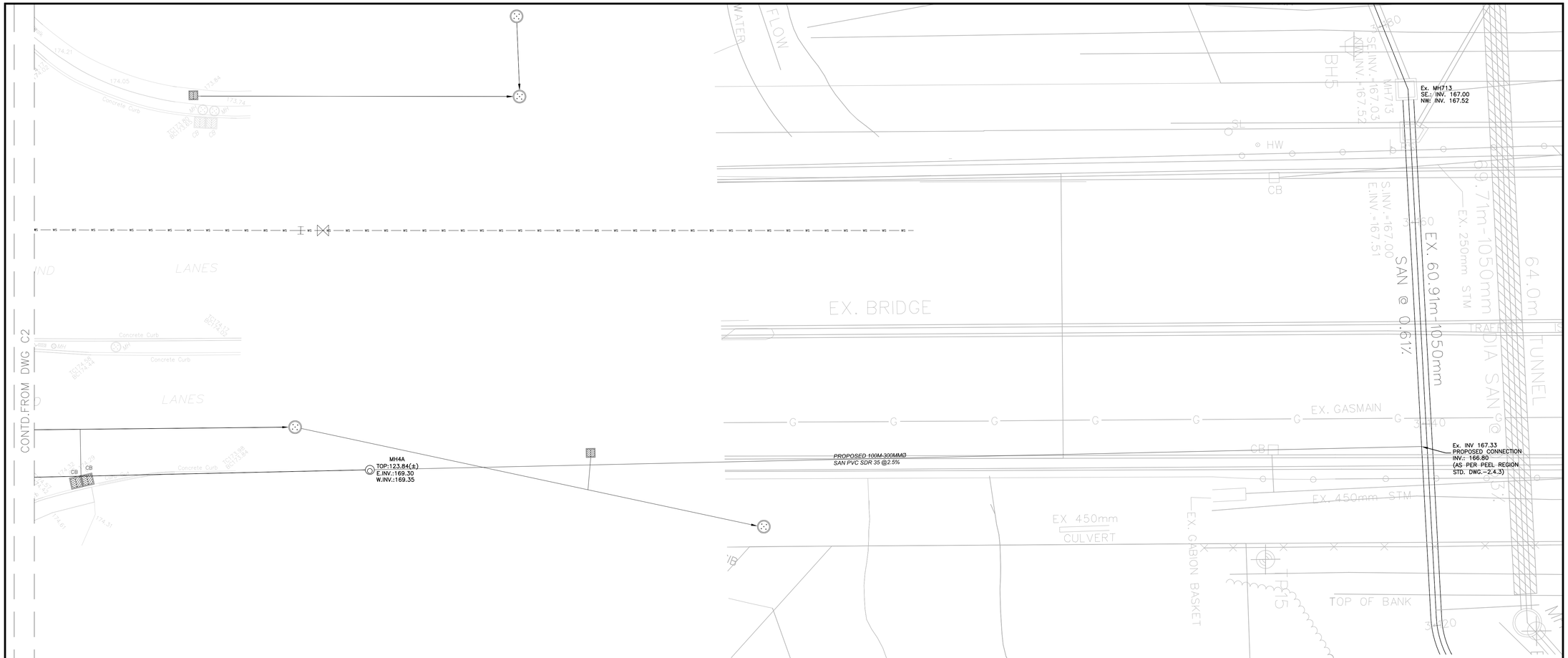

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21FEB.2020
PROVINCE OF ONTARIO

N
(GEODETIC NORTH)
PROJECT NORTH

NOT FOR CONSTRUCTION

No.	Date	Version	Dwn.
1.	21 FEB. 2020	ISSUED FOR ZBA	AZ

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Contractor must verify all job dimensions, drawings, details and specifications and report any discrepancies to designer before proceeding with work.

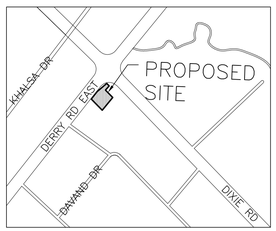
PROJECT:

PROPOSED GAS STATION 1480 DERRY ROAD EAST, MISSISSAUGA, ON.

DRAWING TITLE:

SANITARY CONNECTION AND NOTES

DRAWN BY: AZ	DATE: MAY 15 2018
CHECKED BY: AZ	SCALE: 1:200
PROJECT NO.: 16-90	DRAWING NO.: C2A



LEGEND

	PROPERTY LINE
	PROPOSED CONCRETE CURB
1M D/C	PROPOSED DEPRESSED CONCRETE CURB
	PROPOSED STORM SEWER
MH1	PROPOSED STORM MANHOLE
	PROPOSED CATCH BASIN MANHOLE
CB	PROPOSED CATCH BASIN
MH1A	PROPOSED SANITARY MANHOLE
EX.CB	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
	BARRIER FREE PARKING
	MAIN ENTRANCE
	OVERHEAD DOOR
U/P	UTILITY POLE
	EXISTING TREE
A.W.	ARIAL WIRE
	BARRIER CURB
	WATER VALVE
B.L.	BOLLARDS LINE
M	WATER METER LOCATION
B	BACK FLOW PREVENTER
V	WATER VALVE

