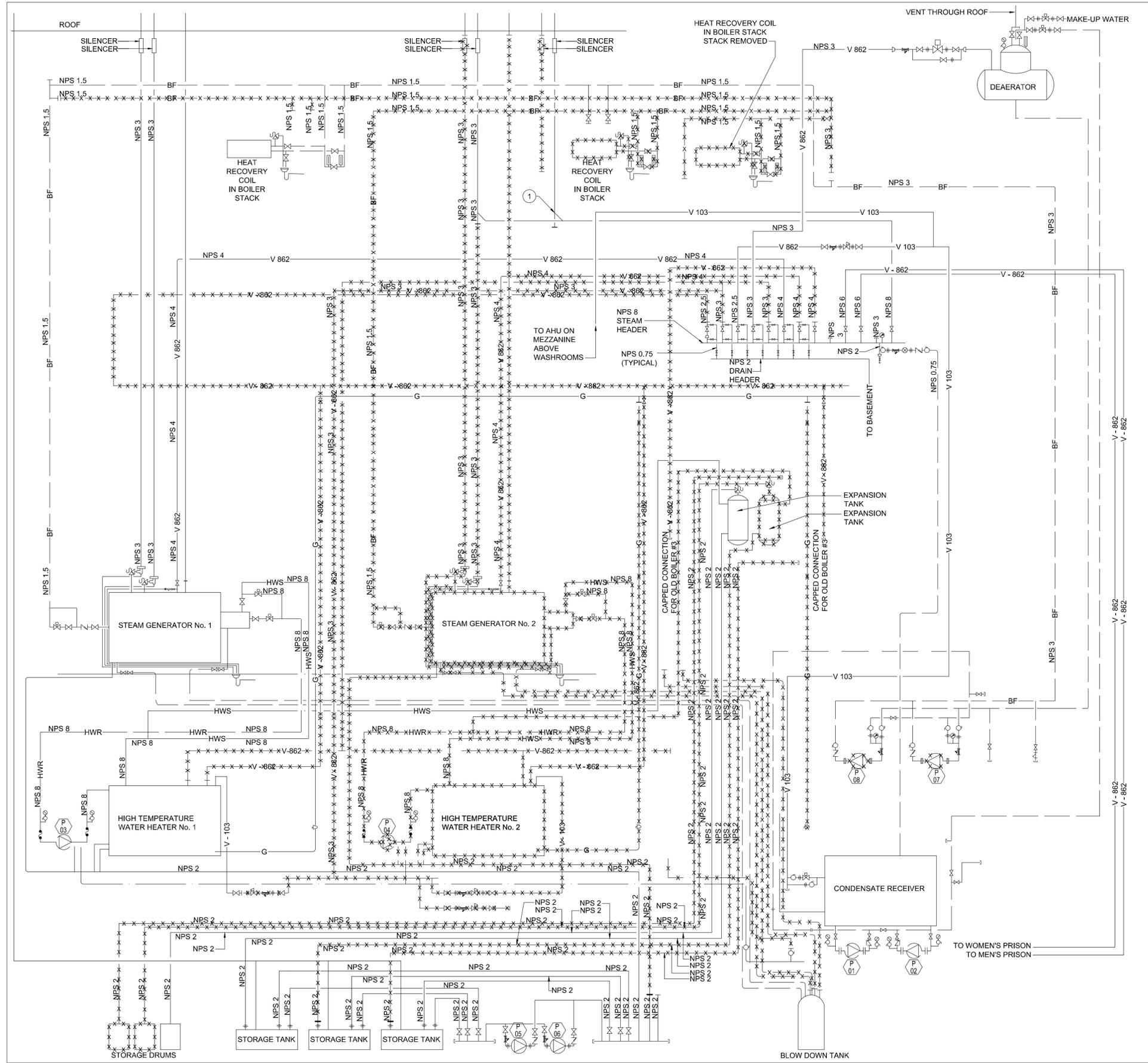
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DUNCAN PARKER, P.ENG. project manager
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 de projets

