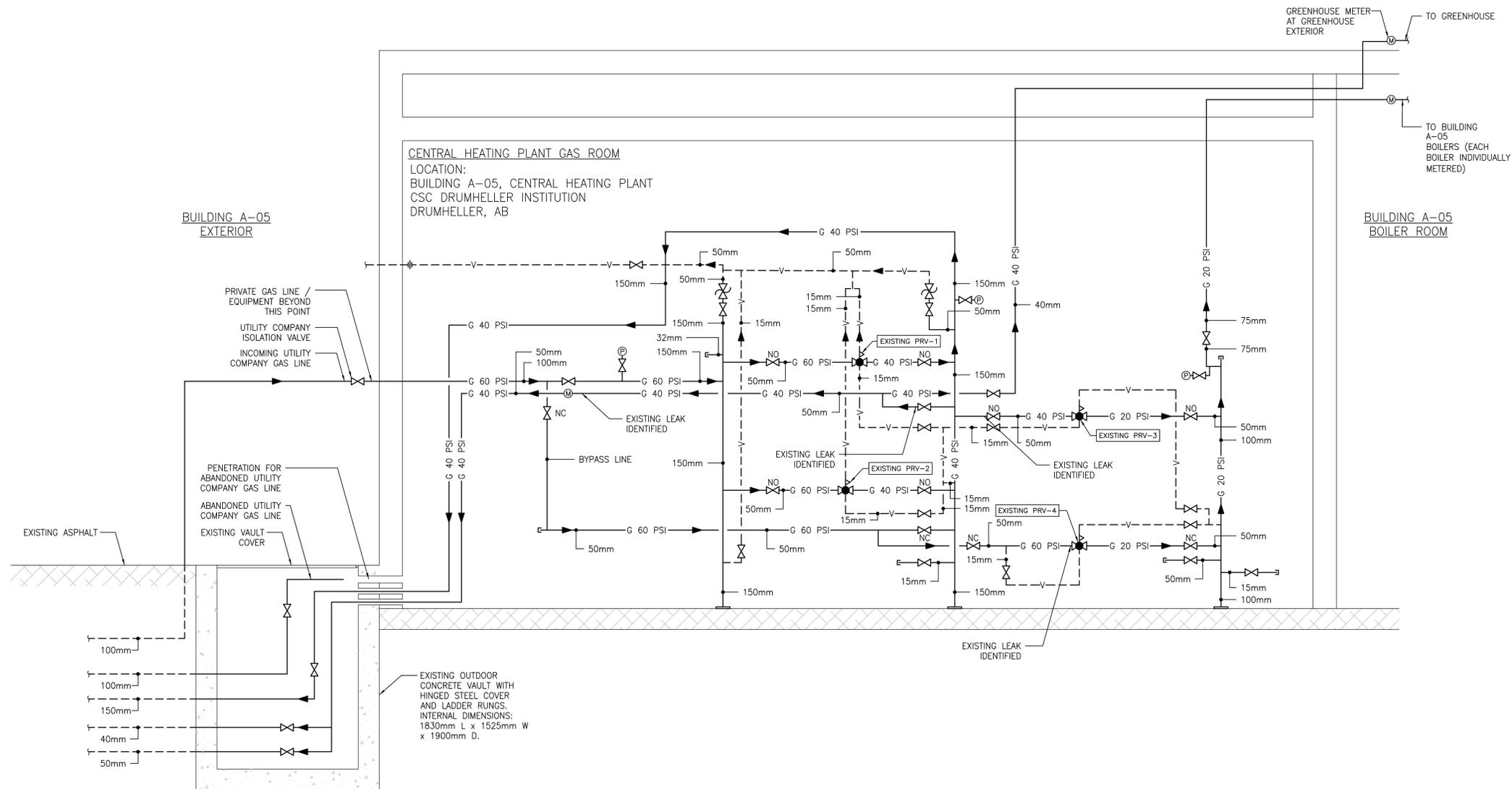


DRAWING INDEX	
DRAWING NUMBER	DRAWING TITLE
M-01	GAS SCHEMATIC EXISTING
M-06	GAS SCHEMATIC PHASE 1 AND 2 RENOVATION
M-07	EXISTING GAS PLAN
M-08	PHASE 1 RENOVATION GAS PLAN
M-09	PHASE 2 RENOVATION GAS PLAN
M-10	ASSOCIATED WORKS AND DETAILS

LEGEND	
	ISOLATION VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	FLUID PUMP
	METER
	PRESSURE GAUGE
	PIPE DOWN
	PIPE UP
	PIPE RISER
	PIPE DROP
	PIPE TEE DOWN
	PIPE TEE UP
	CAPPED PIPE
	GAS PIPING ABOVE GRADE
	GAS PIPING BELOW GRADE
	VENT PIPING
	VALVE NORMALLY CLOSED
	VALVE NORMALLY OPEN
	ITEM TO BE DEMOLISHED
	UNION
	FLANGED PIPING



**PERMIT TO PRACTICE**  
SNC-LAVALIN INC. ENGINEERING, DESIGN  
AND PROJECT MANAGEMENT  
FM SIGNATURE: *[Signature]*  
FM APEGA ID #: M47562  
DATE: March 22, 2021  
**PERMIT NUMBER: P009643**  
The Association of Professional Engineers and  
Geoscientists of Alberta (APEGA)

No	Date	Revision	By
A	2020/09/10	ISSUED FOR TENDER	KJ
B	2021/03/22	RE-ISSUED FOR TENDER	KJ

Project:  
CORRECTIONAL SERVICE OF CANADA  
DRUMHELLER INSTITUTION  
NATURAL GAS MAIN  
AND VALVE RESTORATION  
DRUMHELLER, ALBERTA  
PROJECT NUMBER: R.090801

Project Title  
CSC-DING MAIN  
AND VALVE  
RESTORATION

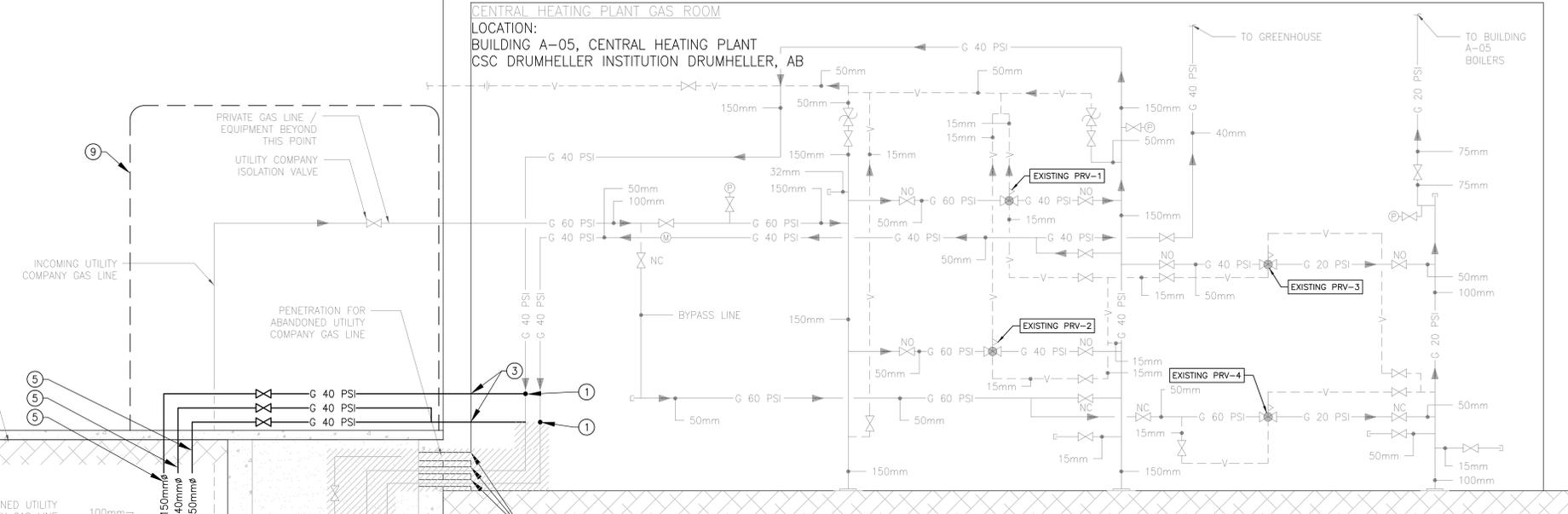
Drawing Name  
GAS SCHEMATIC  
EXISTING

Scale: NTS  
Date: 2021/03/22  
Drawn: LJ  
Designed: LJ  
Checked: KJ  
File Number: 672293  
Drawing No: M-01



