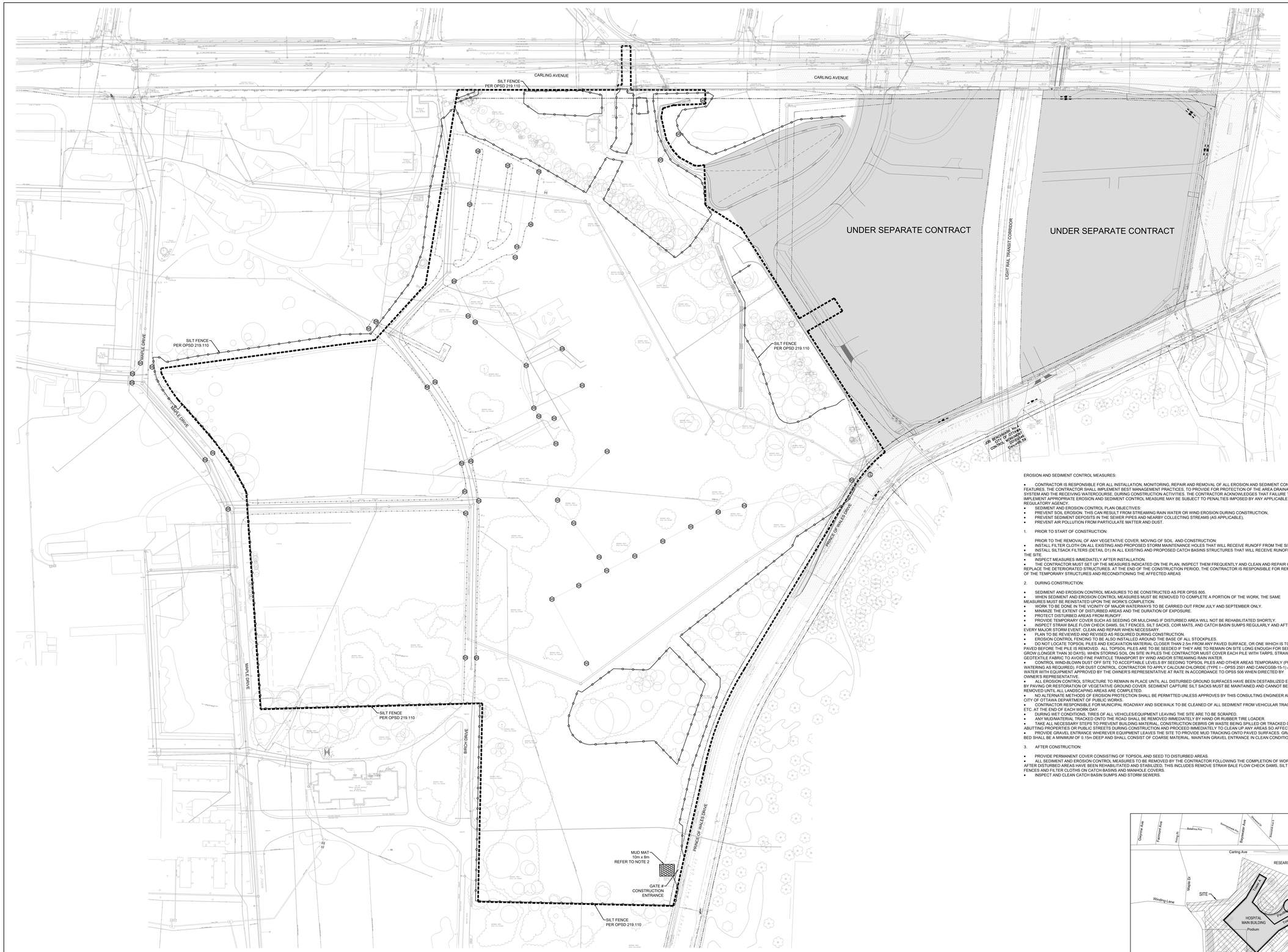

LEGEND

- BELL
- GAS
- HYDRO
- STREETLIGHT
- TELUS
- TRAFFIC
- STORM
- SANITARY
- WATER
- TREE PRESERVATION FENCE (BY OTHER)
- CONSTRUCTION FENCE
- SILT FENCE
- SILT SACK
- FILTER FABRIC
- STRAW BALE CHECK DAM
- ROCK FLOW CHECK DAM
- CONTRACTOR PARKING + CONSTRUCTION STAGING AND LAYDOWN AREA
- CONSTRUCTION STAGING AND LAYDOWN AREA
- LIGHT VEHICLE / WORKER ACCESS ROAD

EROSION AND SEDIMENT CONTROL MEASURES:

- CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURE MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- SEDIMENT AND EROSION CONTROL PLAN OBJECTIVES:
- PREVENT SOIL EROSION. THIS CAN RESULT FROM STREAMING RAIN WATER OR WIND EROSION DURING CONSTRUCTION,
- PREVENT SEDIMENT DEPOSITS IN THE SEWER PIPES AND NEARBY COLLECTING STREAMS (AS APPLICABLE),
- PREVENT AIR POLLUTION FROM PARTICULATE MATTER AND DUST.

1. PRIOR TO START OF CONSTRUCTION:

PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:
- INSTALL FILTER CLOTH ON ALL EXISTING AND PROPOSED STORM MAINTENANCE HOLES THAT WILL RECEIVE RUNOFF FROM THE SITE.
- INSTALL SILTSACK FILTERS (DETAIL D1) IN ALL EXISTING AND PROPOSED CATCH BASINS STRUCTURES THAT WILL RECEIVE RUNOFF FROM THE SITE.
- INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
- THE CONTRACTOR MUST SET UP THE MEASURES INDICATED ON THE PLAN, INSPECT THEM FREQUENTLY AND CLEAN AND REPAIR OR REPLACE THE DETERIORATED STRUCTURES. AT THE END OF THE CONSTRUCTION PERIOD, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE TEMPORARY STRUCTURES AND RECONDITIONING THE AFFECTED AREAS

2. DURING CONSTRUCTION:

- SEDIMENT AND EROSION CONTROL MEASURES TO BE CONSTRUCTED AS PER OPSS 805.
- WHEN SEDIMENT AND EROSION CONTROL MEASURES MUST BE REMOVED TO COMPLETE A PORTION OF THE WORK, THE SAME MEASURES MUST BE REINSTATED UPON THE WORK'S COMPLETION.
- WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY AND SEPTEMBER ONLY.
- MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.
- PROTECT DISTURBED AREAS FROM RUNOFF.
- PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED SHORTLY.
- INSPECT STRAW BALE FLOW CHECK DAMS, SILT FENCES, SILT SACKS, COIR MATS, AND CATCH BASIN SUMPS REGULARLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
- PLAN TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
- EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
- DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS). WHEN STORING SOIL ON SITE IN PILES THE CONTRACTOR MUST COVER EACH PILE WITH TARPS, STRAW OR A GEOTEXTILE FABRIC TO AVOID FINE PARTICLE TRANSPORT BY WIND AND/OR STREAMING RAIN WATER.
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED). FOR DUST CONTROL, CONTRACTOR TO APPLY CALCIUM CHLORIDE (TYPE I – OPSS 2501 AND CANCGSB-15-1) AND WATER WITH EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE AT RATE IN ACCORDANCE TO OPSS 506 WHEN DIRECTED BY OWNER'S REPRESENTATIVE.
- ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN DESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER. SEDIMENT CAPTURE SILT SACKS MUST BE MAINTAINED AND CANNOT BE REMOVED UNTIL ALL LANDSCAPING AREAS ARE COMPLETED.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVES BY THIS CONSULTING ENGINEER AND THE CITY OF OTTAWA DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR RESPONSIBLE FOR MUNICIPAL ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC AT THE END OF EACH WORK DAY.
- DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
- ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
- TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PROVIDE MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 0.15m DEEP AND SHALL CONSIST OF COARSE MATERIAL, MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.

3. AFTER CONSTRUCTION:

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
- ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE REMOVED BY THE CONTRACTOR FOLLOWING THE COMPLETION OF WORK AND AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED, THIS INCLUDES REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS.
- INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.

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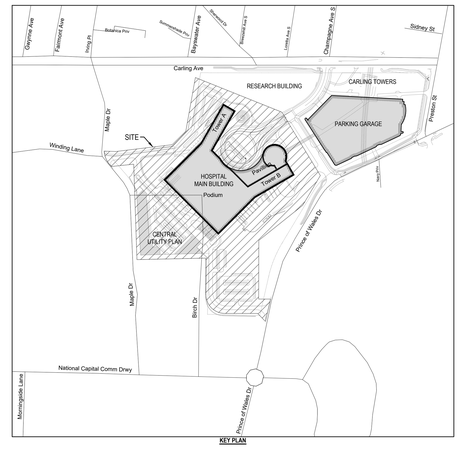
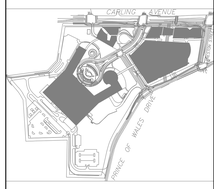


KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS



THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

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03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number	10333982
Original Issue	04/21/22

PRELIMINARY NOT FOR CONSTRUCTION

Sheet Name

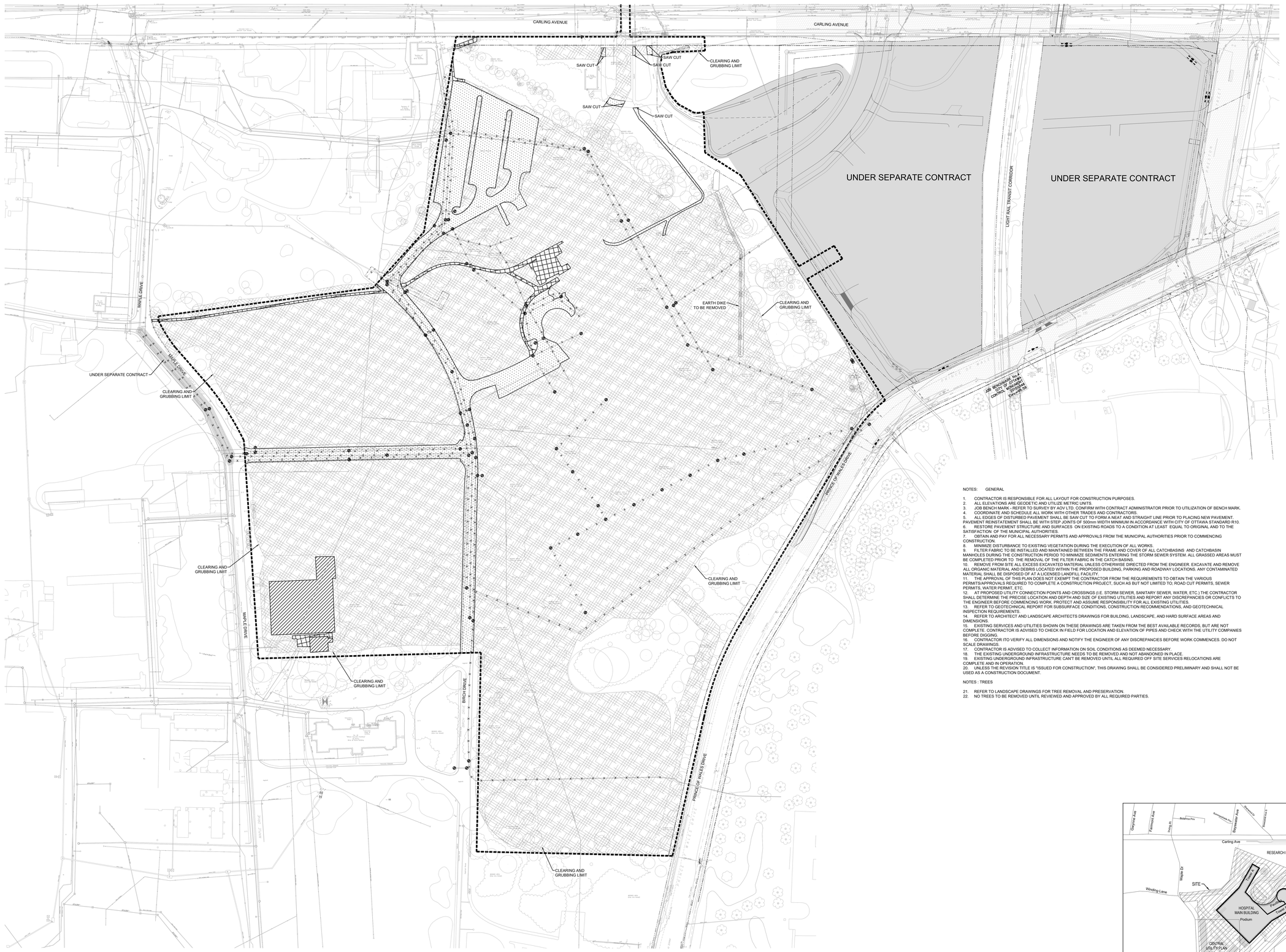
EROSION AND SEDIMENT CONTROL PLAN

Sheet Number

C001

Project Status

STAGE 3



LEGEND

BELL	BELL
GAS	GAS
500mm HYDRO	HYDRO
STREET LIGHTING	STREETLIGHT
TELUS	TELUS
TRAFFIC	TRAFFIC
	STORM
	SANITARY
	WATER
	REMOVE
	ADJUSTMENT CATCHBASIN
	ADJUSTMENT MAINTENANCE HOLE
	REMOVE SEWER OR WATERMAIN
	ABANDON SEWER OR WATERMAIN
	CURB REMOVAL
	FENCE REMOVAL
	CONCRETE REMOVALS
	ASPHALT REMOVAL
	AREA TO BE CLEARED AND GRUBBED
	BUILDING TO BE REMOVED

NOTES: GENERAL

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY AOV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
5. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM IN ACCORDANCE WITH CITY OF OTTAWA STANDARD R10.
6. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
7. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
8. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
9. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
10. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS. ANY CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
11. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
12. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
13. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS.
14. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
15. EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS ADVISED TO CHECK IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING.
16. CONTRACTOR ITO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.
17. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY
18. THE EXISTING UNDERGROUND INFRASTRUCTURE NEEDS TO BE REMOVED AND NOT ABANDONED IN PLACE.
19. EXISTING UNDERGROUND INFRASTRUCTURE CAN'T BE REMOVED UNTIL ALL REQUIRED OFF SITE SERVICES RELOCATIONS ARE COMPLETE AND IN OPERATION.
20. UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THIS DRAWING SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

NOTES : TREES

21. REFER TO LANDSCAPE DRAWINGS FOR TREE REMOVAL AND PRESERVATION.
22. NO TREES TO BE REMOVED UNTIL REVIEWED AND APPROVED BY ALL REQUIRED PARTIES.

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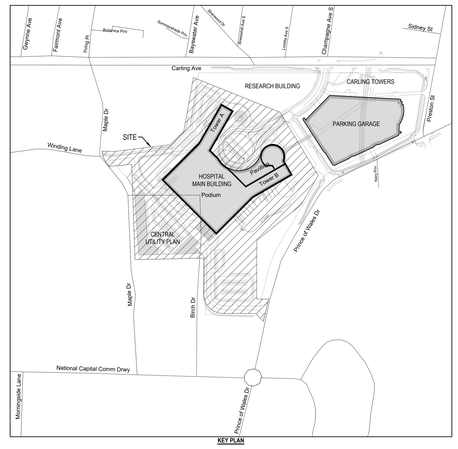
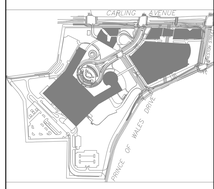


KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS



THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
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02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number	10333982
Original Issue	04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
REMOVALS

