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- g. ALL SURFACES HAVE BEEN BUILT.
 - h. ALL HARO SURFACES HAVE BEEN CONSTRUCTED.
 - i. ALL HARO SURFACES HAVE BEEN REFINISHED OR HAVE A FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE HAD A MINIMUM OF ONE FULL GROWING SEASON (MAY 15TH TO SEPTEMBER 15TH).
 - j. THERE ARE NO AREAS OF EXPOSED EARTH.
 - k. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
- 2.5 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

- ### 3. GRADING & DRAINAGE

- 3.1 NEW GRADES TO MATCH EXISTING AT PROPERTY LINE. NO EXCESS DRAINAGE WILL BE DIRECTED TOWARDS THE ADJACENT PROPERTIES DURING AND AFTER CONSTRUCTION. THERE WILL BE NO ALTERATION TO EXISTING GRADE AND DRAINAGE PATTERNS ON PROPERTY LINE.
- 3.2 ALL AREAS SHALL BE GRADED TO ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH BASINS, SWALES, DITCHES AND OTHER APPROVED DISPOSAL AREAS. GRADING SHALL BE GRADUAL BETWEEN FINISHED SPOT ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING.

- #### 4. SITE SERVICES

- 4.1 BLANK EXISTING WATER SERVICE CONNECTIONS TO BE ABANDONED AT CITY WATERMAIN BY CITY FORCES. CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT.

- EXISTING STORM AND SANITARY SEWERS CONNECTIONS TO BE ABANDONED.
- 4.3. CONNECTION TO WATERMAIN BY CITY OF OTTAWA FORCES, CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT.
- 4.4. WATER METER SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. No. 07-06-001.
- 4.5. ALL WATER SERVICE MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSB). WATER SERVICE MATERIALS SHALL BE PVC PRESSURE PIPE.
- 4.6. PROVIDE THRUST BLOCKS AS PER CITY OF OTTAWA DWG. NO. W25-3 & W25-4 AT ALL VALVES, TEES, CUES, BENDS, REDUCERS AND HYDRANTS OR OTHER FITTINGS WHERE CHANGES OCCUR IN THE DIRECTION OR DEPTH OF THE MAIN LINE.
- 4.7. ALL CONNECTIONS, RESTRAINT RODS AND VALVE BOLTS TO BE STAINLESS STEEL, CORROSION PROTECTION & ANODE INSTALLATION AS PER CITY OF OTTAWA DWG. NO. W25-1.
- 4.8. PROVIDE A MINIMUM 24" COVER OVER WATER SERVICE CONNECTION, WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS PER CITY OF

- 4.14. WHERE LESS THAN 2.4 m CLEARANCE FROM AN OPEN STRUCTURE (E.G. MANHOLES & CATCH BASINS) PLANT INSULATION AROUND WATER SERVICE CONNECTION AS PER CITY OF OTTAWA DWG. NO. W23
- 4.15. WHERE THERE IS A FULL-OR-ALMOST-FULL BACKFLOW VALVE TO CITY OF OTTAWA STANDARDS AND TO CITY OF OTTAWA BACKWATER VALVE TO CITY OF OTTAWA STANDARDS
- 4.16. WHERE 100-100-412 DWG. NO. S141, OR S142, OR S143, OR S144, OR S145, OR S146, OR S147, OR S148, OR S149, OR S150, OR S151, OR S152, OR S153, OR S154, OR S155, OR S156, OR S157, OR S158, OR S159, OR S160, OR S161, OR S162, OR S163, OR S164, OR S165, OR S166, OR S167, OR S168, OR S169, OR S170, OR S171, OR S172, OR S173, OR S174, OR S175, OR S176, OR S177, OR S178, OR S179, OR S180, OR S181, OR S182, OR S183, OR S184, OR S185, OR S186, OR S187, OR S188, OR S189, OR S190, OR S191, OR S192, OR S193, OR S194, OR S195, OR S196, OR S197, OR S198, OR S199, OR S200, OR S201, OR S202, OR S203, OR S204, OR S205, OR S206, OR S207, OR S208, OR S209, OR S210, OR S211, OR S212, OR S213, OR S214, OR S215, OR S216, OR S217, OR S218, OR S219, OR S220, OR S221, OR S222, OR S223, OR S224, OR S225, OR S226, OR S227, OR S228, OR S229, OR S230, OR S231, OR S232, OR S233, OR S234, OR S235, OR S236, OR S237, OR S238, OR S239, OR S240, OR S241, OR S242, OR S243, OR S244, OR S245, OR S246, OR S247, OR S248, OR S249, OR S250, OR S251, OR 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5. CONSTRUCTION:
- 5.1 PRIOR TO COMMENCING WORK:
- A. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES.