LEGEND	
	ISOLATION VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	FLUID PUMP
	METER
	PRESSURE GAUGE
	PIPE DOWN
	PIPE UP
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	VALVE NORMALLY CLOSED
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	UNION
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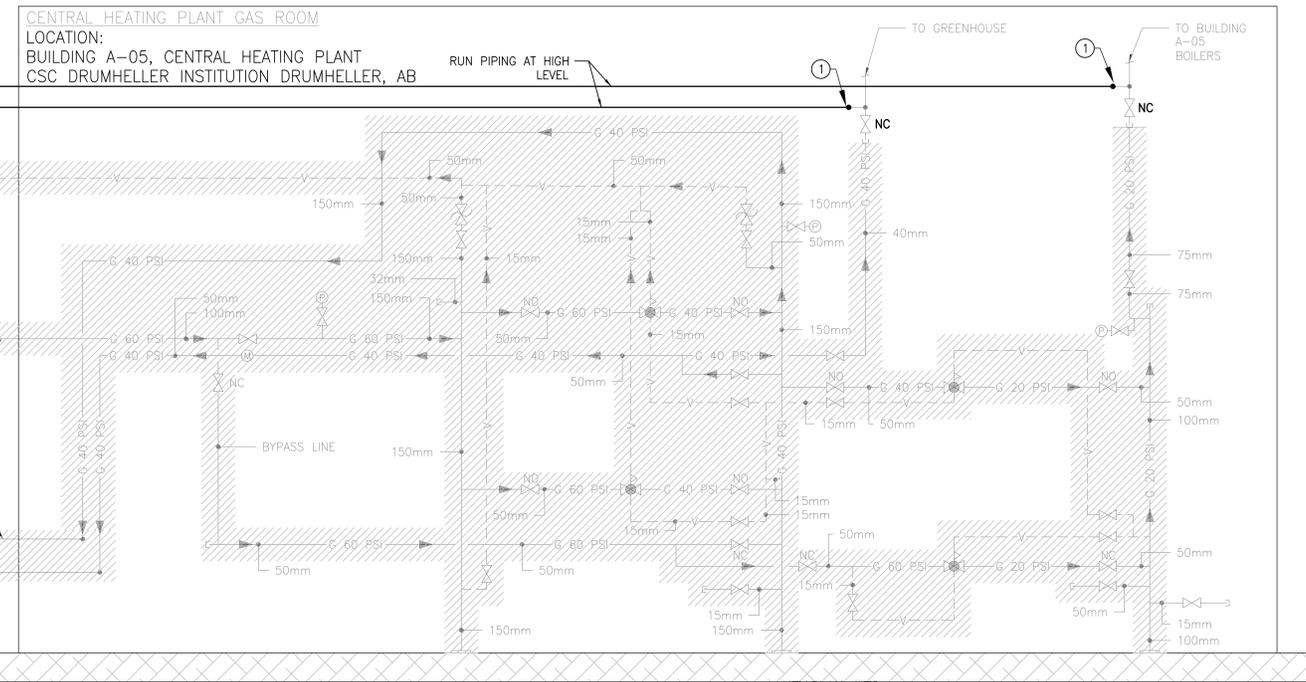
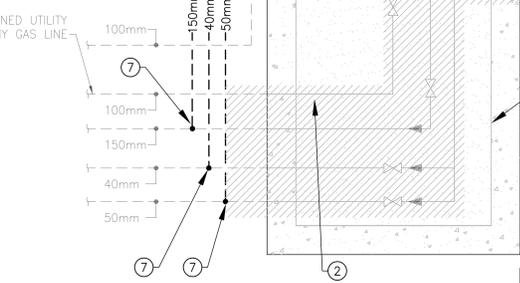
- GENERAL NOTES:**
1. THE DARK COLOUR LINES INDICATE NEW. THE LIGHT COLOUR LINES INDICATE EXISTING. REFER TO FLOOR PLANS AND DETAILS FOR ADDITIONAL DETAIL AND WORK SCOPE.
  2. RECONNECT EXISTING CATHODIC PROTECTION SYSTEM TO NEW PIPE. VERIFY INTEGRITY.
  3. DEMOLISH AND REMOVE EXISTING PIPING AND VALVING WHERE REPLACED WITH NEW.
  4. NEW ABOVE GRADE GAS PIPING TO BE SCHEDULE 40 SEAMLESS STEEL, PAINTED TO SUIT SPECIFICATIONS.
  5. NEW BELOW GRADE GAS PIPING TO BE STEEL WITH WELDED FITTINGS. PIPE TO BE COVERED WITH A POLYETHYLENE "YELLOW JACKET" AND PLASTIC SHRINK-WRAPPED OR "POLYKEN" TAPE WRAPPED JOINTS AND FITTINGS, OR POLYETHYLENE.
  6. INDIVIDUAL LINE BRANCH GAS LOADS NOTED ARE SIZED ON LINE CAPACITY RATHER THAN CONNECTED LOAD UNLESS NOTED OTHERWISE ON PLAN.
  7. FOR ADDITIONAL DETAILS REFER TO PLAN DRAWINGS.
  8. PROVIDE VALVED AND CAPPED DRIP AND DIRT POCKETS ON ALL PIPING LOW POINTS IN ACCORDANCE WITH GAS CODE.



1 PHASE 1 RENOVATION SCHEMATIC  
M-06 SCALE: N.T.S.

**KEY NOTES - RENOVATION PHASE 1**

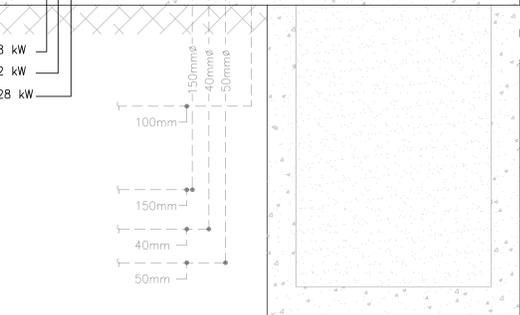
1. CONNECT NEW TO EXISTING
2. DEMOLISH ABANDONED UTILITY COMPANY LINE
3. PROVIDE NEW PENETRATION THROUGH THE WALL, INSULATE AND SEAL GAPS, PROVIDE ESCUTCHEONS.
4. REMOVE VAULT COVER, INFILL EXISTING BELOW GRADE VAULT WITH SUITABLE FILL
5. EXCAVATE SMALL PORTION OF ASPHALT TO UNCOVER BELOW GRADE GAS PIPING TO MAKE CONNECTION BETWEEN NEW AND EXISTING PIPING. PROVIDE NEW BELOW GRADE PIPING, REPAIR EXCAVATION WITH SUITABLE FILL AND COMPACTED ROAD CRUSH, PROVIDE NEW GRAVEL OVER WITHIN THE NEW ENCLOSURE AND ASPHALT OVER OUTSIDE OF THE NEW ENCLOSURE
6. REPAIR PENETRATIONS TO MATCH EXISTING
7. CONNECT NEW BELOW GRADE PIPING TO EXISTING CLOSE TO THE SIDE OF THE EXISTING VAULT.
8. PROVIDE NEW CONCRETE PAD ABOVE EXISTING VAULT (APPROXIMATELY 3460mm L x 1725mm W x 255mm D). PAD TO BE CONFIGURED TO ENSURE NO BELOW GRADE GAS PIPING LIES BELOW
9. PROVIDE SECURE TEMPORARY CONSTRUCTION FENCING TO THE PERIMETER OF THE CONSTRUCTION AREA UNTIL FUTURE PERMANENT FENCING IS FULLY CONSTRUCTED. ENSURE THAT CONSTRUCTION FENCING IS SECURELY FIXED TO THE GROUND



