

FORT HENRY ADVANCED BATTERY

PARADE SQUARE REPAVING, DRAINAGE UPGRADES AND UNDERGROUND UTILITIES REPLACEMENT

KEY PLAN

N.T.S.



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- C1.2 REMOVALS
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- C1.4 GRADING PLAN
- C1.5 STANDARD DETAILS I
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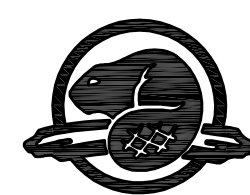
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- E2.2 TRENCHING DETAILS

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M: 2011\111-21759-00 - Fort Henry Advanced Battery\MUN\111_21759_00_CO.dwg - 01.08.13 9:12am



Canada

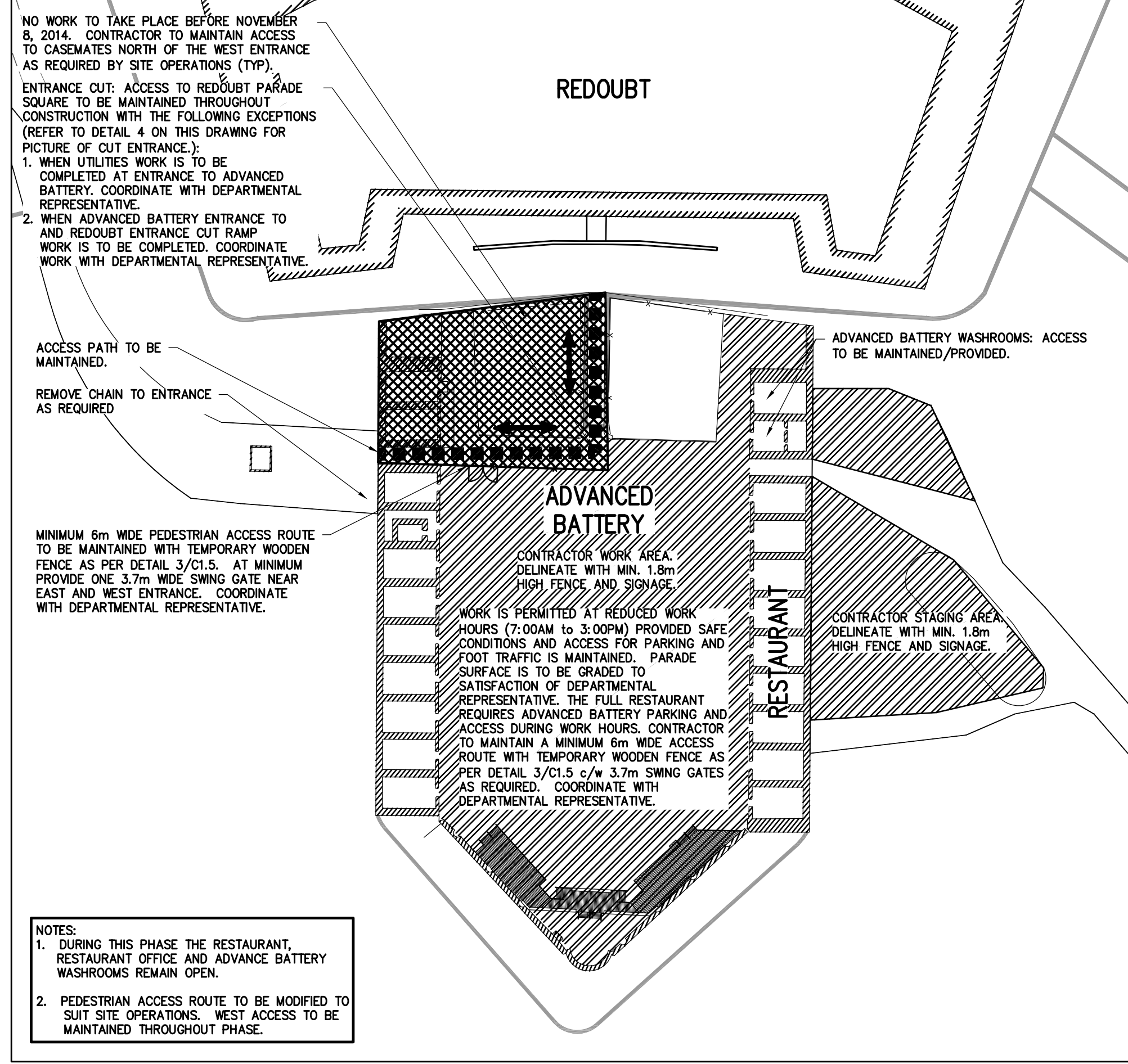


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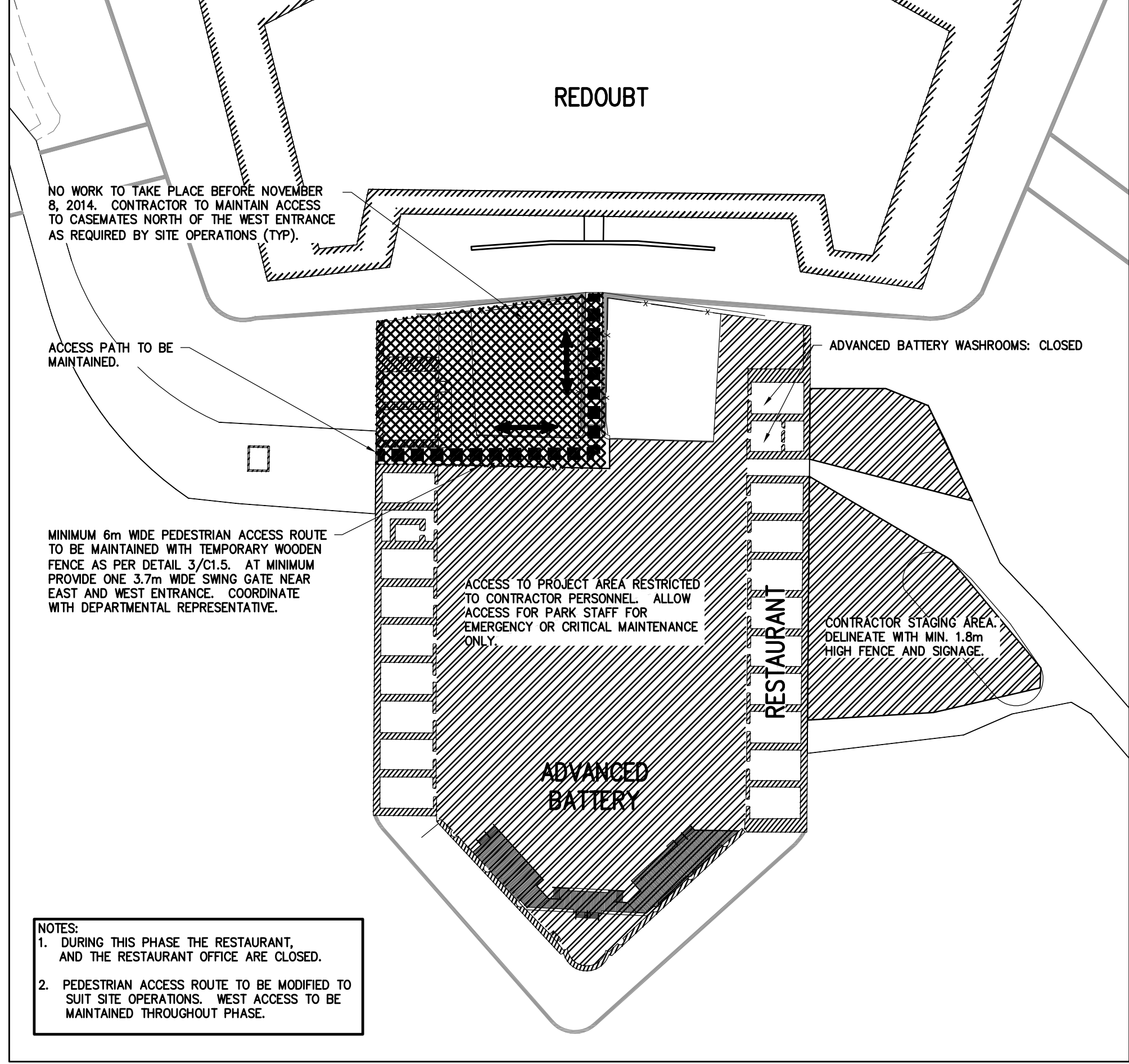
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DATE: JULY 22, 2014

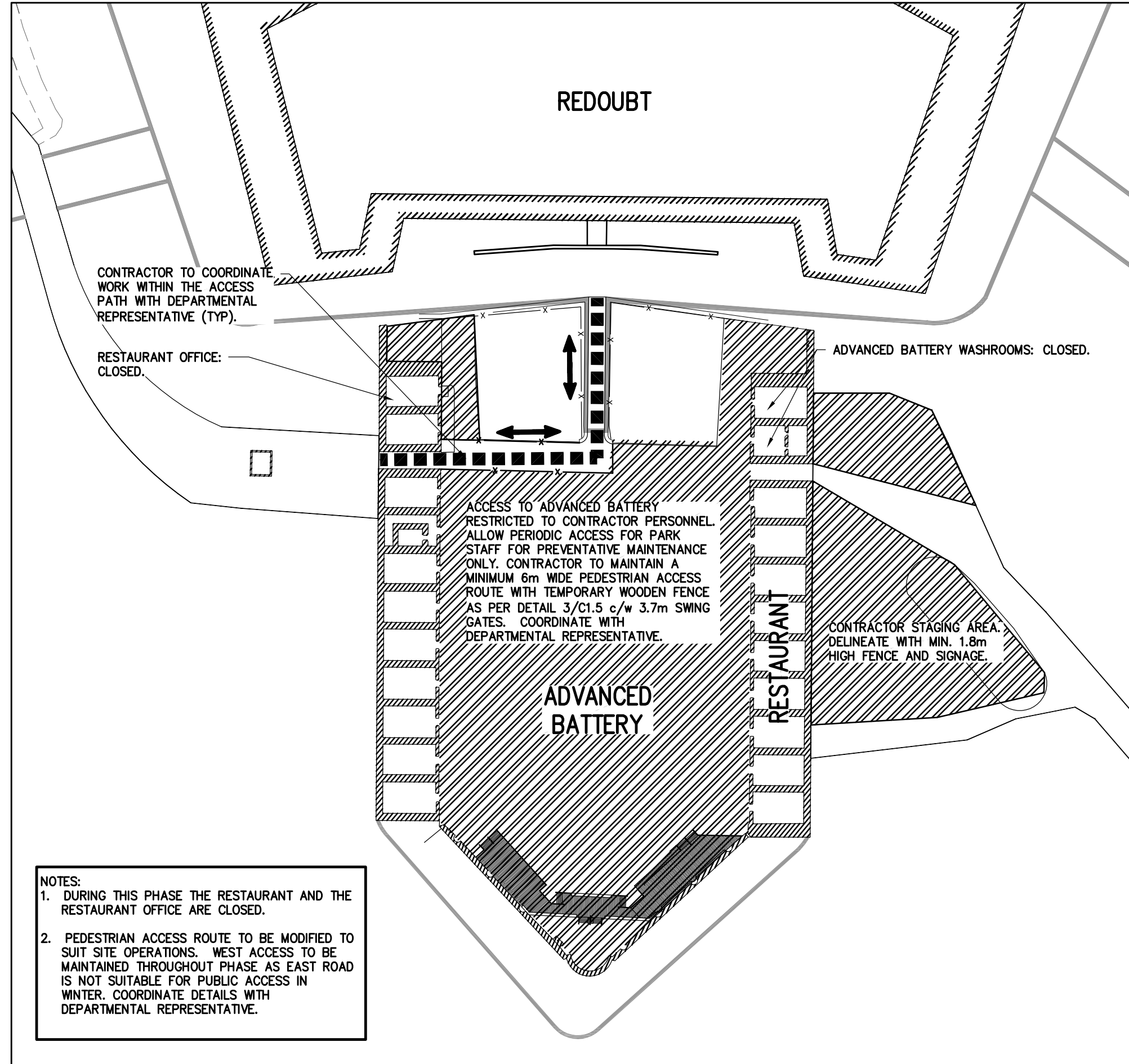
JOB NO: 111-21759-00 FORT HENRY ADVANCED BATTERY



EQUIPMENT RESTRICTIONS AND PEDESTRIAN ACCESS FROM START TO OCTOBER 13, 2014
(TYPICAL ACCESS ROUTE)
SCALE: 1:750



EQUIPMENT RESTRICTIONS AND PEDESTRIAN ACCESS FROM OCTOBER 14, 2014 TO NOVEMBER 8, 2014
SCALE: 1:750



EQUIPMENT RESTRICTIONS AND PEDESTRIAN ACCESS FROM NOVEMBER 8, 2014 TO MAY 8, 2015
(TYPICAL ACCESS ROUTE)
SCALE: 1:750

STAGING NOTES:

1. WORK AND/OR MOBILIZING TO SITE IS NOT TO COMMENCE UNTIL AFTER SEPTEMBER 8, 2014.
2. ACCESS TO THE CONSTRUCTION SITE IS RESTRICTED DUE TO SPACE AND HEIGHT CONSTRAINTS. CONTRACTOR IS RESPONSIBLE TO CONFIRM ALL DIMENSIONS AND CLEARANCES ALONG ACCESS ROUTE PRIOR TO MOBILIZATION TO SITE.
3. THE DEPARTMENT REPRESENTATIVE TAKES NO RESPONSIBILITY FOR THE CONDITION OF EXISTING ACCESS ROADS OR BRIDGES.
4. ACCESS ROADS ARE NOT FOR THE CONTRACTORS SOLE USE. THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS BY OTHERS. ROADS ARE NOT TO BE OBSTRUCTED AT ANY TIME. CONTRACTOR TO MAKE GOOD ON ALL DAMAGES TO ROADWAY AND/OR BRIDGES AND ENTRANCES.
5. EAST GATE - CONTRACTOR TO BE PROVIDED WITH KEY. ROAD IS CLOSED TO PUBLIC DURING CONSTRUCTION AND GATE MUST REMAIN CLOSED AND LOCKED AT ALL TIMES. RETURN KEY TO OWNER AT PROJECT COMPLETION.
6. NO POWER OR OTHER SERVICES ARE AVAILABLE IN STAGING AREAS.
7. SEDIMENT AND EROSION CONTROL TO BE MAINTAINED THROUGHOUT DURATION OF CONTRACT AS SPECIFIED IN CONTRACT DOCUMENTS.
8. FOR ALL OPEN TRENCHES THAT CROSS PEDESTRIAN WALKWAYS, A BOARDWALK AND RAMP MUST BE INSTALLED AND BE WHEEL CHAIR ACCESSIBLE.
9. CONTRACTOR RESPONSIBLE FOR PLOWING, SALTING, AND SANDING. ROAD CONTAINS STEEP GRADES AND SHARP BENDS. LIMIT SPEED WHEN USING ROAD. USE WEST ACCESS ROAD WHEN FORT HENRY DRIVE IS UNFIT FOR TRAVEL DUE TO INCLEMENT WEATHER.
10. REGULAR WORKING HOURS SHALL BE BETWEEN 8:00AM TO 5:00PM MONDAY - FRIDAY. ALL WORK OUTSIDE OF REGULAR HOURS TO BE APPROVED BY DEPARTMENT REPRESENTATIVE.
11. STAGING ZONE'S ARE FOR TEMPORARY STORAGE AND TRANSPORTATION PURPOSES ONLY. CONTRACTOR MAY PARK IN STAGING ZONE OR IN THE ADVANCED BATTERY. PARKING IN THE ADVANCE BATTERY IS TO BE LIMITED TO PASSENGER VEHICLES ONLY AND IS TO BE AVOIDED WHENEVER POSSIBLE.
12. CONTRACTOR MUST PROVIDE OWN SANITARY FACILITIES. SITE WASHROOMS ARE NOT TO BE USED UNLESS APPROVED BY DEPARTMENT REPRESENTATIVE.
13. FORT IS OPEN TO THE PUBLIC DURING CONSTRUCTION. A MINIMUM 3m WIDE ACCESS ROUTE IS TO BE MAINTAINED DURING ALL PERIODS OF CONSTRUCTION. (SHORT PERIODS OF DELAY ARE ACCEPTABLE. ROUTE FOR ACCESS TO BE DETERMINED BY OPERATIONS. COORDINATE WITH DEPARTMENT REPRESENTATIVE AND OWNER TO PROVIDE SAFE PASSAGE OF PEDESTRIANS THROUGH VEHICLE ACCESS ROUTES. EXERCISE CAUTION AT ALL TIMES WHEN MOVING VEHICLES WITHIN THE FORT.
14. THE EAST ENTRANCE IS AN EMERGENCY SERVICES ACCESS POINT. THE CONTRACTOR SHALL MAINTAIN SAFE ACCESS OF AT MINIMUM TRAFFIC PLATING ACROSS ANY OPEN TRENCHES AND MAINTAIN AN UNOBSTRUCTED ROUTE TO THE INTERIOR OF THE FORT AT ALL TIME DURING WORK. THE WEST ACCESS ROAD IS NOT SUITABLE AS AN ALTERNATE EMERGENCY (FIRE) LANE.



PICTURE OF EAST ENTRANCE
N.T.S.




PICTURE OF WEST ENTRANCE
N.T.S.



PICTURE OF ENTRANCE CUT
N.T.S.




PICTURE OF ADVANCED BATTERY LOOKING SOUTH
N.T.S.




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M. S. MORKEM
100122955
2013-2017
PROVINCE OF ONTARIO

CLIENT:



Parcs Canada



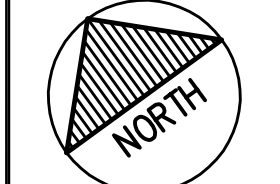
Parks Canada

Canadä

CLIENT REF. #: 20026720 (RMP11-01)
PROJECT:

FORT HENRY ADVANCED BATTERY, PARADE SQUARE REPAVING, DRAINAGE UPGRADES AND UNDERGROUND UTILITIES REPLACEMENT

KEY PLAN:



NORTH

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REUSED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK. THIS DRAWING IS NOT TO BE SCALED.

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	01	07/22/2014	ISSUED FOR TENDER

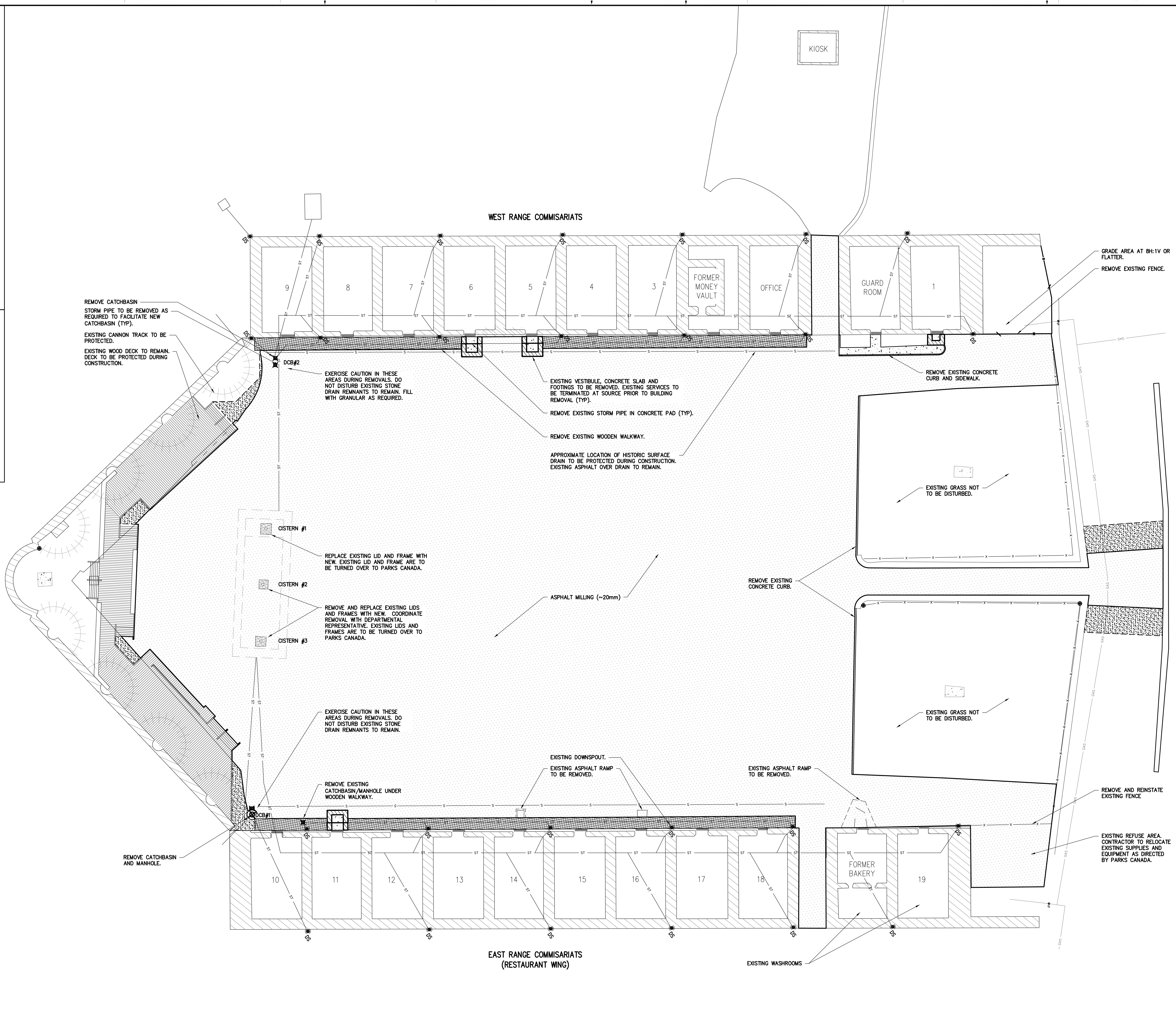
PROJECT NO: 111-21759-00	DATE: JULY 2014
ORIGINAL SCALE: AS SHOWN	IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: K. CLAVET	
DRAWN BY: K. CLAVET/S. TRUSSCOTT-RUMSEY	
CHECKED BY: M. MORKEM	
DISCIPLINE: CIVIL	
TITLE: WORK AREAS AND SCHEDULE PHASING	
SHEET NUMBER: C1.1	REV # 1
ISSUE: ISSUED FOR TENDER	DATE OF: 07/22/2014

LEGEND:

- EDGE OF PAVEMENT REMOVAL
- CURB REMOVAL
- SIDEWALK REMOVAL
- EXISTING RETAINING WALL
- EXISTING FENCE
- EXISTING TOP OF SLOPE
- ST — EXISTING STORM SEWER
- ST — STORM SEWER REMOVAL
- S — EXISTING SURFACE DRAIN
- EXISTING STORM WATER CISTERN
- GAS — EXISTING GAS
- WOODEN WALKWAY REMOVAL
- GRANULAR REMOVAL
- EXISTING STORM MANHOLE
- ⊗ STORM MANHOLE REMOVAL
- ⊗ STORM CATCHBASIN REMOVAL
- ⊗ EXISTING GAS VALVE
- EXISTING DOOR LOCATION
- EXISTING GRADE ELEVATION
- EXISTING BUILDING
- BUILDING REMOVAL
- ASPHALT MILLING (20mm)
- CONCRETE PAD/SIDEWALK REMOVAL
- EXISTING WOODEN WALKWAY/DECK
- WOODEN WALKWAY REMOVAL
- GRANULAR REMOVAL
- CISTERN STONE SURROUND REMOVAL

GENERAL NOTES:

1. EXISTING BUILDING AND UTILITIES TO BE PROTECTED UNLESS NOTED OTHERWISE. LIMESTONE WALL TO BE PROTECTED AT ALL TIMES.
2. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
3. TOPOGRAPHIC INFORMATION PROVIDED BY LESLIE M. HIGGINSON SURVEYING LTD.
4. CIVIL CONTRACTOR TO PROVIDE ALL EXCAVATION AND BACKFILLING FOR OTHER DIVISIONS AS REQUIRED.
5. CONTRACTOR TO SUPPLY EROSION AND SEDIMENT CONTROL PLAN AS REQUIRED BY THE MUNICIPALITY AND CONSERVATION AUTHORITY.
6. CONTRACTOR TO COORDINATE ANY AND ALL EXCAVATION WORK WITH ARCHAEOLOGIST WORKING ON BEHALF OF PARKS CANADA. REFER TO SECTION 01 10 00 FOR ARCHEOLOGICAL RESTRAINTS.