Sheet Number
C002

Project Status
STAGE 3

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NOTES: GENERAL

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY AOV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
6. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
7. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM IN ACCORDANCE WITH D2 ON DRAWING C103.
8. CURBS TO BE CONCRETE BARRIER, CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC1.1. ELEVATIONS AT CURB INDICATE THE GRADE AT THE FINISHED ROAD SURFACE UNLESS NOTED OTHERWISE.
9. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
10. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
11. ABUTTING PROPERTY GRADE TO BE MATCHED.
12. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
13. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
14. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
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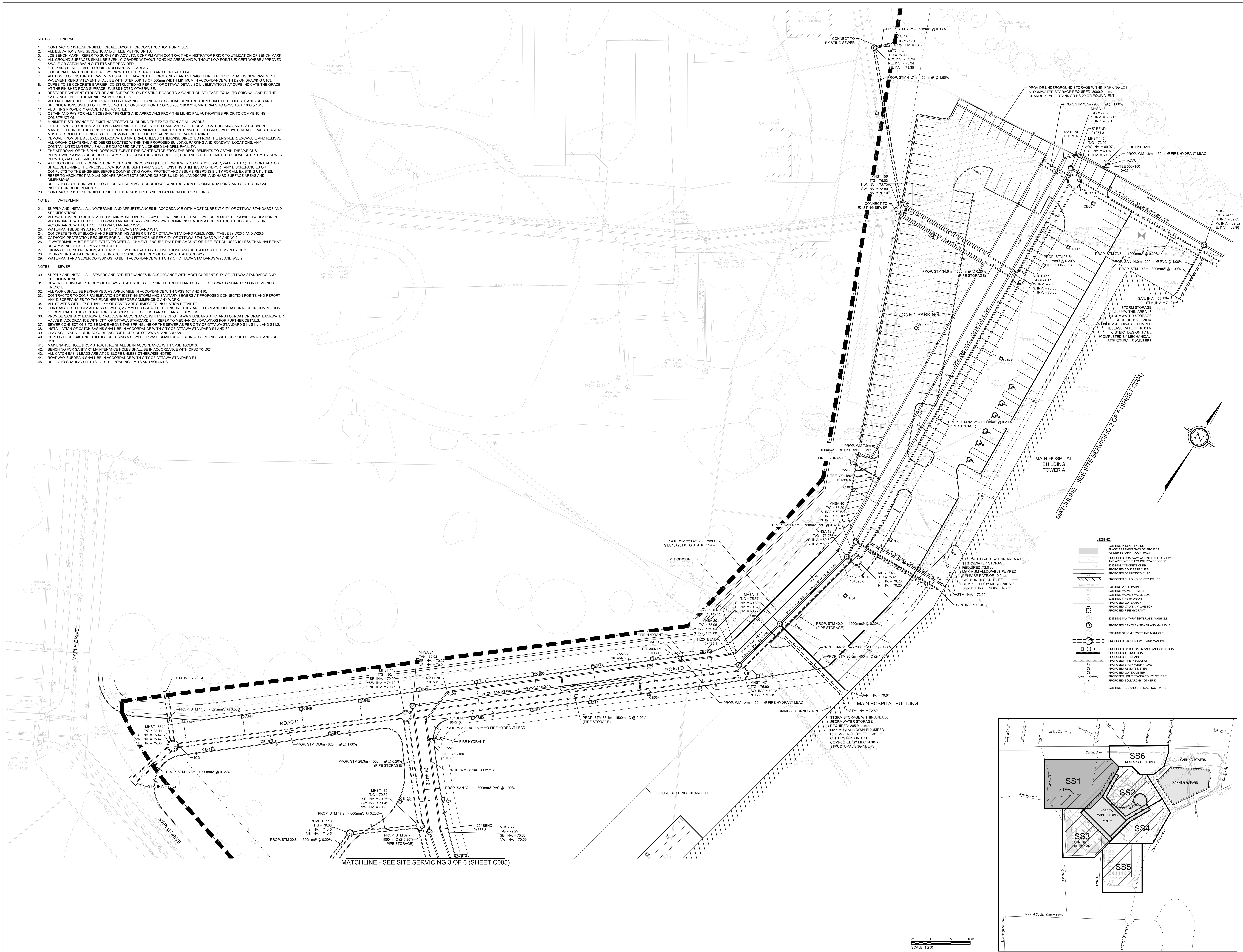
16. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
17. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
18. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
19. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS.
20. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.

NOTES: WATERMAIN

21. SUPPLY AND INSTALL ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
22. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE REQUIRED, PROVIDE INSULATION IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W22 AND W23. WATERMAIN INSULATION AT OPEN STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W23.
23. WATERMAIN BEDDING AS PER CITY OF OTTAWA STANDARD W17.
24. CONCRETE THRUST BLOCKS AND RESTRAINING AS PER CITY OF OTTAWA STANDARD W25.3, W25.4 (TABLE 3), W25.5 AND W25.6.
25. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 AND W42.
26. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
27. EXCAVATION, INSTALLATION, AND BACKFILL BY CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN BY CITY.
28. HYDRANT INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W19.
29. WATERMAIN AND SEWER CORSSINGS TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25 AND W25.2.

NOTES: SEWER

30. SUPPLY AND INSTALL ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
31. SEWER BEDDING AS PER CITY OF OTTAWA STANDARD S6 FOR SINGLE TRENCH AND CITY OF OTTAWA STANDARD S7 FOR COMBINED TRENCH.
32. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407 AND 410.
33. CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM AND SANITARY SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINNEER BEFORE COMMENCING ANY WORK.
34. ALL SEWERS WITH LESS THAN 1.5m OF COVER ARE SUBJECT TO INSULATION DETAIL D2.
35. CONTRACTOR TO CCTV ALL NEW SEWERS, 250mmØ OR GREATER, TO ENSURE THEY ARE CLEAN AND OPERATIONAL UPON COMPLETION OF CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS.
36. PROVIDE SANITARY BACKWATER VALVES IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14.1 AND FOUNDATION DRAIN BACKWATER VALVE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14. REFER TO MECHANICAL DRAWINGS FOR FURTHER DETAILS.
37. SEWER CONNECTIONS TO BE MADE ABOVE THE SPRINGLINE OF THE SEWER AS PER CITY OF OTTAWA STANDARD S11, S11.1, AND S11.2.
38. INSTALLATION OF CATCH BASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S1 AND S2.
39. CLAY SEALS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S8.
40. SUPPORT FOR EXISTING UTILITIES CROSSING A SEWER OR WATERMAIN SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S10.
41. MAINENANCE HOLE DROP STRUCTURE SHALL BE IN ACCORDANCE WITH OPSD 1003.010.
42. BENCHING FOR SANITARY MAINTENANCE HOLES SHALL BE IN ACCORDANCE WITH OPSD 701.021.
43. ALL CATCH BASIN LEADS ARE AT 2% SLOPE UNLESS OTHERWISE NOTED.
44. ROADWAY SUBDRAIN SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD R1.
45. REFER TO GRADING SHEETS FOR THE PONDING LIMITS AND VOLUMES.



LEGEND:

EXISTING PROPERTY LINE
PHASE 2 PARKING GARAGE PROJECT (UNDER SEPARATA CONTRACT)
PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
EXISTING CONCRETE CURB
PROPOSED CONCRETE CURB
PROPOSED DEPRESSED CURB
PROPOSED BUILDING OR STRUCTURE
EXISTING WATERMAIN
EXISTING VALVE CHAMBER
EXISTING VALVE & VALVE BOX
EXISTING FIRE HYDRANT
PROPOSED WATERMAIN
PROPOSED VALVE & VALVE BOX
PROPOSED FIRE HYDRANT
EXISTING SANITARY SEWER AND MANHOLE
PROPOSED SANITARY SEWER AND MANHOLE
EXISTING STORM SEWER AND MANHOLE
PROPOSED STORM SEWER AND MANHOLE
PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
PROPOSED TRENCH DRAIN
PROPOSED SUBDRAIN
PROPOSED PIPE INSULATION
PROPOSED BACKWATER VALVE
PROPOSED REMOTE METER
PROPOSED WATER METER
PROPOSED LIGHT STANDARD (BY OTHERS)
PROPOSED BOLLARD (BY OTHERS)
EXISTING TREE AND CRITICAL ROOT ZONE

KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
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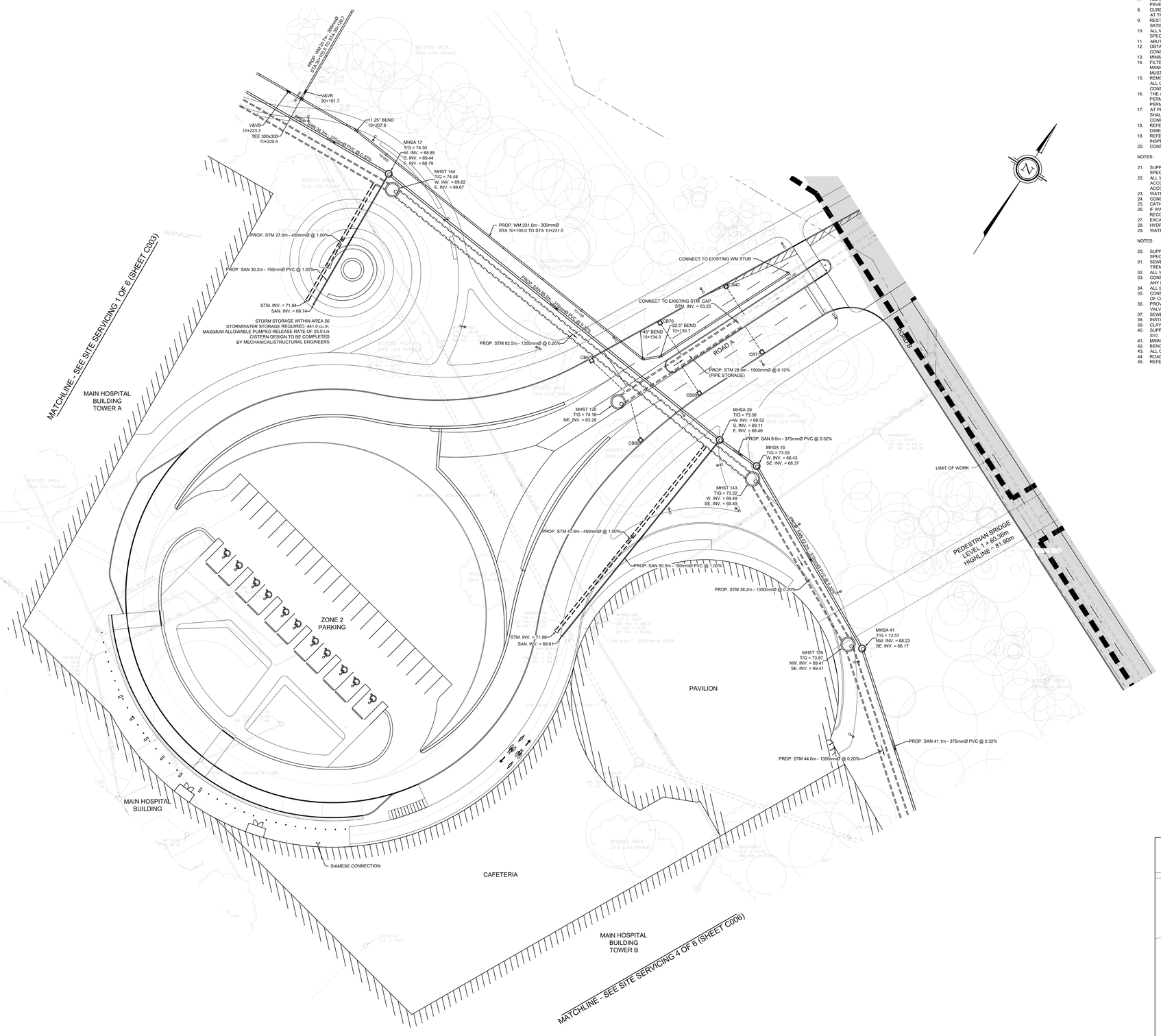
PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
SERVICING PLAN
1 OF 6

Sheet Number
C003

Project Status
STAGE 3



NOTES: GENERAL

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4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
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11. ABUTTING PROPERTY GRADE TO BE MATCHED.
12. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
13. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
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NOTES: WATERMAIN

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PROPOSED BOLLARD (BY OTHERS)
EXISTING TREE AND CRITICAL ROOT ZONE

DRAFT

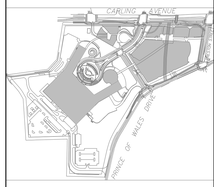
HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
01	2022-09-23	ISSUED FOR PRE-CONSULTATION
02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION



KEY PLAN

Project Number	10333982
Original Issue	04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

SITE SERVICING PLAN
2 OF 6

Sheet Number

C004

Project Status

STAGE 3

4/21/2022 1:20:18 PM BIM 360://10333982_TOH New CC PDC_2021/10333982-TOH_CC_PDC_ARCH_RVT2021.rvt

NOTES: GENERAL

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- EXISTING TREE AND CRITICAL ROOT ZONE

KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

THE OTTAWA HOSPITAL
NEW CAMPUS
DEVELOPMENT -
HOSPITAL & CUP

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

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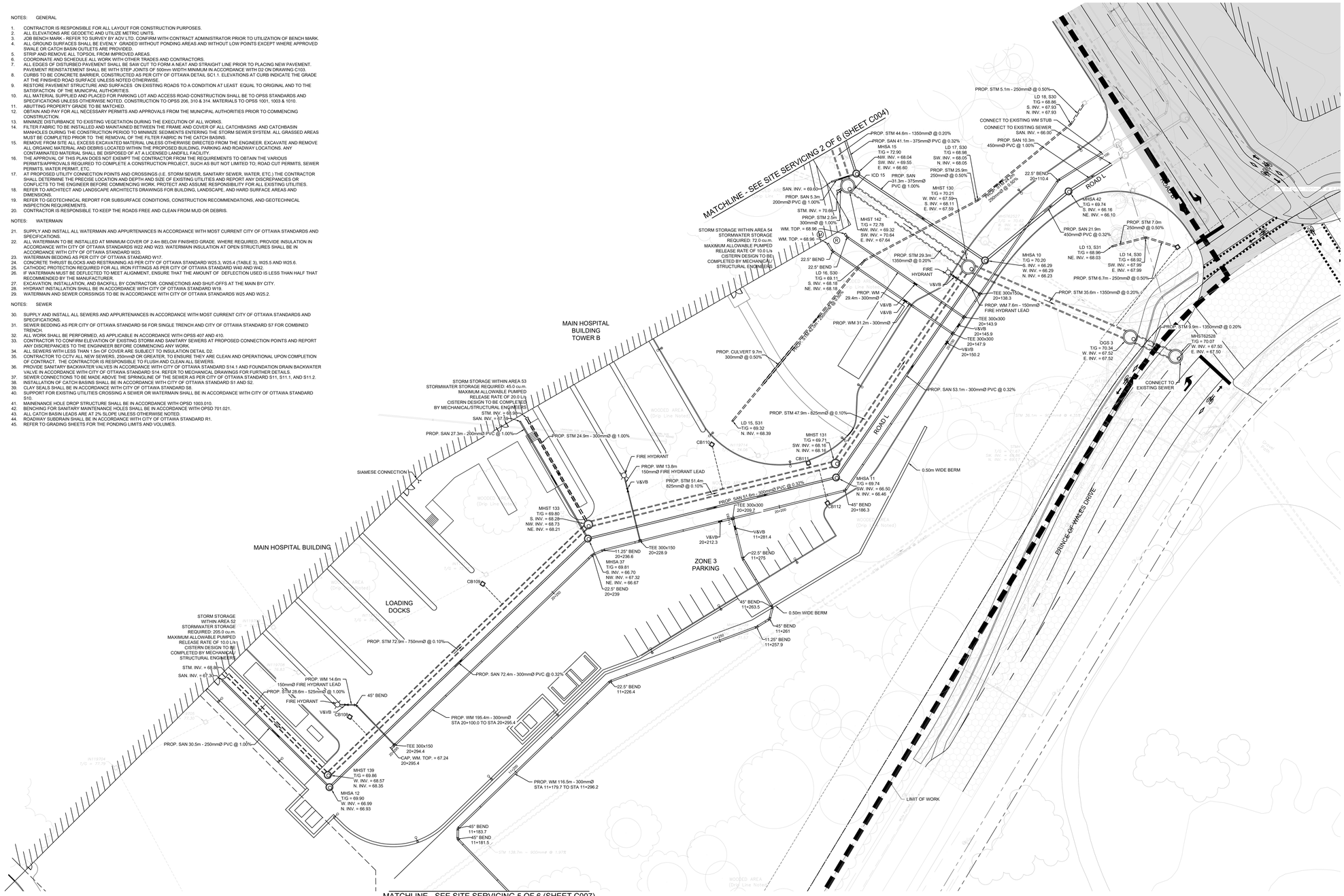
Project Number 10333982
Original Issue 04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
SITE SERVICING PLAN
3 OF 6

Sheet Number
C005

Project Status
STAGE 3



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- PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
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- EXISTING VALVE & VALVE BOX
- EXISTING FIRE HYDRANT
- PROPOSED WATERMAIN
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- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
- PROPOSED TRENCH DRAIN
- PROPOSED SUBDRAIN
- PROPOSED PIPE INSULATION
- PROPOSED BACKWATER VALVE
- PROPOSED REMOTE METER
- PROPOSED WATER METER
- PROPOSED LIGHT STANDARD (BY OTHERS)
- PROPOSED BOLLARD (BY OTHERS)
- EXISTING TREE AND CRITICAL ROOT ZONE

KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL
NEW CAMPUS
DEVELOPMENT -
HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

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Project Number 10333982
Original Issue 04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