2 PHASE 2 RENOVATION SCHEMATIC  
M-06 SCALE: N.T.S.

**KEY NOTES - RENOVATION PHASE 2**

1. CONNECT NEW TO EXISTING
2. PROVIDE NEW SECURE CHAIN LINK ENCLOSURE TO THREE SIDES (2500mm HIGH)
3. PROVIDE NEW EQUIVALENT OUTDOOR GAS SYSTEM LOCATED WITHIN THE CHAINLINK ENCLOSURE C/W PROTECTIVE BOLLARDS
4. PROVIDE NEW PENETRATION THROUGH THE WALL INSULATE AND SEAL GAPS, PROVIDE ESCUTCHEONS
5. REPAIR PENETRATIONS TO MATCH EXISTING
6. CAPACITY BASED ON THE MAXIMUM CAPACITY OF THE INCOMING SUPPLY LINE.



**SNC-LAVALIN**  
Infrastructure  
640 - 6th Avenue SW, Suite 300  
Calgary, Alberta, Canada T2P 3G4  
Tel: 403 670-7300

Stamps

**PROFESSIONAL ENGINEER**  
Alberta  
2021-Mar-22

**PERMIT TO PRACTICE**  
SNC-LAVALIN INC. ENGINEERING, DESIGN AND PROJECT MANAGEMENT  
FM SIGNATURE: [Signature]  
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DRUMHELLER INSTITUTION  
NATURAL GAS MAIN  
AND VALVE RESTORATION  
DRUMHELLER, ALBERTA  
PROJECT NUMBER: R.090801

Project Title  
CSC-DI-NG MAIN  
AND VALVE  
RESTORATION

Drawing Name  
GAS SCHEMATIC  
PHASE 1 AND 2 RENOVATION

Scale:	NTS	File Number:	672293
Date:	2021/03/22	Drawing No.:	
Drawn:	LJ		
Designed:	LJ		
Checked:	KJ		

**M-06**

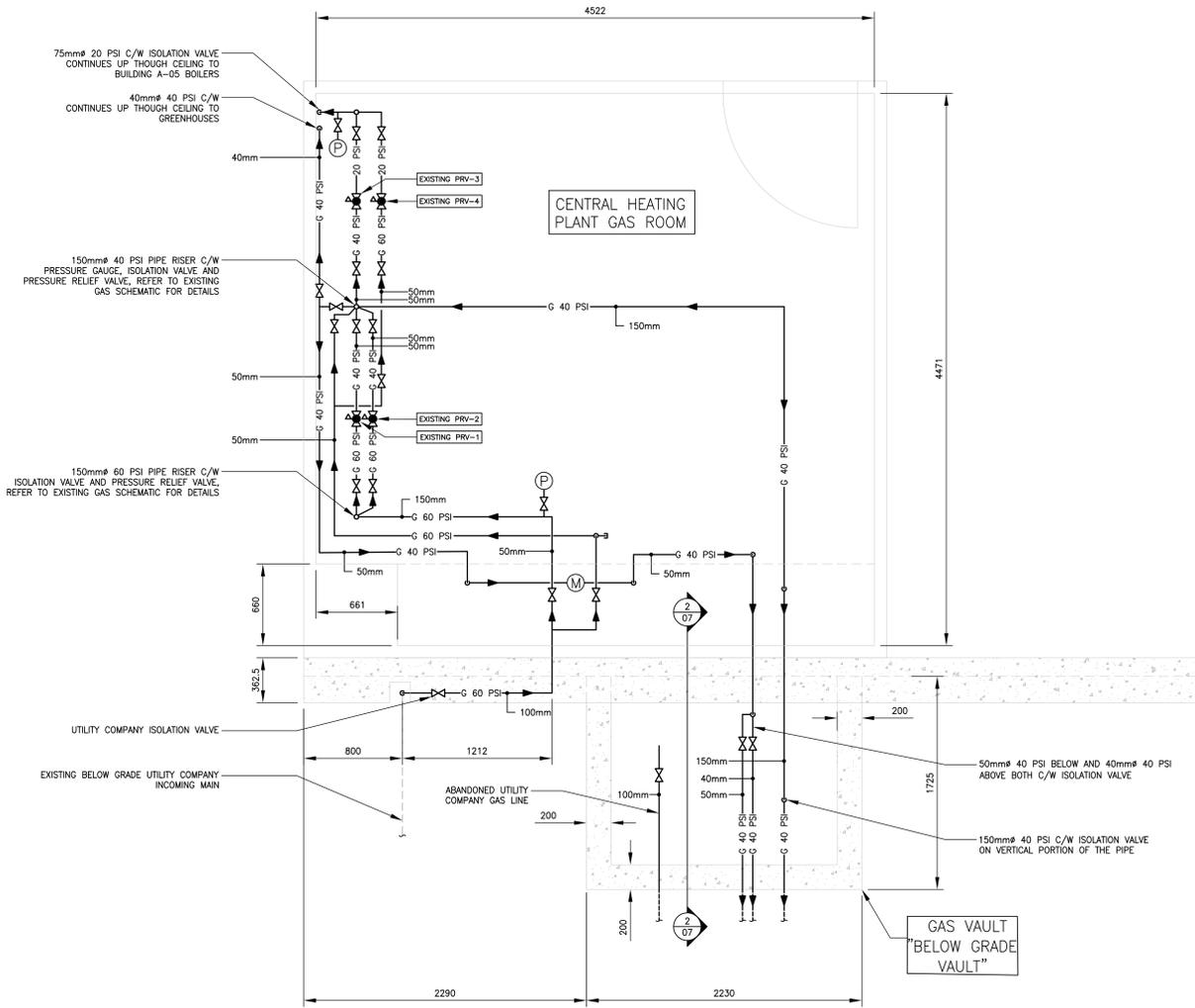
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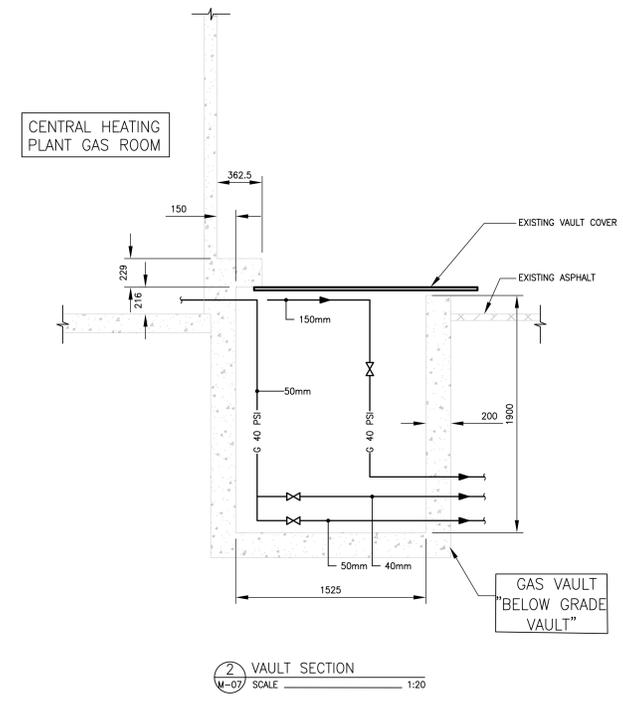
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LEGEND	
	ISOLATION VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	FLUID PUMP
	METER
	PRESSURE GAUGE
	PIPE DOWN
	PIPE UP
	PIPE RISER
	PIPE DROP
	PIPE TEE DOWN
	PIPE TEE UP
	CAPPED PIPE
	GAS PIPING
	VENT PIPING
	NC VALVE NORMALLY CLOSED
	NO VALVE NORMALLY OPEN
	ITEM TO BE DEMOLISHED
	UNION
	FLANGED PIPING