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CONSULTANT:
 SEAL:

 CLIENT:

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IS	RE	DATE	DESCRIPTION
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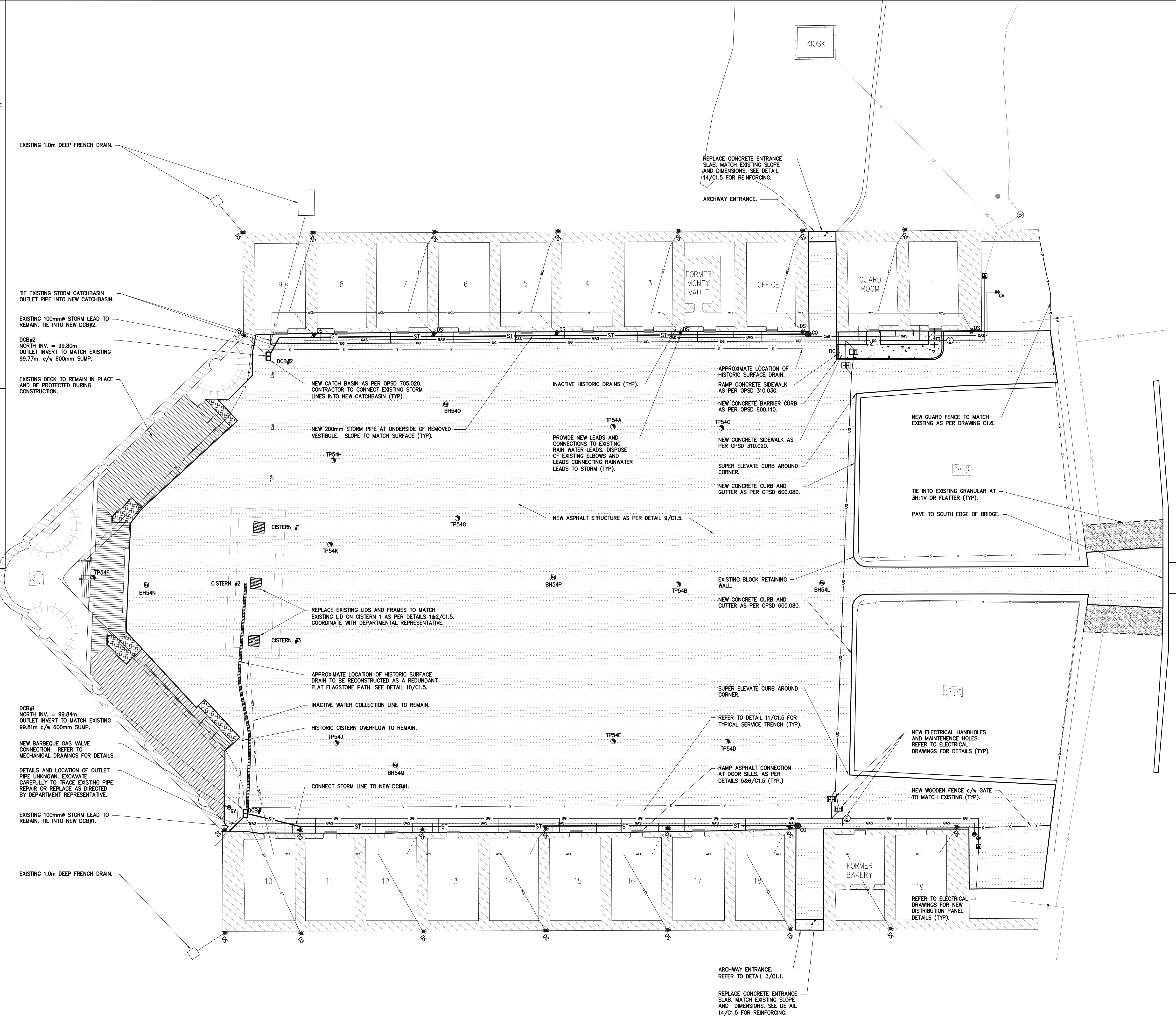
PROJECT NO.: 111-21759-00 DATE: JULY 2014
 ORIGINAL SCALE: 1:200
 DESIGNED BY: K. CLAVET
 DRAWN BY: S. TRUSCOTT-RUMSEY
 CHECKED BY: M. MORKEM
 DISCIPLINE: CIVIL
 TITLE: REMOVALS
 SHEET NUMBER: C1.2
 SHEET #: 2 OF 4
 ISSUE: ISSUED FOR TENDER
 DATE OF: 07/22/2014
 REV # 1

LEGEND:

- NEW EDGE OF PAVEMENT
- NEW CURB
- NEW SIDEWALK
- EXISTING RETAINING WALL
- EXISTING FENCE
- EXISTING TOP OF SLOPE
- ST — EXISTING STORM SEWER
- ST — NEW STORM SEWER
- WCL — EXISTING ACTIVE WATER COLLECTION LINE
- WCL — EXISTING INACTIVE WATER COLLECTION LINE
- OF — EXISTING CISTERN OVERFLOW LINE
- GAS — EXISTING HISTORIC CISTERN
- GAS — EXISTING GAS
- GAS — NEW GAS
- UG — EXISTING UNDERGROUND WIRES
- UG — NEW UNDERGROUND WIRES
- S — EXISTING HISTORIC SURFACE DRAIN
- — EXISTING STORM MANHOLE
- — EXISTING STORM CATCHBASIN
- — NEW STORM DOUBLE CATCHBASIN
- — DS — EXISTING DOWNSPOUT
- — GV — EXISTING GAS VALVE
- — GV — NEW GAS VALVE
- — EH — NEW ELECTRICAL HANDHOLE
- — EM — NEW ELECTRICAL MANHOLE
- — EDP — NEW ELECTRICAL DISTRIBUTION PANEL
- — BH# — EXISTING BOREHOLE LOCATION
- — TP# — 2011 ARCHAEOLOGICAL EXCAVATION
- — EXISTING DOOR LOCATION

GENERAL NOTES:

- EXISTING BUILDING, DECK AND UTILITIES TO BE PROTECTED UNLESS NOTED OTHERWISE. LIMESTONE WALL TO BE PROTECTED AT ALL TIMES.
- CONTRACTOR TO CONFIRM SITE SERVICING WITH MECHANICAL AND ELECTRICAL DIVISIONS.
- CONTRACTOR TO VERIFY LOCATION OF ALL BURIED SERVICES PRIOR TO START OF CONSTRUCTION.
- TOPOGRAPHIC INFORMATION PROVIDED BY LESLIE M. HIGGINS SURVEYING LTD.
- CIVIL CONTRACTOR TO PROVIDE ALL EXCAVATION AND BACKFILLING FOR OTHER DIVISIONS AS REQUIRED.
- ALL DISTURBED AREA TO BE REINSTATED WITH TOPSOIL AND SOD UNLESS OTHERWISE NOTED.
- CONTRACTOR TO COORDINATE ANY AND ALL EXCAVATION WORK WITH ARCHAEOLOGIST WORKING ON BEHALF OF PARKS CANADA. REFER TO SECTION 01 10 00 FOR ARCHAEOLOGICAL RESTRAINTS.



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SEAL:

CLIENT:
 Parks Canada

Canada

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PROJECT NO.: 111-21759-00
 ORIGINAL SCALE: 1:200
 DESIGNED BY: K. CLAVET
 DRAWN BY: S. TRUSCOTT-RUMSEY
 CHECKED BY: M. MORKEM
 DISCIPLINE: CIVIL

TITLE:
SITE SERVICING

SHEET NUMBER:
C1.3

SHEET #:
 3 OF 5

ISSUE:
ISSUED FOR TENDER
 DATE OF: 07/22/2014

REV #:
 1

LEGEND:

- NEW EDGE OF PAVEMENT
- NEW CURB
- NEW SIDEWALK
- EXISTING RETAINING WALL
- EXISTING FENCE
- EXISTING TOP OF SLOPE
- EXISTING HISTORIC CISTERN
- NEW WOODEN WALKWAY/DECK
- NEW GRADING HIGHPOINT
- NEW BREAK POINT
- EXISTING HISTORIC SURFACE DRAIN
- EXISTING STORM MANHOLE
- EXISTING STORM CATCHBASIN
- DS NEW STORM DOUBLE CATCHBASIN
- DS EXISTING DOWNSPOUT
- GV EXISTING GAS VALVE
- EXISTING BOREHOLE LOCATION
- 2011 ARCHAEOLOGICAL EXCAVATION
- EXISTING DOOR LOCATION
- × 101.19 NEW GRADE
- × 101.19 EXISTING GRADE
- × 102.87 EXISTING GROUND ELEVATION
- EXISTING GROUND ELEVATION
- EXISTING BUILDING
- NEW ASPHALT
- NEW CONCRETE PAD/SIDEWALK
- EXISTING WOODEN WALKWAY/DECK
- NEW GRANULAR
- EXISTING MANHOLE STONE SURROUND
- NEW INTERLOCKING BRICK

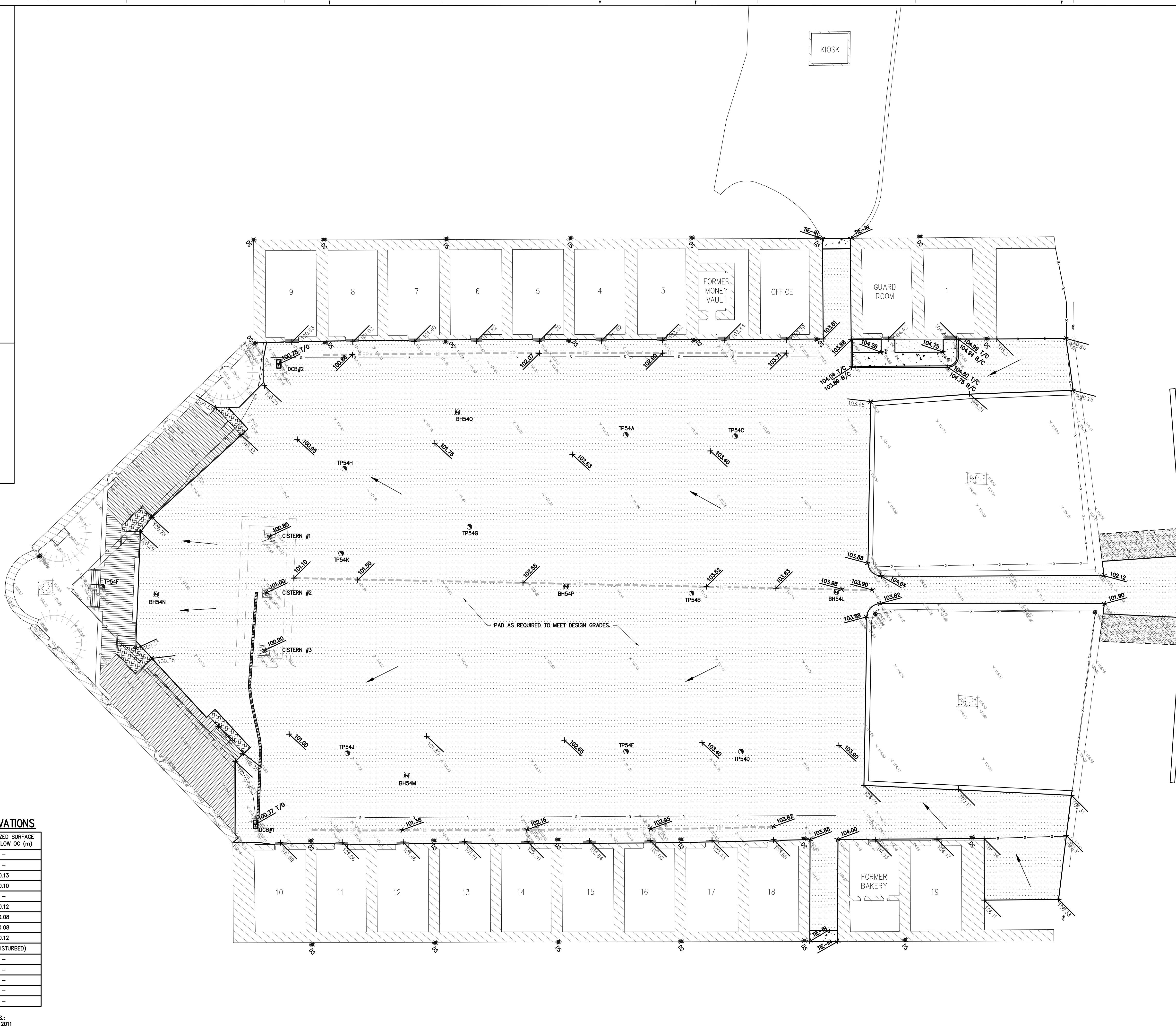
GENERAL NOTES:

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6. ALL DISTURBED AREA TO BE REINSTATED WITH TOPSOIL AND SOD UNLESS OTHERWISE NOTED.

BEDROCK/MACADAMIZED SURFACE ELEVATIONS

BH/TP #	OG ELEVATION (m)	BEDROCK DEPTH BELOW OG (m)	MACADAMIZED SURFACE DEPTH BELOW OG (m)
TP54A	102.766	>0.41	—
TP54B	103.320	0.60	—
TP54C	103.420	>1.10	0.13
TP54D	103.504	>0.20	0.10
TP54E	102.893	>0.40	—
TP54F	100.347	—	0.12
TP54G	101.959	—	0.08
TP54H	101.120	—	0.08
TP54J	101.189	—	0.12
TP54K	101.210	0.42 (GRANITE)	0.16 (DISTURBED)
BH54L	103.863	0.90	—
BH54M	101.499	0.75	—
BH54N	100.411	0.30	—
BH54P	102.603	1.90	—
BH54Q	101.685	0.38	—

NOTE:
 1. INFORMATION BASED ON PARKS CANADA RE: FORT HENRY N.H.S.: ARCHAEOLOGICAL INVESTIGATIONS OF THE ADVANCED BATTERY, 2011 DATED MARCH 2012.



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 PROJECT:
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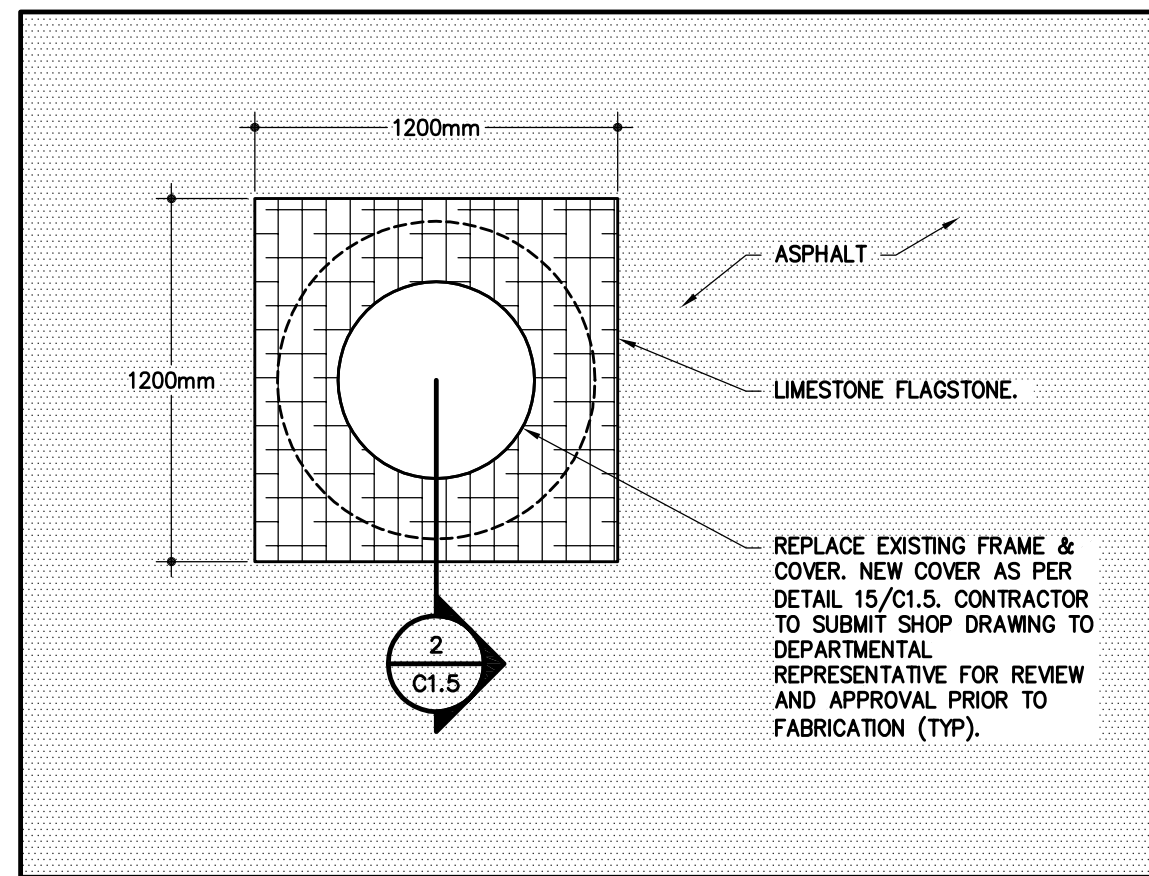
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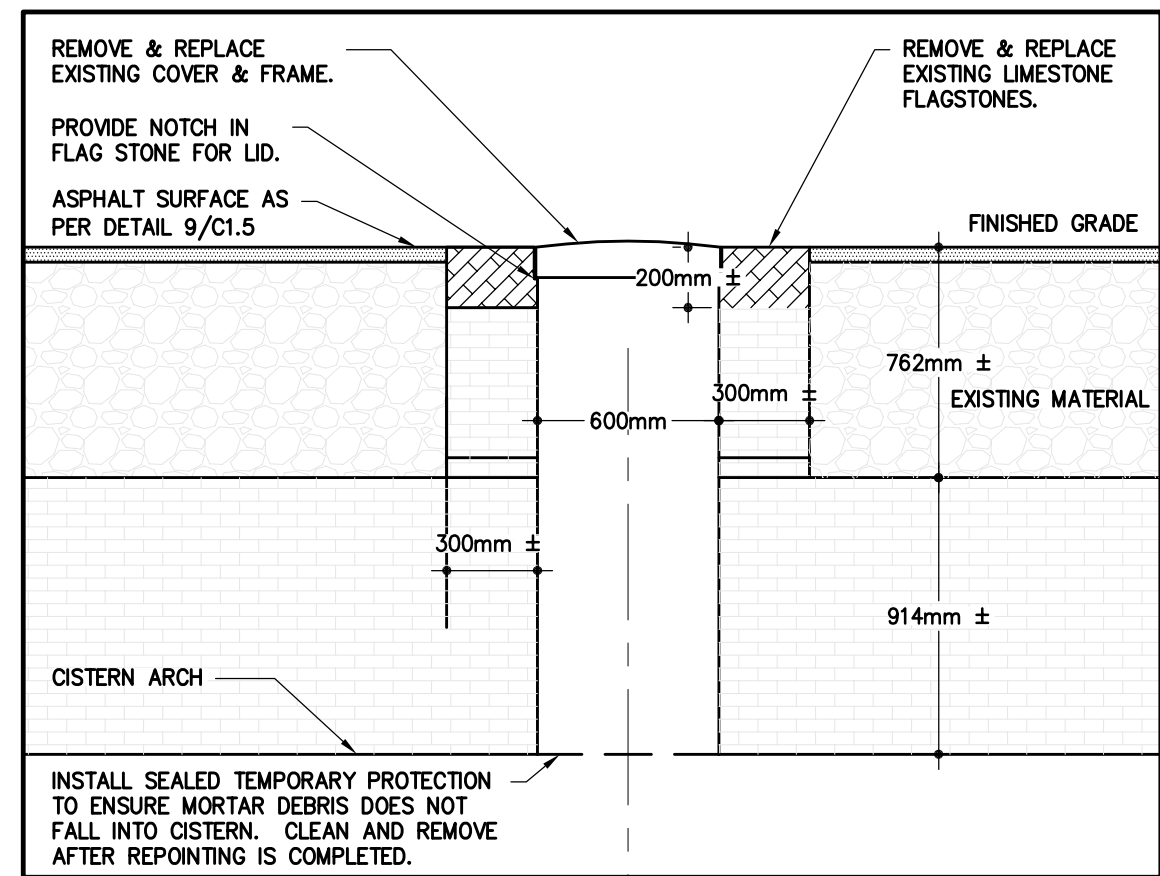
PROJECT NO.:	DATE:
111-21759-00	JULY 2014