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- 5.5. REMOVE OBSTRUCTIONS, CE AND SNOW, FROM SURFACES TO BE EXCAVATED. REMOVE CURB, SIDEWALK, AND / OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND CLEANLY.

- 5.9 EXCAVATION, TRENCHING & BACKFILL:
- A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 213 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OTHER AUTHORITIES HAVING JURISDICTION.

- C. EXCAVATION MUST NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.

- D. DO NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
- E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED.

- F. EARTH BOTTOMS OF EXCAVATIONS TO BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATTER.
- G. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4:1 FROST TAPERS FROM FROST LINE TO SUB-GRADE.
- H. CORRECT OVER-EXCAVATION WITH GRANULAR A COMPACTED TO NOT LESS THAN 95% OF CORRECTED MAXIMUM DRY DENSITY.

- I. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.

- K. BEDDING AND SURROUND MATERIAL FOR SEWERS SHALL BE OPSS GRANULAR A, BEDDING AND SURROUND MATERIAL FOR WATERMAIN AND WATER SERVICE CONNECTIONS SHALL BE OPSS GRANULAR A OR OPSS GRANULAR M. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- M. BEDDING AND SURROUND MATERIAL SHALL BE SHARP BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
- N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.

- Q. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.

- R BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL BELOW 1.8m OF THE PROPOSED GRADE CAN CONSIST OF EITHER ACCEPTABLE NATIVE MATERIAL; ROCK; OR IMPROVED GRANULAR MATERIAL CONFORMING TO OPSS SPECIFICATIONS. ALL ROCKS, OR ORGANIC SOILS, OR COPROL, OR OTHERS, UNACCEPTABLE SHALL BE REMOVED FROM THE TRENCH. BACKFILL ROCK IS TO BE USED AS BACKFILL IT SHALL BE WELL SHATTERED AND GRADED AND 200mm OR SMALLER IN DIAMETER. TO PREVENT INGRESS OF FINE MATERIAL INTO VOIDS IN THE ROCK FILL, THE UPPER SURFACE OF THE ROCK FILL SHALL BE COVERED WITH 150mm LAYER OF COMPACTED, WELL GRADED CRUSHED STONE PLACED ON GEOTEXTILE FABRIC.

- 5.10. PIPES:
 - A. HANDLE PIPE USING METHODS APPROVED BY MANUFACTURER.
 - B. JOIN PIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - C. USE ONLY JOINTS AS RECOMMENDED BY PIPE MANUFACTURER.
 - D. LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE AND MAINTAIN PROPER SLOPE.
 - E. THROUGHOUT ITS FULL LENGTH, FREE OF SAGS OR HIGH POINTS.
 - F. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
 - G. IF WORKER WOUND IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BURIEDHEAD AT OPEN ENDS OF LAST PIPE TO PREVENT FLOODING MATERIALS FROM BACK OF WORK OCCURS, BLOCK PIPES TO PREVENT FLOODING.
 - H. JOINTS DURING DOWN TIME, MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
 - I. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
 - J. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND DEFECTIVE.
 - K. 5.11 SEWERS AND SEWER SERVICES:

- A. CONSTRUCT SEWER TRENCHES AT CITY DWG S6 & S7.
B. RIGID STRUCTURE. INSTALL PIPE JOINTS NOT MORE THAN 1.2M FROM SIDE OF STRUCTURE.
C. CONSTRUCT SEWAGE FLOWS DURING CONSTRUCTION.
D. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN SEWERS, SPECIFICALLY WITH OPS# 410. REPAIR AND RETEST SEWER LINE AS REQUIRED. REPAIR VISIBLE LEAKS REGARDLESS OF TEST RESULTS.
E. AFTER COMPLETION OF CONSTRUCTION, SECOND INSPECTION IMMEDIATELY PRIOR TO END OF WARRANTY PERIOD. A PAN AND TILT CAMERA SHALL BE USED TO INSPECT ALL SEWER LINES. ALL DEFECTS MUST BE REPAIRED AND RETESTED. REPAIR SEWER LINE AS REQUIRED. SUBMIT RESULTS AND DVDS TO ENGINEER.
F. CONDUIT DYE TEST OF SANITARY SEWERS AND COORDINATE WITH ENGINEER. DYE TEST SHALL BE WITNESSED BY ENGINEER.