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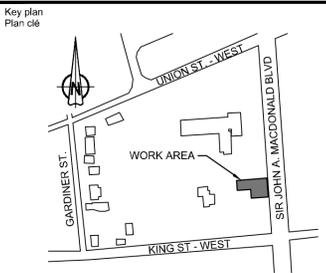
drawing no.
 dessin no.
M300



DRAWING NOTES

1 EXISTING TEE CONNECTION TO VENT FORMERLY SERVING STEAM GENERATOR #3 AND STEAM LINE FROM HEADER TO BE DEMOLISHED AND REPLACED WITH A NEW ELBOW DEDICATED TO THE STEAM LINE FROM THE STEAM HEADER.

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**KINGSTON PENITENTIARY
 HEATING PLANT UPGRADE**

drawing title
titre du dessin
**SCHEMATIC
 DEMOLITION**

drawn by
dessiné par
DEAN PROCTOR

designed by
conçu par
DEAN PROCTOR

approved by
approuvé par
CARY MCGEE, P.ENG

lender
soumission
DUNCAN PARKER, P.ENG.

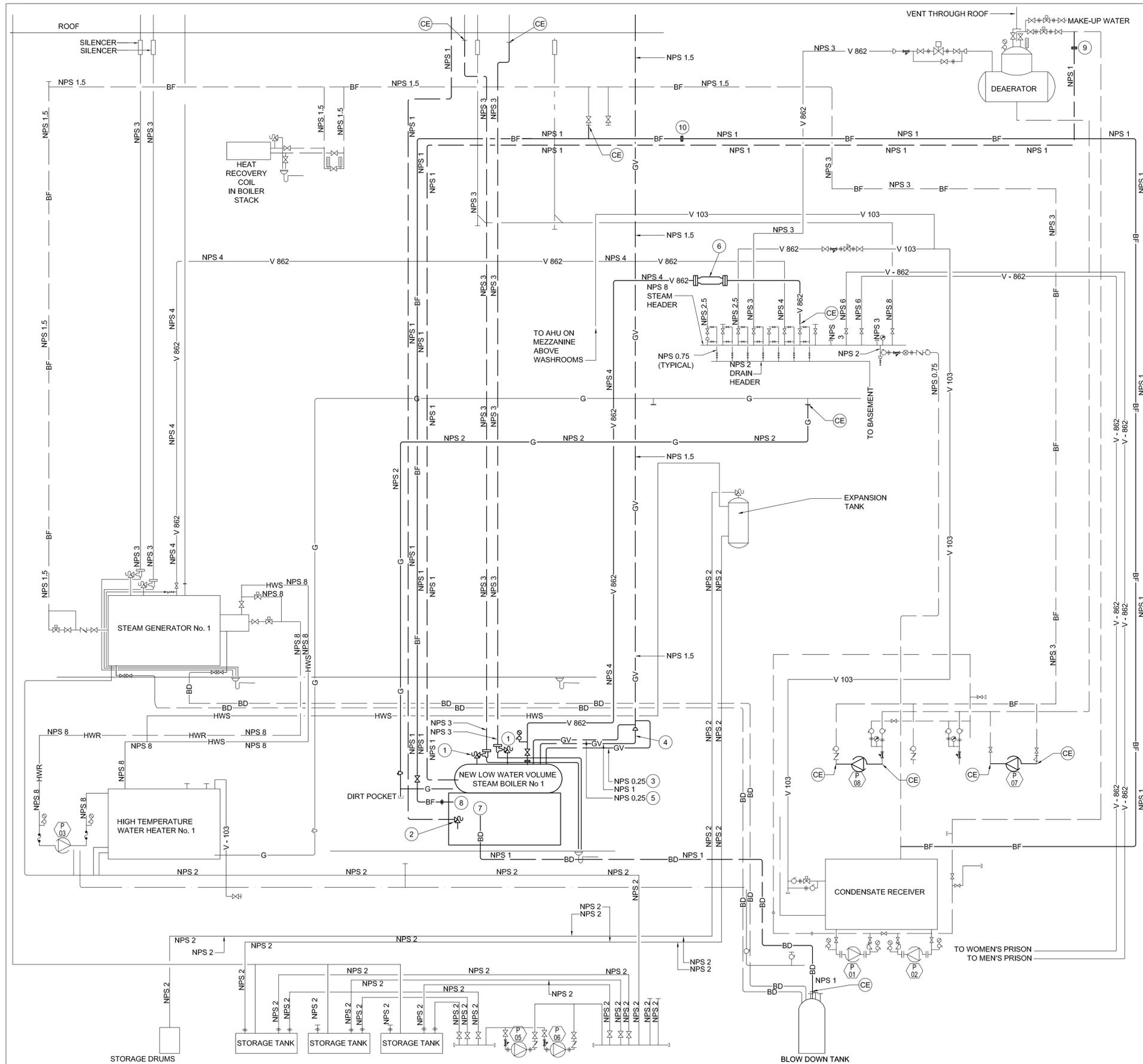
project manager
administrateur
de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