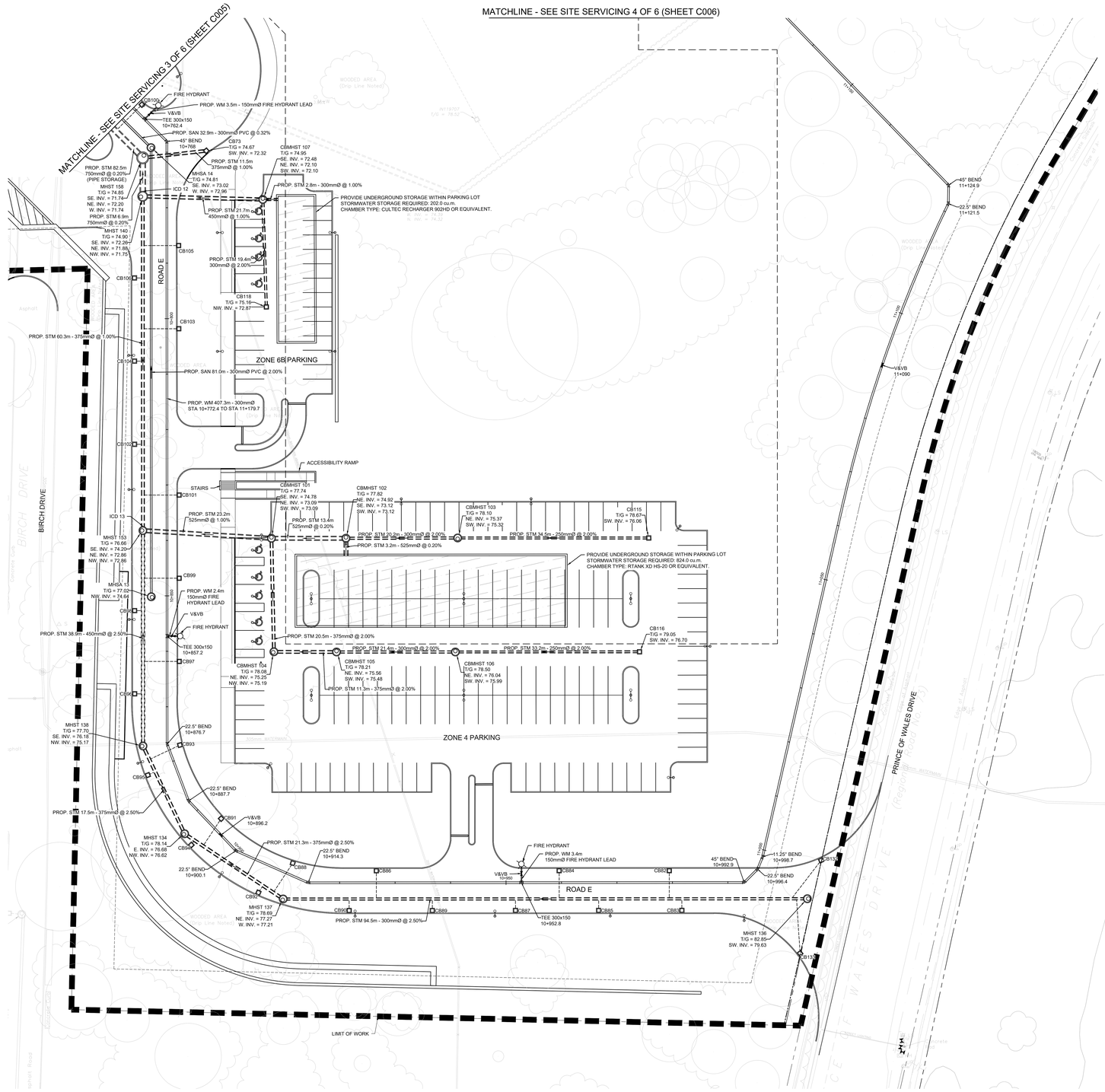
SITE SERVICING PLAN
4 OF 6

Sheet Number

C006

Project Status

STAGE 3



NOTES: GENERAL

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY AOV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
6. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
7. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM IN ACCORDANCE WITH D2 ON DRAWING C103.
8. CURBS TO BE CONCRETE BARRIER, CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC1.1. ELEVATIONS AT CURB INDICATE THE GRADE AT THE FINISHED ROAD SURFACE UNLESS NOTED OTHERWISE.
9. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
10. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
11. ABUTTING PROPERTY GRADE TO BE MATCHED.
12. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
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14. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
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16. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
17. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
18. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
19. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS.
20. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.

NOTES: WATERMAIN

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23. WATERMAIN BEDDING AS PER CITY OF OTTAWA STANDARD W17.
24. CONCRETE THRUST BLOCKS AND RESTRAINING AS PER CITY OF OTTAWA STANDARD W25.3, W25.4 (TABLE 3), W25.5 AND W25.6.
25. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 AND W42.
26. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
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28. HYDRANT INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W19.
29. WATERMAIN AND SEWER CORSSINGS TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25 AND W25.2.

NOTES: SEWER

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32. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407 AND 410.
33. CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM AND SANITARY SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINNEER BEFORE COMMENCING ANY WORK.
34. ALL SEWERS WITH LESS THAN 1.5m OF COVER ARE SUBJECT TO INSULATION DETAIL D2.
35. CONTRACTOR TO CCTV ALL NEW SEWERS, 250mmØ OR GREATER, TO ENSURE THEY ARE CLEAN AND OPERATIONAL UPON COMPLETION OF CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS.
36. PROVIDE SANITARY BACKWATER VALVES IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14.1 AND FOUNDATION DRAIN BACKWATER VALVE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S14. REFER TO MECHANICAL DRAWINGS FOR FURTHER DETAILS.
37. SEWER CONNECTIONS TO BE MADE ABOVE THE SPRINGLINE OF THE SEWER AS PER CITY OF OTTAWA STANDARD S11, S11.1, AND S11.2.
38. INSTALLATION OF CATCH BASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S1 AND S2.
39. CLAY SEALS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S8.
40. SUPPORT FOR EXISTING UTILITIES CROSSING A SEWER OR WATERMAIN SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S10.
41. MAINENANCE HOLE DROP STRUCTURE SHALL BE IN ACCORDANCE WITH OPSD 1003.010.
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43. ALL CATCH BASIN LEADS ARE AT 2% SLOPE UNLESS OTHERWISE NOTED.
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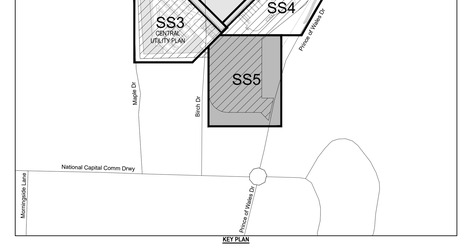

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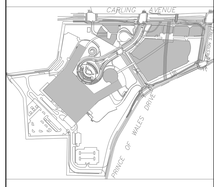
PARSONS



THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
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Project Number	103339982
Original Issue	04/21/22

PRELIMINARY NOT FOR CONSTRUCTION

Sheet Name

SITE SERVICING PLAN
5 OF 6

Sheet Number

C007

Project Status

STAGE 3

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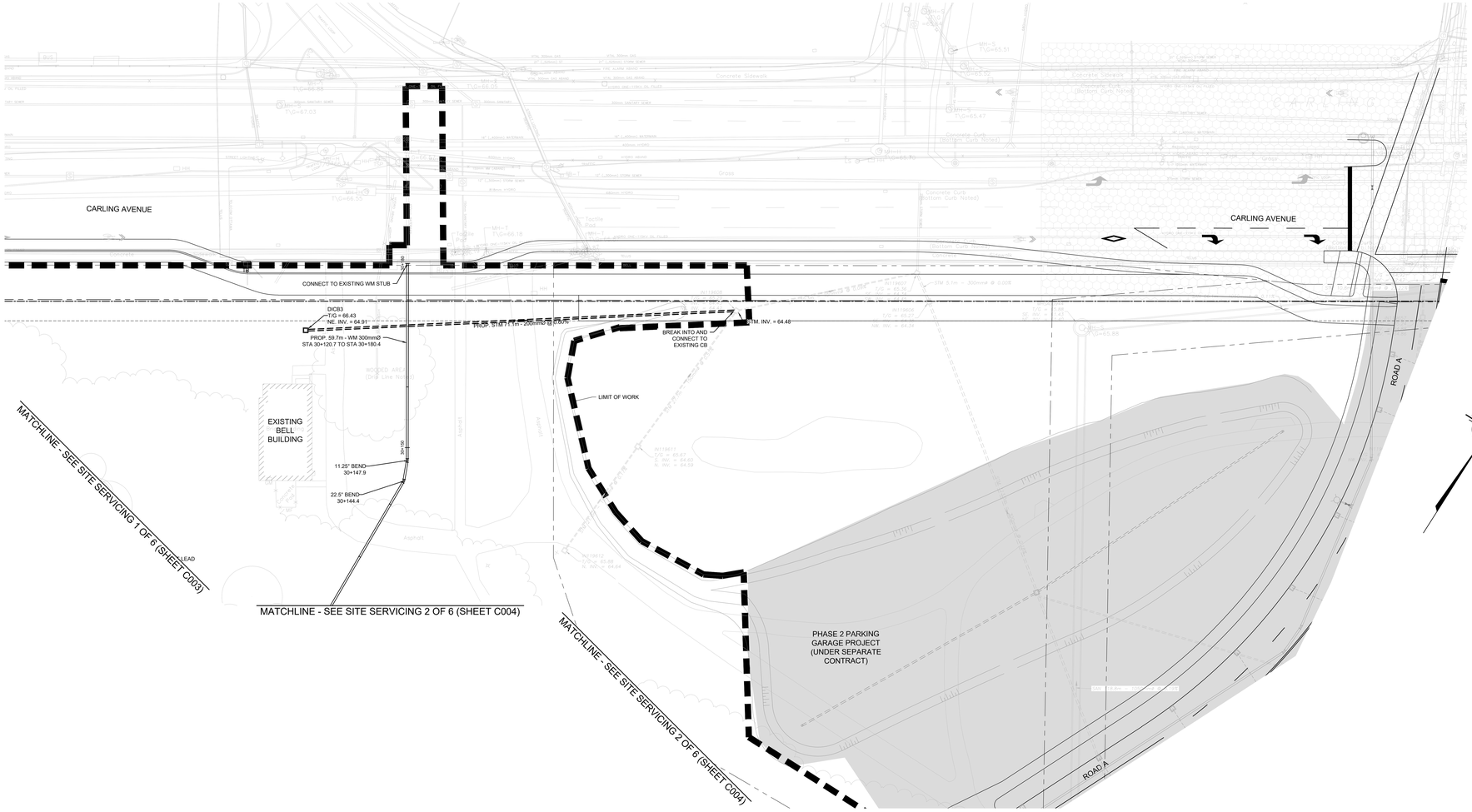

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LEGEND:

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⬡	PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
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═	PROPOSED CONCRETE CURB
DC	PROPOSED DEPRESSED CURB
⧅	PROPOSED BUILDING OR STRUCTURE
300mm WATERMAIN	EXISTING WATERMAIN
⊕	EXISTING VALVE CHAMBER
⊕	EXISTING VALVE & VALVE BOX
○	EXISTING FIRE HYDRANT
═	PROPOSED WATERMAIN
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◎	PROPOSED STORM SEWER AND MANHOLE
▣ ⊠ ●	PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
▬	PROPOSED TRENCH DRAIN
—	PROPOSED SUBDRAIN
▩	PROPOSED PIPE INSULATION
BV	PROPOSED BACKWATER VALVE
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●	PROPOSED BOLLARD (BY OTHERS)
○	EXISTING TREE AND CRITICAL ROOT ZONE

5m 0 5 10m
SCALE: 1:250

KEY PLAN

HDR
HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

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NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

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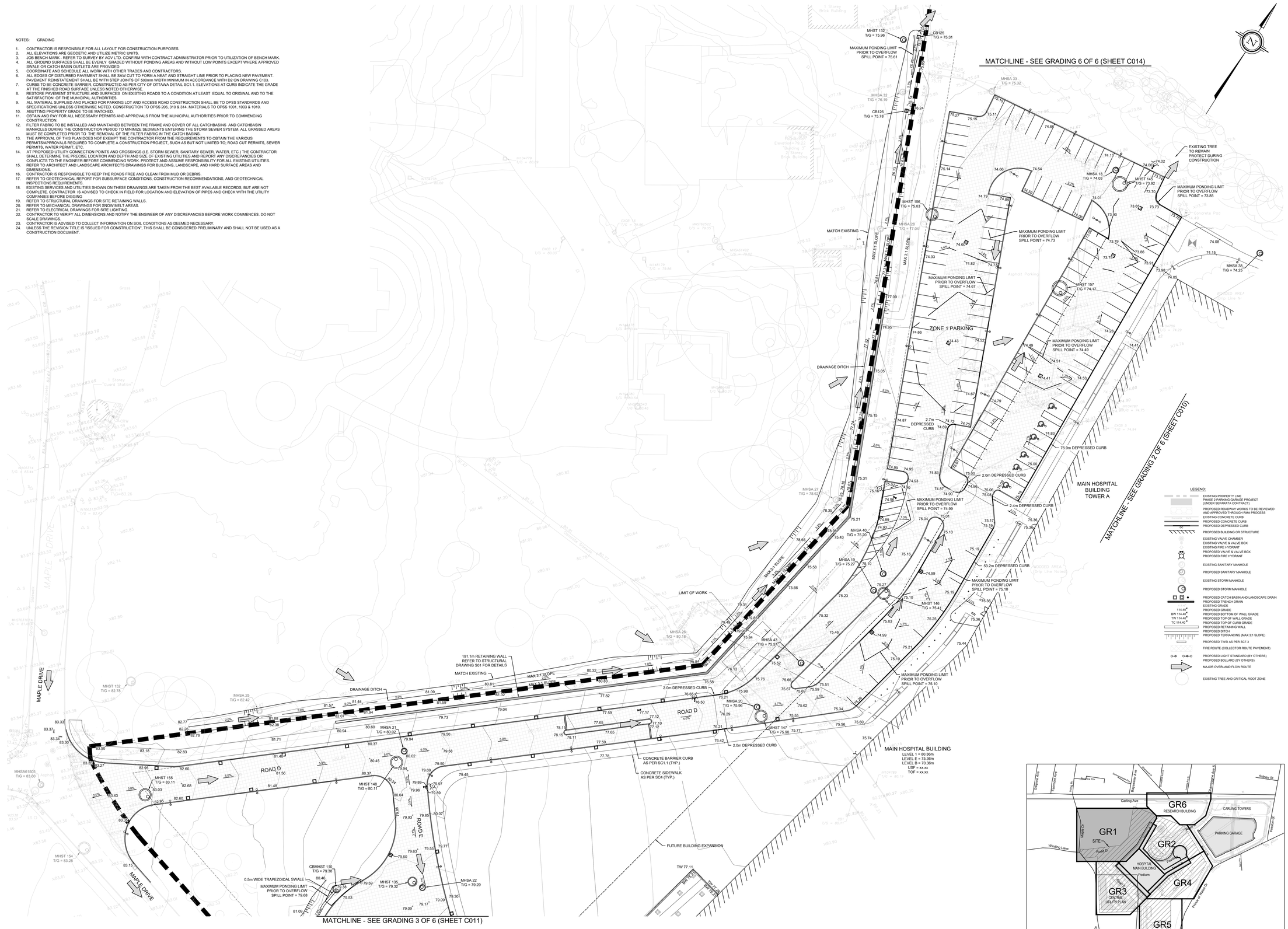
Sheet Name
SITE SERVICING PLAN
6 OF 6

Sheet Number
C008

Project Status
STAGE 3



NOTES: GRADING

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18. EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS ADVISED TO CHECK IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING
19. REFER TO STRUCTURAL DRAWINGS FOR SITE RETAINING WALLS.
20. REFER TO MECHANICAL DRAWINGS FOR SNOW MELT AREAS.
21. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING.
22. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.
23. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.
24. UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THIS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

LEGEND:

— — —	EXISTING PROPERTY LINE
▨	PHASE 2 PARKING GARAGE PROJECT (UNDER SEPARATA CONTRACT)
▨	PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
Concrete Curb	EXISTING CONCRETE CURB
═	PROPOSED CONCRETE CURB
DC	PROPOSED DEPRESSED CURB
	PROPOSED BUILDING OR STRUCTURE
	EXISTING VALVE CHAMBER
	EXISTING VALVE & VALVE BOX
	EXISTING FIRE HYDRANT
	PROPOSED VALVE & VALVE BOX
	PROPOSED FIRE HYDRANT
◎	EXISTING SANITARY MANHOLE
◎	PROPOSED SANITARY MANHOLE
	EXISTING STORM MANHOLE
	PROPOSED STORM MANHOLE
☐ ☒ ●	PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
	PROPOSED TRENCH DRAIN
113.45 ×	EXISTING GRADE
114.40 ×	PROPOSED GRADE
BW 114.40 ×	PROPOSED BOTTOM OF WALL GRADE
TW 114.40 ×	PROPOSED TOP OF WALL GRADE
TC 114.40 ×	PROPOSED TOP OF CURB GRADE
▭	PROPOSED RETAINING WALL
—	PROPOSED DITCH
	PROPOSED TERRANCING (MAX 3:1 SLOPE)
	PROPOSED TWSI AS PER SC7.3
▨	FIRE ROUTE (COLLECTOR ROUTE PAVEMENT)
	PROPOSED LIGHT STANDARD (BY OTHERS)
●	PROPOSED BOLLARD (BY OTHERS)
➡	MAJOR OVERLAND FLOW ROUTE
○	EXISTING TREE AND CRITICAL ROOT ZONE

RECOMMENDED PAVEMENT STRUCTURE – PARKING AREAS	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – LOCAL ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
40	SUPERPAVE 12.5mm SURFACE COURSE
50	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – COLLECTOR ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm FC1 SURFACE COURSE
70	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
THICKNESS(mm)	PORTLAND CEMENT CONCRETE
200	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

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HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	

Sheet Reviewer PARSONS

MARK	DATE	DESCRIPTION
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02	2022-10-28	DRAFT FOR 90% SD
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Project Number 10333982
Original Issue 04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