ORIGINAL SCALE: 1:200
 DESIGNED BY: K. CLAVET
 DRAWN BY: S. TRUSCOTT-RUMSEY
 CHECKED BY: M. MORHEM

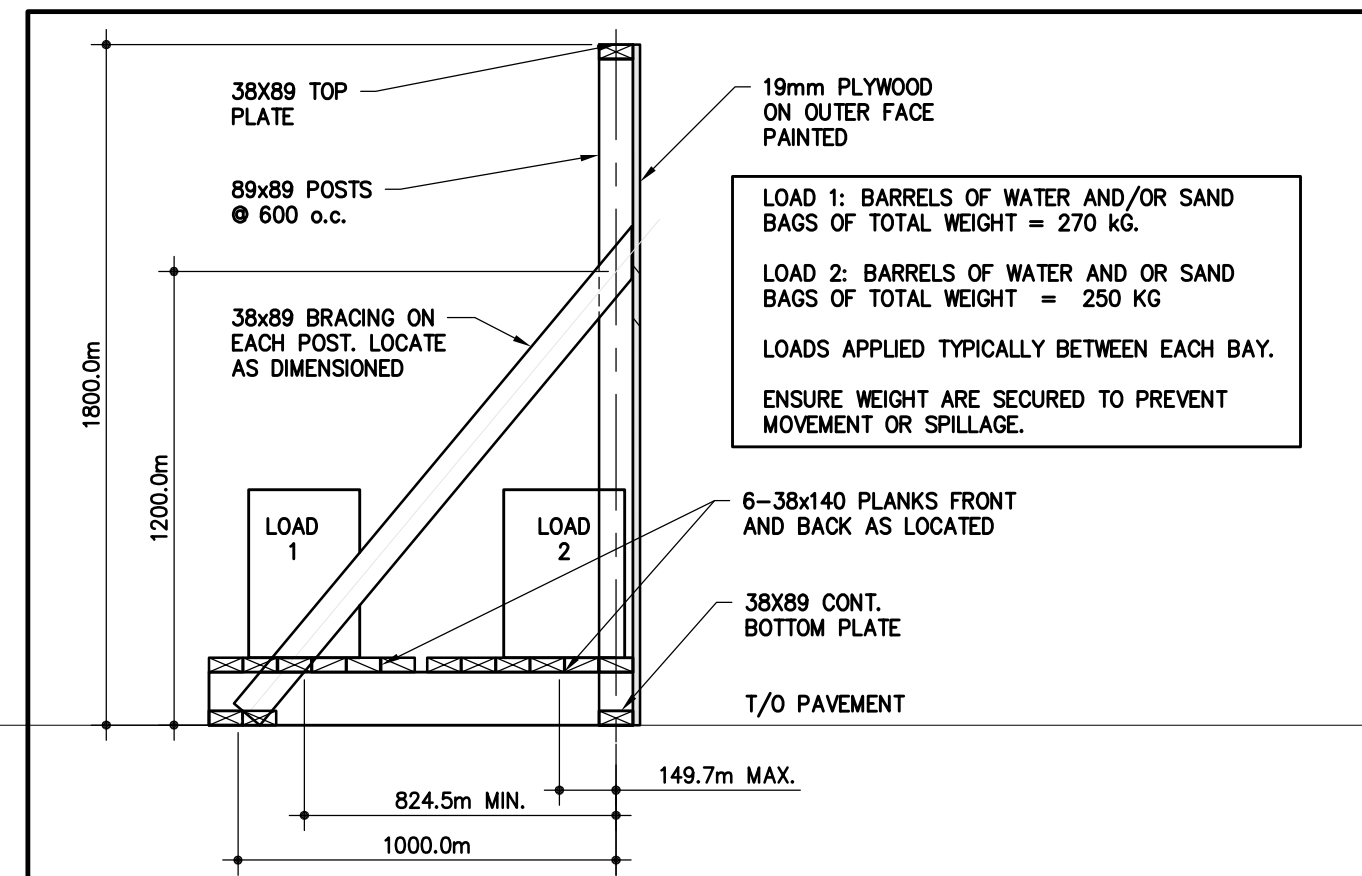
DISCIPLINE: CIVIL
 TITLE: GRADING PLAN
 SHEET NUMBER: C1.4
 SHEET #: 4 OF 5
 ISSUE: ISSUED FOR TENDER
 DATE OF: 07/22/2014
 REV # 1



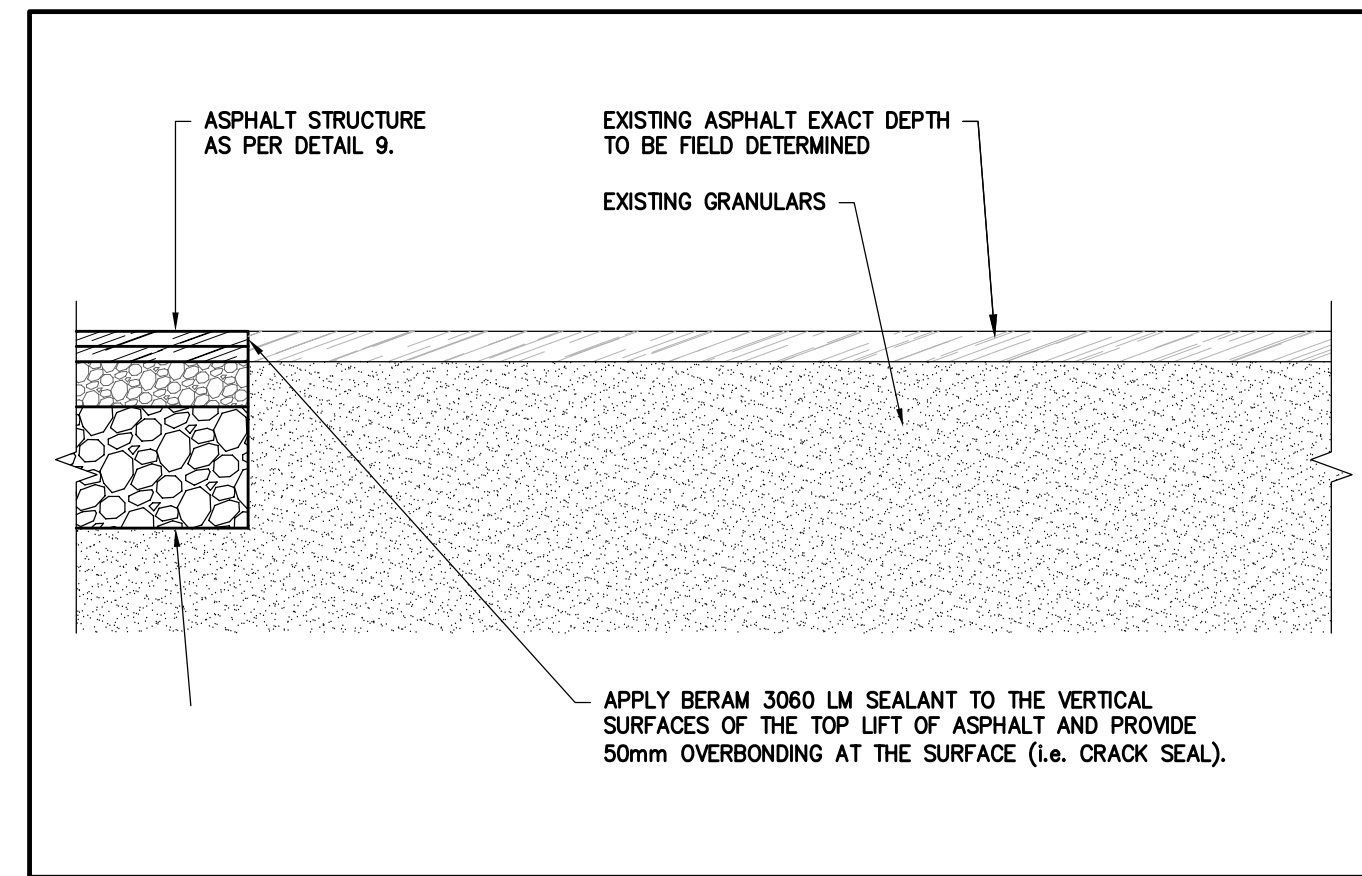
TYPICAL CISTERN ACCESS DETAIL
SCALE: 1:25



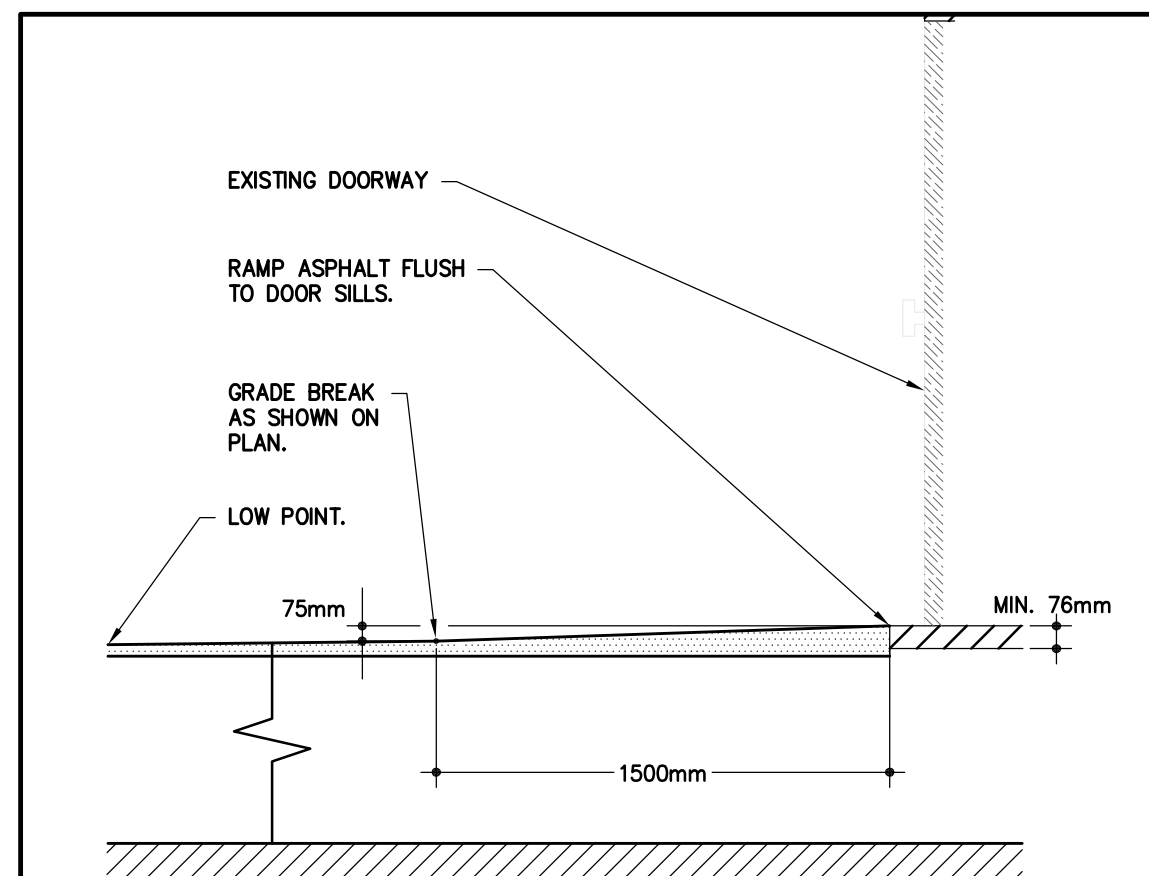
TYPICAL CISTERN ACCESS CROSS-SECTION DETAIL
SCALE: 1:25



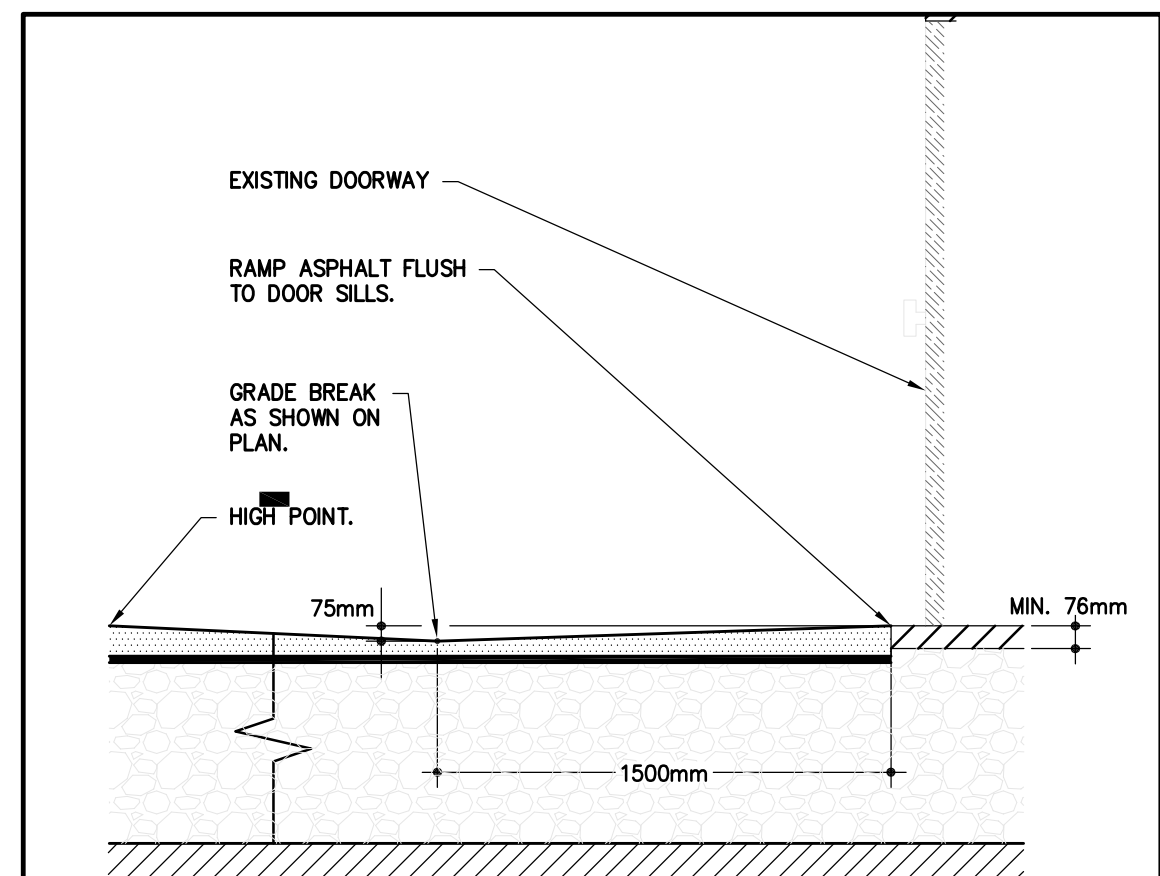
TYPICAL TEMPORARY WOODEN FENCE DETAIL
SCALE: 1:25



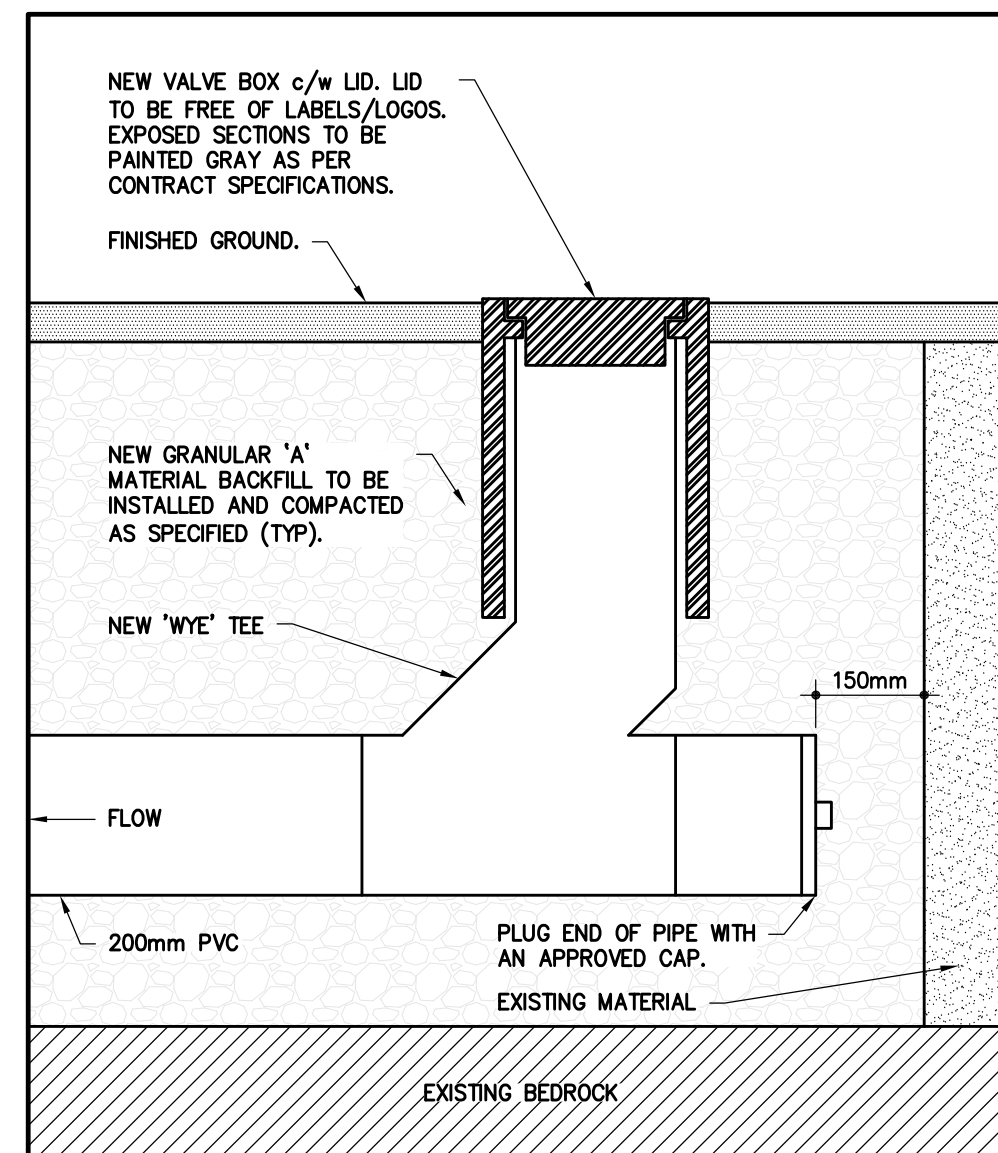
TYPICAL CONNECTION DETAIL TO EXISTING ASPHALT
SCALE: N.T.S.