- GENERAL NOTES:**
1. THE DARK COLOUR LINES INDICATE NEW. THE LIGHT COLOUR LINES INDICATE EXISTING.
  2. PLAN VIEWS DO NOT SHOW ALL COMPONENTS OF THE GAS VALVE TREE FOR CLARITY. REFER TO SCHEMATICS FOR COMPLETE GAS TREE LAYOUT AND ANY PIPE SIZES WHICH ARE NOT SHOWN ON PLAN.
  3. VENTING PIPING IS EXCLUDED FROM PLAN DRAWINGS FOR CLARITY. REFER TO SCHEMATICS FOR FULL EXTENT OF VENTING PIPING.
  4. RECONNECT EXISTING CATHODIC PROTECTION TO NEW PIPING. VERIFY THAT THE CATHODIC PROTECTION OF NEW PIPING IS FUNCTIONAL AND OPERATING PROPERLY. TEST AND RECORD THE FOLLOWING WHERE APPLICABLE: CATHODIC PROTECTION TYPE, PIPE TO SOIL VOLTAGE, POTENTIAL, PIPE CONTINUITY, ANODE VOLTAGE OUTPUT AND ANODE CONDITION.
  5. DEMOLISH AND REMOVE EXISTING PIPING AND VALVING WHERE REPLACED WITH NEW.
  6. NEW ABOVE GRADE GAS PIPING TO BE SCHEDULE 40 SEAMLESS STEEL, PAINTED TO SUIT SPECIFICATIONS.
  7. NEW BELOW GRADE GAS PIPING TO BE STEEL WITH WELDED FITTINGS. PIPE TO BE COVERED WITH A POLYETHYLENE "YELLOW JACKET" AND PLASTIC SHRINK-WRAPPED OR "POLYKEN" TAPE WRAPPED JOINTS AND FITTINGS, OR POLYETHYLENE.
  8. PROVIDE VALVED AND CAPPED DRIP AND DIRT POCKETS ON ALL PIPING LOW POINTS IN ACCORDANCE WITH THE GAS CODE.



1 EXISTING GAS PLAN  
SCALE 1:20



2 VAULT SECTION  
SCALE 1:20

KEY PLAN - NTS



Project:  
CORRECTIONAL SERVICE OF CANADA  
DRUMHELLER INSTITUTION  
NATURAL GAS MAIN  
AND VALVE RESTORATION  
DRUMHELLER, ALBERTA  
PROJECT NUMBER: R.090801

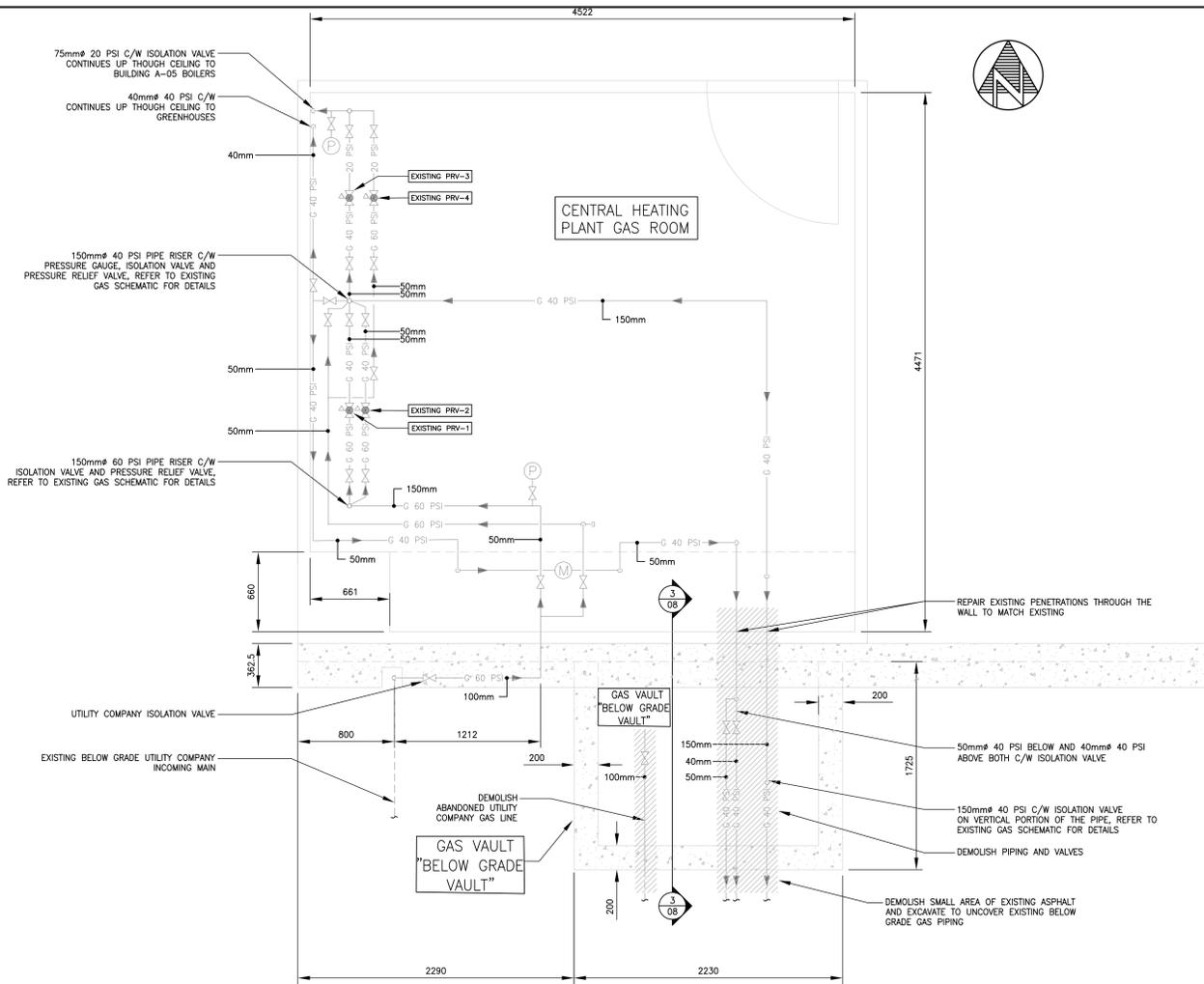
Project Title  
CSC-DING MAIN  
AND VALVE  
RESTORATION