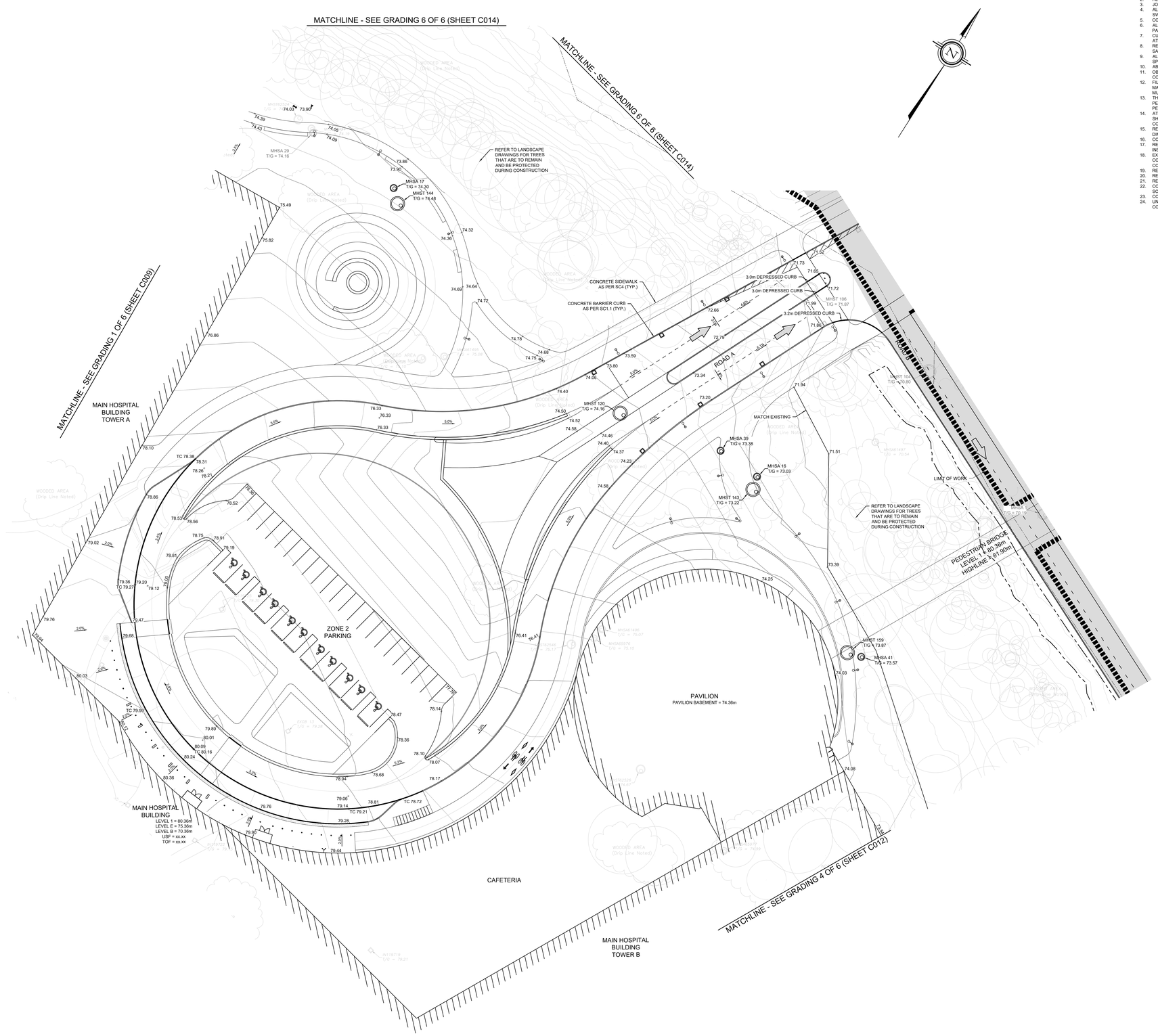
GRADING PLAN 1 OF 6

Sheet Number

C009

Project Status

STAGE 3



NOTES: GRADING

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY ADV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
6. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM IN ACCORDANCE WITH D2 ON DRAWING C103.
7. CURBS TO BE CONCRETE BARRIER, CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC1.1. ELEVATIONS AT CURB INDICATE THE GRADE AT THE FINISHED ROAD SURFACE UNLESS NOTED OTHERWISE.
8. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
9. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
10. ABUTTING PROPERTY GRADE TO BE MATCHED.
11. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
12. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
13. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
14. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
15. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
16. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.
17. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTIONS REQUIREMENTS.
18. EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS ADVISED TO CHECK IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING
19. REFER TO STRUCTURAL DRAWINGS FOR SITE RETAINING WALLS.
20. REFER TO MECHANICAL DRAWINGS FOR SNOW MELT AREAS.
21. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING.
22. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.
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- EXISTING SANITARY MANHOLE
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- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
- PROPOSED TRENCH DRAIN
- EXISTING GRADE
- 114.46^ PROPOSED GRADE
- BW 114.46^ PROPOSED BOTTOM OF WALL GRADE
- TW 114.46^ PROPOSED TOP OF WALL GRADE
- TC 114.46^ PROPOSED TOP OF CURB GRADE
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RECOMMENDED PAVEMENT STRUCTURE – PARKING AREAS	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – LOCAL ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
40	SUPERPAVE 12.5mm SURFACE COURSE
50	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – COLLECTOR ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm FC1 SURFACE COURSE
70	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
THICKNESS(mm)	PORTLAND CEMENT CONCRETE
200	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

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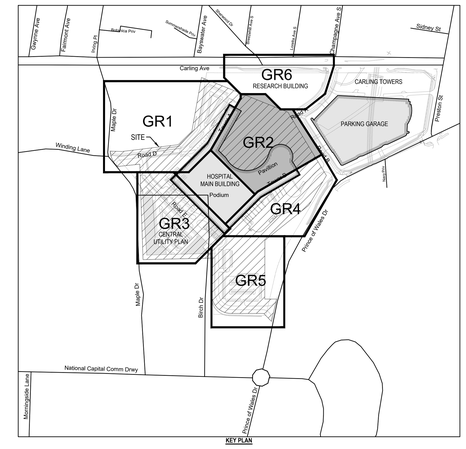
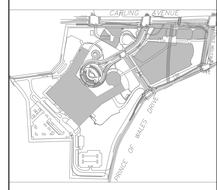
SCALE: 1:250



KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS



THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
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Wayfinding	
Sheet Reviewer	PARSONS

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Project Number	103339982
Original Issue	04/21/22

PRELIMINARY NOT FOR CONSTRUCTION

Sheet Name

GRADING PLAN 2 OF 5

Sheet Number

C010

Project Status

STAGE 3

RECOMMENDED PAVEMENT STRUCTURE – PARKING AREAS	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – LOCAL ROUTES	
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RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
THICKNESS(mm)	PORTLAND CEMENT CONCRETE
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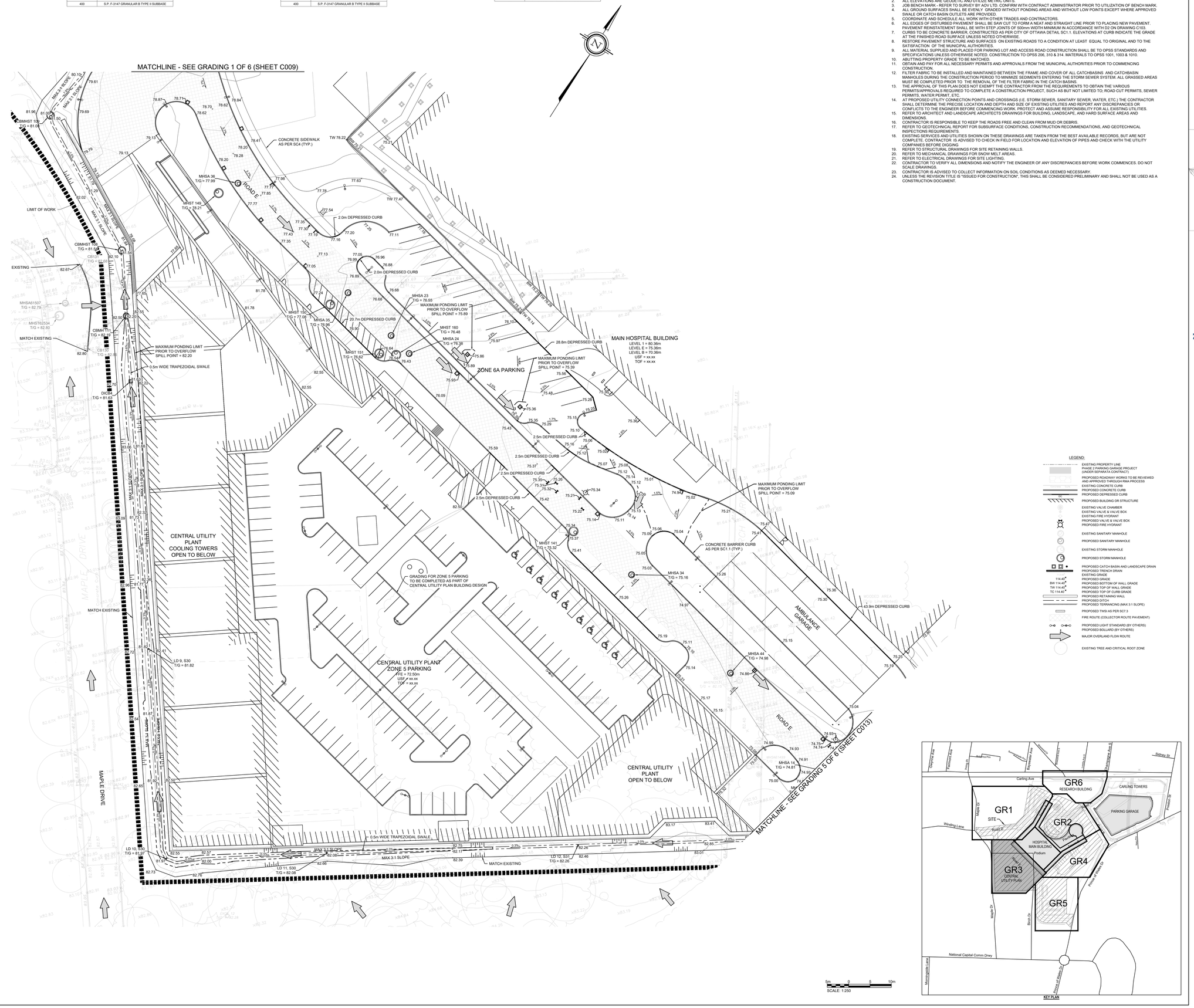

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5m 0 5 10m
SCALE: 1:250

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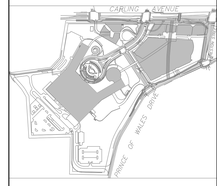

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Project Number	10333582
Original Issue	04/21/22

PRELIMINARY NOT FOR CONSTRUCTION

Sheet Name

GRADING PLAN 3 OF 5

Sheet Number

C011

Project Status

STAGE 3

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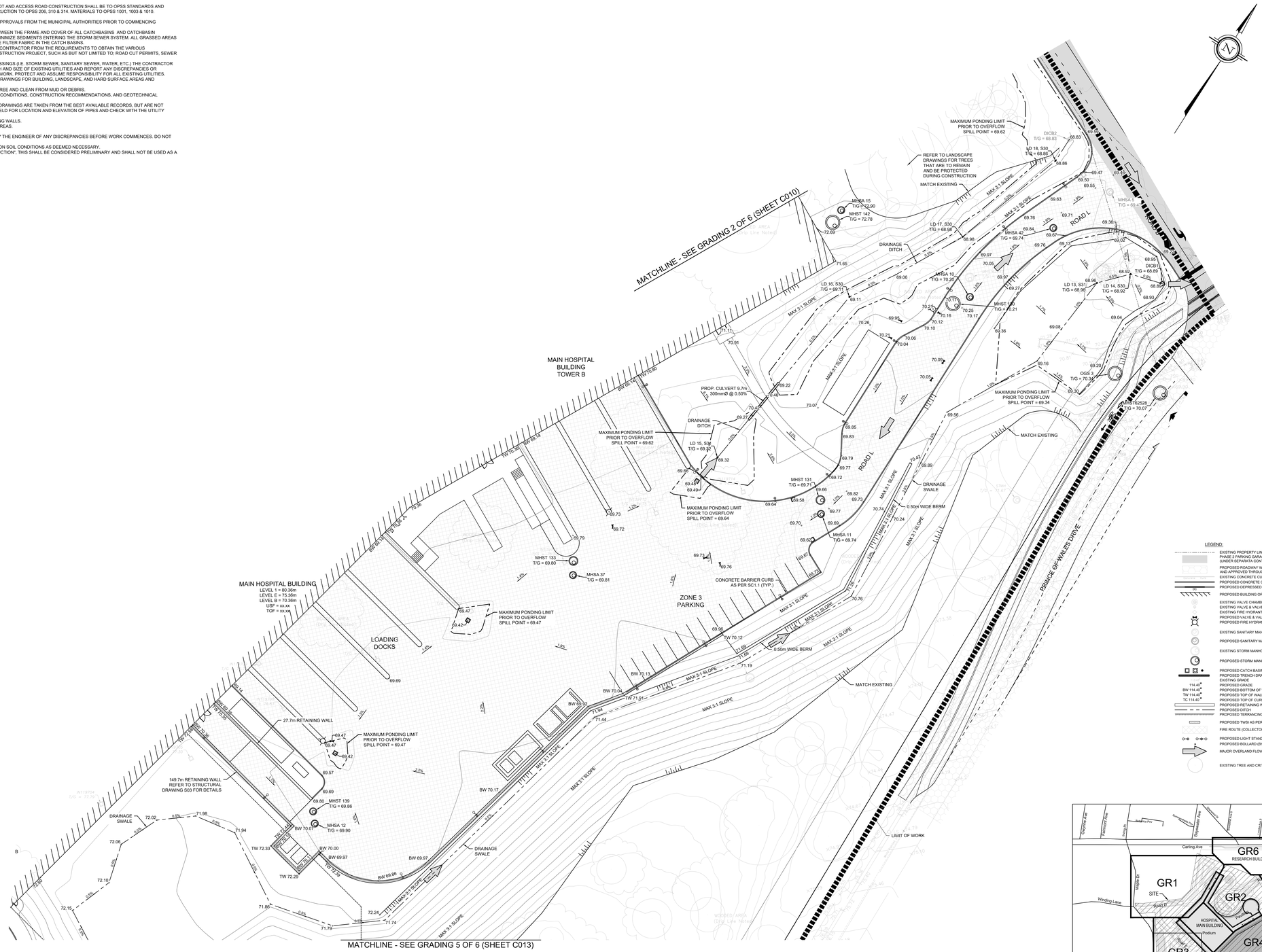

LEGEND:

- EXISTING PROPERTY LINE
- PHASE 2 PARKING GARAGE PROJECT (UNDER SEPARATA CONTRACT)
- PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
- EXISTING CONCRETE CURB
- PROPOSED CONCRETE CURB
- PROPOSED DEPRESSED CURB
- PROPOSED BUILDING OR STRUCTURE
- EXISTING VALVE CHAMBER
- EXISTING VALVE & VALVE BOX
- EXISTING FIRE HYDRANT
- PROPOSED VALVE & VALVE BOX
- PROPOSED FIRE HYDRANT
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN AND LANDSCAPE DRAIN
- PROPOSED TRENCH DRAIN
- EXISTING GRADE
- 114.40 PROPOSED GRADE
- BW 114.40 PROPOSED BOTTOM OF WALL GRADE
- TW 114.40 PROPOSED TOP OF WALL GRADE
- TC 114.40 PROPOSED TOP OF CURB GRADE
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- PROPOSED DITCH
- PROPOSED TERRACING (MAX 3:1 SLOPE)
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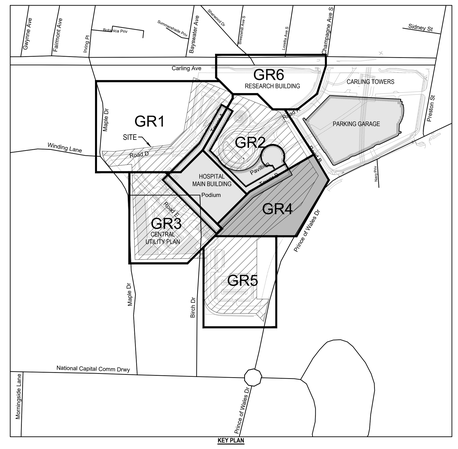
- FIRE ROUTE (COLLECTOR ROUTE PAVEMENT)
- PROPOSED LIGHT STANDARD (BY OTHERS)
- PROPOSED BOLLARD (BY OTHERS)
- MAJOR OVERLAND FLOW ROUTE
- EXISTING TREE AND CRITICAL ROOT ZONE

SCALE: 1:250



KEY PLAN

RECOMMENDED PAVEMENT STRUCTURE – PARKING AREAS	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – LOCAL ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
40	SUPERPAVE 12.5mm SURFACE COURSE
50	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – COLLECTOR ROUTES	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm FC1 SURFACE COURSE
70	SUPERPAVE 19.0mm BINDER COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
THICKNESS(mm)	PORTLAND CEMENT CONCRETE
200	SUPERPAVE 12.5mm SURFACE COURSE
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