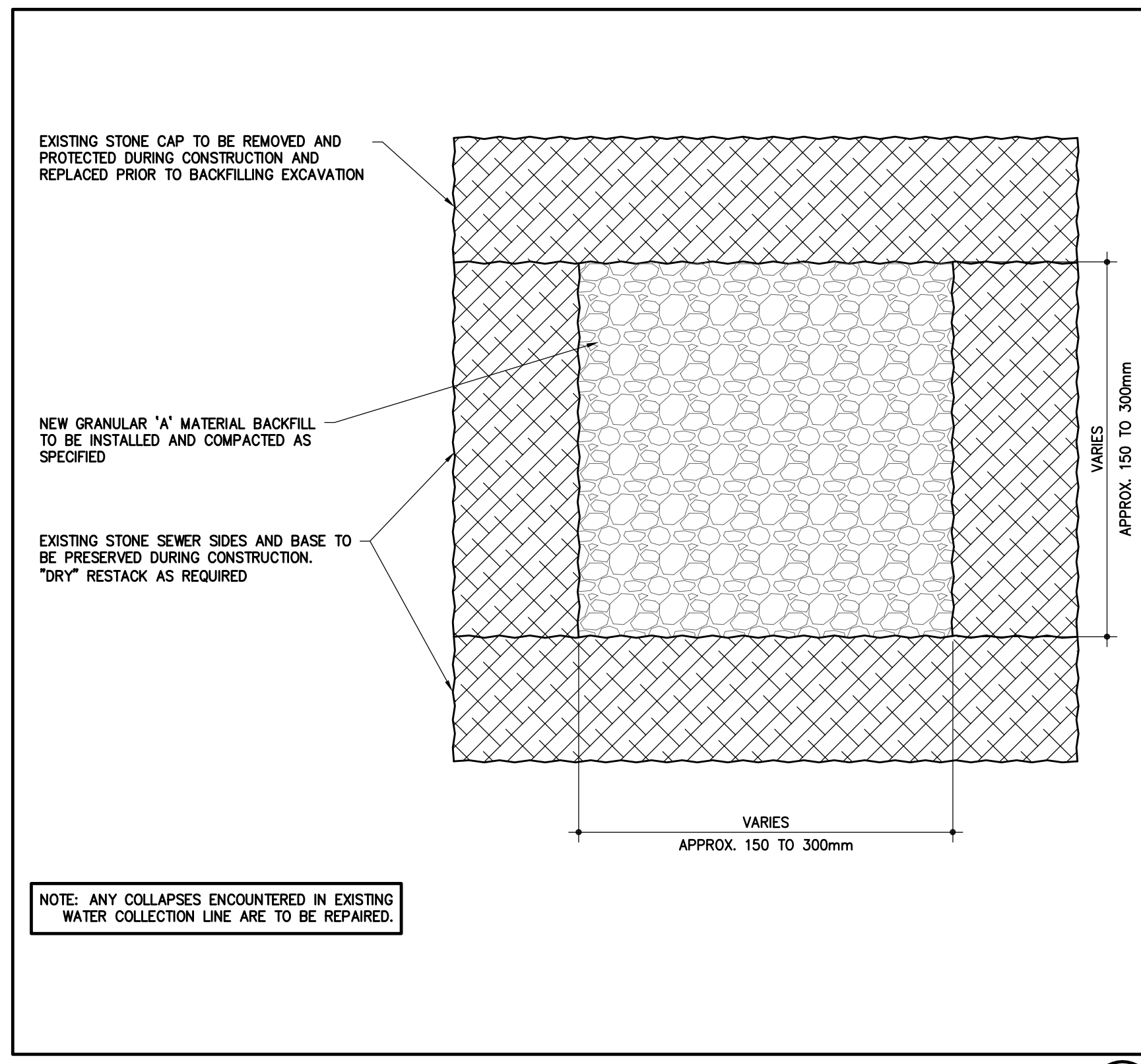
TYP. DOOR SILL RAMP CONNECTION FROM LOW POINT
SCALE: N.T.S.



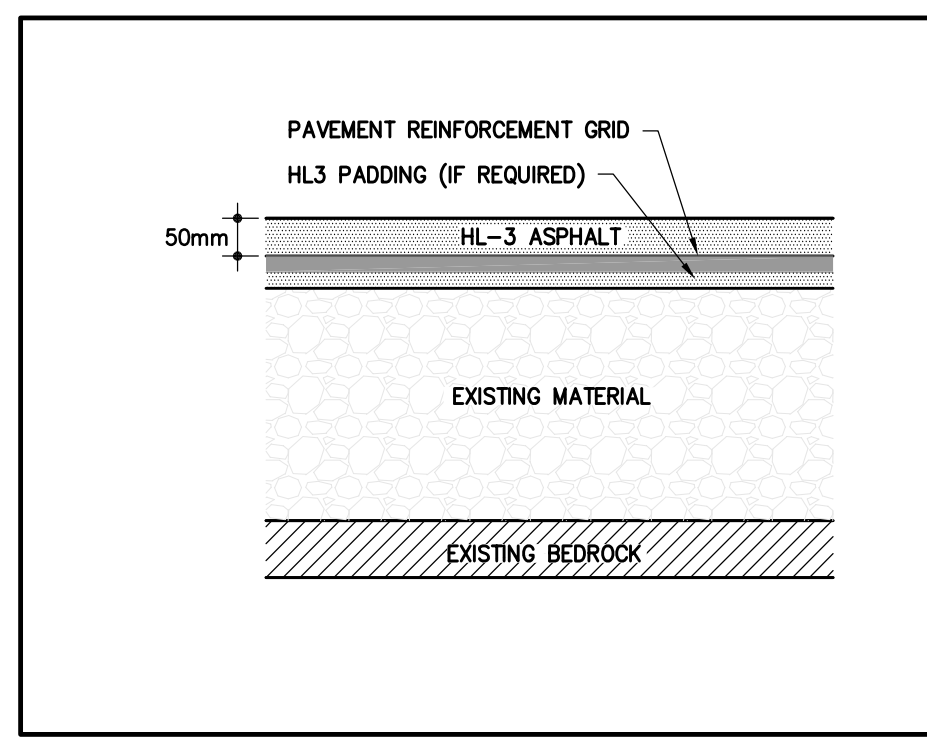
TYP. DOOR SILL RAMP CONNECTION FROM HIGH POINT
SCALE: N.T.S.



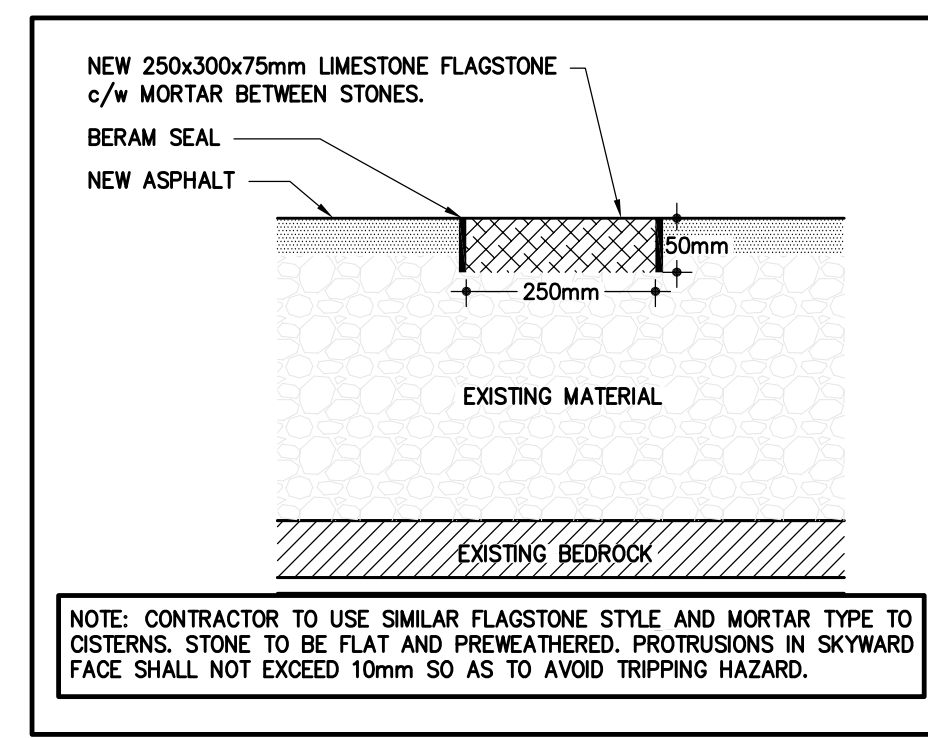
TYPICAL CLEAN-OUT DETAIL
SCALE: N.T.S.



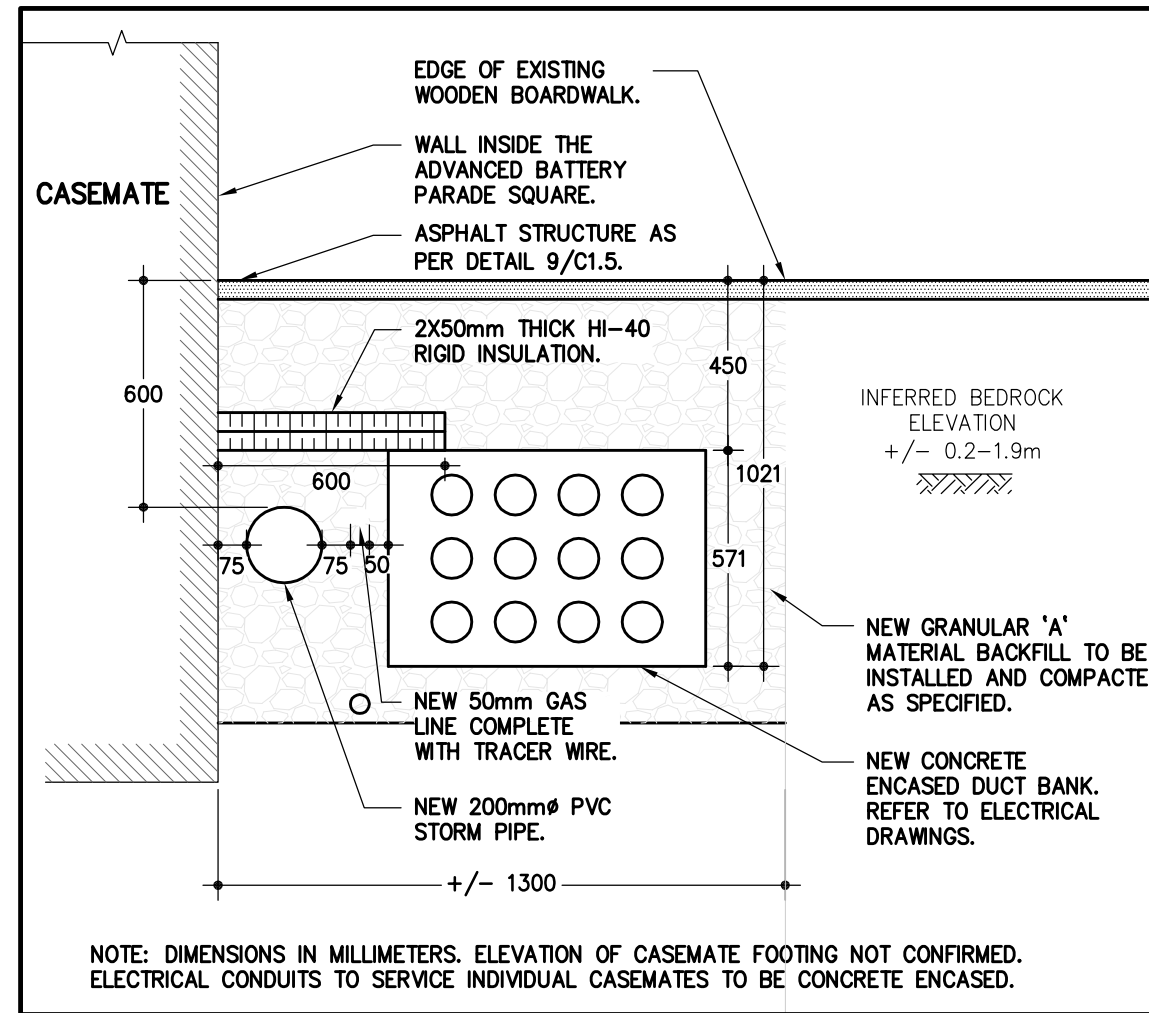
WATER COLLECTION LINE TREATMENT
SCALE: N.T.S.



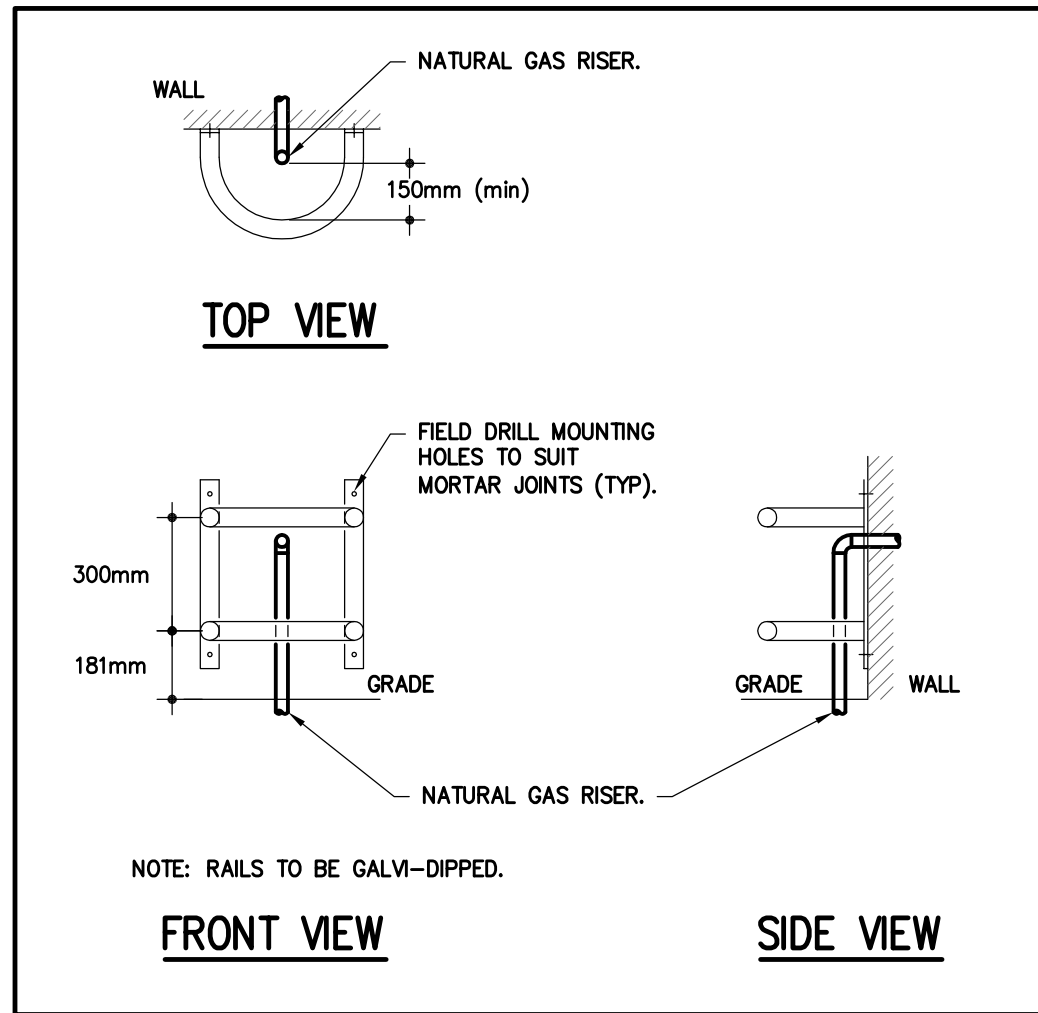
NEW ASPHALT STRUCTURE
SCALE: N.T.S.



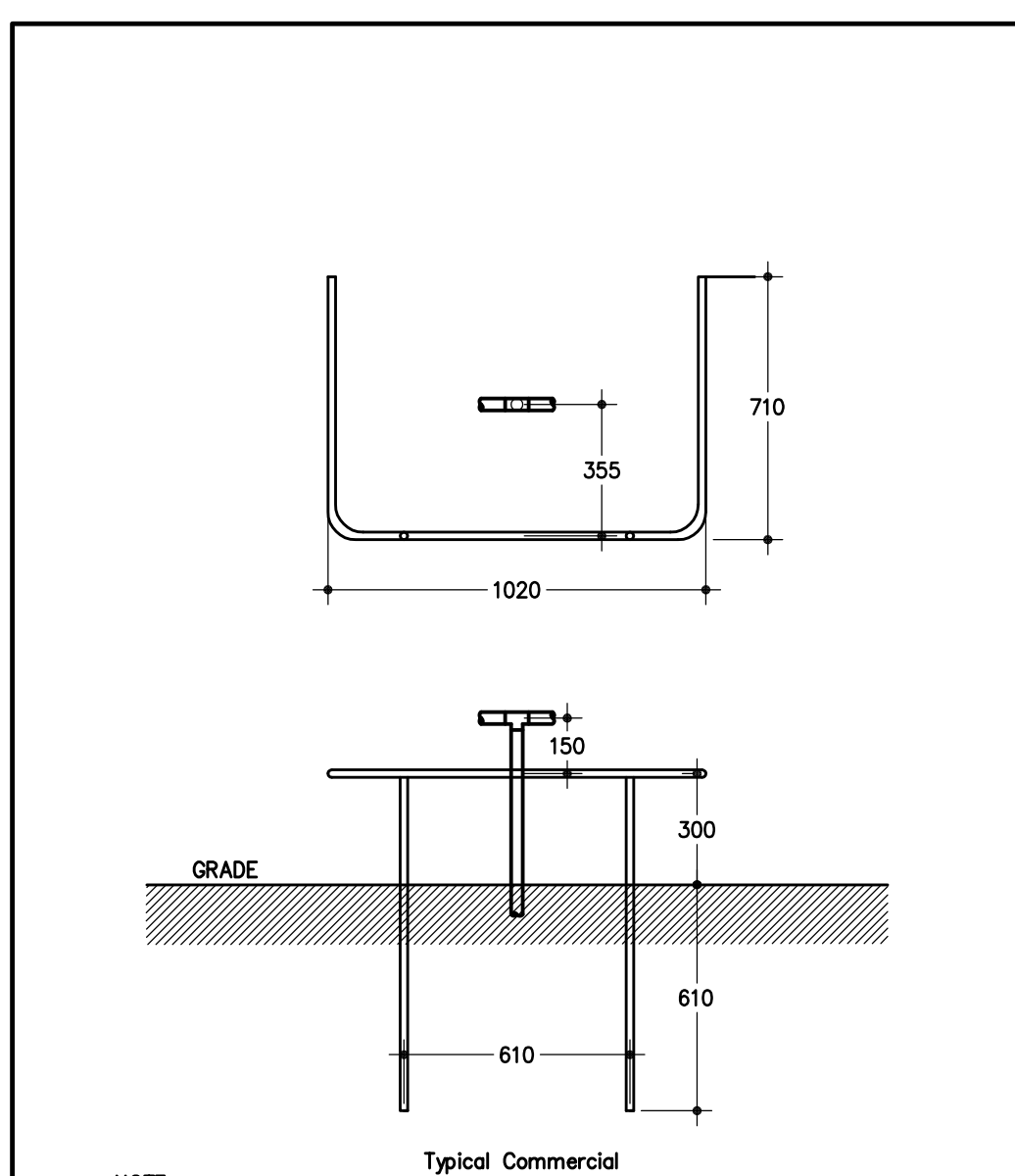
REDUNDANT SURFACE DRAIN DETAIL
SCALE: N.T.S.



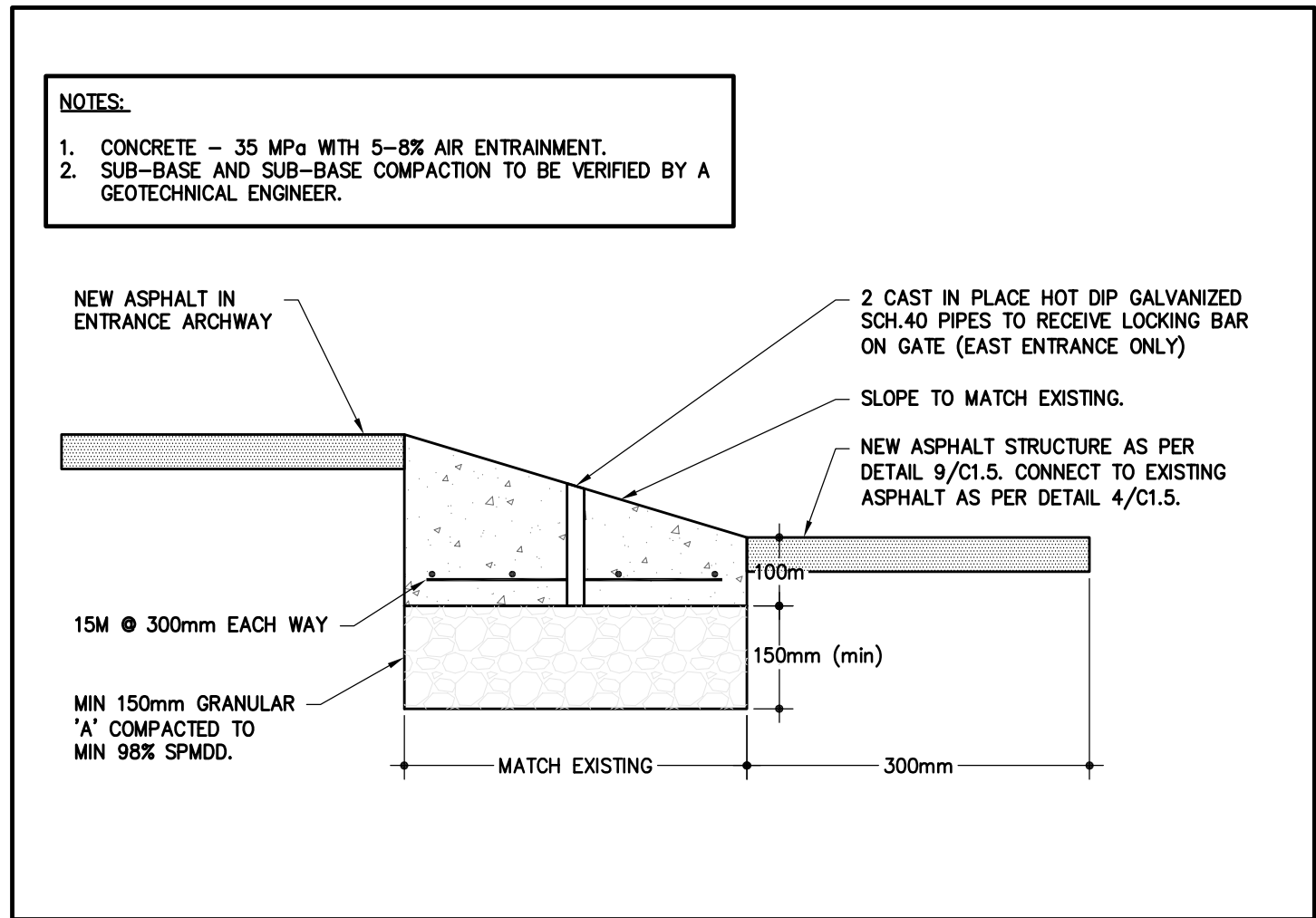
NEW TYPICAL SERVICE TRENCH CROSS SECTION
SCALE: N.T.S.