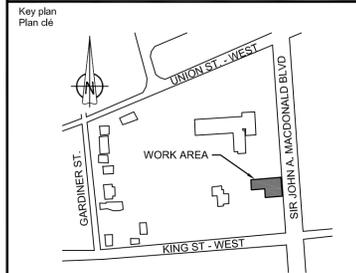
drawing no.
dessin no.
M301

1 STEAM SCHEMATIC
 SCALE: N.T.S.



- DRAWING NOTES:**
- 1 SAFETY RELIEF VALVE SUPPLIED BY BOILER MANUFACTURER AND INSTALLED AND PIPED BY DIVISION 23.
 - 2 RELIEF VALVE SUPPLIED BY BOILER MANUFACTURER AND PIPED BY DIVISION 23.
 - 3 NATURAL GAS VENT CONNECTED TO HIGH PRESSURE SWITCH. HIGH PRESSURE SWITCH SUPPLIED AND INSTALLED BY BOILER MANUFACTURER
 - 4 NATURAL GAS VENT CONNECTED TO MAIN GAS VENT BLEED VALVE. MAIN GAS VENT BLEED VALVE SUPPLIED AND INSTALLED BY BOILER MANUFACTURER
 - 5 NATURAL GAS VENT CONNECTED TO LOW PRESSURE SWITCH. LOW PRESSURE SWITCH SUPPLIED AND INSTALLED BY BOILER MANUFACTURER
 - 6 STEAM FLOW METER, 4695 KG/HR AT 860 kPa INLET PRESSURE AND A 35 kPa PRESSURE DROP.
 - 7 CONNECT NEW NPS 1 TO BOILER BLOWDOWN CONNECTION
 - 8 CONNECT NEW NPS 1 BOILER FEED LINE TO BOILER FEEDWATER CONNECTION.
 - 9 ORIFICE PLATE SUPPLIED BY BOILER MANUFACTURER AND INSTALLED BY DIV. 23
 - 10 ORIFICE PLATE SUPPLIED AND INSTALLED BY DIV. 23. ORIFICE TO BE SIZED FOR THE MINIMUM FLOW THROUGH THE NEW BOILER FEED PUMPS.

Public Works and Government Services Canada
 Architectural and Engineering Services
 Ontario Region
 Travaux publics et Services gouvernementaux Canada
 Services d'architecture et de génie
 Région de l'Ontario



| revision | description | date |
|----------|-----------------------|------------|
| 00 | ISSUED FOR TENDER | 2014/07/24 |
| 0A | ISSUED FOR 99% REVIEW | 2014/05/22 |

Do not scale drawings.
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| | |
|---|---|
| A | Detail No. No. du détail |
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| C | drawing no. - where detailed dessin no. - où détaillé |

project title
titre du projet
OTTAWA ONTARIO
 CLIENT
 560 KING STREET,
 KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
 HEATING PLANT UPGRADE**

drawing title
titre du dessin
**SCHEMATIC
 NEW**

drawn by
dessiné par
DEAN PROCTOR

designed by
conçu par
DEAN PROCTOR

approved by
approuvé par
CARY MCGEE, P.ENG

tender
soumission
DUNCAN PARKER, P.ENG.