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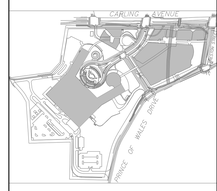

THE OTTAWA HOSPITAL
NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
01	2022-09-23	ISSUED FOR PRE-CONSULTATION
02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number	10333982
Original Issue	04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
GRADING PLAN 4 OF 5

Sheet Number
C012

Project Status
STAGE 3

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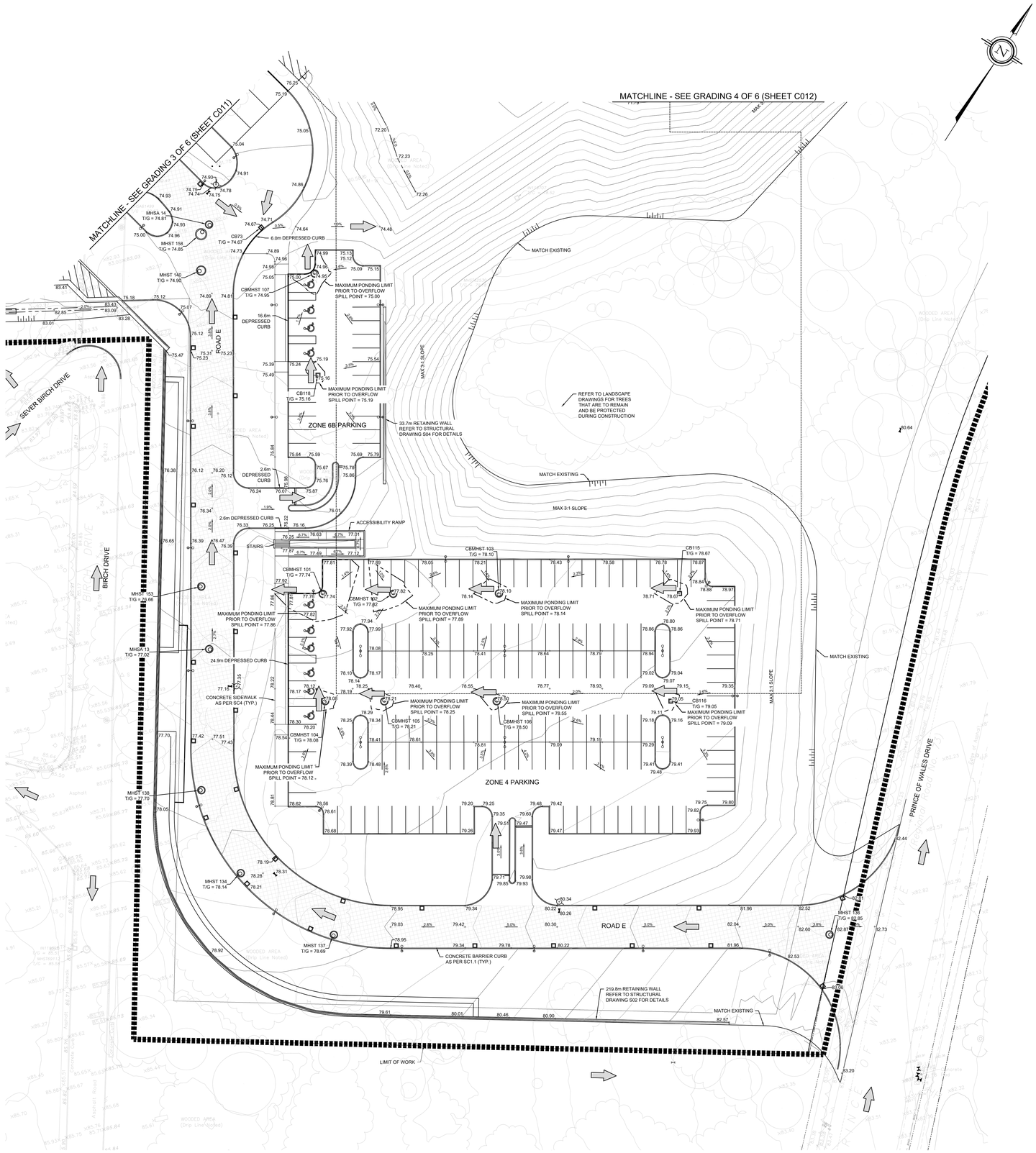

NOTES: GRADING

1. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. JOB BENCH MARK - REFER TO SURVEY BY AOV LTD. CONFIRM WITH CONTRACT ADMINISTRATOR PRIOR TO UTILIZATION OF BENCH MARK.
4. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
5. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
6. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM IN ACCORDANCE WITH D2 ON DRAWING C103.
7. CURBS TO BE CONCRETE BARRIER, CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC1.1. ELEVATIONS AT CURB INDICATE THE GRADE AT THE FINISHED ROAD SURFACE UNLESS NOTED OTHERWISE.
8. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
9. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
10. ABUTTING PROPERTY GRADE TO BE MATCHED.
11. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
12. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS AND CATCHBASIN MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE CATCH BASINS.
13. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
14. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH AND SIZE OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES.
15. REFER TO ARCHITECT AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING, LANDSCAPE, AND HARD SURFACE AREAS AND DIMENSIONS.
16. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.
17. REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTIONS REQUIREMENTS.
18. EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS ADVISED TO CHECK IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING
19. REFER TO STRUCTURAL DRAWINGS FOR SITE RETAINING WALLS.
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21. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING.
22. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.
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LEGEND:

EXISTING PROPERTY LINE
PHASE 2 PARKING GARAGE PROJECT (UNDER SEPARATA CONTRACT)
PROPOSED ROADWAY WORKS TO BE REVIEWED AND APPROVED THROUGH RMA PROCESS
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DRAFT

RECOMMENDED PAVEMENT STRUCTURE – PARKING AREAS	
THICKNESS(mm)	MATERIAL DESCRIPTION
50	SUPERPAVE 12.5mm SURFACE COURSE
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RECOMMENDED PAVEMENT STRUCTURE – LOCAL ROUTES	
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RECOMMENDED PAVEMENT STRUCTURE – COLLECTOR ROUTES	
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RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
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5m 0 5 10m
SCALE: 1:250

KEY PLAN

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HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
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Structural Engineer	EXP
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Wayfinding	

Sheet Reviewer	PARSONS

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Project Number	10333982
Original Issue	04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

GRADING PLAN 5 OF 5

Sheet Number

C013

Project Status

STAGE 3

NOTES: GRADING

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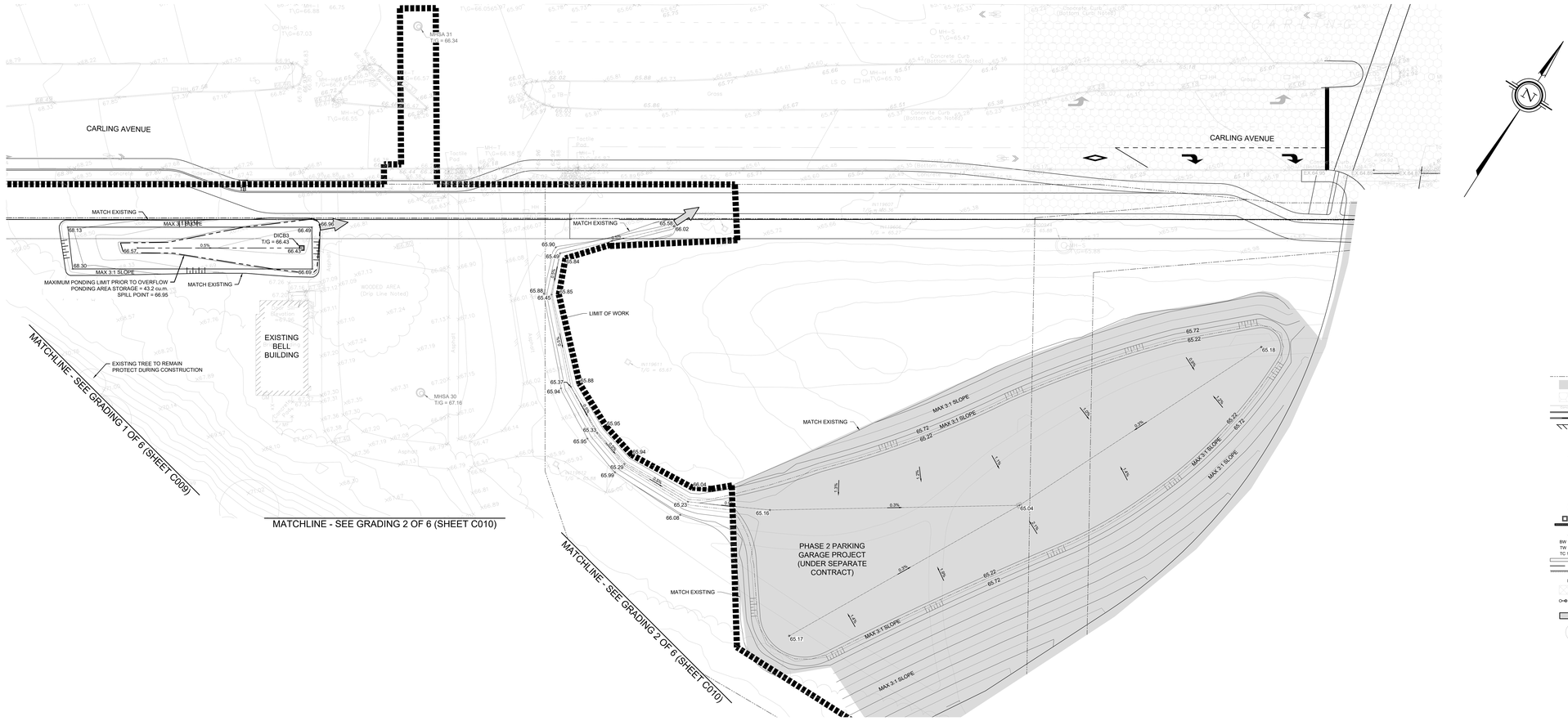

LEGEND:

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RECOMMENDED PAVEMENT STRUCTURE – COLLECTOR ROUTES	
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RECOMMENDED PAVEMENT STRUCTURE – RIGID PAVEMENT	
THICKNESS(mm)	PORTLAND CEMENT CONCRETE
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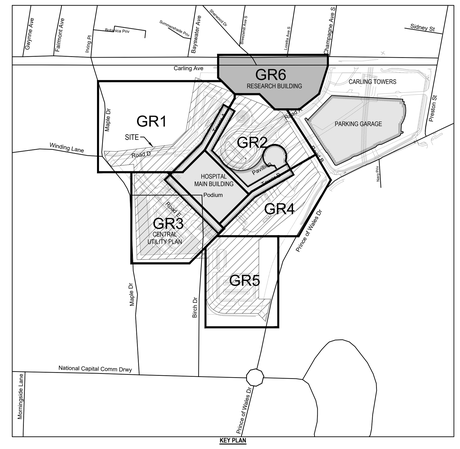
150	S.P. F-3147 GRANULAR A BASE
400	S.P. F-3147 GRANULAR B TYPE II SUBBASE

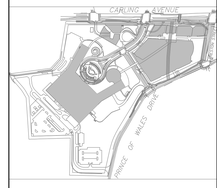
5m 0 5 10m
SCALE: 1:250



KEY PLAN

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS



THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HOPITAL D'OTTAWA

DRAFT

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Civil Engineer	Civil Engineer
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Project Number	10333982
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PRELIMINARY
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Sheet Name

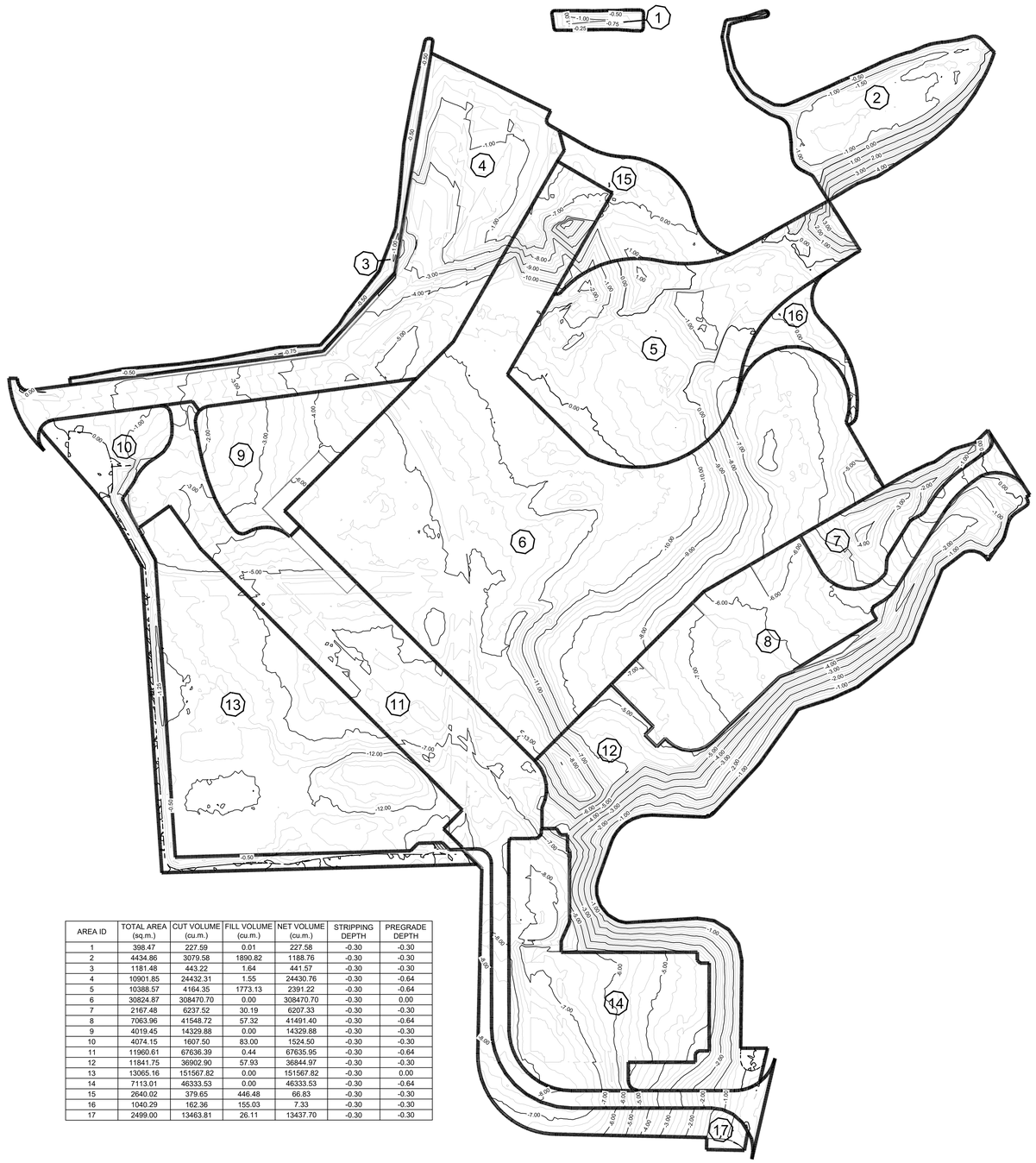
GRADING PLAN 6 OF 6

Sheet Number

C014

Project Status

STAGE 3



AREA ID	TOTAL AREA (sq.m.)	CUT VOLUME (cu.m.)	FILL VOLUME (cu.m.)	NET VOLUME (cu.m.)	STRIPPING DEPTH	PREGRADE DEPTH
1	398.47	227.59	0.01	227.58	-0.30	-0.30
2	4434.86	3079.58	1890.82	1188.76	-0.30	-0.30
3	1181.48	443.22	1.64	441.57	-0.30	-0.30
4	10901.85	24432.31	1.55	24430.76	-0.30	-0.64
5	10388.57	4164.35	1773.13	2391.22	-0.30	-0.64
6	30824.87	308470.70	0.00	308470.70	-0.30	0.00
7	2167.48	6237.52	30.19	6207.33	-0.30	-0.30
8	7063.96	41548.72	57.32	41491.40	-0.30	-0.64
9	4019.45	14329.88	0.00	14329.88	-0.30	-0.30
10	4074.15	1607.50	83.00	1524.50	-0.30	-0.30
11	11960.61	67636.39	0.44	67635.95	-0.30	-0.64
12	11841.75	36902.90	57.93	36844.97	-0.30	-0.30
13	13065.16	151567.82	0.00	151567.82	-0.30	0.00
14	7113.01	46333.53	0.00	46333.53	-0.30	-0.64
15	2640.02	379.65	446.48	66.83	-0.30	-0.30
16	1040.29	162.36	155.03	7.33	-0.30	-0.30
17	2499.00	13463.81	26.11	13437.70	-0.30	-0.30

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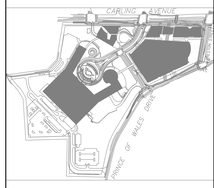

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DRAFT

Project Manager	MR
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Landscape Architect	Jeff Fehr
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Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
01	2022-09-23	ISSUED FOR PRE-CONSULTATION
02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number 10333980
Original Issue 04/21/22