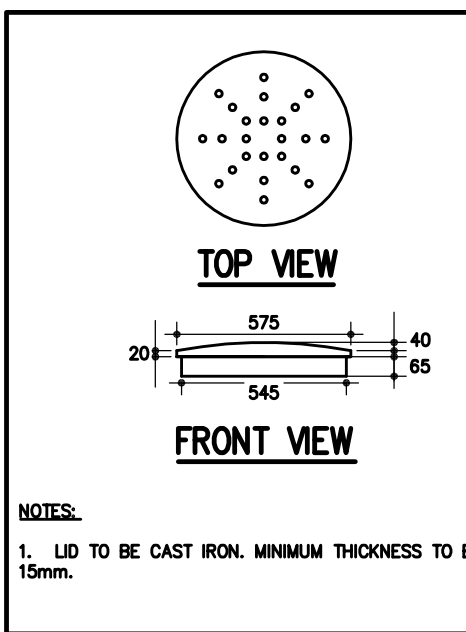
TYPICAL GUARD DETAIL FOR NATURAL GAS RISER SERVICE CASEMATE
SCALE: 1:20



TYPICAL DETAIL FOR NATURAL GAS RISER AT BBQ CONNECTION
SCALE: 1:20



CONCRETE ENTRANCE SLAB DETAIL
SCALE: N.T.S.



CISTERN LID DETAIL
SCALE: N.T.S.

ISSUED FOR - REVISION:

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PROJECT NO.	DATE
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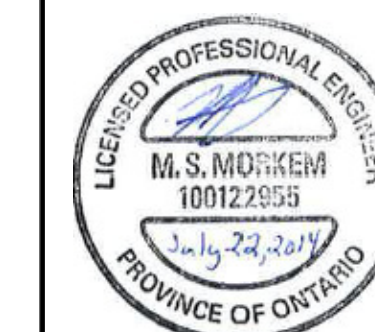
ORIGINAL SCALE: AS SHOWN
DESIGNED BY: K.CLAVET
DRAWN BY: K.CLAVET
CHECKED BY: M.MORKEM
DISCIPLINE: CIVIL

TITLE: **STANDARD DETAILS**

SHEET NUMBER: **C1.5**
SHEET #: 5 OF 5
ISSUE: **ISSUED FOR TENDER**
DATE OF: 07/22/2014
REV # 1

CONSULTANT:

SEAL:



CLIENT:



Canadä

CLIENT REF. #: 20026720 (FMP11-01)
PROJECT:

**FORT HENRY ADVANCED
BATTERY, PARADE SQUARE
REPAVING, DRAINAGE UPGRADES
AND UNDERGROUND UTILITIES
REPLACEMENT**

KEY PLAN:

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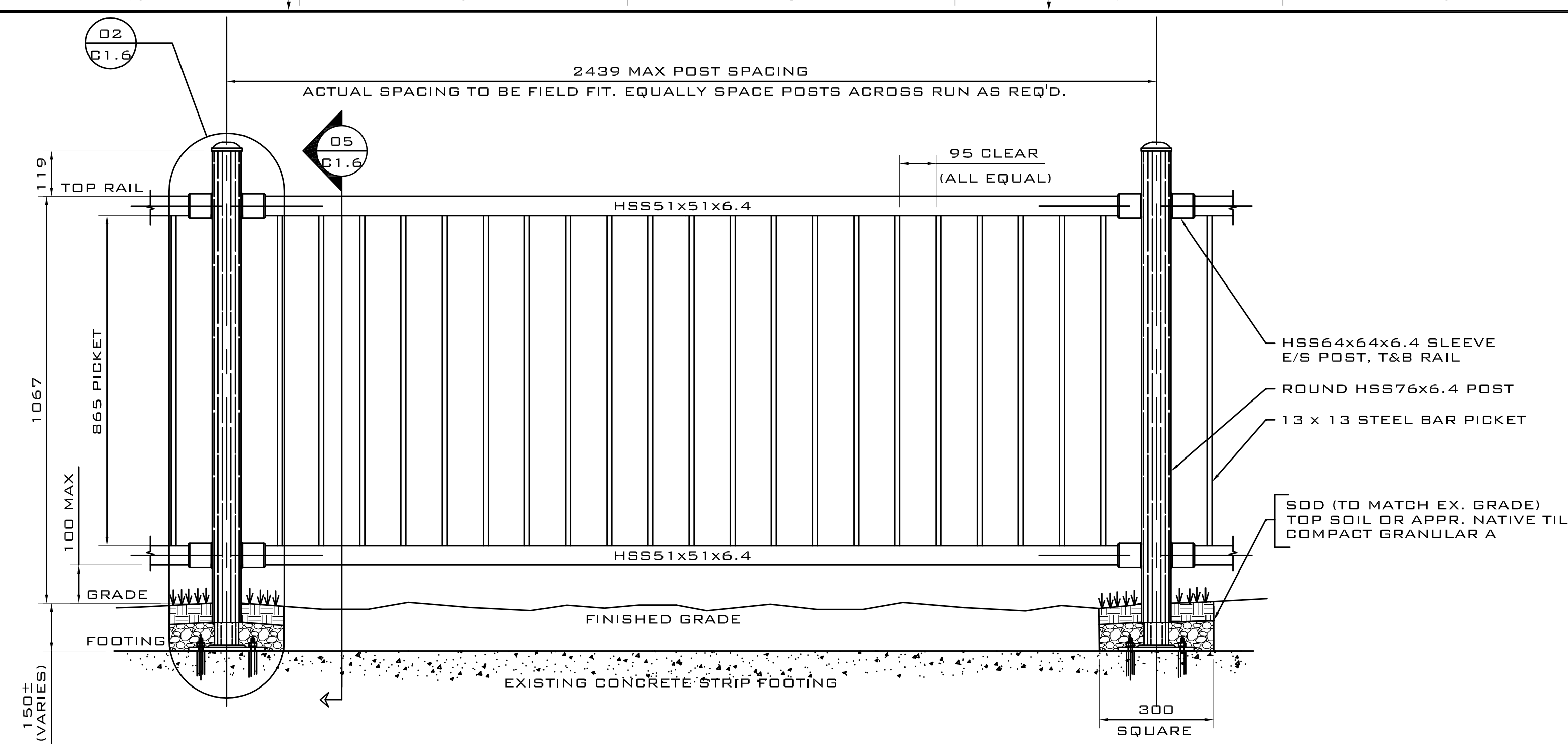
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NO.	DATE	DESCRIPTION
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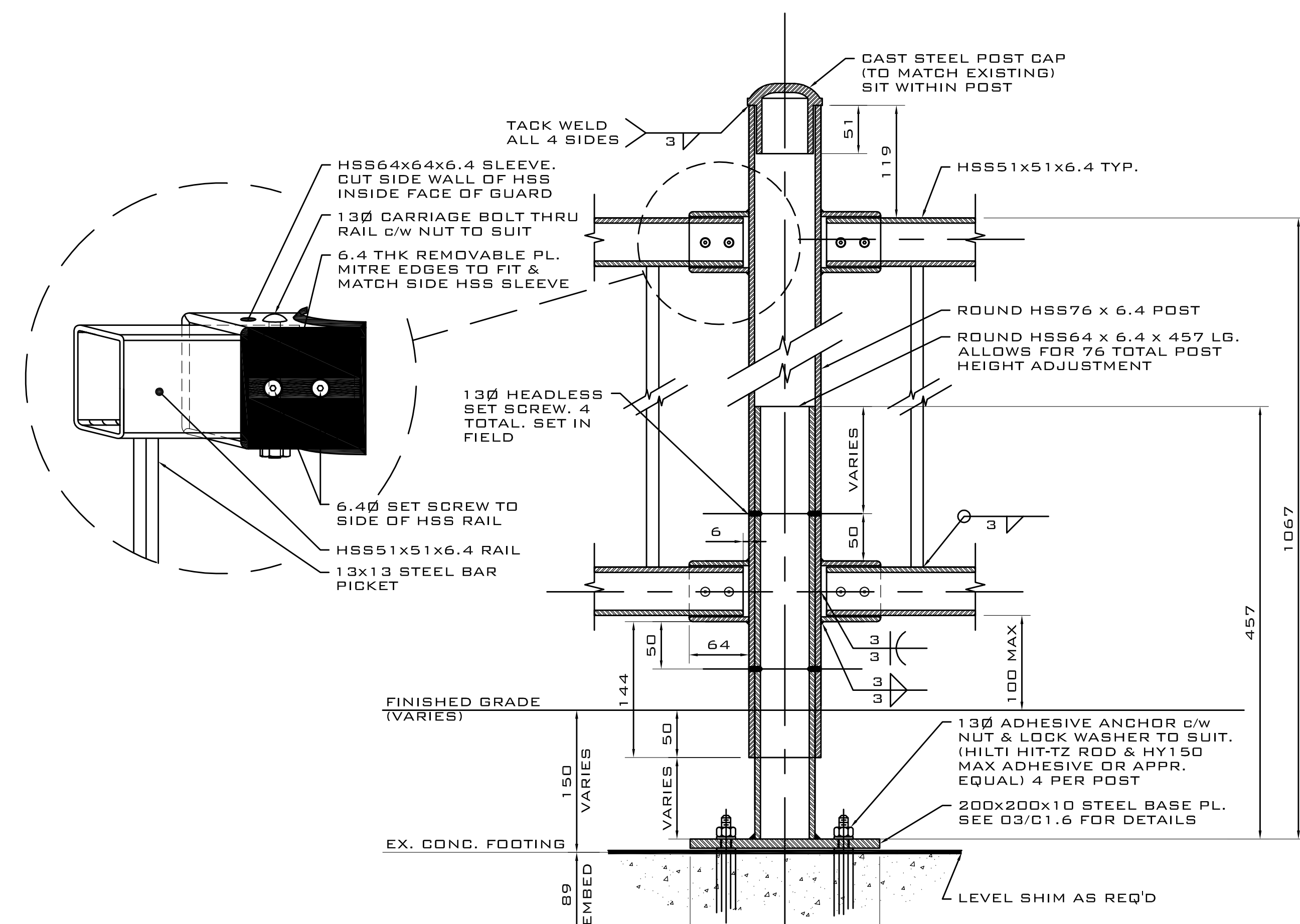
PROJECT NO.	DATE
111-21759-00	JULY 2014

ORIGINAL SCALE: AS NOTED
DESIGNED BY: DETAILS PROVIDED BY PARKS CANADA
DRAWN BY: DETAILS PROVIDED BY PARKS CANADA
CHECKED BY:

DISCIPLINE:	CIVIL
TITLE:	STANDARD DETAILS II
SHEET NUMBER:	C1.6
SHEET #:	3 OF 5
ISSUE:	ISSUED FOR TENDER
DATE OF:	07/22/2014
REV #:	1

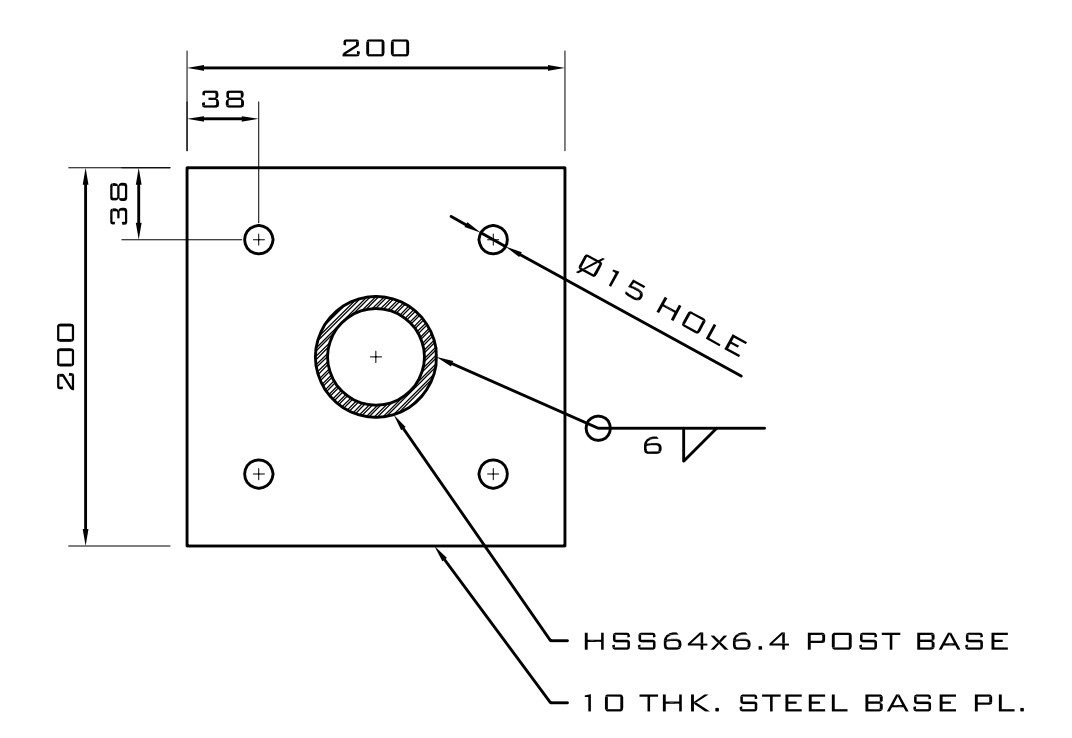


TYPICAL NEW GUARD PANEL 01
SCALE: 1:10
C1.6

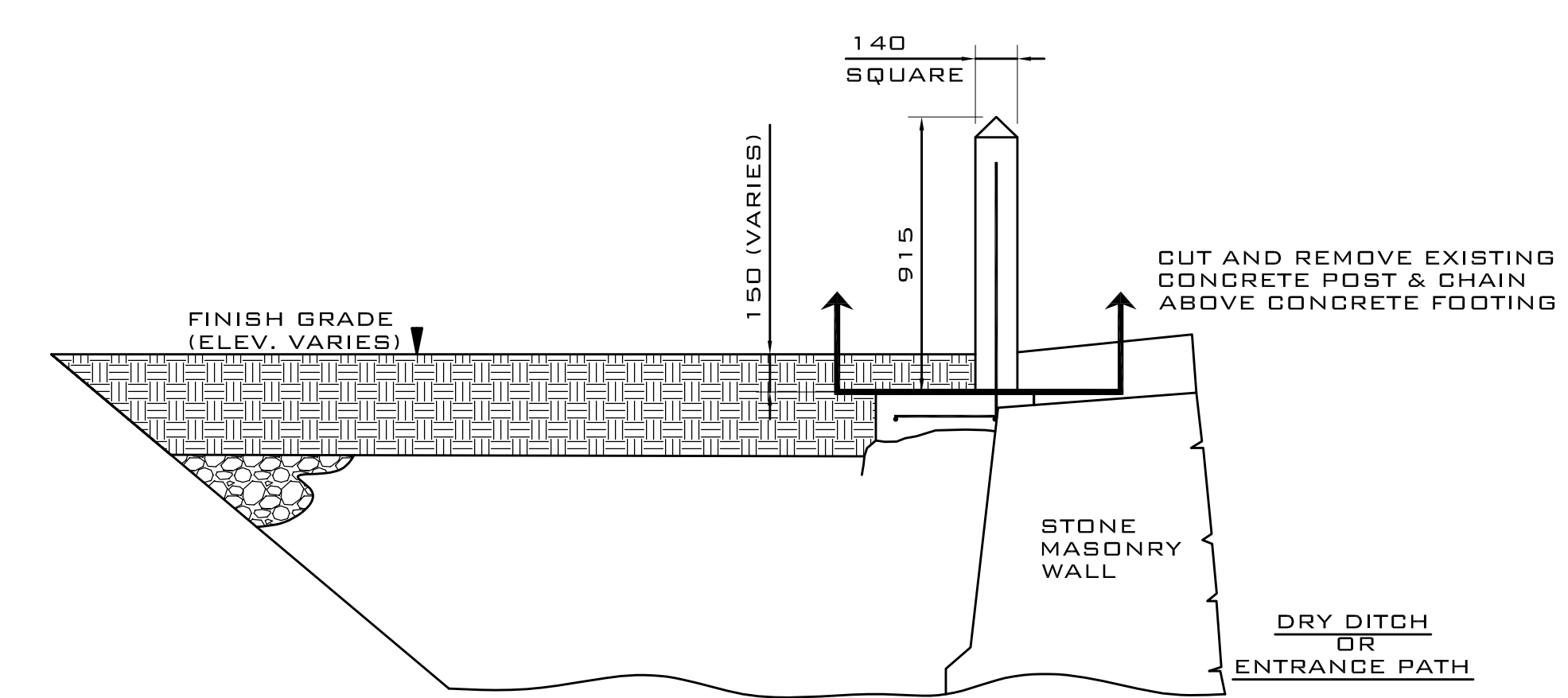


- NOTES ON NEW GUARDS:
- REFER TO PLAN C1.3 FOR ALL NEW GUARD LOCATIONS
 - ALL GUARDS ON SLOPES MUST NOT BE 'STEPPEd'. ANGLE TOP & BOTTOM RAILS AND CONNECTIONS AS REQUIRED (FIELD MEASURE) TO KEEP POSTS AND PICKETS PLUMB.
 - USE ALL STAINLESS STEEL FASTENERS. ENSURE FULL PAINT COVERAGE OVER ALL WELDS.
 - ALL TO BE SHOP PAINTED USING POWDER COAT SYSTEM 'POWDURA POLYESTER TGIC' BY SHERWIN-WILLIAMS OR APPR. EQUAL. COLOUR AS DIRECTED BY PROJECT MANAGER

DETAIL - NEW GUARD POST 02
SCALE: 1:4
C1.6

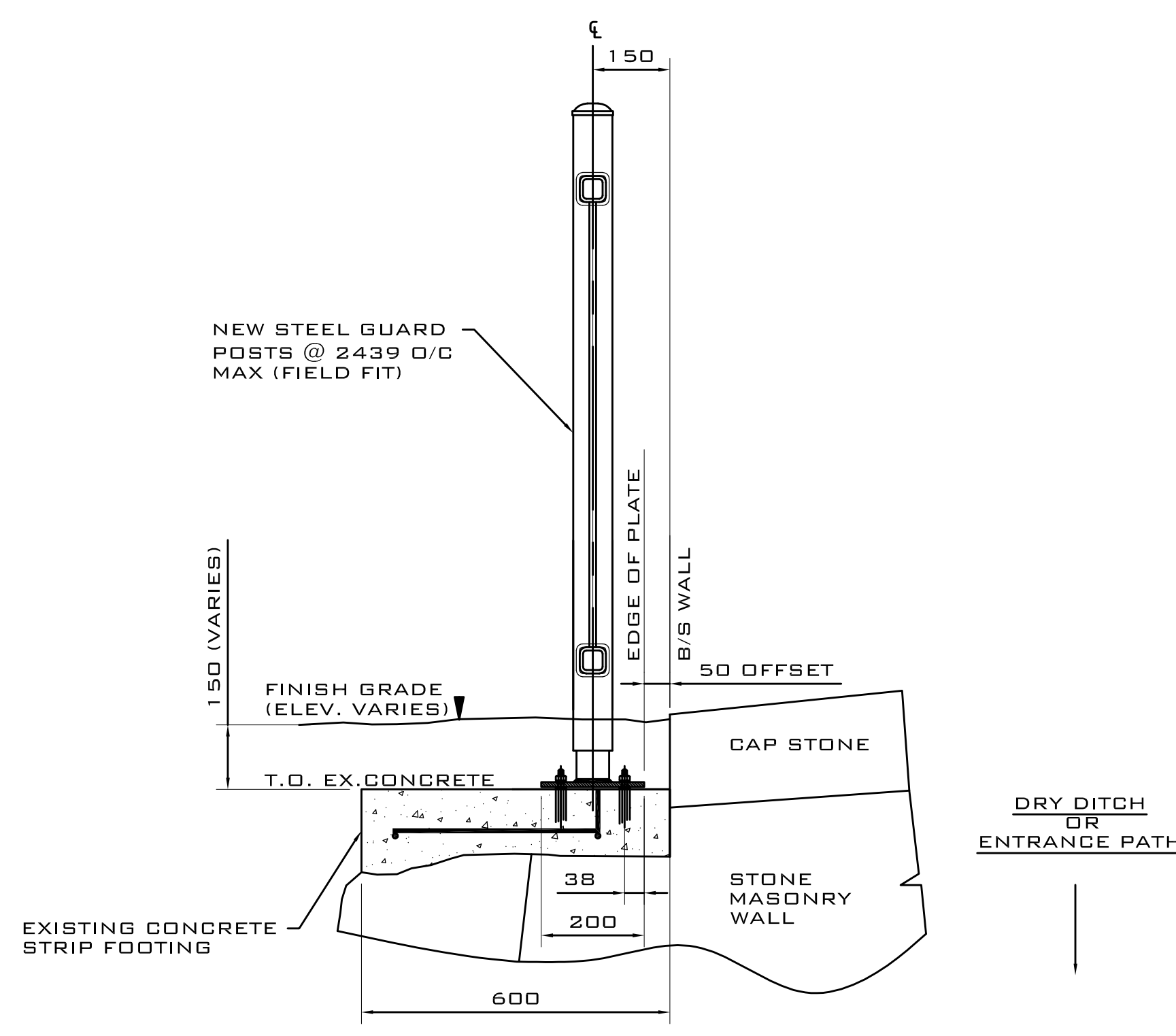


DETAIL - BASE PLATE 03
SCALE: 1:4
C1.6



- NOTES ON EXISTING POSTS:
- SEE PLAN C1.3 FOR ALL LOCATIONS REQUIRING EXISTING POST DEMOLITION.
 - DETAIL ABOVE ONLY APPLIES TO EXISTING POSTS WITHIN FORT. DETAILS AND REQUIREMENTS FOR ALL OTHER POSTS TO BE DEMOLISHED ARE TO BE DETERMINED IN FIELD.