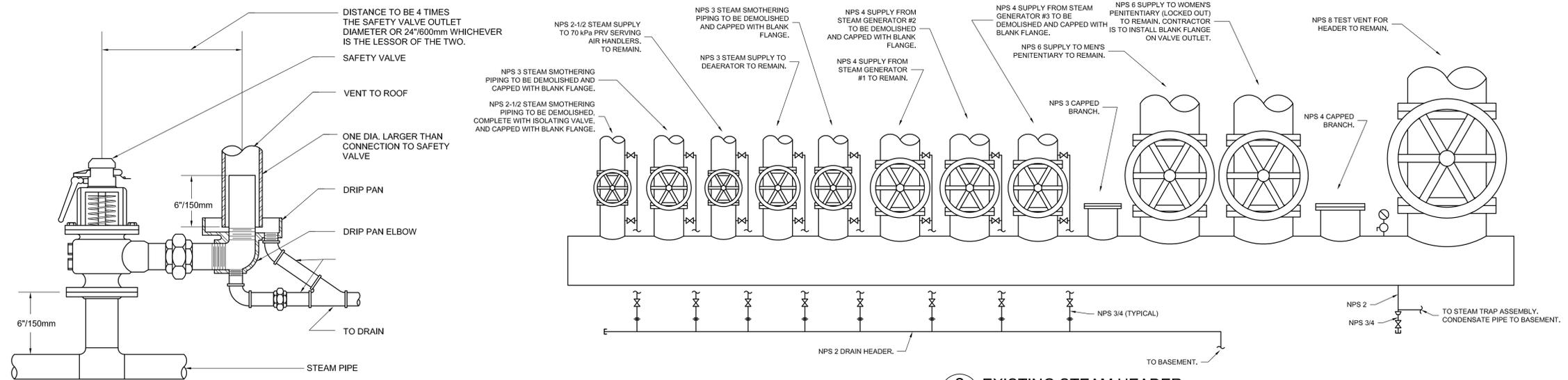
project manager
administrateur
de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M302

1 STEAM SCHEMATIC
 M302 SCALE: N.T.S.



1 STEAM SAFETY VALVE & DRIP PAN ELBOW
 M400 SCALE: NTS

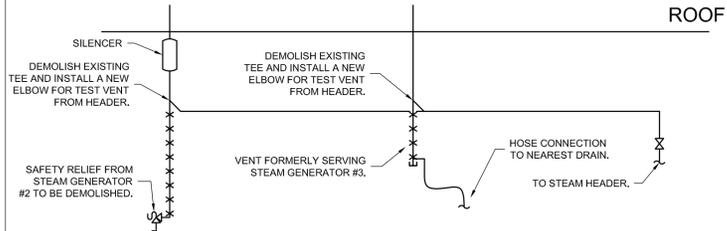
2 EXISTING STEAM HEADER
 M400 SCALE: NTS