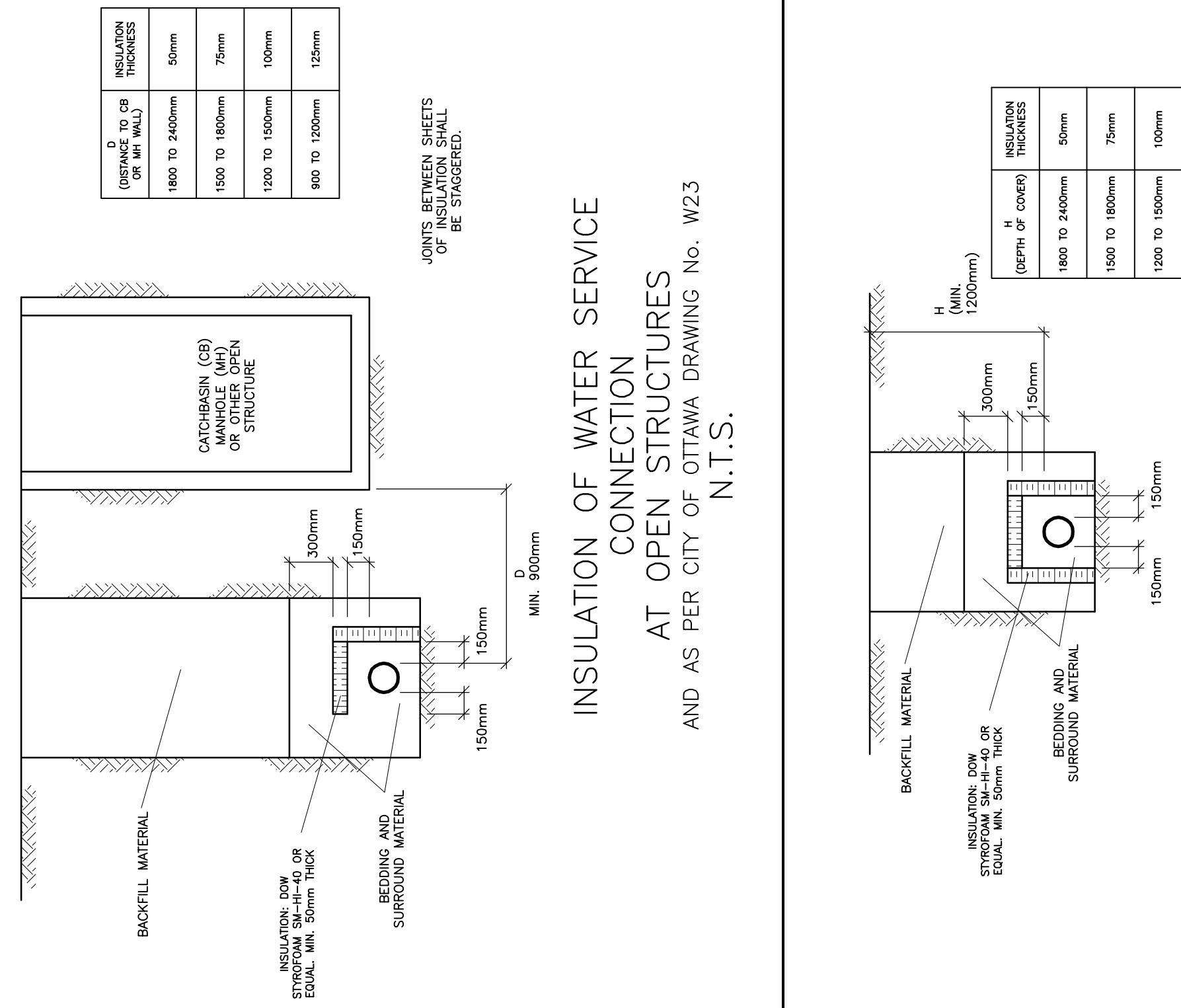
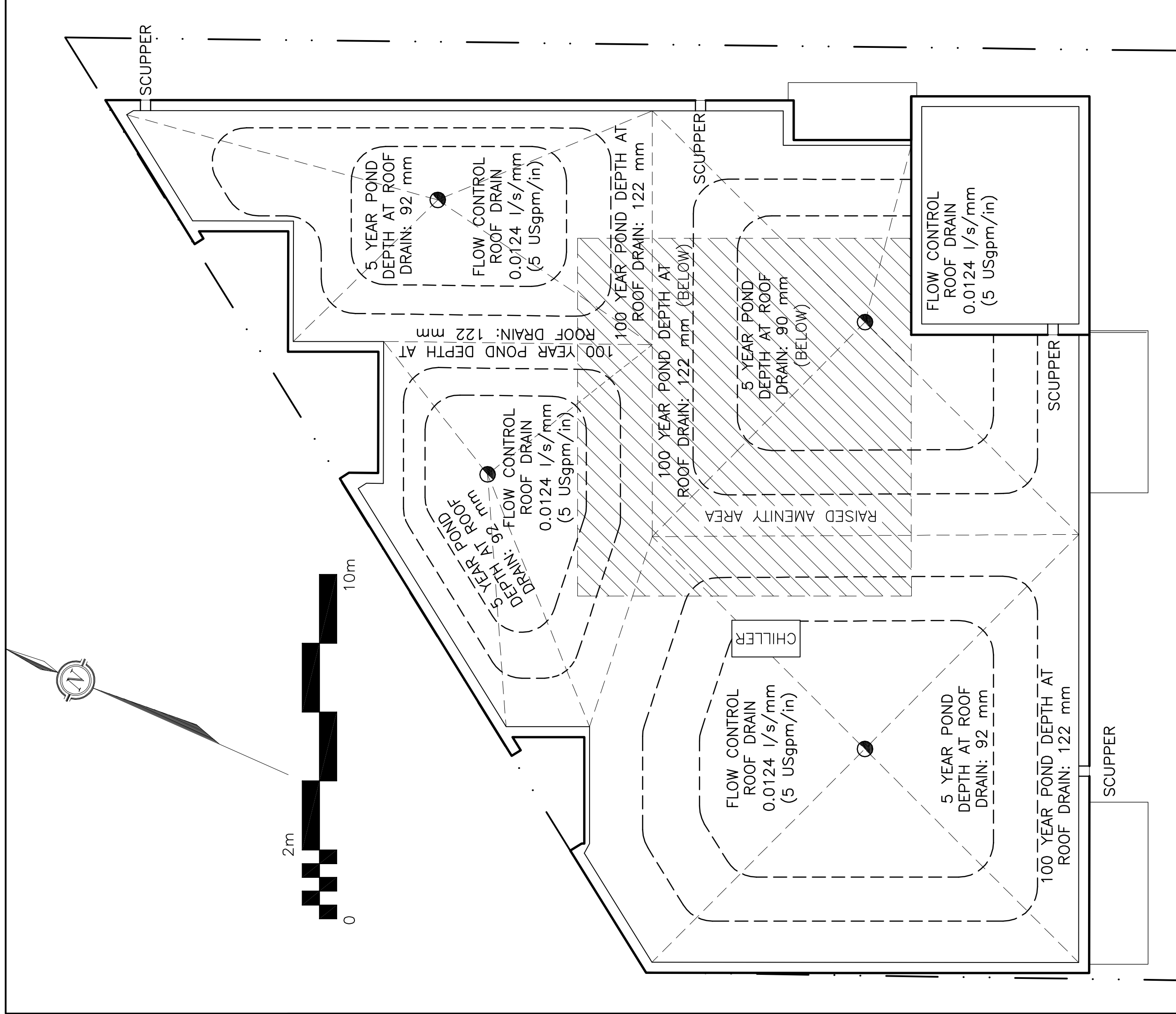
- 5.1.3 WATER SERVICE:
- A. INSTALL AND TEST TRACER WIRE ON THE WATER SERVICE CONNECTION AS PER 4.3.12 OF THE CITY OF OTTAWA WATER DISTRIBUTION DESIGN GUIDELINES AND DRAWING W36.
 - B. PRESSURE TESTING AS PER AWWA C-605-5 AND CITY OF OTTAWA DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.1.3.

- DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.1.3 & CITY DWG. W46.
- 5.15.1.2 MAINTAIN RECORD DRAWINGS AND RECORD ACCURATELY DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS CAUSED BY SITE CONDITIONS. CONSTRUCT DAILY AND MAKE AVAILABLE ON-SITE FOR REVIEW THROUGHOUT THE CONSTRUCTION PERIOD. MARK CHANGES IN RED INK. RECORD DRAWINGS SHALL BE KEPT IN THE FIELD AND IN THE OFFICE. RECORDS OF ALL DIMENSIONS AND DETAIL CHANGES TO GRADE ELEVATIONS, AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTEANCES REFERENCED TO A PERMANENT SURFACE BY EXCAVATION. 5.15.1.3 REINSTATE PAVEMENTS AND SIDEWALKS TO ORIGINAL FINISH ELEVATION, THICKNESS, STRUCTURE AND ELEVATION WHICH EXISTED BEFORE EXCAVATION. 5.15.1.2 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.



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PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA**

APPROVED
By Jamesdo at 2:09 pm, Jul 19, 2019



INSULATION OF WATER SERVICE
CONNECTION
AT OPEN STRUCTURES
AND AS PER CITY OF OTTAWA DRAWING No. W2
N.T.S.

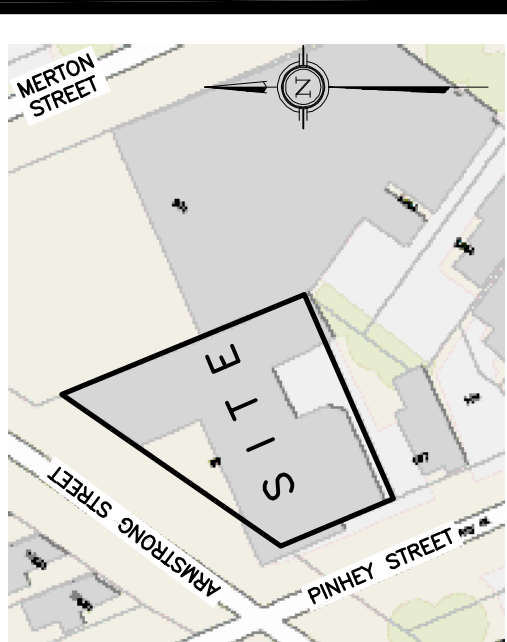
INSULATION OF WATER SERVICE
CONNECTION
IN SHALLOW TRENCHES
AND AS PER CITY OF OTTAWA DRAWING No. W222
N.T.S.

BOTTOM OF SCUPPER SHALL BE 145mm ABOVE FLOW CONTROL ROOF DRAIN ELEVATION AND TO BE A MINIMUM OF 500mm WIDE

ROOF PLAN
N.T.S.

DRAWING LEGEND	
CB	CATCH BASIN
⊙	CATCH BASIN/MANHOLE
MH	MANHOLE
CB/MH	CATCH BASIN/MANHOLE
⊙	SANITARY SEWER
SAN	SANITARY SEWER
— ST —	STORM SEWER
WS/WM	WATER SERVICE/WATERMAIN
CS	CURB STOP
VB	VALVE BOX
⚡ FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
⚡	ROOF DRAIN
⊙	WATER METER
⊙	REMOTE WATER METER REDOUT
—	EXISTING GRADE ELEVATION
+ 66.75	PROPOSED GRADE ELEVATION
0.5%	EXISTING SLOPE OF GRADE
0.5%	PROPOSED SLOPE OF GRADE
—	PROPERTY LINE
CONCRETE	CONCRETE
INTERLOCKING PAVERS	INTERLOCKING PAVERS
LANDSCAPE	LANDSCAPE
FFL	FIRST FLOOR ELEVATION
TOP	TOP OF FOUNDATION
BFL	BASEMENT FLOOR ELEVATION
USF	UNDERSIDE OF FOOTING

KEY PLAN

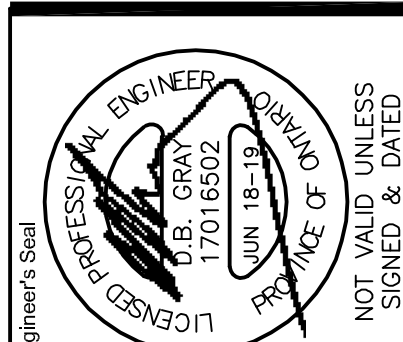
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**PROPOSED
4-STORY, 26-UNIT
APARTMENT BUILDING
99 PINHEY STREET
OTTAWA, ONTARIO**

Drawing Title

NOTES AND DETAILS



Drawing No.
C-3
of 5

D07-12-18-0136