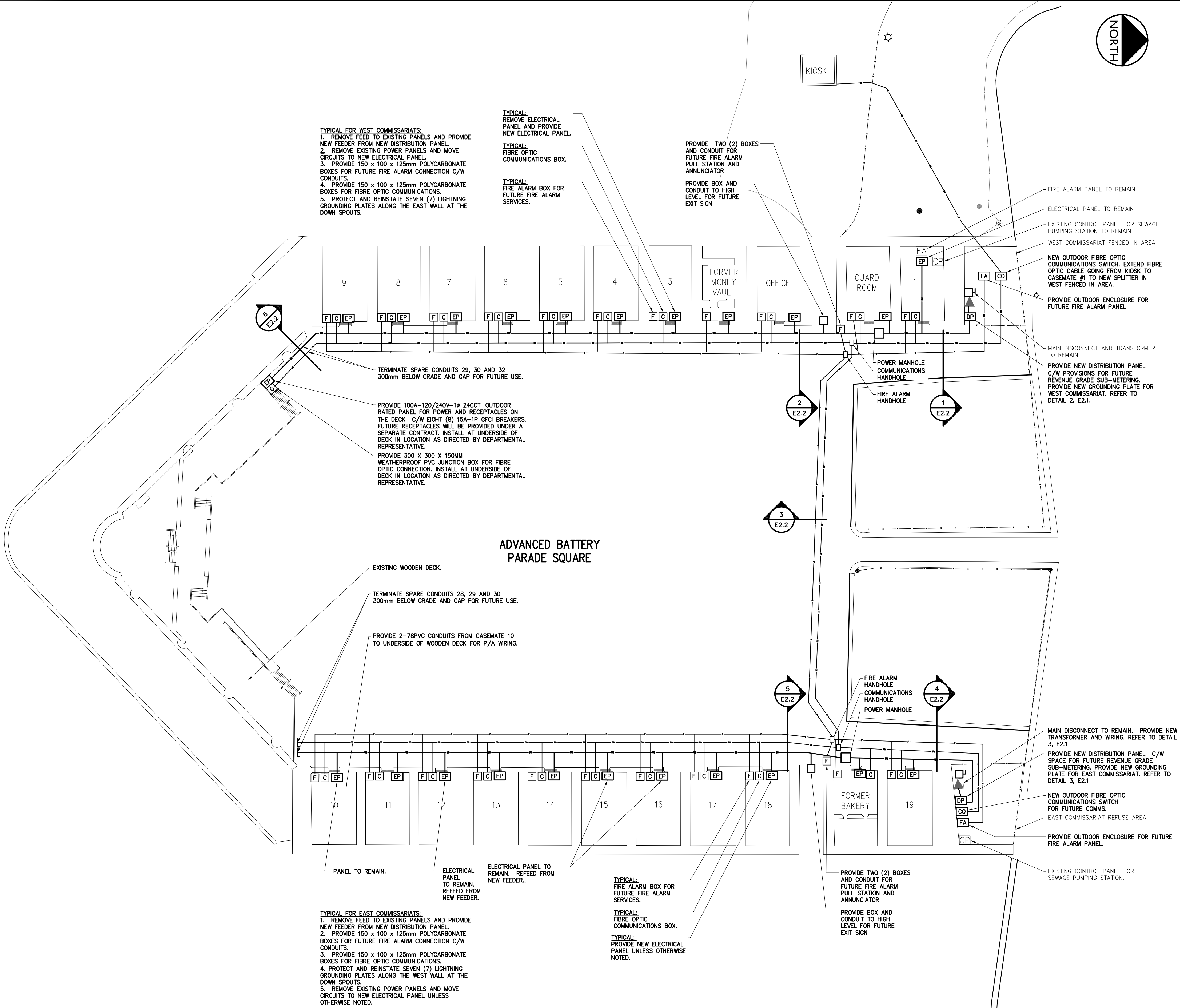
EXISTING POST DEMOLITION 04
SCALE: 1:20
C1.6



SECTION - NEW GUARD 05
SCALE: 1:10
C1.6

- LEGEND:**
- NEW UNDERGROUND ELECTRICAL FEEDER
 - NEW UNDERGROUND COMMUNICATIONS CONDUIT
 - NEW UNDERGROUND FIRE ALARM CONDUIT
 - EP NEW ELECTRICAL PANEL
 - DP NEW DISTRIBUTION PANEL
 - MS MAIN SWITCH TO REMAIN
 - TR TRANSFORMER TO REMAIN
 - C NEW FIBRE OPTIC COMMUNICATIONS BOX
 - CO NEW FIBRE OPTIC SWITCH
 - F NEW BOX FOR FIRE ALARM CONNECTION
 - FA NEW FIRE ALARM PANEL

- GENERAL NOTES:**
- ALL NEW ELECTRICAL PANELS TO BE THE FOLLOWING UNLESS OTHERWISE NOTED:
 - 120/240V, 1Ø, 3W
 - 100A MAIN C/W 30A MAIN BREAKER
 - SERVICE ENTRANCE RATED
 - SURFACE MOUNTED
 - 10-15A-TP BREAKERS C/W 1 LOCK ON BREAKER
 - NEMA 1
 - COORDINATE INTERIOR LOCATION AND ROUTING FOR ELECTRICAL PANELS WITH DEPARTMENTAL REPRESENTATIVE AND OWNER. REVERSE LOCATION OF SERVICES UP TO 3M WITHOUT ADDITIONAL COST.
 - WHERE EXISTING PANELS ARE BEING REPLACED, NEW PANELS WILL BE INSTALLED IN SIMILAR LOCATION UNLESS INSTRUCTED OTHERWISE.
 - ALL FASTENING FOR PANELS, CONDUITS AND OTHER DEVICES TO BE IN MORTAR JOINTS. COORDINATE LOCATION AND ROUTING WITH DEPARTMENTAL REPRESENTATIVE BEFORE INSTALLATION.
 - ALL CONDUIT TO BE GRAY TO BLEND WITH STONE WALLS.
 - PROVIDE ONE (150MM) CORE THROUGH FOUNDATION WALL FOR SERVICES IN EACH CASEMATE. WALL IS 900MM THICK CONSISTING OF 300MM STONE VENEERS AND 300MM CONSOLIDATED RUBBLE CORE. THE HOLE IN THE FLOOR IS TO ACCOMMODATE A CHECKER PLATED COVER. FRAME TO BE MADE FLUSH TO SURFACE. FORMWORK IS NOT REQUIRED EXCAVATION WALLS AND BOTTOM WILL BE EXISTING MATERIALS. CONDUIT IS TO BE MADE CONTINUOUS THROUGH HOLE.
 - PROVIDE 405 X 405 X 305mm HANDHOLE FOR SERVICES ENTERING EACH CASEMATE. HANDHOLE SIDE TO BE EXPOSED CONCRETE AND RUBBLE. HANDHOLE COVER TO BE GREY 3.175mm (1/8") CHECKER PLATE LID. INSTALL ONE (1) HANDHOLE IN EACH CASEMATE FLOOR FOR ALL ELECTRICAL SERVICES. CONDUITS TO BE CONTINUOUS WITHIN HANDHOLE.
 - MORTAR AROUND CONDUIT TO SEAL.
 - PROVIDE DUST PROTECTION AT INTERIOR WHEN REMOVING CONCRETE IN FLOOR. AIRBORNE DUST MUST BE CONTAINED AND NOT CONTAMINATE ROOMS. CONTRACTOR IS RESPONSIBLE FOR CLEANING.
 - PROVIDE PRE-ENGINEERED METAL MOUNTING RACK, SUCH AS 'UNISTRUT', FOR NEW DISTRIBUTION PANELS SUCH THAT FASTENERS ARE LIMITED TO MORTAR JOINTS. PROVIDE SHOP DRAWINGS FOR STRUCTURE. USE GALVANIZED METAL AND STAINLESS STEEL (A316) FASTENERS.
 - THERE IS AN EXISTING FIBRE OPTIC CABLE FROM THE KIOSK TO CASEMATE #1. THIS IS TO BE EXTENDED TO THE NEW SWITCH.
 - NO FIRE ALARM WIRES OR DEVICES WILL BE INSTALLED AS PART OF THIS CONTRACT. SCOPE OF FIRE ALARM RELATED INSTALLATIONS IS LIMITED TO BLANK CONDUIT INSTALLATION. WEATHERPROOF ENCLOSURES ARE REQUIRED AT THE NORTH END OF THE EAST AND WEST RANGES TO TERMINATE THE CONDUITS AND TO FACILITATE A FUTURE FIRE ALARM PANEL.
 - EXISTING FIBRE OPTIC AND COMMUNICATIONS TO BE REMOVED FROM DISTRIBUTION PANEL TO EACH CASE MATE FOR BOTH EAST AND WEST COMMISSARIATS.



TYPICAL FOR WEST COMMISSARIATS:

- REMOVE FEED TO EXISTING PANELS AND PROVIDE NEW FEEDER FROM NEW DISTRIBUTION PANEL.
- REMOVE EXISTING POWER PANELS AND MOVE CIRCUITS TO NEW ELECTRICAL PANEL.
- PROVIDE 150 x 100 x 125mm POLYCARBONATE BOXES FOR FUTURE FIRE ALARM CONNECTION C/W CONDUITS.
- PROVIDE 150 x 100 x 125mm POLYCARBONATE BOXES FOR FIBRE OPTIC COMMUNICATIONS.
- PROTECT AND REINSTATE SEVEN (7) LIGHTNING GROUNDING PLATES ALONG THE EAST WALL AT THE DOWN SPOUTS.

TERMINATE SPARE CONDUITS 29, 30 AND 32 300mm BELOW GRADE AND CAP FOR FUTURE USE.

PROVIDE 100A-120/240V-1Ø 24CCT. OUTDOOR RATED PANEL FOR POWER AND RECEPTACLES ON THE DECK C/W EIGHT (8) 15A-1P GFCI BREAKERS. FUTURE RECEPTACLES WILL BE PROVIDED UNDER A SEPARATE CONTRACT. INSTALL AT UNDERSIDE OF DECK IN LOCATION AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE.

PROVIDE 300 X 300 X 150MM WEATHERPROOF PVC JUNCTION BOX FOR FIBRE OPTIC CONNECTION. INSTALL AT UNDERSIDE OF DECK IN LOCATION AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE.

EXISTING WOODEN DECK.

TERMINATE SPARE CONDUITS 28, 29 AND 30 300mm BELOW GRADE AND CAP FOR FUTURE USE.

PROVIDE 2-78PVC CONDUITS FROM CASEMATE 10 TO UNDERSIDE OF WOODEN DECK FOR P/A WIRING.

TYPICAL FOR EAST COMMISSARIATS:

- REMOVE FEED TO EXISTING PANELS AND PROVIDE NEW FEEDER FROM NEW DISTRIBUTION PANEL.
- PROVIDE 150 x 100 x 125mm POLYCARBONATE BOXES FOR FUTURE FIRE ALARM CONNECTION C/W CONDUITS.
- PROVIDE 150 x 100 x 125mm POLYCARBONATE BOXES FOR FIBRE OPTIC COMMUNICATIONS.
- PROTECT AND REINSTATE SEVEN (7) LIGHTNING GROUNDING PLATES ALONG THE WEST WALL AT THE DOWN SPOUTS.
- REMOVE EXISTING POWER PANELS AND MOVE CIRCUITS TO NEW ELECTRICAL PANEL UNLESS OTHERWISE NOTED.

TYPICAL: REMOVE ELECTRICAL PANEL AND PROVIDE NEW ELECTRICAL PANEL.

TYPICAL: FIBRE OPTIC COMMUNICATIONS BOX.

TYPICAL: FIRE ALARM BOX FOR FUTURE FIRE ALARM SERVICES.

TYPICAL: PROVIDE NEW ELECTRICAL PANEL UNLESS OTHERWISE NOTED.

PROVIDE TWO (2) BOXES AND CONDUIT FOR FUTURE FIRE ALARM PULL STATION AND ANNUNCIATOR

PROVIDE BOX AND CONDUIT TO HIGH LEVEL FOR FUTURE EXIT SIGN

FIRE ALARM PANEL TO REMAIN

ELECTRICAL PANEL TO REMAIN

EXISTING CONTROL PANEL FOR SEWAGE PUMPING STATION TO REMAIN.

WEST COMMISSARIAT FENCED IN AREA

NEW OUTDOOR FIBRE OPTIC COMMUNICATIONS SWITCH. EXTEND FIBRE OPTIC CABLE GOING FROM KIOSK TO CASEMATE #1 TO NEW SPLITTER IN WEST FENCED IN AREA.

PROVIDE OUTDOOR ENCLOSURE FOR FUTURE FIRE ALARM PANEL

MAIN DISCONNECT AND TRANSFORMER TO REMAIN.

PROVIDE NEW DISTRIBUTION PANEL C/W PROVISIONS FOR FUTURE REVENUE GRADE SUB-METERING. PROVIDE NEW GROUNDING PLATE FOR WEST COMMISSARIAT. REFER TO DETAIL 2, E2.1.

FIRE ALARM HANDHOLE COMMUNICATIONS HANDHOLE POWER MANHOLE

MAIN DISCONNECT TO REMAIN. PROVIDE NEW TRANSFORMER AND WIRING. REFER TO DETAIL 3, E2.1

PROVIDE NEW DISTRIBUTION PANEL C/W SPACE FOR FUTURE REVENUE GRADE SUB-METERING. PROVIDE NEW GROUNDING PLATE FOR EAST COMMISSARIAT. REFER TO DETAIL 3, E2.1

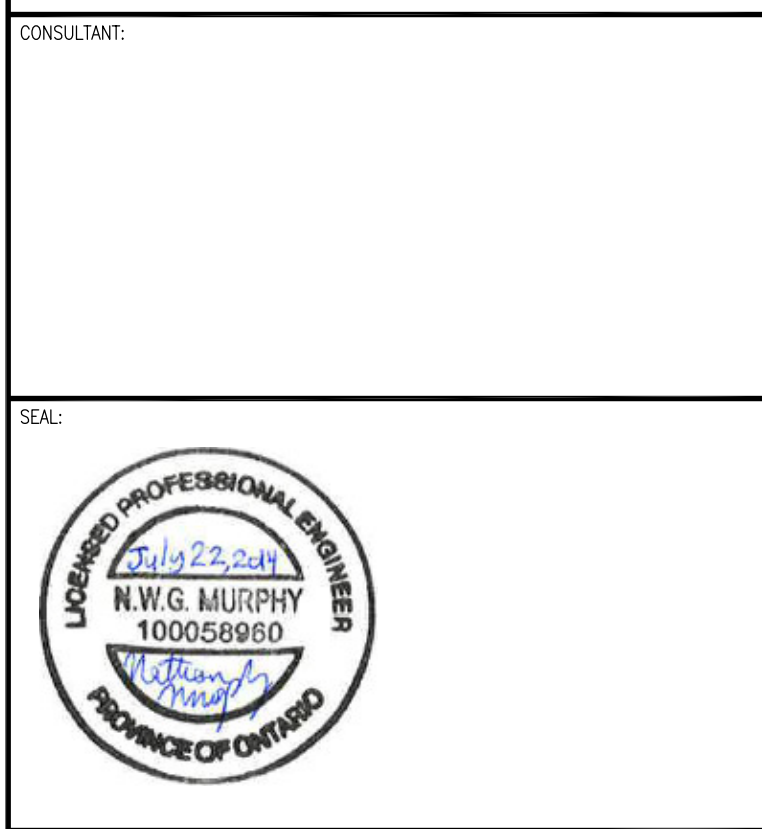
NEW OUTDOOR FIBRE OPTIC COMMUNICATIONS SWITCH FOR FUTURE COMMS.

EAST COMMISSARIAT REFUSE AREA

PROVIDE OUTDOOR ENCLOSURE FOR FUTURE FIRE ALARM PANEL.

EXISTING CONTROL PANEL FOR SEWAGE PUMPING STATION.

ELECTRICAL LAYOUT
SCALE: 1:250



Canada

CLIENT REF. # 20026720 (FHP11-01)

FORT HENRY ADVANCED BATTERY, PARADE SQUARE REPAVING, DRAINAGE UPGRADES AND UNDERGROUND UTILITIES REPLACEMENT

KEY PLAN:

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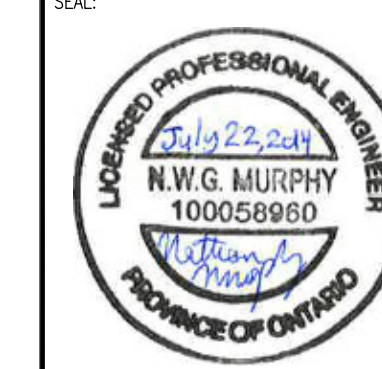
NO.	REVISION	DATE	DESCRIPTION
01	07/22/2014	ISSUED FOR TENDER	

PROJECT NO:	DATE:
111-21759-00	JULY 2014
ORIGINAL SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
AS SHOWN	
DESIGNED BY:	
DM	
DRAWN BY:	
AE	
CHECKED BY:	

DISCIPLINE:	ELECTRICAL
TITLE:	ELECTRICAL PLAN, LEGEND AND GENERAL NOTES
SHEET NUMBER:	E1.1
SHEET #:	1 OF 3
ISSUE:	ISSUED FOR TENDER
DATE OF:	07/22/2014
REV #:	1

CONSULTANT:

SEAL:



CLIENT:

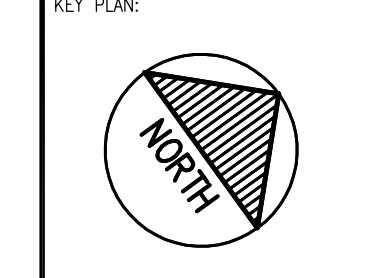


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CLIENT REF. #: 20026720 (FMP11-01)
PROJECT:

**FORT HENRY ADVANCED
BATTERY, PARADE SQUARE
REPAVING, DRAINAGE UPGRADES
AND UNDERGROUND UTILITIES
REPLACEMENT**

KEY PLAN:



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111-21759-00	JULY 2014

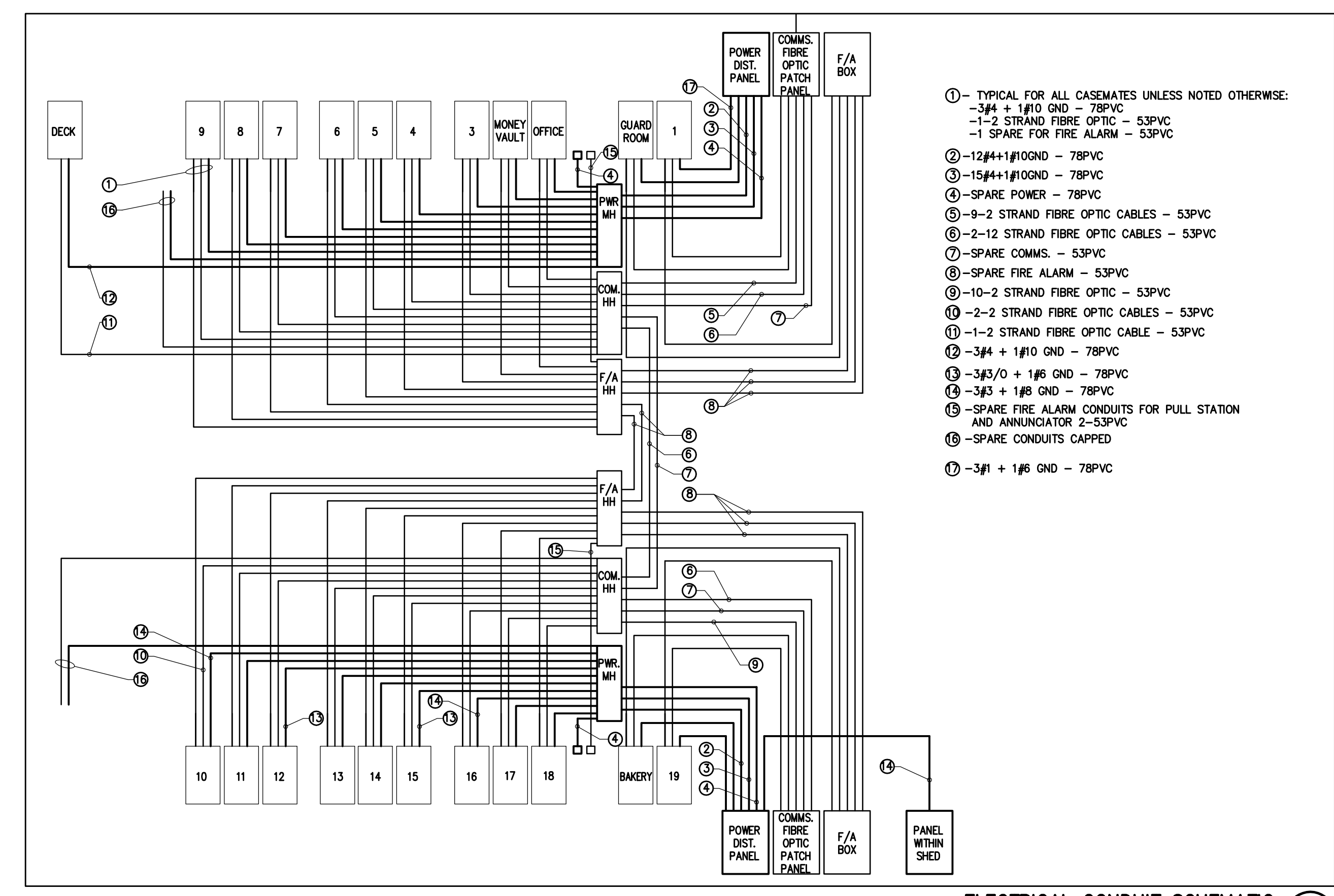
ORIGINAL SCALE: 1:250
DESIGNED BY: DM
DRAWN BY: AE
CHECKED BY: GL