PUMP DEMOLITION PROPOSED PHASING

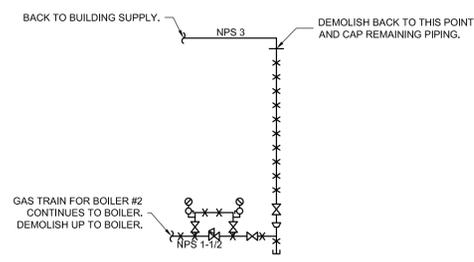
- 1 DEMOLISH EXISTING PUMP P-7 AND MOTOR FROM PUMP P-6. MAINTAIN PUMP P-8.
- 2 INSTALL NEW PUMP P-7 AT CONNECTION POINTS FORMERLY SERVING PUMP P-6.
- 3 COMMISSION NEW PUMP P-7 AND ENSURE PUMP IS OPERATING CORRECTLY.
- 4 UPON WRITTEN APPROVAL FROM DEPARTMENTAL REPRESENTATIVE TO PROCEED, DEMOLISH OLD PUMP P-8.
- 5 INSTALL NEW PUMP P-8 AT CONNECTION POINTS FORMERLY SERVING OLD PUMP P-8.
- 6 COMMISSION NEW PUMP P-8.

| ID | MANUFACTURER | MODEL | FLUID | CAPACITY | | ELECTRICAL | | | | | COMMENTS |
|-----|--------------|-------|------------------|------------|------------|------------|-------|-------|----|------|----------|
| | | | | FLOW (L/s) | HEAD (kPa) | HP | VOLTS | PHASE | HZ | RPM | |
| P-6 | ARMSTRONG | 4700 | BOILER FEEDWATER | 1.33 | 931 | 3 | 575 | 3 | 60 | 3450 | 1 |
| P-7 | ARMSTRONG | 4700 | BOILER FEEDWATER | 1.33 | 931 | 3 | 575 | 3 | 60 | 3450 | 1 |

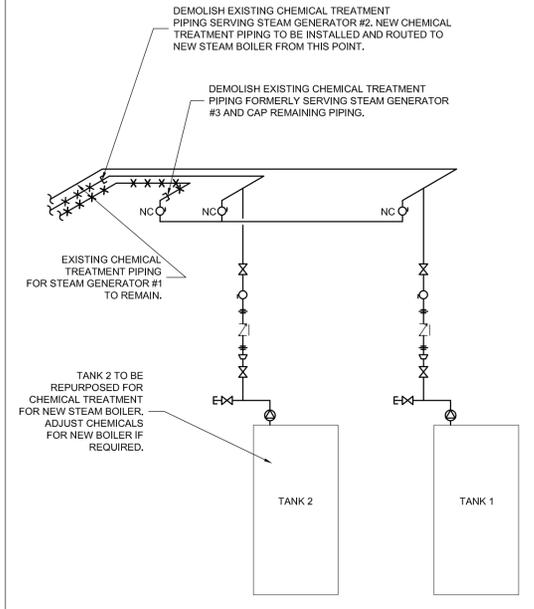
COMMENTS:
 1 - VERTICAL MULTI-STAGE PUMP



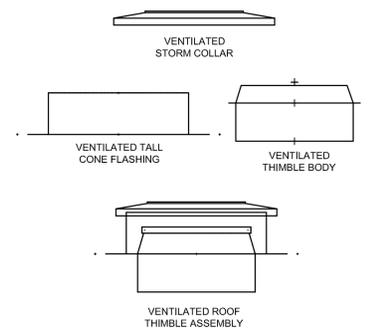
3 TEST VENT MODIFICATIONS
 M400 SCALE: NTS