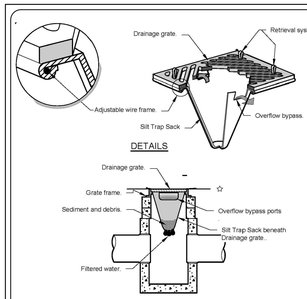
PRELIMINARY
NOT FOR CONSTRUCTION

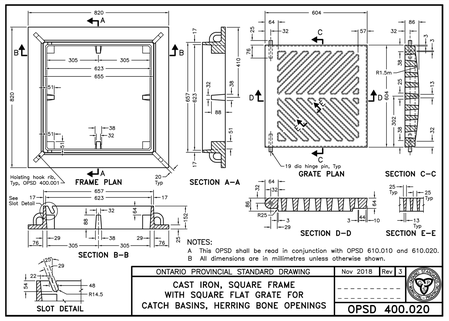
Sheet Name
CUT-FILL
PLAN

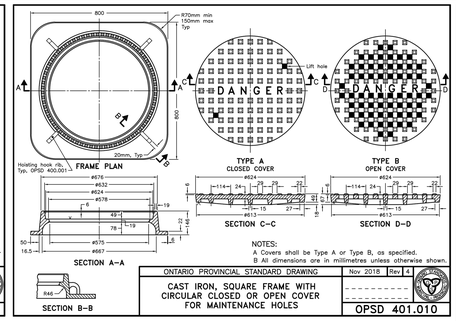
Sheet Number
C015

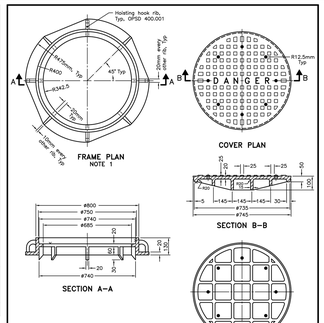
Project Status
STAGE 3

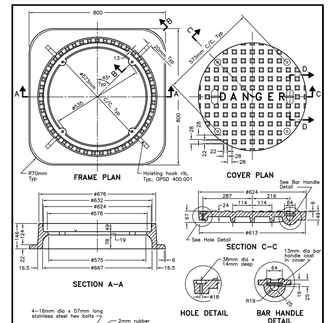
SCALE: 1:750

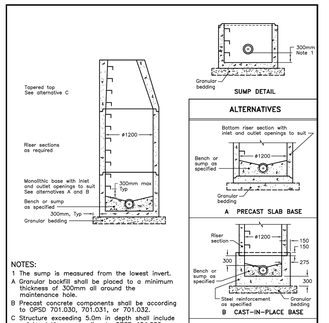


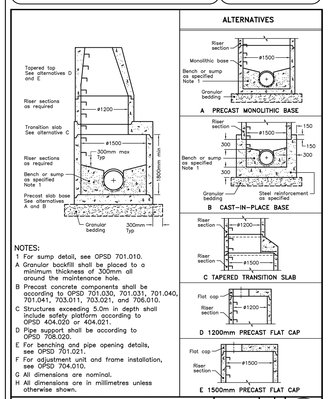


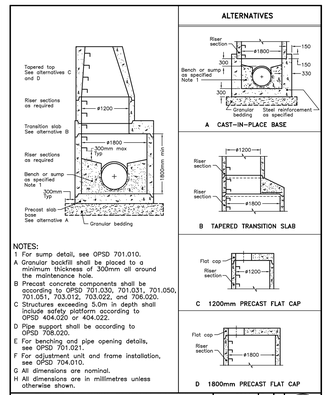


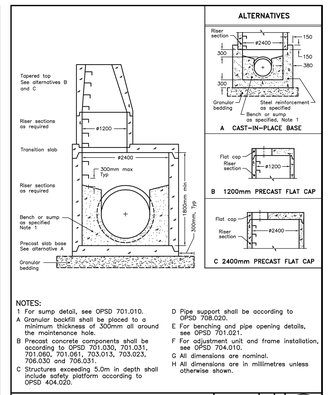


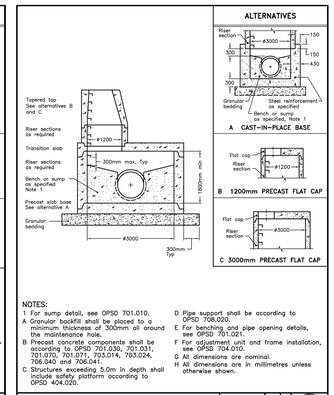


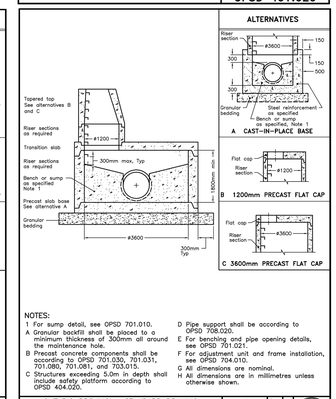


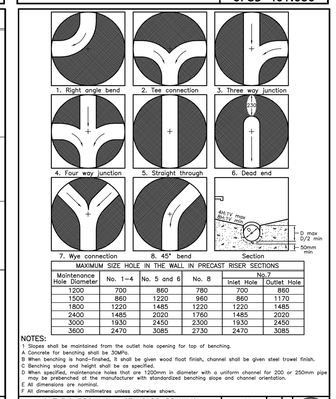


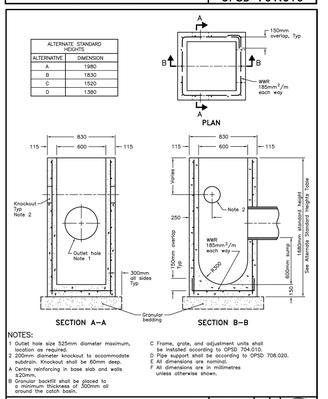


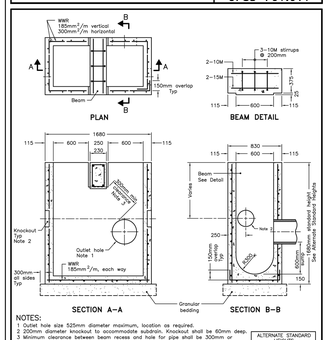


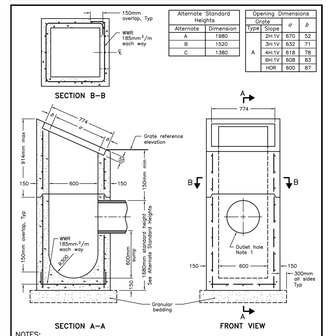


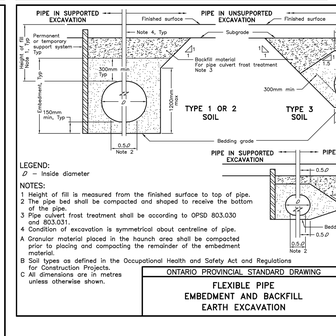


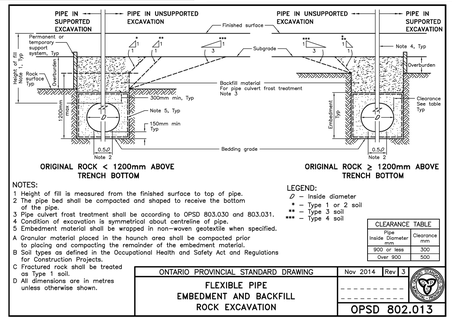


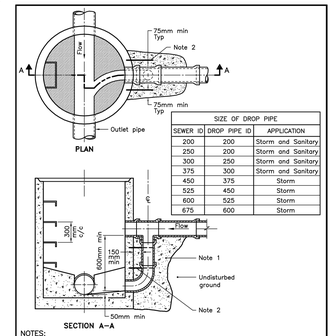


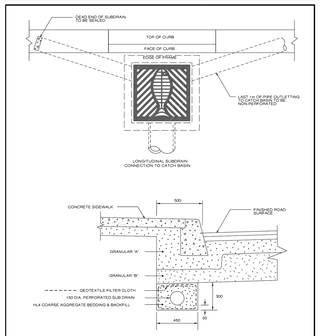


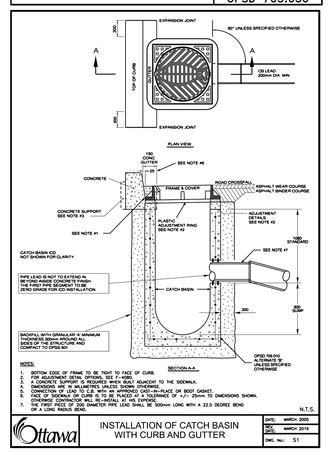


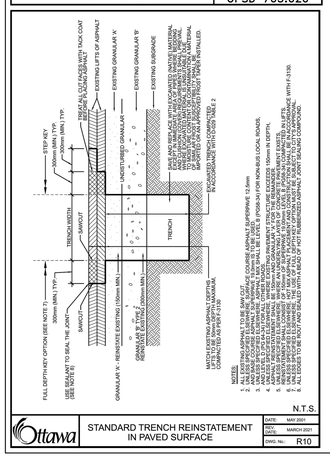












NOTES

1. Size and shape of the silt trap sack to fit the storm structure it will service. (rectangular or round).
2. The silt trap sack shall have a built-in high-flow relief system (overflow bypass).
3. The silt trap sack assembly must allow removal without spilling the collected material.
4. Empty silt trap sack and dispose of sediment and debris before the sack is half-full.
5. Ensure the silt trap sack assembly does not spill or fall into the storm structure. If sediment is spilled into the storm structure, remove the spilled material by suction hose or other approved method.
6. Provide protection for catch basin hoods (Wattles, 2x4 lumber, and so forth)

SILT SACK DETAIL

PARSONS

D1

NOTES:
A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2018 | Rev 3
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, HERRING BONE OPENINGS
OPSD 400.020

NOTES:
A Covers shall be Type A or Type B, as specified.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2018 | Rev 4
CAST IRON, SQUARE FRAME WITH CIRCULAR CLOSED OR OPEN COVER FOR MAINTENANCE HOLES
OPSD 401.010

NOTE:
1 As an option, frame may be completely round.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2018 | Rev 4
CAST IRON, CIRCULAR FRAME WITH CIRCULAR 745mm COVER FOR MAINTENANCE HOLES
OPSD 401.020

NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2018 | Rev 4
CAST IRON, SQUARE FRAME WITH CIRCULAR WATERTIGHT COVER FOR MAINTENANCE HOLES
OPSD 401.030

NOTES:
1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5
PRECAST CONCRETE MAINTENANCE HOLE
1200mm DIAMETER
OPSD 701.010

HDR Architecture Associates Inc.
300 Richmond Road, Suite 200
Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.040, 701.041, 703.011, 703.021, and 706.010.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5
PRECAST CONCRETE MAINTENANCE HOLE
1500mm DIAMETER
OPSD 701.011

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.050, 701.051, 703.012, 703.022, and 706.020.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.022.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5
PRECAST CONCRETE MAINTENANCE HOLE
1800mm DIAMETER
OPSD 701.012

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.060, 701.061, 703.013, 703.023, 706.030 and 706.031.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5
PRECAST CONCRETE MAINTENANCE HOLE
2400mm DIAMETER
OPSD 701.013

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.070, 701.071, 703.014, 703.024, 706.040 and 706.041.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 4
PRECAST CONCRETE MAINTENANCE HOLE
3000mm DIAMETER
OPSD 701.014

NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.080, 701.081, and 703.015.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 4
PRECAST CONCRETE MAINTENANCE HOLE
3600mm DIAMETER
OPSD 701.015

MAXIMUM SIZE HOLE IN THE WALL IN PRECAST RISER SECTIONS

Maintenance Hole Diameter	No. 1–4	No. 5 and 6	No. 8	No.7 Inlet Hole	No.7 Outlet Hole
1200	700	860	780	700	860
1500	860	1220	960	860	1170
1800	1220	1485	1220	1220	1485
2400	1485	2020	1760	1485	2020
3000	1930	2450	2300	1930	2450
3600	2470	3085	2730	2470	3085

NOTES:
1 Slopes shall be maintained from the outlet hole opening for top of benching.
A Concrete for benching shall be 30MPa.
B When benching is hand–finished, it shall be given wood float finish, channel shall be given steel trowel finish.
C Benching slope and height shall be as specified.
D When specified, maintenance holes that are 1200mm in diameter with a uniform channel for 200 or 250mm pipe may be prebenched at the manufacturer with standardized benching slope and channel orientation.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 4
MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES
OPSD 701.021

ALTERNATE STANDARD HEIGHTS

ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380

NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2019 | Rev 4
PRECAST CONCRETE CATCH BASIN
600x600mm
OPSD 705.010

NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
3 Minimum clearance between beam recess and hole for pipe shall be 300mm or minimum clearance can be 150mm with addition of two 15M size rebar on 45 degree diagonal.
A Centre reinforcing in base slab and walls ±20mm.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ALTERNATE STANDARD HEIGHTS

ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1680

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2019 | Rev 4
PRECAST CONCRETE TWIN INLET CATCH BASIN
600 x 1450mm
OPSD 705.020

Alternate Standard Heights

Alternate	Dimension
A	1980
B	1520
C	1380

Opening Dimensions

Grate Type	Grate Slope	a	b
A	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	6H:1V	608	83
	HOR	600	87

NOTES:
1 Outlet hole size 525mm maximum diameter, location as required.
A Where inlet is placed across ditch and is accessible to vehicular traffic, grating slope shall be 6H:1V or flatter.
B Center reinforcing in wall and slab ±25mm.
C Granular backfill shall be placed to a minimum thickness of 300mm all around the ditch inlet.
D Grating shall be according to OPSD 403.010.
E Pipe support shall be according to OPSD 708.020.
F All dimensions are nominal.
G All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2019 | Rev 4
PRECAST CONCRETE DITCH INLET
600 x 600mm
OPSD 705.030

LEGEND:
D – Inside diameter

NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C All dimensions are in metres unless otherwise shown.

CLEARANCE TABLE

Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION
OPSD 802.010

NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
5 Embedment material shall be wrapped in non–woven geotextile when specified.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C Fractured rock shall be treated as Type 1 soil.
D All dimensions are in metres unless otherwise shown.

LEGEND:
D – Inside diameter
* – Type 1 or 2 soil
** – Type 3 soil
*** – Type 4 soil

CLEARANCE TABLE

Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL ROCK EXCAVATION
OPSD 802.013

SIZE OF DROP PIPE

SEWER ID	DROP PIPE ID	APPLICATION
200	200	Storm and Sanitary
250	200	Storm and Sanitary
300	250	Storm and Sanitary
375	300	Storm and Sanitary
450	375	Storm
525	450	Storm
600	525	Storm
675	600	Storm

NOTES:
1 Concrete shall be placed to undisturbed ground and the outside face of the maintenance hole, but there shall be a minimum of 150mm of 15MPa concrete around the drop pipe.
2 Concrete shall be secured to the maintenance hole with 450mm long, 13mm diameter threaded rods and drilled expansion anchors down either side of the drop pipe at 300mm centres.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2016 | Rev 3
CAST–IN–PLACE MAINTENANCE HOLE DROP STRUCTURE TEE
OPSD 1003.010

NOTES:
1. ALL CONECTIONS TO BE MADE ON BOTH SIDES OF THE CATCH BASIN AND TO BE MORTARED AT THE INSIDE AND OUTSIDE OF THE CATCH BASIN WALLS. THE SUBDRAIN SHALL BE PLUGGED WITH A MANUFACTURED PLUG AT THE HIGH POINT WHERE THERE IS NO CATCH BASIN.
2. APPROVED NON-WOVEN CLASS 1 GEOTEXTILE AS PER MS-22.15.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
4. ALL SUBDRAIN TO PROVIDE POSITIVE DRAINAGE.

Ottawa | SUBDRAIN INSTALLATION DETAIL | DATE: MAY 2001 | REV. DATE: MARCH 2009 | DWG. No.: R1

N.T.S.

Ottawa | STANDARD TRENCH REINSTATEMENT IN PAVED SURFACE | DATE: MAY 2001 | REV. DATE: MARCH 2021 | DWG. No.: R10

PIPE LEAD IS NOT TO EXTEND IN BEYOND INSIDE CONCRETE FINISH. THE FIRST PIPE SEGMENT TO BE ZERO GRADE FOR ICD INSTALLATION.

BACKFILL WITH GRANULAR 'A' MINIMUM THICKNESS 300mm AROUND ALL SIDES OF THE STRUCTURE AND COMPACT TO OPSS 501

NOTES:
1. BOTTOM EDGE OF FRAME TO BE TIGHT TO FACE OF CURB.
2. FOR ADJUSTMENT DETAIL OPTIONS, SEE F–4080.
3. A CONCRETE SUPPORT IS REQUIRED WHEN BUILT ADJACENT TO THE SIDEWALK.
4. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. CONNECTION OF LEAD TO C.B. WITH AN APPROVED CAST–IN–PLACE OR BOOT GASKET.
6. FACE OF SIDEWALK OR CURB IS TO BE PLACED AT A TOLERANCE OF +/- 25mm TO DIMENSIONS SHOWN. OTHERWISE CONTRACTOR WILL RE–INSTALL AT HIS EXPENSE.
7. THE FIRST PIECE OF 200 DIAMETER PIPE LEAD SHALL BE 500mm LONG WITH A 22.5 DEGREE BEND OR A LONG RADIUS BEND.