Drawing Name  
EXISTING GAS PLAN

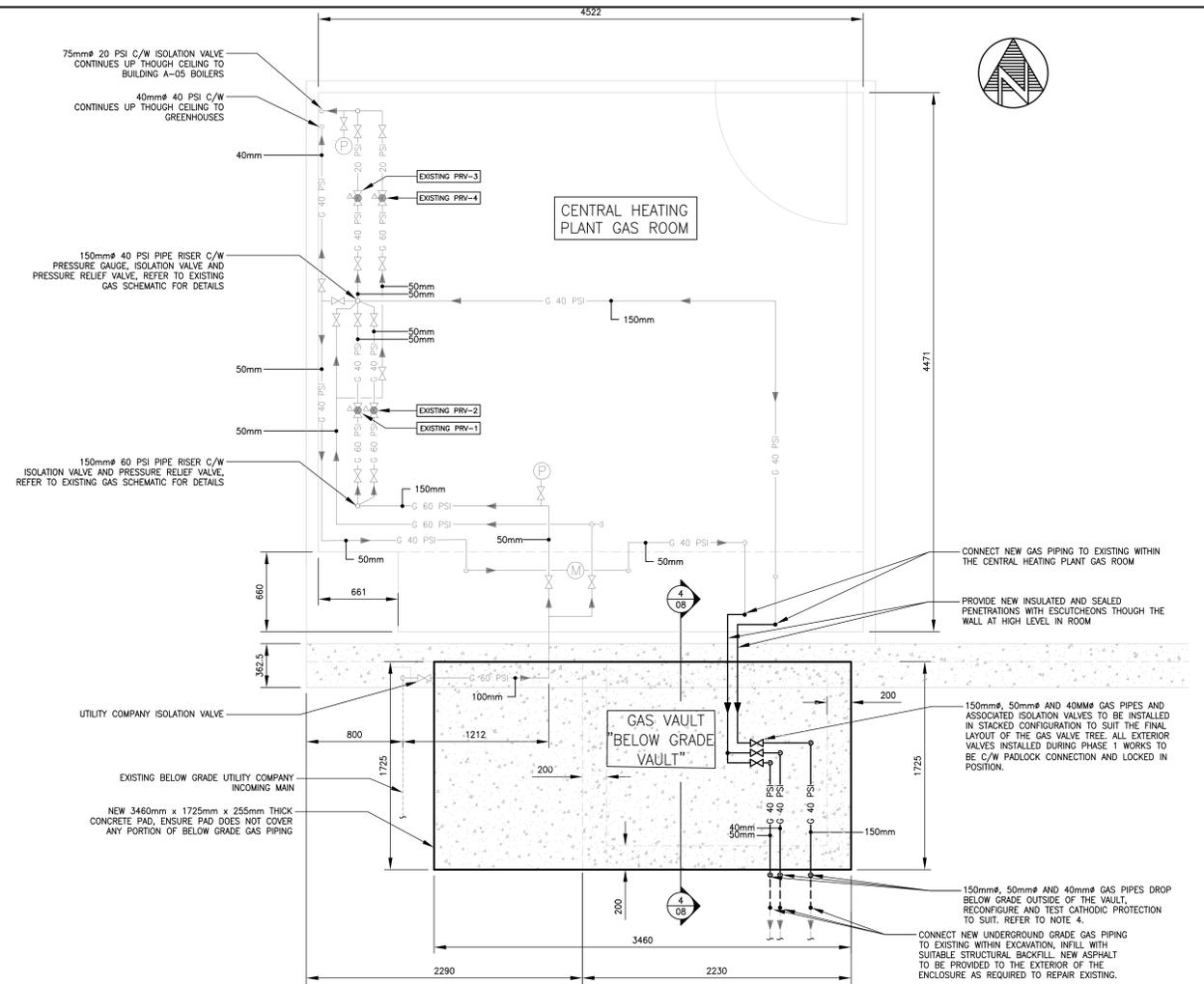
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Date:	2021/03/22	Drawing No.:	
Drawn:	LJ		
Designed:	LJ		
Checked:	KJ		

**M-07**

No	Date	Revision	By
1	2020/09/10	ISSUED FOR TENDER	KJ
2	2021/03/22	RE-ISSUED FOR TENDER	KJ



**1 PHASE 1 DEMOLITION GAS PLAN**  
SCALE 1:20

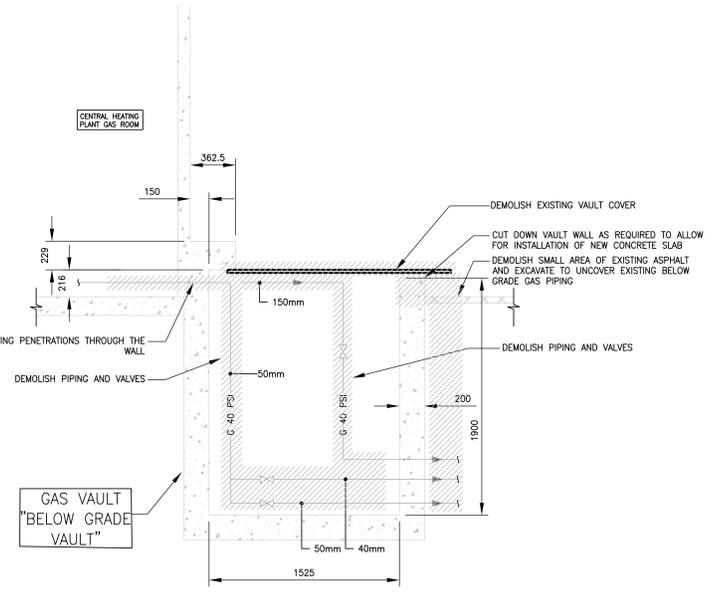


**2 PHASE 1 RENOVATION GAS PLAN**  
SCALE 1:20

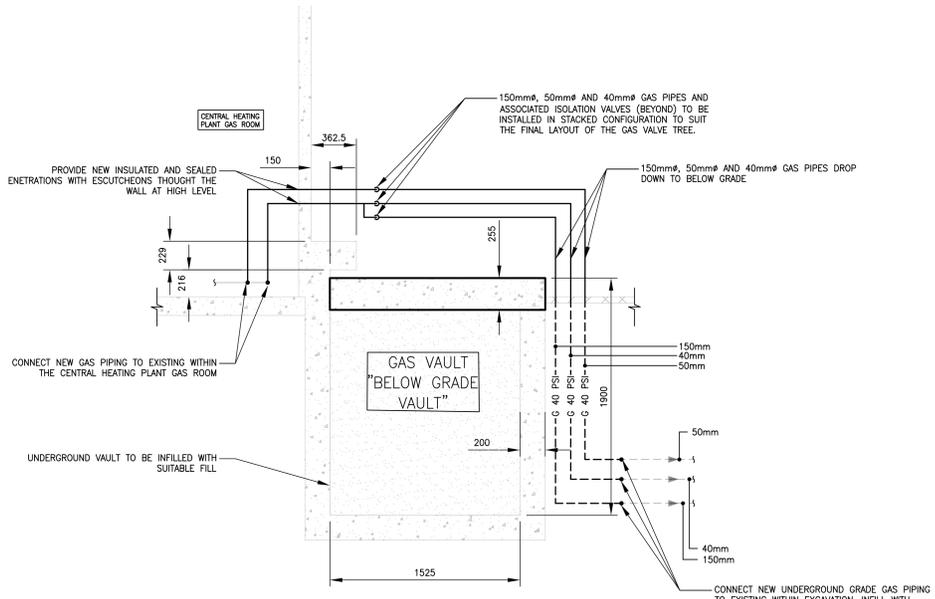
**LEGEND**

- ⊘ ISOLATION VALVE
- ⊙ PRESSURE RELIEF VALVE
- ⊕ PRESSURE REGULATING VALVE
- ⊖ FLUID PUMP
- ⊗ METER
- ⊘ PRESSURE GAUGE
- PIPE DOWN
- PIPE UP
- PIPE RISER
- PIPE DROP
- PIPE TEE DOWN
- PIPE TEE UP
- CAPPED PIPE
- GAS PIPING ABOVE GRADE
- - - GAS PIPING BELOW GRADE
- - - VENT PIPING
- NC VALVE NORMALLY CLOSED
- NO VALVE NORMALLY OPEN
- ▨ ITEM TO BE DEMOLISHED
- UNION
- FLANGED PIPING

- GENERAL NOTES:**
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  - VERIFY ALL DIMENSIONS ON SITE.
  - CONFIRM EXACT LOCATION OF ALL GAS LINES ON SITE.
  - CONSTRUCT AND TEST NEW PIPING AND VALVING FULLY EXCEPTING FINAL TINS TO EXISTING.
  - PHASE 2 DEMOLITION TO OCCUR ONLY AFTER FINAL TINS, TESTING AND COMMISSIONING OF NEW PIPING WHEN GAS SERVICE IS FULLY RESTORED.
  - MAINTAIN MINIMUM 1m SERVICE CLEARANCE IN FRONT OF VALVES AND OTHER SERVICEABLE COMPONENTS.
  - PROVIDE SECURE TEMPORARY CONSTRUCTION FENCING TO THE PERIMETER OF THE CONSTRUCTION AREA UNTIL FUTURE PERMANENT FENCING IS FULLY CONSTRUCTED, ENSURE THAT CONSTRUCTION FENCING IS SECURELY FIXED TO THE GROUND.
  - PROVIDE VALVES AND CAPPED DRIP AND DIRT POCKETS ON ALL PIPING LOW POINTS IN ACCORDANCE WITH THE GAS CODE.