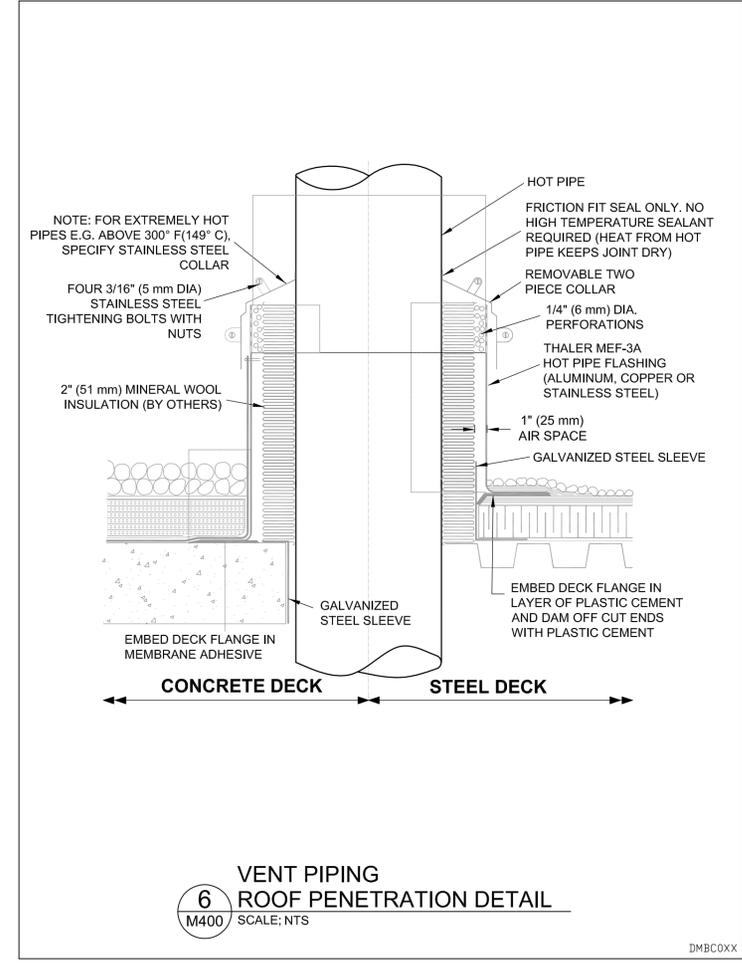
4 THERMAL FLUID BOILER #2 NATURAL GAS INTERVENTION POINT
 M400 SCALE: NTS



7 CHEMICAL TREATMENT PIPING
 M400 SCALE: NTS



5 CHIMNEY BREECHING ROOF PENETRATION DETAIL
 M400 SCALE: NTS



6 VENT PIPING ROOF PENETRATION DETAIL
 M400 SCALE: NTS

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| 00 | ISSUED FOR TENDER | 2014/07/24 |
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| | dessin no. - où détail existe |
| | drawing no. - where detailed |
| | dessin no. - où détaillé |

project title
 titre du projet
OTTAWA ONTARIO
 CLIENT
 560 KING STREET,
 KINGSTON, K7L 4V7
KINGSTON PENITENTIARY HEATING PLANT UPGRADE