N.T.S.

Ottawa | INSTALLATION OF CATCH BASIN WITH CURB AND GUTTER | DATE: MARCH 2005 | REV. DATE: MARCH 2019 | DWG. No.: S1

PIPE LEAD IS NOT TO EXTEND IN BEYOND INSIDE CONCRETE FINISH. THE FIRST PIPE SEGMENT TO BE ZERO GRADE FOR ICD INSTALLATION.

BACKFILL WITH GRANULAR 'A' MINIMUM THICKNESS 300mm AROUND ALL SIDES OF THE STRUCTURE AND COMPACT TO OPSS 501

NOTES:
1. FACE OF SIDEWALK OR CURB IS TO BE PLACED AT A TOLERANCE OF +/- 25mm TO DIMENSIONS SHOWN. OTHERWISE CONTRACTOR WILL RE–INSTALL AT HIS EXPENSE.
2. ROAD CROSSFALL IS REVERSED TO DIRECT SURFACE WATER TO CATCH BASIN GRATE.
3. UNDER NO CIRCUMSTANCES SHALL FRAME BE PLACED UNDER CURB OR SIDEWALK.
4. FOR ADJUSTMENT DETAIL OPTIONS, SEE F–4080.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. CONNECTION OF LEAD TO C.B. WITH AN APPROVED CAST–IN–PLACE OR BOOT GASKET.
7. A CONCRETE SUPPORT IS REQUIRED WHEN BUILT ADJACENT TO THE SIDEWALK.
8. THE FIRST PIECE OF 200mm DIAMETER PIPE LEAD SHALL BE 500mm LONG WITH A 22.5 DEGREE BEND OR A LONG RADIUS BEND.

N.T.S.

Ottawa | INSTALLATION OF CATCH BASIN WITH MONOLITHIC SIDEWALK AND CURB, BARRIER, AND DEPRESSED CURB | DATE: MARCH 2005 | REV. DATE: MARCH 2019 | DWG. No.: S2

NOTES:
1. VORTEX ICD'S ARE USED TO RESTRICT FLOWS BELOW 15L / s. The (LOWEST) RESTRICTION ALLOWED TYPICALLY IS 6L / s. PRODUCTS MAY SLIGHTLY DIFFER AS SHOWN ABOVE.
2. CURVES ARE AVAILABLE FROM THE MANUFACTURER. SEE MS - 22.15 FOR APPROVED PRODUCTS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

N.T.S.

Ottawa | VORTEX ICD INSTALLATION | DATE: MARCH 2008 | REV. DATE: MARCH 2019 | DWG. No.: S4.1

NOTES
1. ANY REFEREES IN THE STANDARD TO "BACKFILL" TO BE INTERPRETED AS "FINAL BACKFILL".
2. ANY REFERENCES IN THE STANDARD TO "BEDDING" TO BE INTERPRETED AS "PIPE EMBEDMENT".

Ottawa | STANDARD TRENCH TERMINOLOGY | DATE: MARCH 2008 | REV. DATE: | DWG. No.: S5

CONDITION	SEWER	SERVICES
EARTH	150 Min.	150 Min.
ROCK	300 Min.	150 Min.

NOTES:
1.

PIPE INSIDE DIAMETER (mm)	CLEARANCE (mm)
900 OR LESS	CONC 450 PVC 450
OVER 900	500

2. FINAL BACKFILL - APPROVED NATIVE MATERIAL OR SELECT SUBGRADE IN ACCORDANCE WITH F-2120.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. INITIAL BACKFILL MATERIAL
- CONCRETE PIPE - GRANULAR 'A', GRANULAR 'B', OR SELECT SUBGRADE MATERIAL WITH 100% PASSING THE 37.5 mm SIEVE
- PVC PIPE - GRANULAR 'A'
5. WHEN APPROVED BY THE CONTRACT ADMINISTRATOR, POOR SOILS SHALL BE EXCAVATED TO CREATE A FOUNDATION THAT SHALL BE FILLED TO THE BOTTOM OF THE BEDDING WITH GRANULAR 'B'.

N.T.S.

Ottawa | SINGLE TRENCH (SEWER & SEWER SERVICES) | DATE: MAY 2001 | REV. DATE: MARCH 2021 | DWG. No.: S6

NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2015 | Rev 2
LIGHT–DUTY SILT FENCE BARRIER
OPSD 219.110

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
01	2022-09-23	ISSUED FOR PRE-CONSULTATION
02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number 10333982
Original Issue 04/21/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
DETAILS 1

Sheet Number
C016

Project Status
STAGE 3

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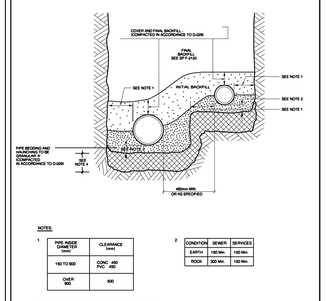

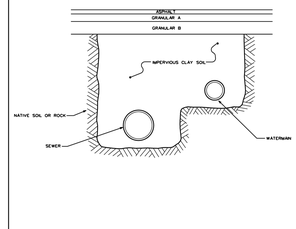

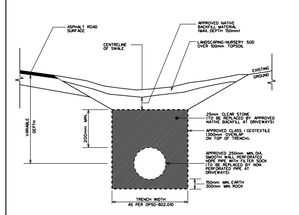

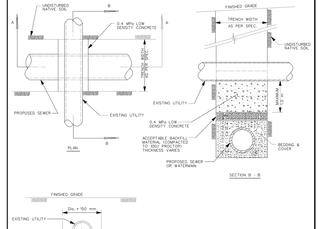

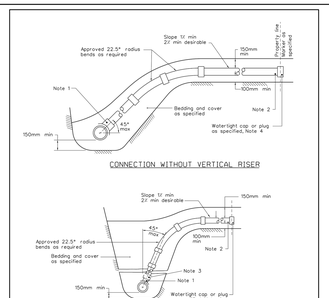

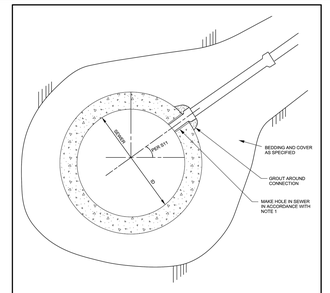

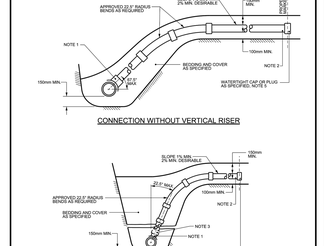

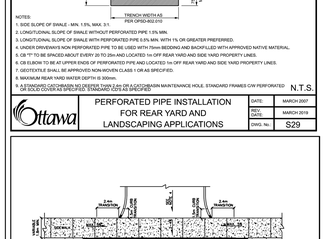

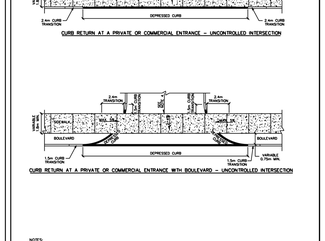

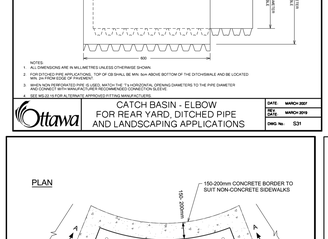

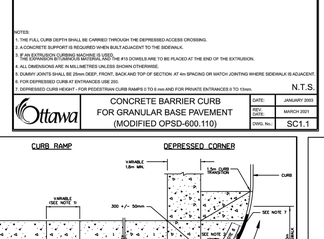

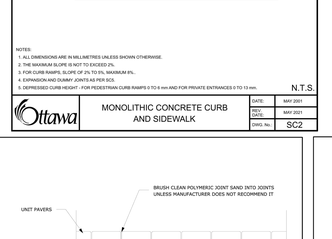

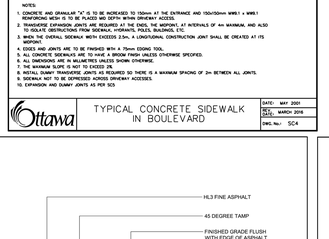

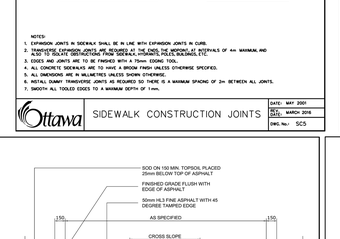

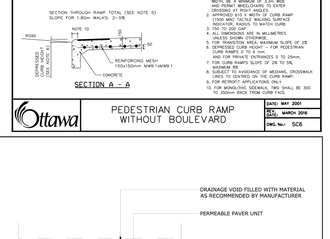

COMBINED TRENCH (SEWERS & SEWER SERVICES) — DWG. No. S7

CLAY SEAL FOR PIPE TRENCHES — DWG. No. S8

DITCHED PIPE STORM SEWER INSTALLATION — DWG. No. S9

SUPPORT DETAIL FOR EXISTING UTILITY CROSSING SEWER OR WATERMAIN TRENCH — DWG. No. S10

SEWER SERVICE CONNECTIONS FOR FLEXIBLE MAIN SEWER PIPE (MODIFIED OPSD-1006.020) — DWG. No. S11.1

SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE USING BELL END INSERT METHOD — DWG. No. S11.2

SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010) — DWG. No. S11

MH PLACEMENT FOR EXISTING & NEW 900 TO 6000mm DIAMETER PIPES — DWG. No. S12.2

SANITARY BACKWATER VALVE INSTALLATION TYPE 1 — DWG. No. S14.1

SANITARY BACKWATER VALVE INSTALLATION TYPE 2 — DWG. No. S14.2

FOUNDATION DRAIN BACKWATER VALVE INSTALLATION — DWG. No. S14

HEAVY DUTY "FISH" TYPE ROUND CATCH BASIN COVER (MODIFIED OPSD-400.07) — DWG. No. S19

STANDARD CIRCULAR SANITARY & COMBINED MAINTENANCE HOLE COVER — DWG. No. S24

STANDARD CIRCULAR STORM MAINTENANCE HOLE COVER — DWG. No. S24.1

PERFORATED PIPE INSTALLATION FOR REAR YARD AND LANDSCAPING APPLICATIONS — DWG. No. S29

CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS — DWG. No. S31

CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.110) — DWG. No. SC1.1

MONOLITHIC CONCRETE CURB AND SIDEWALK — DWG. No. SC2

TYPICAL CONCRETE SIDEWALK IN BOULEVARD — DWG. No. SC4

SIDEWALK CONSTRUCTION JOINTS — DWG. No. SC5

PEDESTRIAN CURB RAMP WITHOUT BOULEVARD — DWG. No. SC6

CURB RETURN ENTRANCES - UNCONTROLLED INTERSECTIONS — DWG. No. SC7.1

TWSI DETAIL — DWG. No. SC7.3

PEDESTRIAN CURB RAMP WITH BOULEVARD — DWG. No. SC7

UNIT PAVING - ON GRANULAR BASE — DWG. No. SC9

ASPHALT WALKWAY — DWG. No. SC20

ASPHALT WALKWAY/ SERVICE ACCESS - HEAVY DUTY — DWG. No. SC21

PERMEABLE PAVING — DWG. No. SC27

HDR Architecture Associates Inc.
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Ottawa, Ontario K1Z 6X6

PARSONS

THE OTTAWA HOSPITAL
NEW CAMPUS
DEVELOPMENT -
HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

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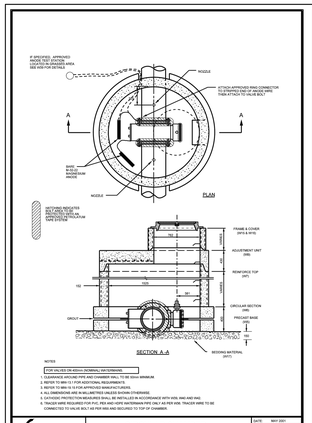
Project Number 10333982
Original Issue 04/21/22

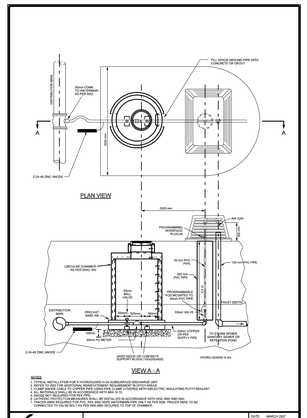
PRELIMINARY
NOT FOR CONSTRUCTION

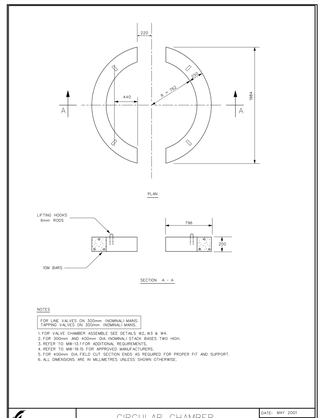
Sheet Name
DETAILS 2

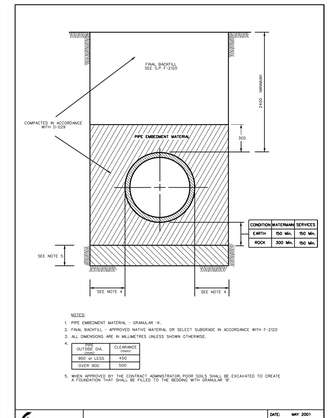
Sheet Number
C017

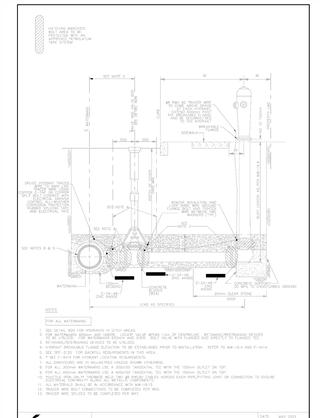
Project Status
STAGE 3











NOTES

FOR VALVES ON 400mm (NOMINAL) WATERMAINS.

1. CLEARANCE AROUND PIPE AND CHAMBER WALL TO BE 50mm MINIMUM.
2. REFER TO MW-13.1 FOR ADDITIONAL REQUIRMENTS.
3. REFER TO MW-19.15 FOR APPROVED MANUFACTURERS.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40 AND W42.
6. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36. TRACER WIRE TO BE CONNECTED TO VALVE BOLT AS PER W55 AND SECURED TO TOP OF CHAMBER.

Ottawa
CIRCULAR CHAMBER BUTTERFLY VALVES
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W2

NOTES:
1. TYPICAL INSTALLATION FOR A HYDROGUARD H-G4 SUBSURFACE DISCHARGE UNIT.
2. REFER TO W20 FOR ADDITIONAL REINSTATEMENT REQUIREMENT IN DITCH AREAS.
3. CLAMP ANODE CABLE TO COPPER PIPE USING PIPE CLAMP COVERED WITH DIELECTRIC INSULATING PUTTY/SEALANT.
4. ALL MATERIALS SHALL BE IN ACCORDANCE WITH MW-19.15.
5. ANODE NOT REQUIRED FOR PEX PIPE.
6. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40 AND W42.
7. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36. TRACER WIRE TO BE CONNECTED TO VALVE BOLT AS PER W55 AND SECURED TO TOP OF CHAMBER.

Ottawa
AUTOMATIC FLUSHING CHAMBER
DATE: MARCH 2007
REV. DATE: MARCH 2021
DWG. No.: W3.2

NOTES

FOR LINE VALVES ON 300mm (NOMINAL) MAINS. TAPPING VALVES ON 300mm (NOMINAL) MAINS.

1. FOR VALVE CHAMBER ASSEMBLE SEE DETAILS W2, W3 & W4.
2. FOR 300mm AND 400mm DIA. (NOMINAL) STACK BASES TWO HIGH.
3. REFER TO MW-13.1 FOR ADDITIONAL REQUIREMENTS.
4. REFER TO MW-19.15 FOR APPROVED MANUFACTURERS.
5. FOR 400mm DIA. FIELD CUT SECTION ENDS AS REQUIRED FOR PROPER FIT AND SUPPORT.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

Ottawa
CIRCULAR CHAMBER BASE SECTIONS
DATE: MAY 2001
REV. DATE: NONE
DWG. No.: W5

CONDITION	WATERMAIN	SERVICES
EARTH	150 Min.	150 Min.
ROCK	300 Min.	150 Min.

NOTES:
1. PIPE EMBEDMENT MATERIAL - GRANULAR 'A'.
2. FINAL BACKFILL - APPROVED NATIVE MATERIAL OR SELECT SUBGRADE IN ACCORDANCE WITH F-2120
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4.

PIPE OUTSIDE DIA. (mm)	CLEARANCE (mm)
900 or LESS	450
OVER 900	500

5. WHEN APPROVED BY THE CONTRACT ADMINISTRATOR, POOR SOILS SHALL BE EXCAVATED TO CREATE A FOUNDATION THAT SHALL BE FILLED TO THE BEDDING WITH GRANULAR 'B'.