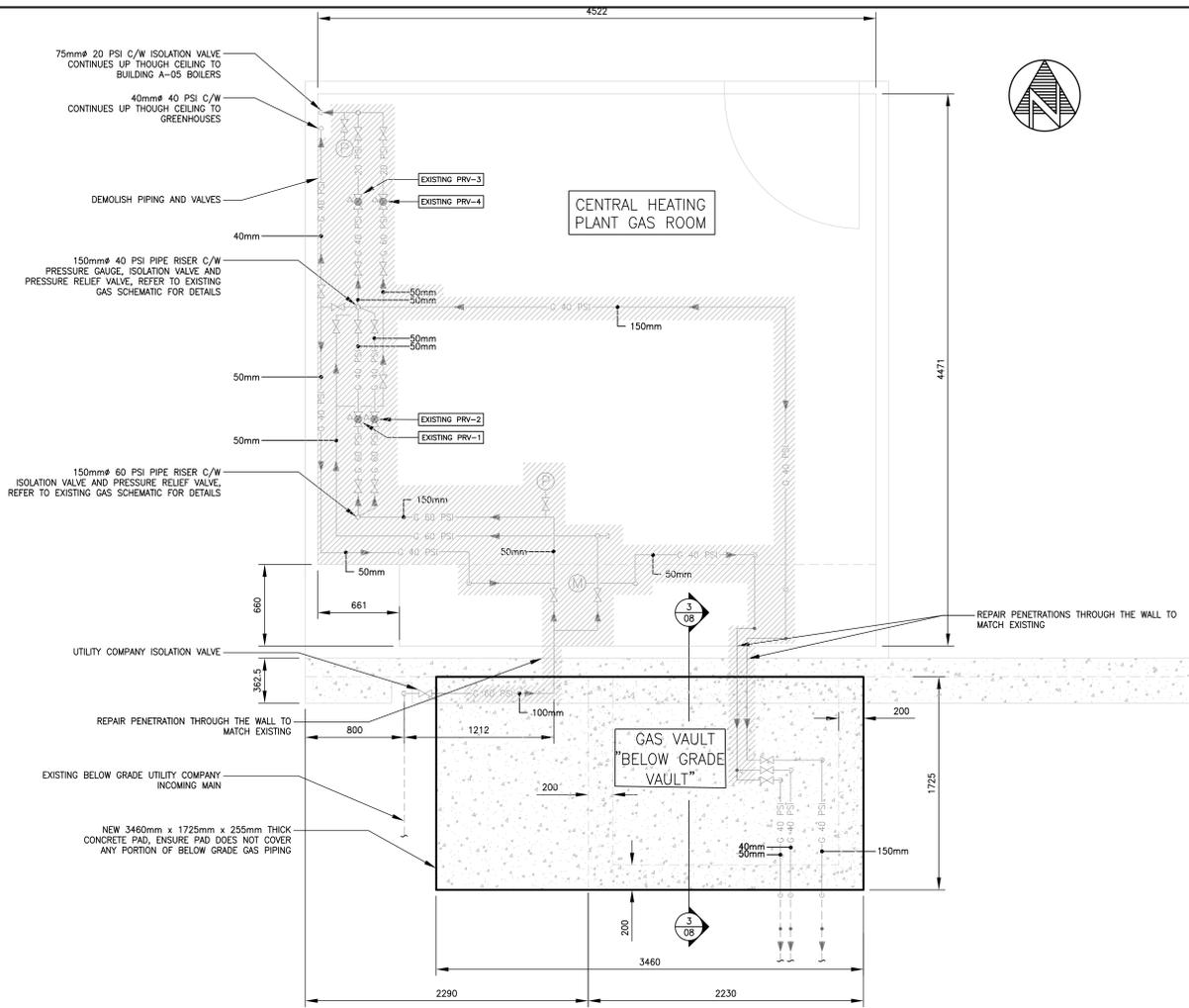
**3 PHASE 1 DEMOLITION VAULT SECTION**  
SCALE 1:20



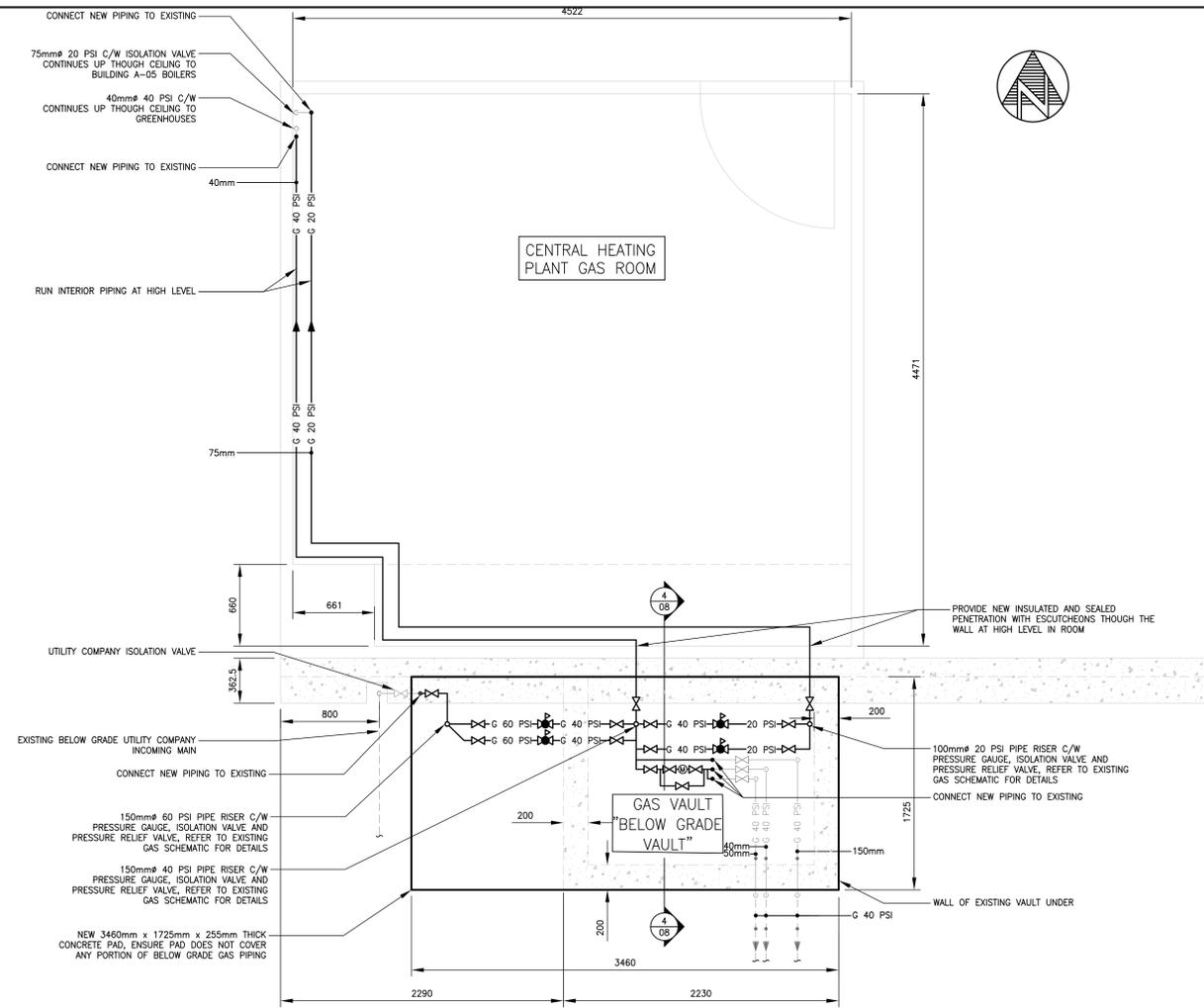
**4 PHASE 1 RENOVATION VAULT SECTION**  
SCALE 1:20