DETAILS AND SCHEDULES

drawn by
 dessiné par
DEAN PROCTOR

designed by
 conçu par
CARY MCGEE

approved by
 approuvé par
CARY MCGEE

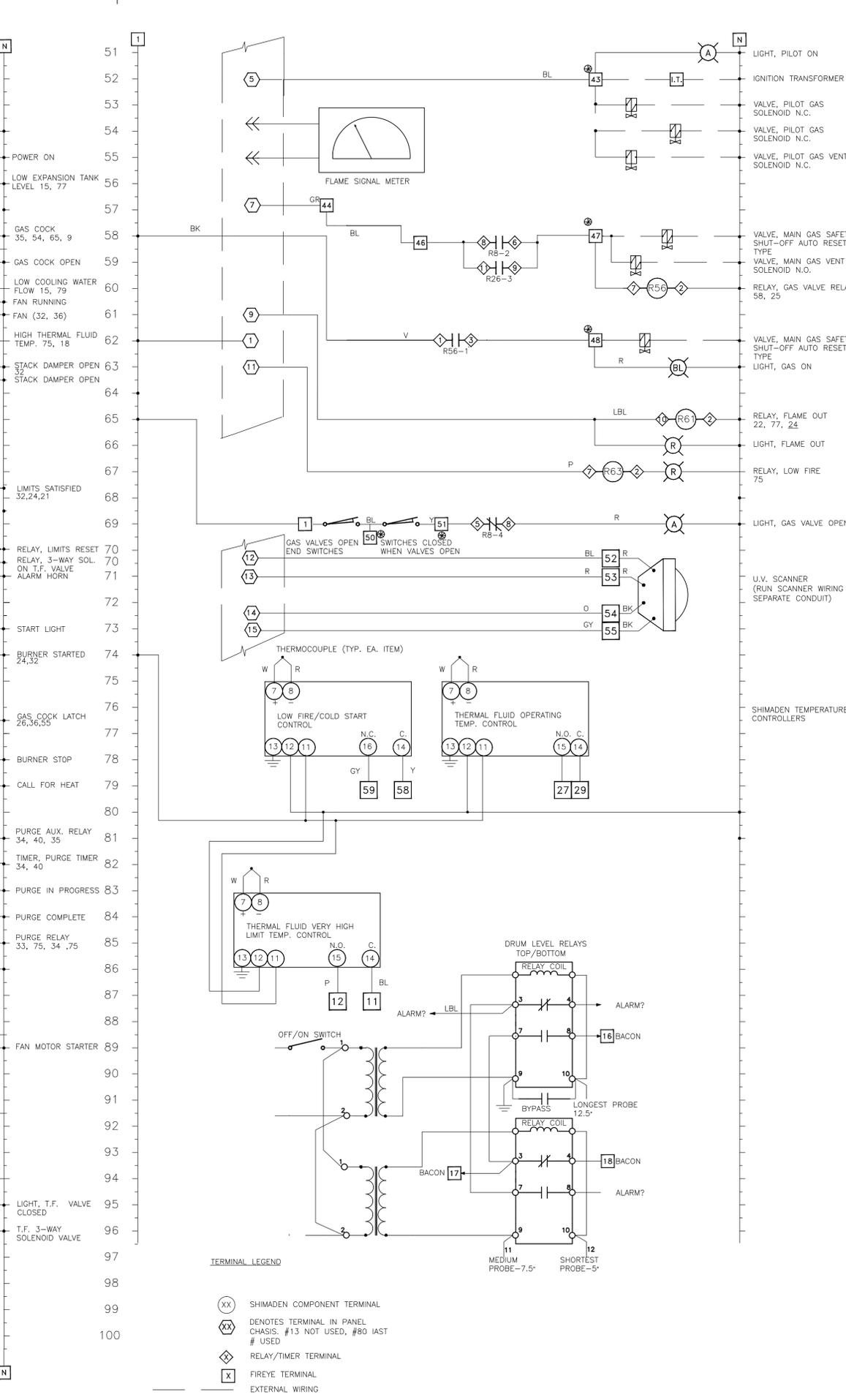
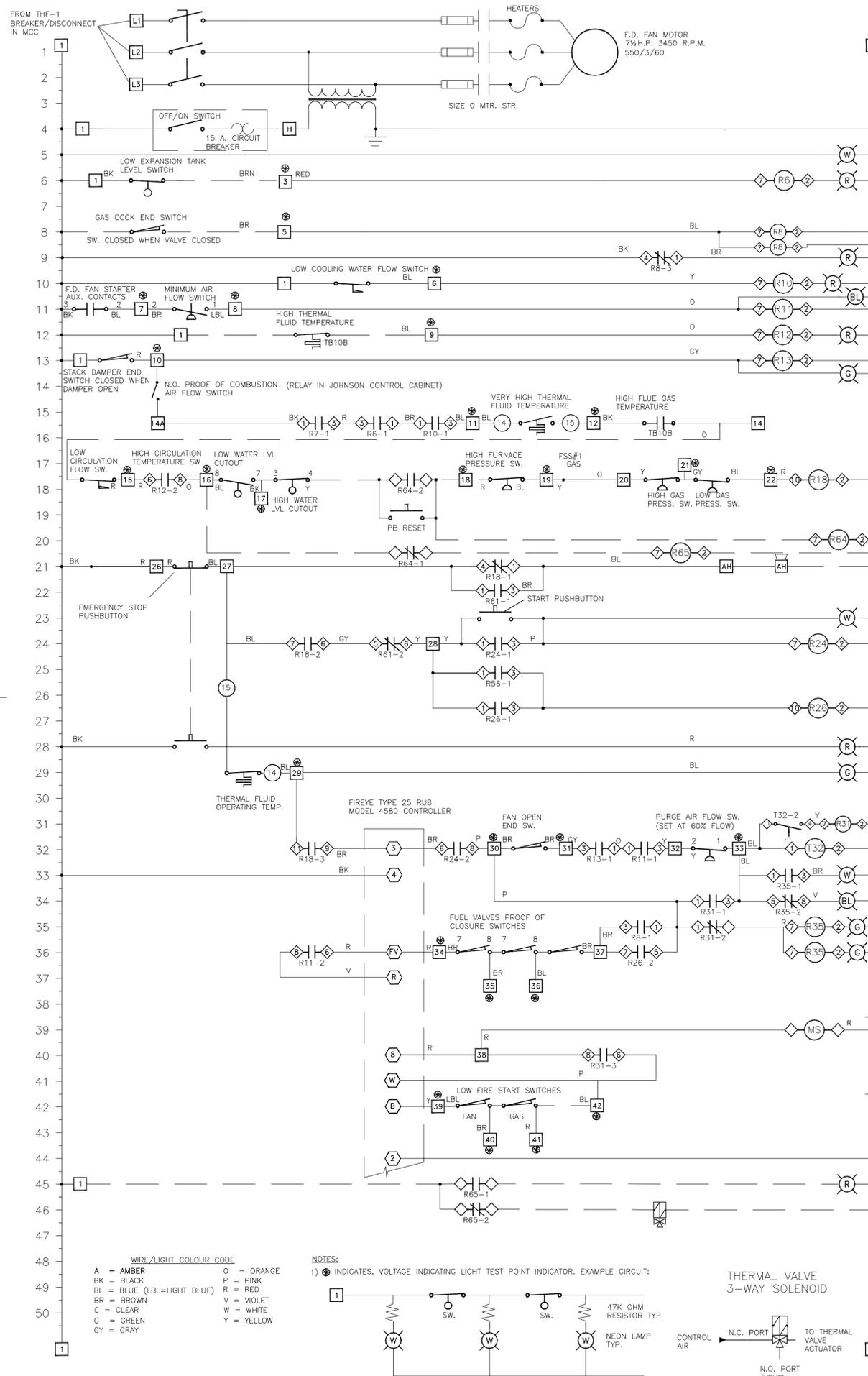
tender
 soumission
DUNCAN PARKER, P.ENG.