Ottawa
STANDARD TRENCH DETAIL
DATE: MAY 2001
REV. DATE: MARCH 2016
DWG. No.: W17

NOTES

FOR ALL WATERMAINS

1. SEE DETAIL W20 FOR HYDRANTS IN DITCH AREAS.
2. FOR WATERMAINS 400mm AND UNDER, LOCATE VALVE WITHIN 1.0m OF CENTRELINE. RETAINING/RESTRAINING DEVICES TO BE UTILIZED. FOR WATERMAINS 600mm AND OVER, BOLT VALVE WITH FLANGED END DIRECTLY TO FLANGED TEE.
3. RETAINING/RESTRAINING DEVICES TO BE UTILIZED.
4. HYDRANT BREAKABLE FLANGE ELEVATION TO BE ESTABLISHED PRIOR TO INSTALLATION. REFER TO MW-19.4 AND F-4414.
5. SEE SPF-2120 FOR BACKFILL REQUIREMENTS IN THIS AREA.
6. * SEE F-4414 FOR HYDRANT LOCATION REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. FOR ALL 300mm WATERMAINS USE A 300x150 TANGENTIAL TEE WITH THE 150mm OUTLET ON TOP.
9. FOR ALL 400mm WATERMAINS USE A 400x150 TANGENTIAL TEE WITH THE 150mm OUTLET ON TOP.
10. *DUCTILE IRON ONLY* THERMITE WELD TWO #8 RWU90 CABLES ACROSS EACH PIPE/FITTING JOINT OR CONNECTION TO ENSURE ELECTRICAL CONTINUITY ALONG ALL METALLIC COMPONENTS.
11. ALL MATERIALS SHALL BE IN ACCORDANCE WITH MW-19.15.
12. TRACER WIRE BOLT CONNECTIONS TO BE COMPLETED PER W55.
13. TRACER WIRE SPLICES TO BE COMPLETED PER W47.

Ottawa
HYDRANT INSTALLATION – NEW CONSTRUCTION
DATE: MAY 2001
REV. DATE: MARCH 2022
DWG. No.: W19

NOTES

FOR 150 - 400mm (NOMINAL DIAMETER) WATERMAINS, WHERE THE DEPTH OF COVER IS LESS THAN 2400mm

1. INCREMENTS OF THICKNESS SHALL BE ADJUSTABLE TO 25mm.
2. IN PROXIMITY OF MAINTENANCE HOLES, CULVERTS, CATCHBASINS, ETC., INSULATION SHALL BE PLACED PER DETAIL W23
3. DEPTH OF COVER LESS THAN 1200mm REQUIRES SPECIAL DESIGN
4. STAGGER JOINTS OF MULTIPLE SHEETS.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

Ottawa
THERMAL INSULATION FOR WATERMAINS IN SHALLOW TRENCHES
DATE: MAY 2001
REV. DATE: MARCH 2013
DWG. No.: W22

INSULATION REFERENCE TABLE

D DISTANCE FROM C.B. OR M.H. WALL	T REQUIRED INSULATION THICKNESS $T = T_1 + T_2$
2400 - 1800 mm.	50 mm
1800 - 1500 mm.	75 mm
1500 - 1200 mm.	100 mm
1200 - 900 mm.	125 mm

NOTES

FOR WATERMAINS & SERVICES IN PROXIMITY TO CATCHBASINS MAINTENANCE HOLES, CULVERTS ETC.

1. INSULATION SHALL EXTEND 1000 mm EACH WAY FROM THE ENDS OF THE STRUCTURE, PARALLELED TO THE WATERMAIN.
2. STAGGER JOINTS OF MULTIPLE SHEETS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. INSULATION CAN BE AT EITHER LOCATION OR BOTH.

Ottawa
THERMAL INSULATION OF WATERMAINS AT OPEN STRUCTURES
DATE: MAY 2001
REV. DATE: FEB 2004
DWG. No.: W23

NOTES:

FOR AUXILIARY, SERVICES AND ISOLATION VALVES.

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. FOR 200 AND 250mm VALVES, ADD BEDDING BELOW THE CONCRETE BLOCKS AS REQUIRED TO RAISE BELL HIGH ENOUGH TO PREVENT CONTACT WITH THE VALVE BONNET.

Ottawa
VALVE BOX ASSEMBLY
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W24

NOTES:

FOR WATERMAIN 100mm (NOMINAL) TO 400mm (NOMINAL)

1. BARREL TO INVERT SEPARATION (D) SHALL BE 500mm MINIMUM.
2. THRUST BLOCKS FOR MAINS LARGER THAN 400mm (NOMINAL) SHALL BE PER SPECIAL DESIGN.
3. FOR 300mm (NOMINAL) AND 400mm (NOMINAL) MAINS, BENDS SHALL BE MAX. 22° 30'.
4. CONCRETE FOR THRUST BLOCKS SHALL BE 20 MPa.
5. REFER TO W25.6 FOR RESTRAINED LENGTH REQUIREMENTS.
6. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. DESIGNED TO MEET THE INTENT OF THE MOE WATERMAIN DESIGN CRITERIA JUNE 2012.
9. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40, AND W42.
10. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36.

Ottawa
WATERMAIN CROSSING BELOW SEWER
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W25

NOTES:
1. FOR 300mm OR GREATER DIAMETER WATERMAIN, BENDS SHALL BE MAXIMUM 22∅.
2. INSULATION PER W22 AT EXISTING WATERMAIN.
3. REFER TO W25.6 FOR RESTRAINED LENGTH REQUIREMENTS.
4. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40, AND W42.
7. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36.

Ottawa
TYPICAL CONNECTION DETAIL FROM NEW TO EXISTING WATERMAIN
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W25.1

NOTES:

FOR WATERMAIN 100mm (NOMINAL) TO 400mm (NOMINAL)

1. BARREL TO BARREL SEPARATION (D) SHALL BE 250mm MINIMUM.
2. THRUST BLOCKS FOR MAINS LARGER THAN 400mm (NOMINAL) SHALL BE PER SPECIAL DESIGN.
3. FOR 300mm (NOMINAL) AND 400mm (NOMINAL) MAINS, BENDS SHALL BE MAX. 22° 30'.
4. CONCRETE FOR THRUST BLOCKS SHALL BE 20 MPa.
5. REFER TO W25.6 FOR RESTRAINED LENGTH REQUIREMENTS.
6. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. DESIGNED TO MEET THE INTENT OF THE MOE WATERMAIN DESIGN CRITERIA JUNE 2012.
9. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40, AND W42.
10. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36.

Ottawa
WATERMAIN CROSSING OVER SEWER
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W25.2

NOTES:
1. CONCRETE SHALL BE PLACED TO WITHIN 50mm OF FACE OF THE BELL.
2. BOND BREAKER TO BE USED BETWEEN CONCRETE AND FITTINGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
4. REFER TO W25.4 FOR ADDITIONAL REQUIREMENTS.
5. THRUST BLOCKS SHALL BE 20 MPa. CONCRETE AND AS SHOWN ON ABOVE DRAWINGS UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR. THE BLOCK SHALL BE CENTERED ON THE THRUST FORCE AND SHALL ALSO PARTIALLY CRADLE THE FITTING TO DISTRIBUTE THE FORCE. THE SIDES OF THE BLOCK SHALL BE 80mm FROM THE JOINT ON EITHER SIDE OF THE BEND OR TEE.
6. THE CONCRETE WHERE POSSIBLE SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE BOTTOM AND SIDE OF THE TRENCH. WHERE IT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND THE UNDISTURBED SOIL MUST BE COMPACTED IN ACCORDANCE WITH D-029.
7. EXCEPT FOR THE ADDITION OF WATER, CONCRETE FOR THRUST BLOCKS SHALL COME PREMIXED FROM CONCRETE SUPPLIER, AS 'READY MIX' FROM A CONCRETE TRUCK. ON-SITE MIXING OF CEMENT, SAND AND AGGREGATE ETC. BY THE CONTRACTOR, FOR THE PURPOSE OF MAKING CONCRETE THRUST BLOCKS/ ANCHORS WILL NOT BE ACCEPTED.

Ottawa
CONCRETE THRUST BLOCKS FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV. DATE: MARCH 2016
DWG. No.: W25.3

1. SOIL DESCRIPTION: VERY FINE SANDS, SANDY CLAYS, CLAYS.
SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	250	250	200	200
152	400	400	250	300
203	550	550	300	450
254	650	650	400	500
305	800	800	450	650
406	1050	1050	600	850

2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVEL MIXTURES, MODERATE AMOUNT OF FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	200	200	150	150
152	250	250	200	200
203	350	350	250	270
254	450	450	300	350
305	500	500	350	400
406	750	750	400	600

3. SOIL DESCRIPTION: SANDS, GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	150	150	150	150
152	200	200	200	200
203	300	300	200	230
254	400	400	250	270
305	450	450	300	300
406	650	650	350	450

NOTES:
1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
   a) MAXIMUM OPERATING PRESSURE OF 100 psi.
   b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s OF 115 psi (115 psi FOR CLASS 52 DI AND FOR PVC MAX. SURGE IS 35 psi)
3. THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED SO LONG AS THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.
4. TO BE USED IN CONJUNCTION WITH W25.3.

Ottawa
THRUST BLOCK DIMENSION TABLES FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV. DATE: MARCH 2011
DWG. No.: W25.4

NOTES:
1. ANY JOINT THAT FALLS WITHIN THE RECOMMENDED LENGTH (L) SHALL BE RESTRAINED. SEE DRAWING W25.6
2. TO REDUCE THE NUMBER OF RESTRAINERS REQUIRED THE USE OF FULL PIPE LENGTHS IS RECOMMENDED IN THESE AREAS.

Ottawa
RESTRAINING AND RETAINING RINGS FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV. DATE: NONE
DWG. No.: W25.5

TABLE OF RESTRAINED LENGTHS FOR DI AND PVC WATERMAIN PIPE IN STANDARD GRANULAR 'A' EMBEDMENT IN SOILS OF BEARING CAPACITY OF 100 KPa AND OVER

REDUCERS — LARGER DIAMETER SIDE (TO BE RESTRAINED)

SMALLER DIAMETER (UNRESTRAINED)	100mm	150mm	200mm	250mm	300mm	400mm
100mm	N/A	3	6	8	10	14
150mm	N/A	N/A	4	6	9	13
200mm	N/A	N/A	N/A	3	6	11
250mm	N/A	N/A	N/A	N/A	4	9
300mm	N/A	N/A	N/A	N/A	N/A	7
400mm	N/A	N/A	N/A	N/A	N/A	N/A

PIPE DIAMETER

	100mm	150mm	200mm	250mm	300mm	400mm
DEAD ENDS, CAPS, PLUGS, VALVES						
BEFORE CAPS AND EITHER SIDE OF VALVES - L	5	6	9	10	12	16
VERTICAL BENDS						
LENGTH HIGH SIDE - LHS	3	4	5	6	7	9
LENGTH LOW SIDE - LLS	1.5	2	2.5	3	3.5	4.5
TEES						
LENGTH ALONG THE BRANCH - L	1	1	1	1	1	1
LENGTH ALONG THE RUN - Lr	3	3	3	3	3	3
HORIZONTAL BENDS						
11.25, 22.5, AND 45 DEGREE BENDS	1	1.5	1.5	2	2	2.5

NOTES:
1. THE ABOVE RESTRAINED LENGTHS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
   a) MAXIMUM OPERATING PRESSURE OF 100 psi.
   b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s OF 115 psi (115 psi FOR CLASS 52 DI AND FOR PVC MAX. SURGE IS 35 psi)
3. FOR SOFTWARE CALCULATIONS A TEST PRESSURE OF 150 psi AND A SAFETY FACTOR OF 1.5 WAS USED WHICH RESULTS IN 225 psi MAXIMUM PRESSURE.
4. TYPE 5 TRENCH BEDDING.
5. DEPTH TO BURY 2.4 METRES EXCEPT FOR VERTICAL BENDS WHERE THE HIGH SIDE IS AT 1.8 METRES.
6. EMBEDMENT MATERIAL GRANULAR 'A' WITH CHARACTERISTICS OF ASTM D2487 GP.
7. GP SOILS ARE DESCRIBED AS POORLY GRADED GRAVEL AND SAND-GRAVEL MIXES WITH LITTLE OR NO FINES.
8. (Lr) MUST BE OF SOLID PIPE WITHOUT JOINTS, FITTINGS, ETC.
9. THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
10. RESTRAINED LENGTHS ARE IN METRES.

Ottawa
TABLES OF RESTRAINED LENGTHS FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV. DATE: MARCH 2011
DWG. No.: W25.6

NOTES:
1. ALL CONNECTIONS MUST BE WATERPROOFED.
2. SPLICING OF MAIN TRACER WIRE IS NOT ALLOWED UNLESS SPECIFIED OR APPROVED.
3. TRACER WIRE CONTINUITY OF CURRENT MUST BE TESTED AND VERIFIED.
4. FOR PVC TO DUCTILE IRON CONNECTIONS, THE TRACER MUST BE ATTACHED TO THE DUCTILE IRON PIPE BY CADWELD.
5. ALL MATERIALS SHALL BE IN ACCORDANCE WITH MW-19.15.
6. TRACER WIRE BOLT CONNECTIONS TO BE COMPLETED PER W55.
7. TRACER WIRE SPLICES TO BE COMPLETED PER W47.
8. CATHODIC PROTECTION ANODES TO BE INSTALLED PER W40 AND W42.

Ottawa
TRACER WIRE INSTALLATION
DATE: MARCH 2001
REV. DATE: MARCH 2021
DWG. No.: W36

NOTES:
1. ANODE CONNECTING WIRE TO BE LOOPED AROUND PIPES / FITTINGS AND KNOTTED.
2. PROTECTIVE COATING TO BE APPLIED TO ALL CADWELDS.
3. ANODE TYPE & SPACING AS PER W42.
4. CONNECT ANODE TO COPPER SERVICES USING A GROUND CLAMP AND FOR PEX SERVICES CONNECT ANODE TO TRACER WIRE TERMINALS ON BOTH MAIN AND CURB STOPS.
5. PROTECT AUXILIARY VALVES, ISOLATION VALVES, SADDLES AND MAIN STOPS/FITTINGS/VALVES/HYDRANT BOLTS AND FLANGE WITH A PETROLATUM WAX TAPE COATING SYSTEM.
   FOR PEX SERVICES ALSO WAX TAPE CURB STOP UP TO THE BASE OF THE TEE HEAD.
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. TRACER WIRE BOLT CONNECTIONS TO BE COMPLETED PER W55.
8. TRACER WIRE SPLICES TO BE COMPLETED PER W47.

Ottawa
CATHODIC PROTECTION FOR PVC WATERMAIN SYSTEMS
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W40

SIZE (mm)	ANODE TYPE	WEIGHT (Kg)
19 TO 50 COPPER SERVICE	Z-12-24	5.4
38 TO 50 PEX SERVICE	Z-12-24	5.4
100 TO 300 DI SERVICE	Z-24-48	10.9
100 TO 300 DI FITTINGS	Z-24-48	5.4
100 TO 250 VALVES	Z-24-48	5.4
HYDRANT ASSEMBLY	Z-24-48	10.9
400 DI SERVICE/FITTINGS/VALVES	Z-24-48	10.9

A - DENOTES ANODE LOCATION

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. ANODE FOR JOINT RESTRAINTS FOR PVC FITTINGS 300mm DIAMETER AND SMALLER.
3. INSTALL TRACER WIRE AS PER W40.

Ottawa
TYPICAL ANODE INSTALLATION PVC WATERMAIN
DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W42

H ≥ 1000 : HI-40 (276 KPa)
H < 1000 : HI-60 (414 KPa)

H= DEPTH OF COVER
W= INSULATION WIDTH
D= PIPE DIAMETER

INSULATION MINIMUM WIDTH (W)

H \ D	≤150	200	250	300	400	500	600	INSULATION THICKNESS
750	2250	2300	2350	2400	2500	2600	2700	100
1000	1750	1800	1850	1900	2000	2100	2200	90
1250	1250	1300	1350	1400	1500	1600	1700	80
1500	750	800	850	900	1000	1100	1200	70
1750	600	600	600	600	600	600	700	60

ALL DIMENSIONS IN MILLIMETERS

THERMAL INSULATION FOR SEWER IN SHALLOW TRENCHES
PARSONS
D2

HDR

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PARSONS

THE OTTAWA HOSPITAL NEW CAMPUS DEVELOPMENT - HOSPITAL & CUP

NEW CAMPUS DEVELOPMENT FOR THE OTTAWA HOSPITAL | NOUVEAU CAMPUS DE L'HÔPITAL D'OTTAWA

DRAFT

Project Manager	MR
Project Designer	JEG
Project Architect	JEG
Landscape Architect	Jeff Fahs
Civil Engineer	Civil Engineer
Structural Engineer	EXP
Mechanical Engineer	Smith + Andersen
Electrical Engineer	Smith + Andersen
Plumbing Engineer	Smith + Andersen
Interior Designer	Interior Designer
Equipment Planner	Colliers
Wayfinding	
Sheet Reviewer	PARSONS

MARK	DATE	DESCRIPTION
01	2022-09-23	ISSUED FOR PRE-CONSULTATION
02	2022-10-28	DRAFT FOR 90% SD
03	2022-11-30	ISSUED FOR SPC & FLUDA - 1ST SUBMISSION

Project Number 10333982
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PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name
DETAILS 3

Sheet Number
C018

Project Status
STAGE 3

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