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A	2020/09/10	ISSUED FOR TENDER	KJ
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**1 PHASE 2 DEMOLITION GAS PLAN**  
 M-09 SCALE 1:20

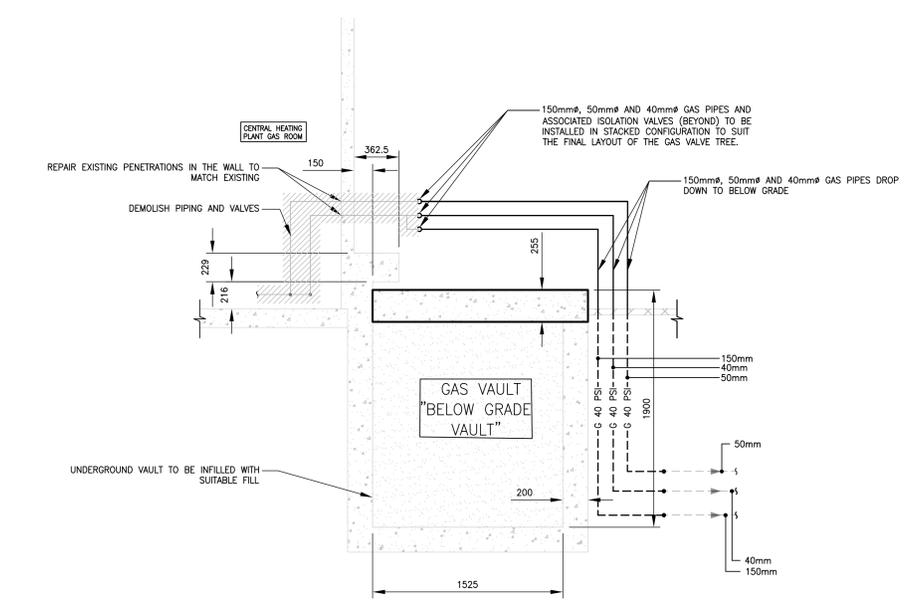


**2 PHASE 2 RENOVATION GAS PLAN**  
 M-09 SCALE 1:20

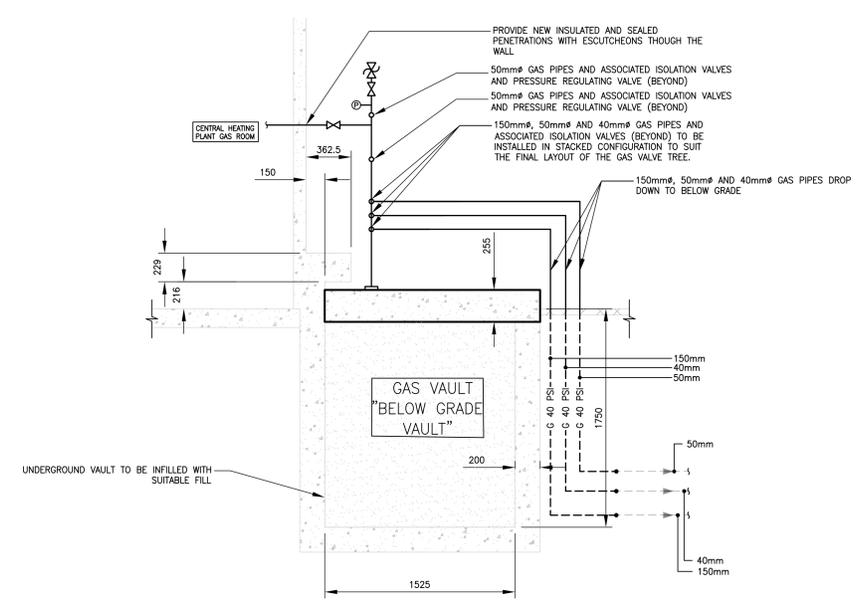
**LEGEND**

— —	ISOLATION VALVE
— — —	PRESSURE RELIEF VALVE
— — — —	PRESSURE REGULATING VALVE
— — — — —	FLUID PUMP
— — — — — —	METER
— — — — — — —	PRESSURE GAUGE
— — — — — — — —	PIPE DOWN
— — — — — — — — —	PIPE UP
— — — — — — — — — —	PIPE RISER
— — — — — — — — — — —	PIPE DROP
— — — — — — — — — — — —	PIPE TEE DOWN
— — — — — — — — — — — — —	PIPE TEE UP
— — — — — — — — — — — — — —	CAPPED PIPE
— — — — — — — — — — — — — — —	GAS PIPING ABOVE GRADE
— — — — — — — — — — — — — — — —	GAS PIPING BELOW GRADE
— — — — — — — — — — — — — — — — —	VENT PIPING
— — — — — — — — — — — — — — — — — —	VALVE NORMALLY CLOSED
— — — — — — — — — — — — — — — — — — —	VALVE NORMALLY OPEN
— — — — — — — — — — — — — — — — — — — —	ITEM TO BE DEMOLISHED
— —	UNION
— —	FLANGED PIPING

- GENERAL NOTES:**
- THE DARK COLOUR LINES INDICATE NEW. THE LIGHT COLOUR LINES INDICATE EXISTING.
  - PLAN VIEWS DO NOT SHOW ALL COMPONENTS OF THE GAS VALVE TREE FOR CLARITY, REFER TO SCHEMATICS FOR COMPLETE GAS TREE LAYOUT AND ANY PIPE SIZES WHICH ARE NOT SHOWN ON PLAN.
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  - VERIFY ALL DIMENSIONS ON SITE.
  - CONFIRM EXACT LOCATION OF ALL GAS LINES ON SITE.
  - CONSTRUCT AND TEST NEW PIPING AND VALVING FULLY EXCEPT FINAL TIE INS TO EXISTING.
  - PHASE 2 DEMOLITION TO OCCUR ONLY AFTER FINAL TIE INS, TESTING AND COMMISSIONING OF NEW PIPING WHEN GAS SERVICE IS FULLY RESTORED.
  - MAINTAIN MINIMUM 1m SERVICE CLEARANCE IN FRONT OF VALVES AND OTHER SERVICEABLE COMPONENTS.
  - PROVIDE SECURE TEMPORARY CONSTRUCTION FENCING TO THE PERIMETER OF THE CONSTRUCTION AREA UNTIL FUTURE PERMANENT FENCING IS FULLY CONSTRUCTED, ENSURE THAT CONSTRUCTION FENCING IS SECURELY FIXED TO THE GROUND.
  - PROVIDE VALVED AND CAPPED DRIP AND DIRT POCKETS ON ALL PIPING LOW POINTS IN ACCORDANCE WITH THE GAS CODE.