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

DISCIPLINE: ELECTRICAL

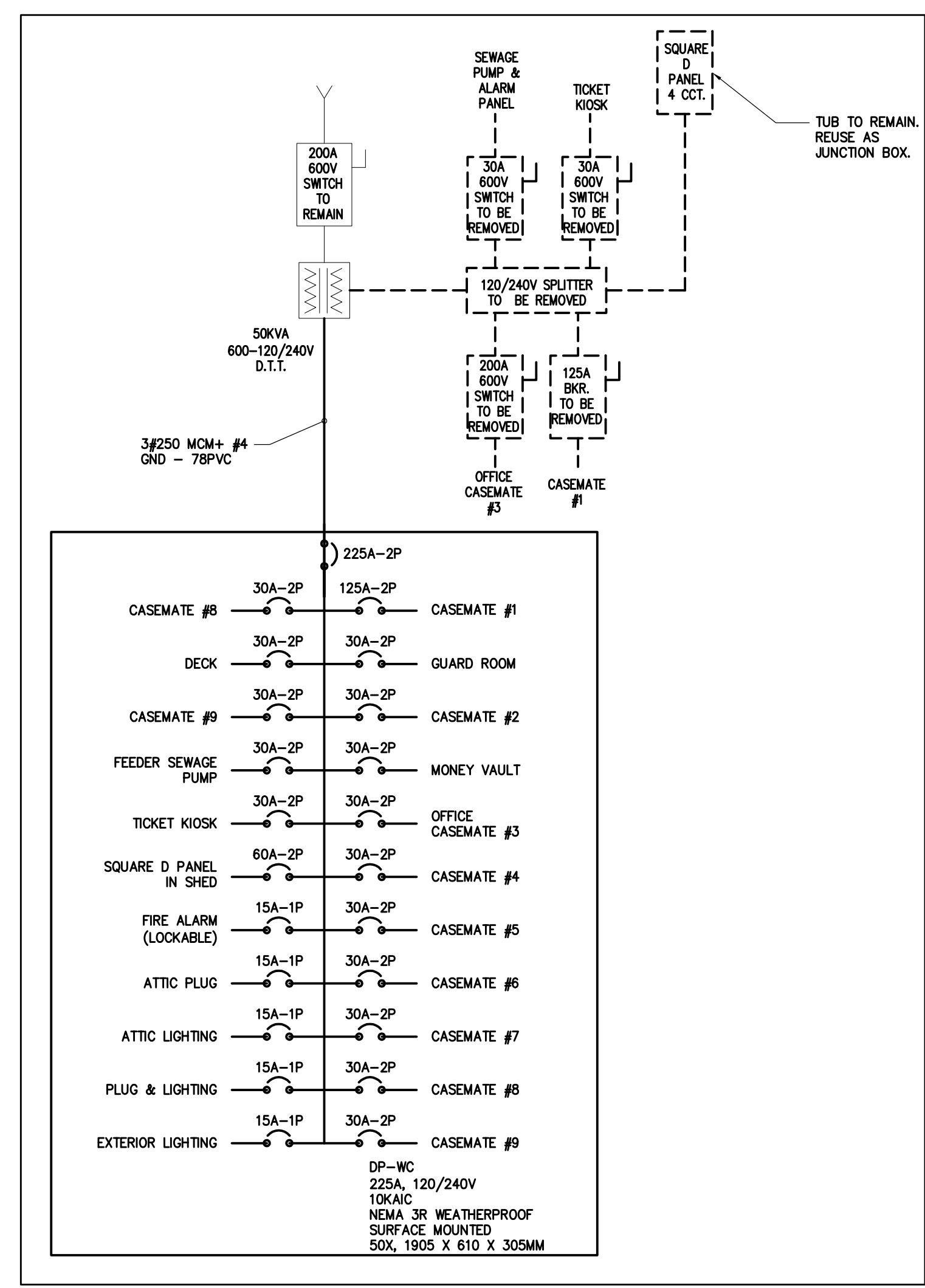
TITLE:
**ELECTRICAL SCHEMATICS
AND SINGLE LINE DIAGRAMS**

SHEET NUMBER: E2.1
SHEET #: 2 OF 3
ISSUE: ISSUED FOR TENDER
DATE OF: 07/22/2014

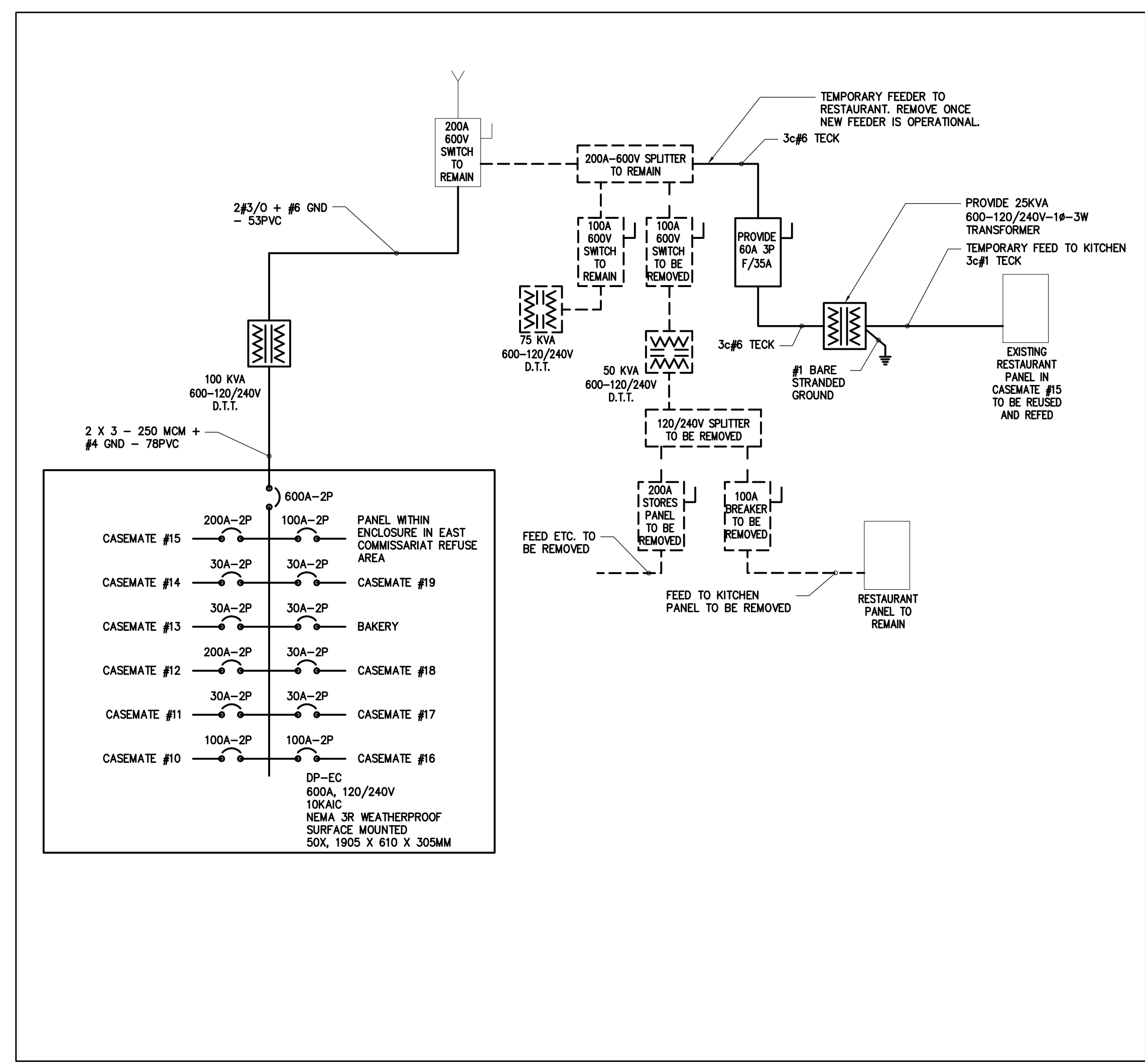


- ① - TYPICAL FOR ALL CASEMATES UNLESS NOTED OTHERWISE:
-3#4 + 1#10 GND - 78PVC
-1-2 STRAND FIBRE OPTIC - 53PVC
-1 SPARE FOR FIRE ALARM - 53PVC
- ② -12#4+1#10GND - 78PVC
③ -15#4+1#10GND - 78PVC
④ -SPARE POWER - 78PVC
⑤ -9-2 STRAND FIBRE OPTIC CABLES - 53PVC
⑥ -2-12 STRAND FIBRE OPTIC CABLES - 53PVC
⑦ -SPARE COMMS. - 53PVC
⑧ -SPARE FIRE ALARM - 53PVC
⑨ -10-2 STRAND FIBRE OPTIC - 53PVC
⑩ -2-2 STRAND FIBRE OPTIC CABLES - 53PVC
⑪ -1-2 STRAND FIBRE OPTIC CABLE - 53PVC
⑫ -3#4 + 1#10 GND - 78PVC
⑬ -3#3/0 + 1#6 GND - 78PVC
⑭ -3#3 + 1#6 GND - 78PVC
⑮ -SPARE FIRE ALARM CONDUITS FOR PULL STATION AND ANNUNCIATOR 2-53PVC
⑯ -SPARE CONDUITS CAPPED
⑰ -3#1 + 1#6 GND - 78PVC

ELECTRICAL CONDUIT SCHEMATIC
SCALE: N.T.S.



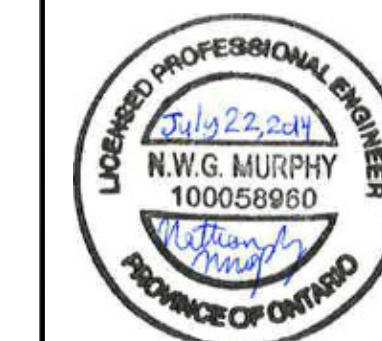
WEST RANGE SINGLE LINE DRAWING
SCALE: N.T.S.



EAST RANGE SINGLE LINE DRAWING
SCALE: N.T.S.

CONSULTANT:

SEAL:



CLIENT:

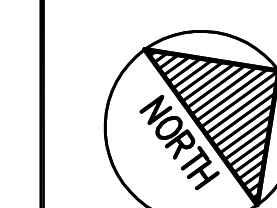


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CLIENT REF. #: 20026720 (FHM11-01)
PROJECT:

**FORT HENRY ADVANCED
BATTERY, PARADE SQUARE
REPAVING, DRAINAGE UPGRADES
AND UNDERGROUND UTILITIES
REPLACEMENT**

KEY PLAN:



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PROJECT NO.:	DATE:
111-21759-00	JULY 2014