project manager
 administrateur
 de projets

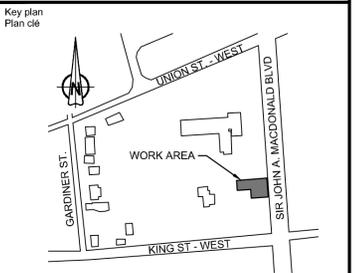
project date
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2014/04/07

project no.
 no. du projet
R.068125.001

drawing no.
 dessin no.
M400



Public Works and
Government Services Canada
Architectural and Engineering Services
Ontario Region
Travaux publics et
Services gouvernementaux Canada
Services d'architecture et de génie
Région de l'Ontario



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project title
titre du projet
OTTAWA ONTARIO
CLIENT
560 KING STREET,
KINGSTON, K7L 4V7
**KINGSTON PENITENTIARY
HEATING PLANT UPGRADE**

drawing title
titre du dessin
**NEW CONTROLS
EXISTING BOILER #1**

drawn by
dessiné par
CARY MCGEE, P.ENG.

designed by
conçu par
CARY MCGEE, P.ENG.

approved by
approuvé par
CARY MCGEE, P.ENG.

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DUNCAN PARKER, P.ENG.

project manager
administrateur
de projets

project date
date du projet
2014/04/07

project no.
no. du projet
R.068125.001

drawing no.
dessin no.
M500