**3 PHASE 2 DEMOLITION VAULT SECTION**  
 M-09 SCALE 1:20



**4 PHASE 2 RENOVATION VAULT SECTION**  
 M-09 SCALE 1:20

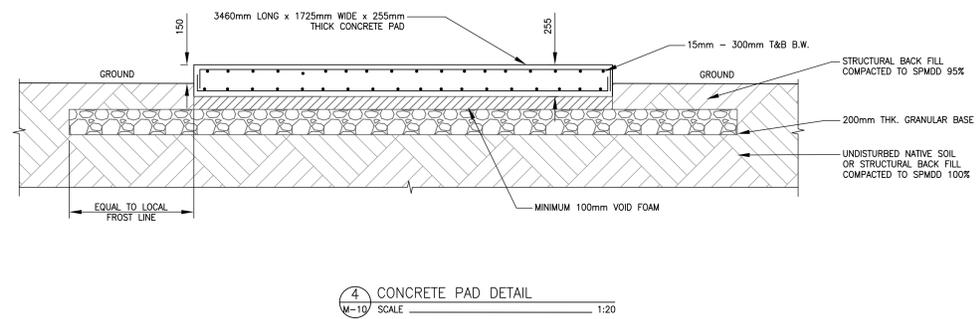
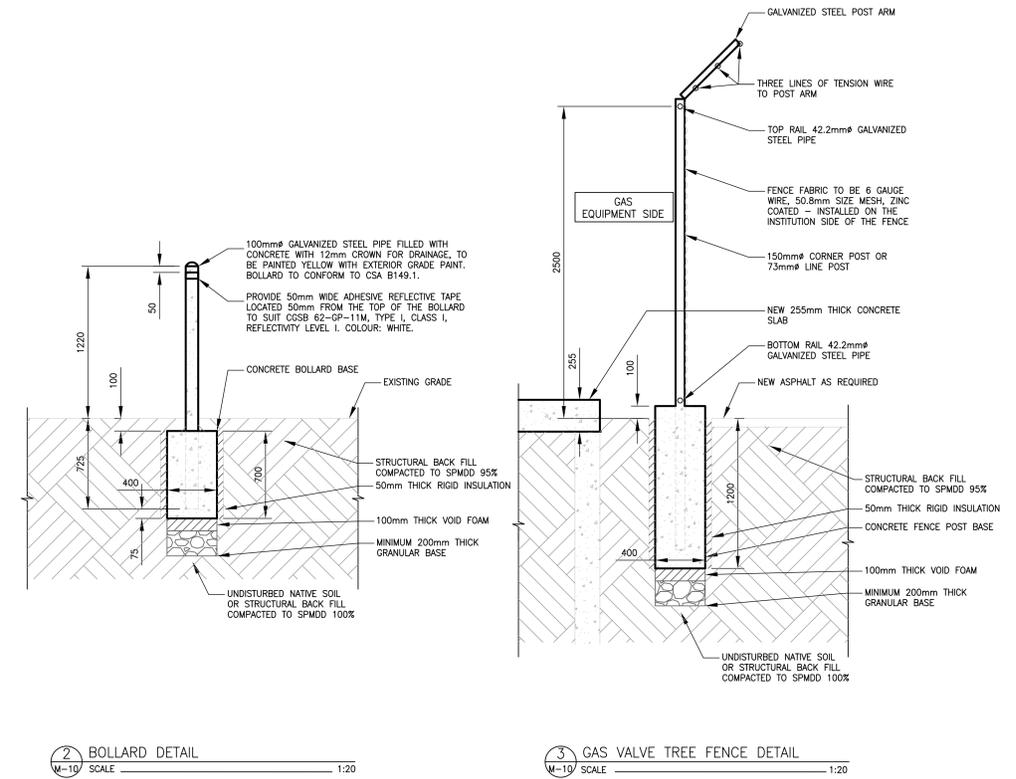
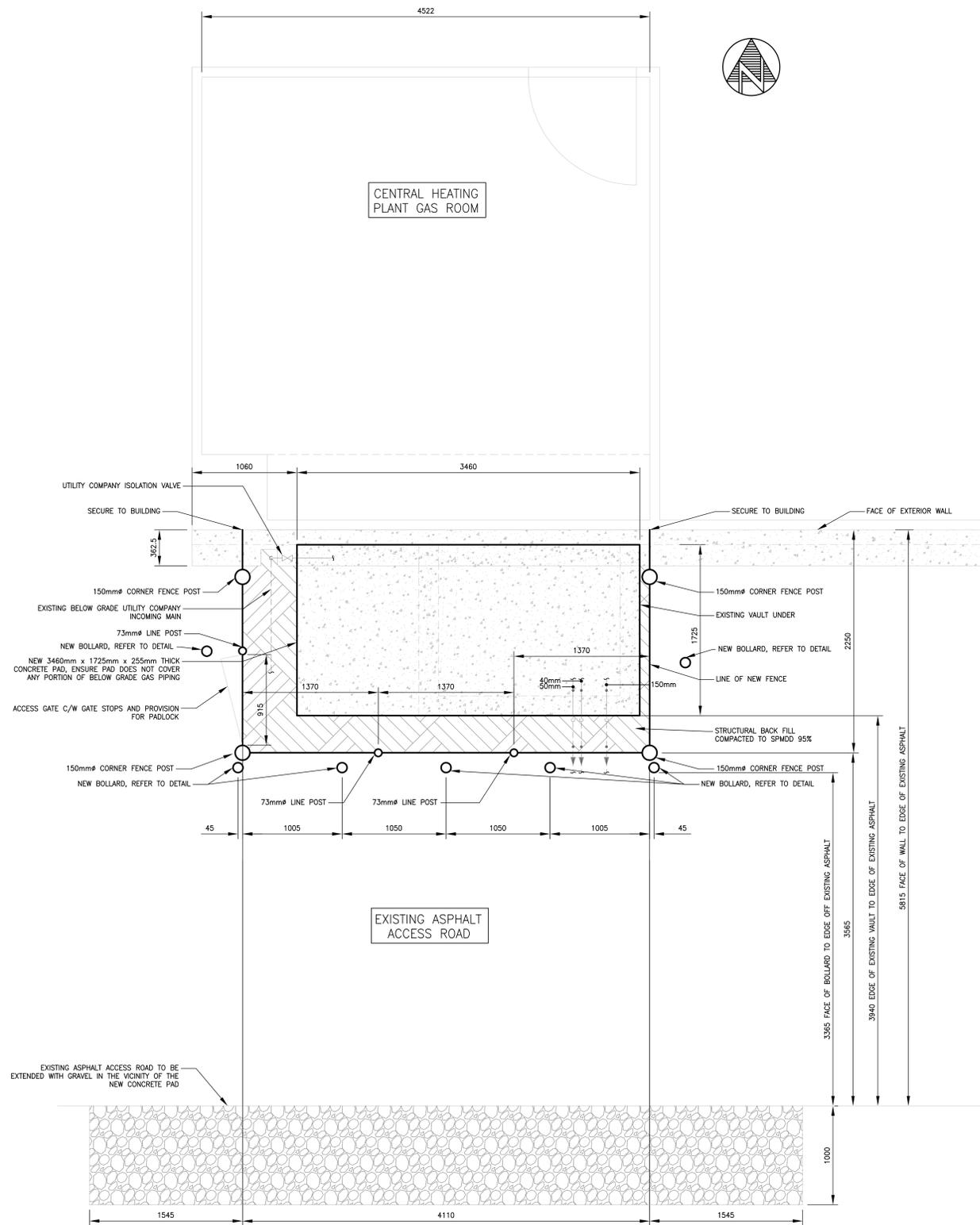


Stamps



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B	2021/03/22	RE-ISSUED FOR TENDER	KJ



- GENERAL NOTES:**
1. MAXIMUM SPACING BETWEEN BOLLARDS IS 1060mm AS PER CSA B149.1
  2. CONFIRM EXACT LOCATION OF GAS LINES ON SITE
  3. PROVIDE SECURE TEMPORARY CONSTRUCTION FENCING TO THE PERIMETER OF THE CONSTRUCTION AREA UNTIL FUTURE PERMANENT FENCING IS FULLY CONSTRUCTED. ENSURE THAT CONSTRUCTION FENCING IS SECURELY FIXED TO THE GROUND



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CORRECTIONAL SERVICE OF CANADA  
DRUMHELLER INSTITUTION  
NATURAL GAS MAIN  
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DRUMHELLER, ALBERTA  
PROJECT NUMBER: R.090801

Project Title  
CSC-DI-G MAIN  
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ASSOCIATED WORKS AND  
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Scale: 1:20  
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