ORIGINAL SCALE: 1:250
DESIGNED BY: DM
DRAWN BY: AE
CHECKED BY: GL

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DISCIPLINE: ELECTRICAL

TITLE: TRENCHING, MANHOLE AND HANDHOLE DETAILS

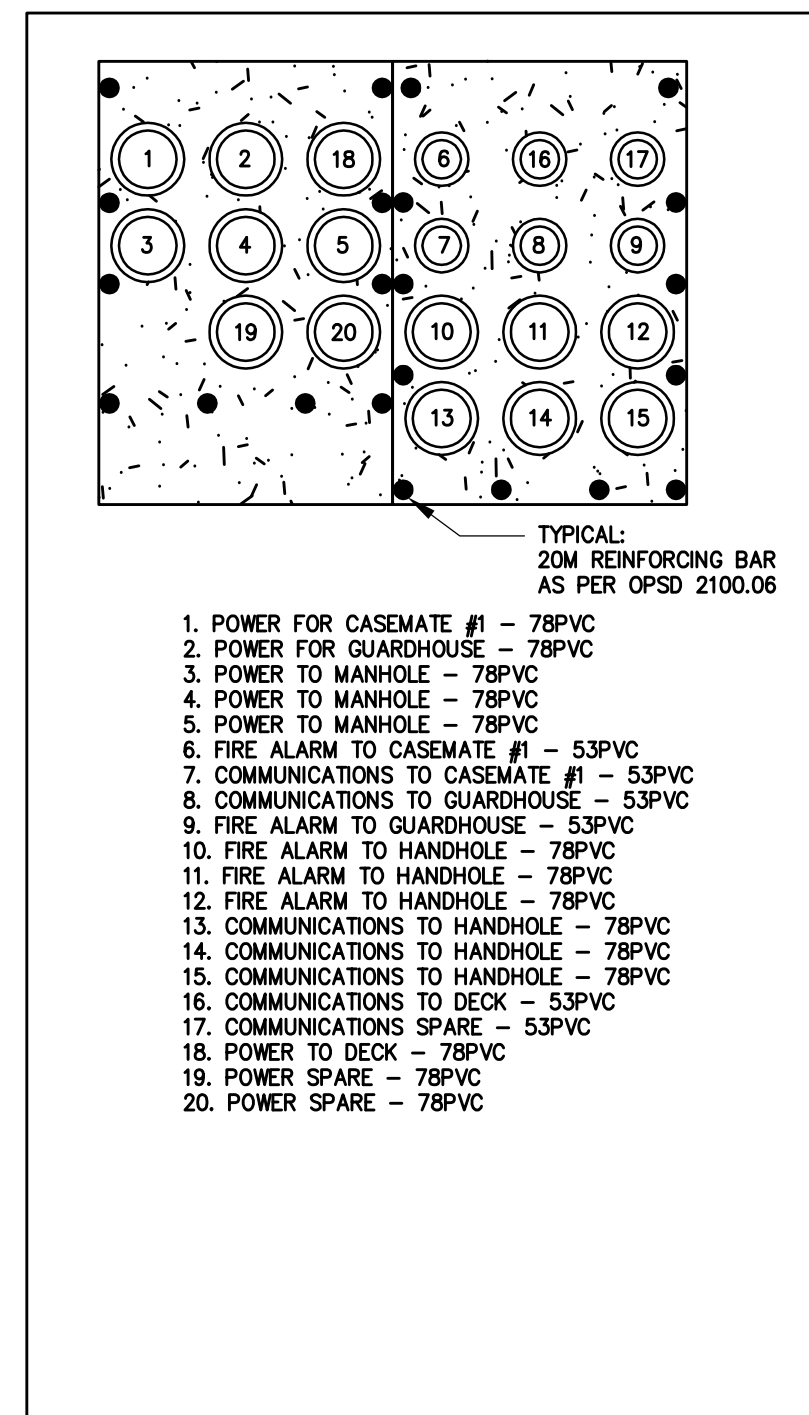
SHEET NUMBER: E2.2

SHEET #: 3 OF 3

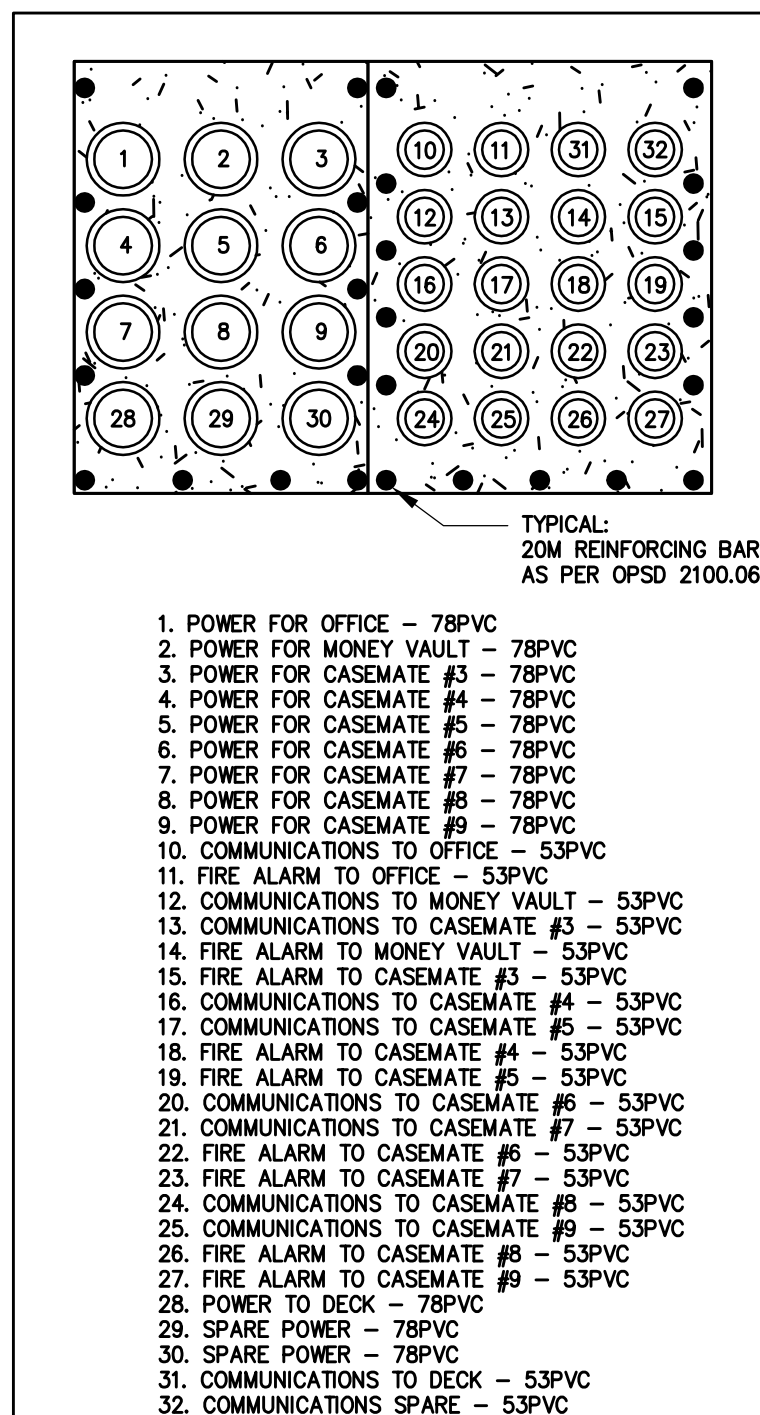
ISSUE: ISSUED FOR TENDER

DATE OF: 07/22/2014

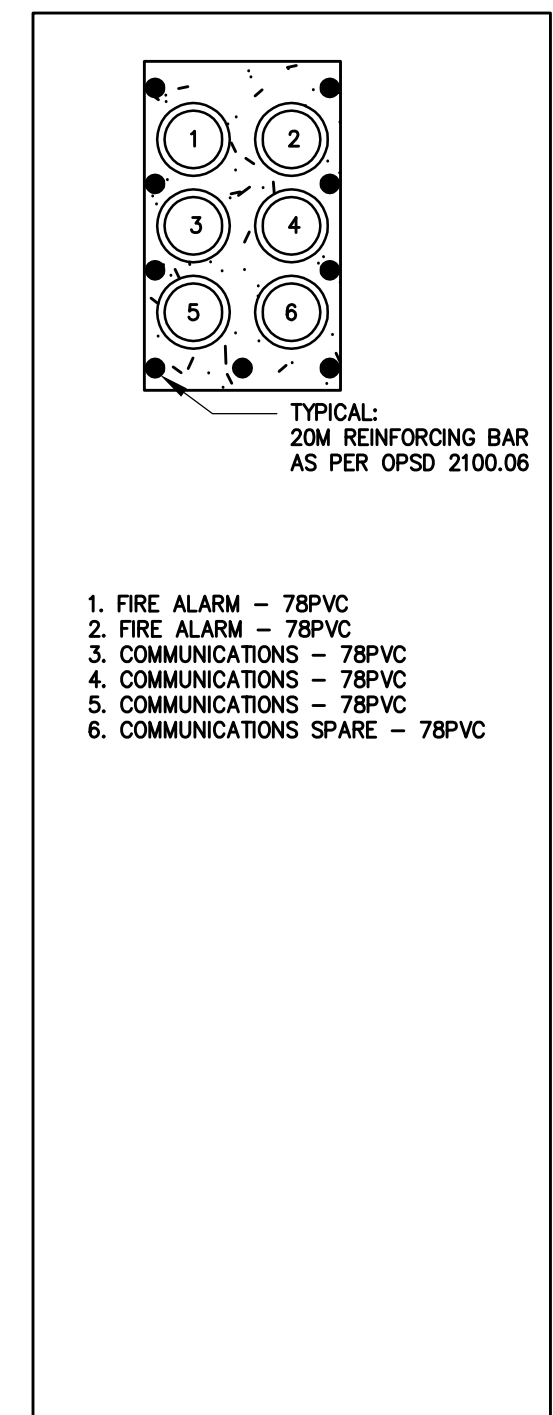
REV # 1



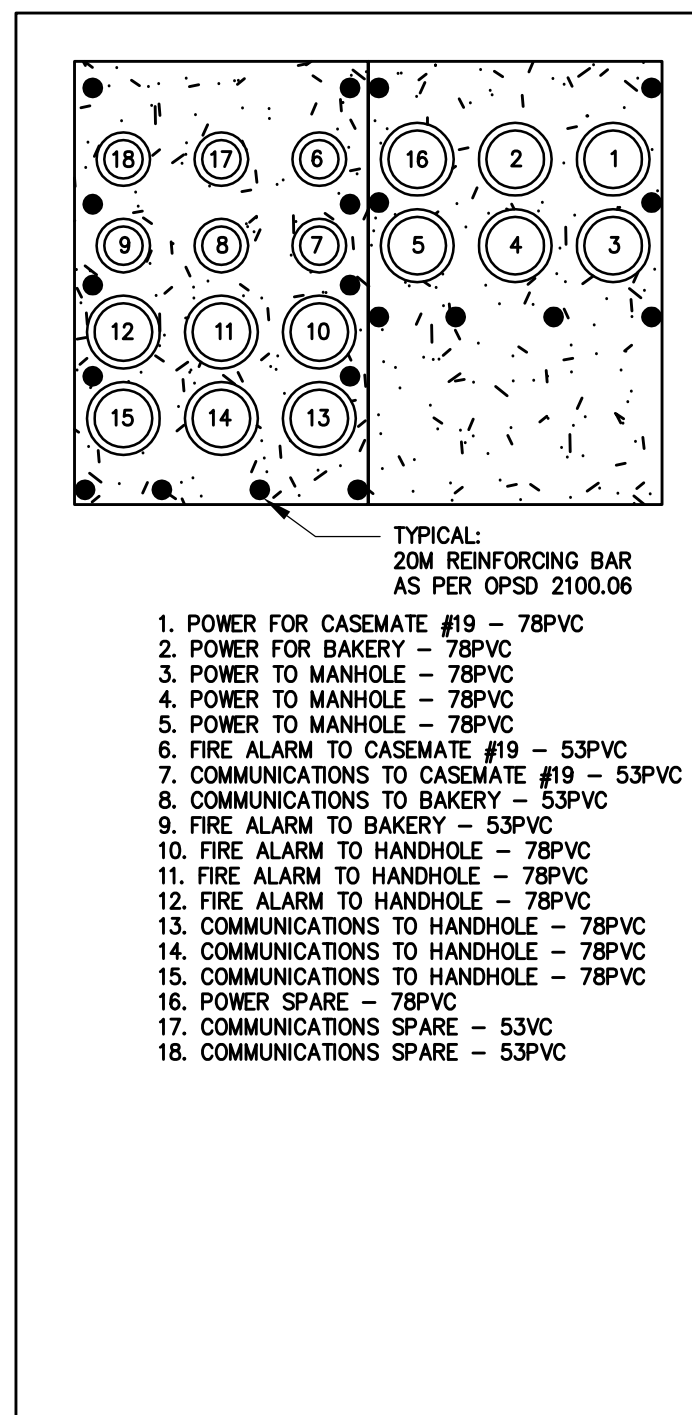
ELECTRICAL TRENCHING DETAIL 1
SCALE: N.T.S.



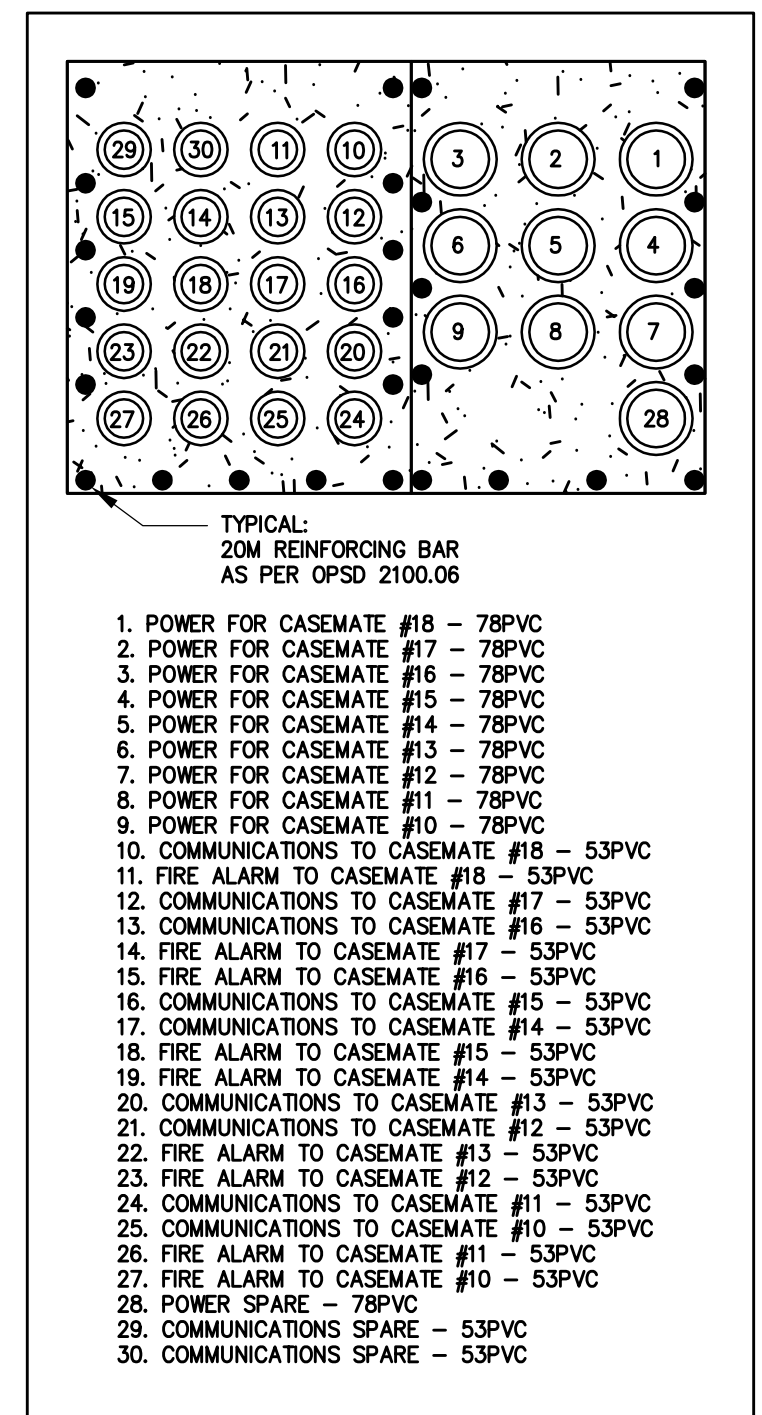
ELECTRICAL TRENCHING DETAIL 2
SCALE: N.T.S.



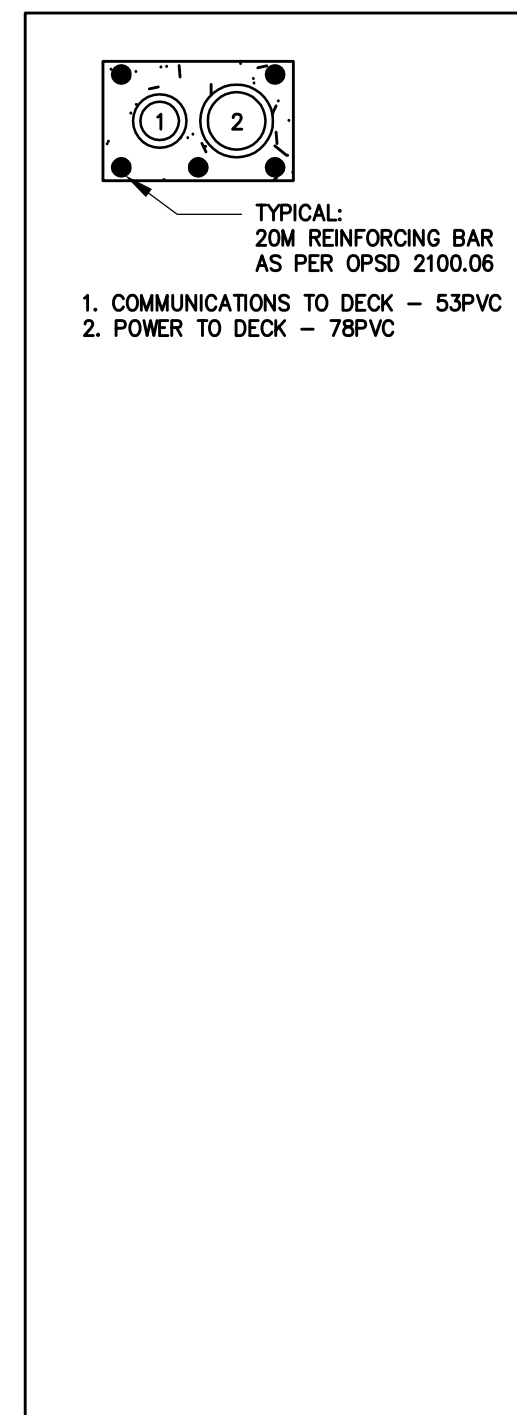
ELECTRICAL TRENCHING DETAIL 3
SCALE: N.T.S.



ELECTRICAL TRENCHING DETAIL 4
SCALE: N.T.S.



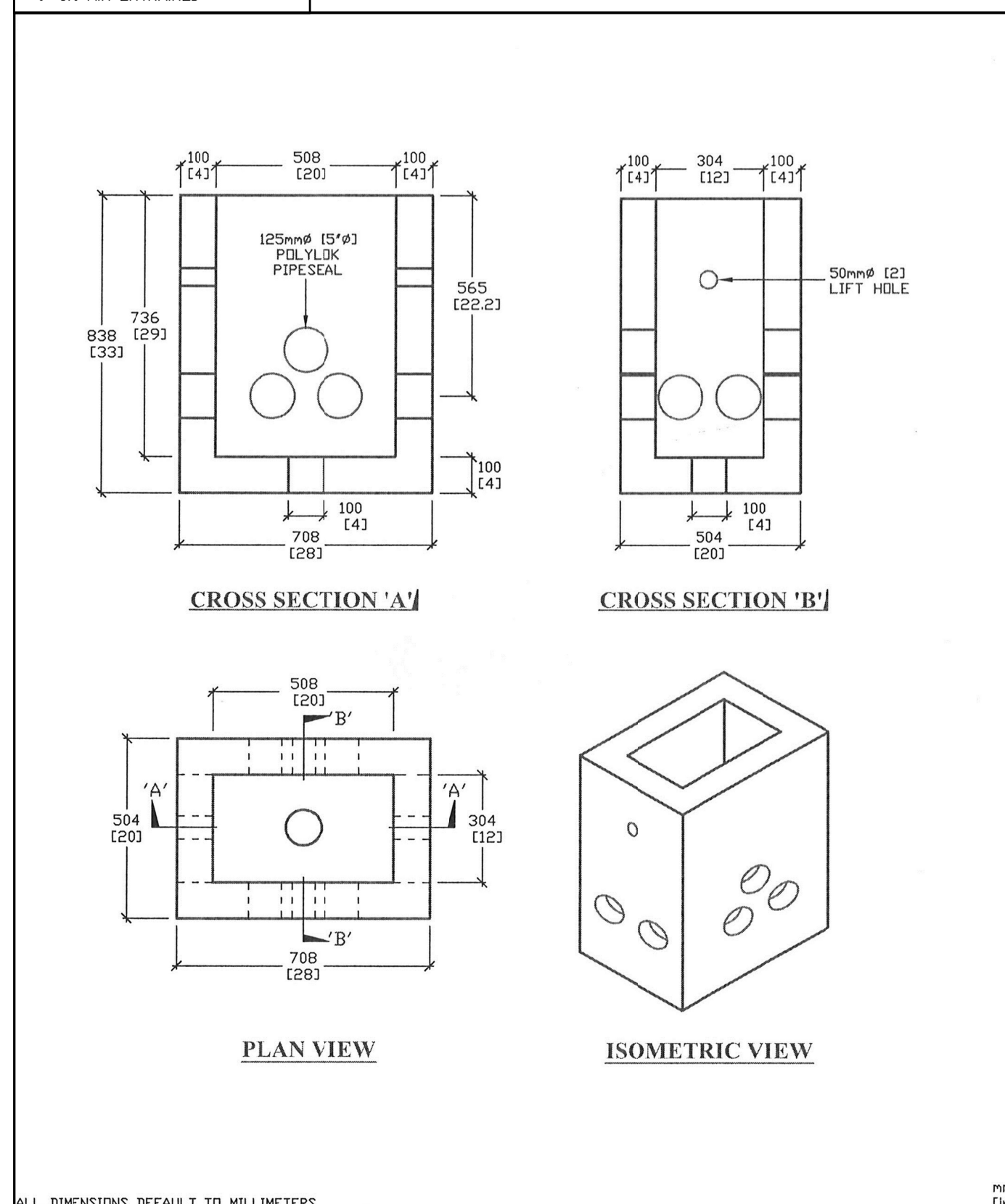
ELECTRICAL TRENCHING DETAIL 5
SCALE: N.T.S.



ELECTRICAL TRENCHING DETAIL 6
SCALE: N.T.S.

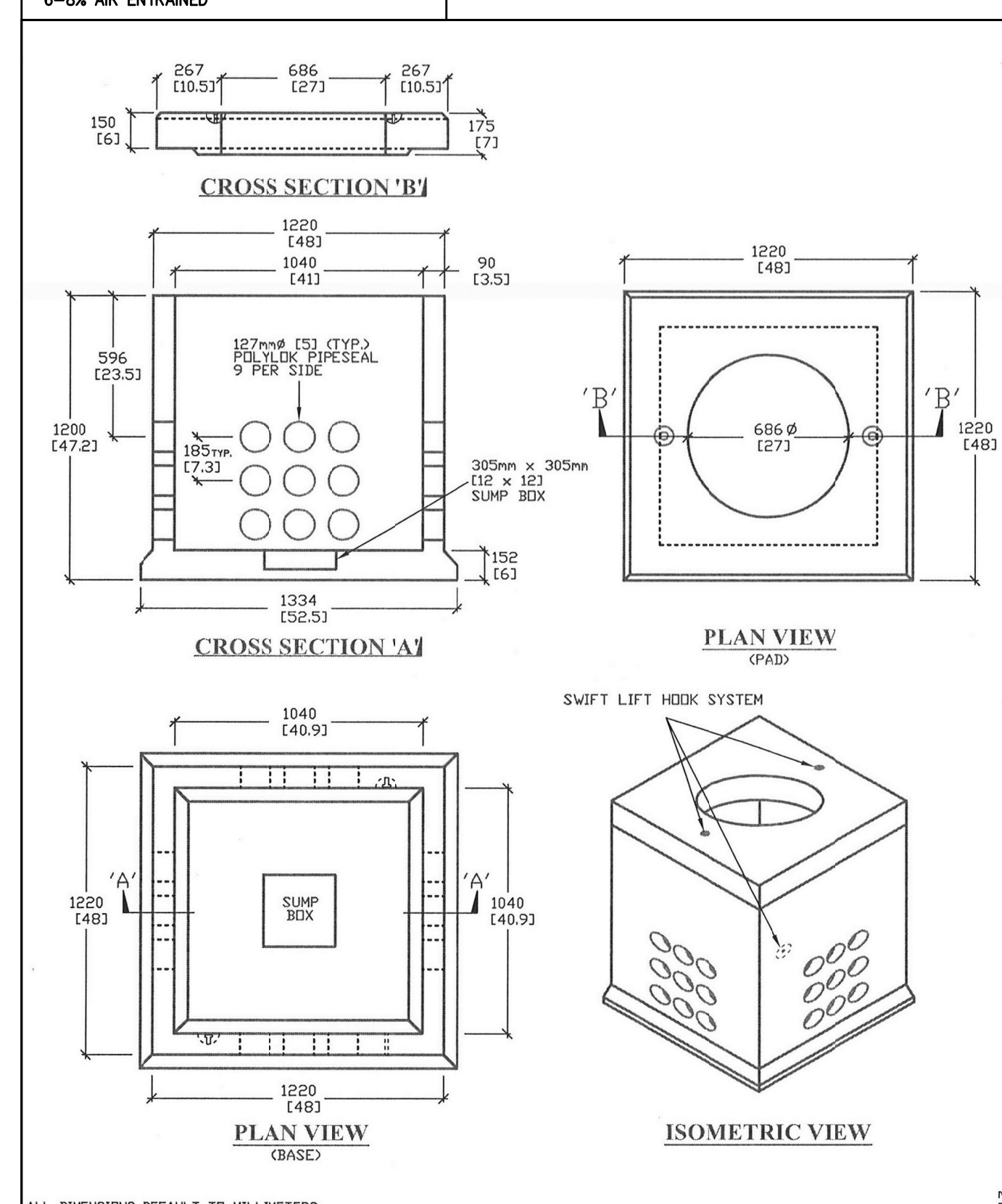
NOTE:
1. MINIMUM COVER FROM TOP OF CONDUIT TO GRADE IS 450MM
2. CONDUITS TO BE SURROUNDED WITH 50MM CONCRETE
3. PROVIDE REBAR AS INDICATED.
4. PROVIDE WARNING TAPE ABOVE DUCTBANK EXTENDING 50MM BEYOND DUCTBANK.
5. SPACING BETWEEN CONDUITS TO BE 38mm (1.5")

PRECAST HANDHOLE NOTES:
300mm X 500mm [I.D.]
C/W LID
COVER AS PER O.P.S.D. 2112.05
CSA 23.4-05
35MPa (5000 PSI) AT 28 DAYS
6-8% AIR ENTRAINED



PRECAST ELECTRICAL HANDHOLE DETAIL 7
SCALE: N.T.S.

PRECAST MANHOLE HANDHOLE NOTES:
1.3m (H) X 1040mm X 1040mm
C/W LID
DESIGN TO CL-625-ONT TRUCK LIVE LOADING AS PER CSA S6-06
CSA 23.4-05
35MPa (5000 PSI) AT 28 DAYS
6-8% AIR ENTRAINED



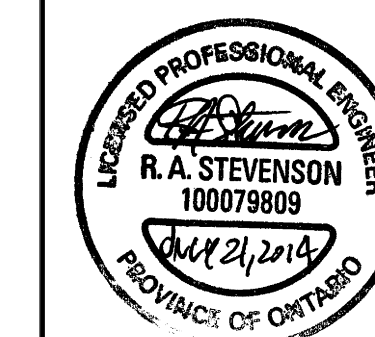
ELECTRICAL MANHOLE DETAIL 8
SCALE: N.T.S.



1224 GARDINERS ROAD, SUITE 201
KINGSTON, ONTARIO
CANADA K7P 0G2
PHONE: 613-634-7373 FAX: 613-634-3523
WWW.WSPGROUP.COM

CONSULTANT:

SEAL:



CLIENT:



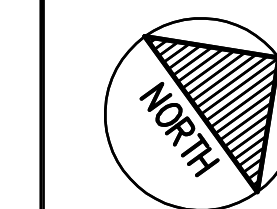
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CLIENT REF. # 20026720 (FHMP11-01)

PROJECT:

**FORT HENRY ADVANCED
BATTERY, PARADE SQUARE
REPAVING, DRAINAGE UPGRADES
AND UNDERGROUND UTILITIES
REPLACEMENT**

KEY PLAN:



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NO.	DATE	DESCRIPTION
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IS	RE	DATE	DESCRIPTION

PROJECT NO: 111-21759-00 DATE: JULY 2014

ORIGINAL SCALE: 1:200 IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

DESIGNED BY: JB

DRAWN BY: CES

CHECKED BY: AS

DISCIPLINE: MECHANICAL

TITLE: MECHANICAL LAYOUT

SHEET NUMBER: M1.2

SHEET #: 2 OF 2

ISSUE: ISSUED FOR TENDER

DATE OF: 07/22/2014

GENERAL NOTES:

- CONTRACT DRAWINGS FOR MECHANICAL WORK ARE IN PART DIAGRAMATIC, INTENDED TO CONVEY THE GENERAL SCOPE OF WORK AND GENERAL ARRANGEMENT FOR MECHANICAL SYSTEMS AND EQUIPMENT. CONTRACTOR TO COORDINATE LAYOUT OF MECHANICAL SYSTEMS WITH OTHER TRADES. PROVIDE ADDITION PIPING, DUCTING, FITTINGS, SUPPORTS, ETC. REQUIRED TO FACILITATE THE WORK. NO EXTRA PAYMENTS ARISING FROM FAILURE TO MAKE THIS COORDINATION WILL BE CONSIDERED.
- EXCAVATION BY DIV.31.

MECHANICAL NOTES:

- DESIGN HAS ALLOWED FOR NATURAL GAS USAGE CAPACITIES AS FOLLOWS:
 - TYPICAL CASEMATE HEATER: 1.4 m³/hr (50,000 btuh);
 - KITCHEN APPLIANCES (TOTAL): 17.0 m³/hr (600,000 btuh);
 - BARBEQUE/GRILLE CONNECTIONS (TOTAL): 8.2 m³/hr (290,000 btuh).
- PARCS CANADA WILL PROVIDE APPROXIMATELY 75m OF 50# POLYETHYLENE PIPING (CURRENTLY LOCATED ON SITE) TO BE INSTALLED AS PART OF THIS WORK. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE.
- PROVIDE TRACER WIRE FOR ALL BURIED GAS PIPING