REGION OF PEEL NOTES

1. ALL MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO THE CURRENT PEEL PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
2. WATERMAIN AND/OR WATER SERVICE MATERIALS 100MM (4") AND LARGER MUST BE P.V.C DR–18 MANUFACTURED TO A.W.W.A SPEC. C900.16 COMPLETE WITH TRACER WIRE. SIZES 50MM(2") AND SMALLER ARE TO BE TYPE 'K' SOFT COPPER PIPE.
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 1.7M(5'–6") WITH A MINIMUM HORIZONTAL SPACING OF 1.2M(4'–0") FROM THEMSELVES AND ALL OTHER UTILITIES.
4. PROVISION FOR FLUSHING WATER LINE PRIOR TO TESTING ETC. MUST BE PROVIDED WITH AT LEAST A 50MM(2") OUTLET ON 100MM(4") AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END. THE SAME SIZE AS THE LINE THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100MM(4") MINIMUM ON A FIRE HYDRANT.
5. ALL CURB STOPS TO BE 3.0M(10") OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
6. HYDRANT AND VALVE SET TO REGION STANDARD 1–6–1, DIMENSIONS 'A' AND 'B' 0.70M(2') AND 0.90M(3') AND TO HAVE PUMPER NOZZLE.
7. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED SITE PLAN. COPY OF GRADE SHEET MUST BE SUPPLIED TO THE INSPECTOR PRIOR TO THE COMMENCEMENT OF WORK, WHERE REQUESTED BY THE INSPECTOR.
8. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.3M(12") OVER AND 0.50M(20") UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
9. ALL PROPOSED WATER PIPING MUST BE ISOLATED FROM EXISTING LINES IN ORDER TO ALLOW INDEPENDENT PRESSURE TESTING AND CHLORINATION FROM EXISTING SYSTEMS.
10. ALL LIVE TAPPING AND OPERATION OF REGION WATER VALES SHALL BE ARRANGED THROUGH THE REGIONAL INSPECTOR ASSIGNED OR BY CONTACTING THE OPERATIONS AND MAINTENANCE DIVISION.
11. LOCATION OF ALL EXISTING UTILITIES IN THE FIELD TO BE ESTABLISHED BY THE CONTRACTOR.
12. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATES EXPOSING, SUPPORTING AND PROTECTING OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
13. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO UTILITIES PRIOR TO CROSSING SUCH UTILITIES, FOR THE PURPOSE OF INSPECTION BY THE CONCERNED UTILITY. THIS INSPECTION WILL BE FOR THE DURATION OF THE CONSTRUCTION, WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING SUCH INSPECTION.
14. ALL PROPOSED WATER PIPING MUST BE ISOLATED THROUGH A TEMPORARY COM-BINATION THAT SHALL INCLUDE AN APPROPRIATE CROSS–CONNECTION CONTROL DEVICE, CONSISTANT WITH THE DEGREE OF HAZARD, FOR BACKFLOW PREVENTION THE ACTIVE DISTRIBUTION SYSTEM, CONFORMING TO REGION OF PEEL STANDARDS 1–7–7 OR 1–7–8.

SURVEY INFORMATION TAKEN FROM:

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MISSISSAUGA, ON.
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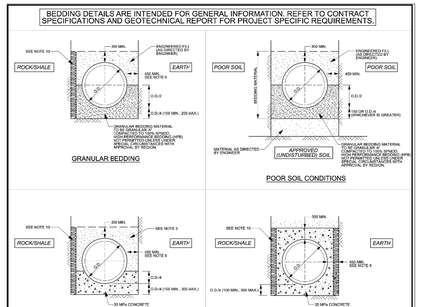
BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.



NOTE
1. MATERIAL TO BE PLACED IN TRENCH IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
2. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
3. IN POOR SOILS PIPE FOUNDATION TO BE PROVIDED AS PER DESIGN. ADDITIONAL BEDDING MODIFICATIONS MAY BE REQUIRED AS PER DESIGN.
4. BACKFILL ABOVE BEDDING AS REQUIRED PER DESIGN. NATIVE BACKFILL NOT PERMITTED UNDER PAVED PORTIONS.
5. COVER MATERIAL, NO STONES GREATER THAN 20mm WILL BE PERMITTED.
6. MIN. TRENCH WIDTH TO BE O.D. PLUS 400mm, MAX. TRENCH WIDTH TO BE O.D. PLUS 750mm, UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE.
7. APPROVED SOIL AS PER GEOTECHNICAL REPORT RECOMMENDATIONS
8. THE CONSULTANT SHALL RECOMMEND THE APPROPRIATE BEDDING REQUIREMENTS BASED ON THE FINDINGS OF THE GEOTECHNICAL INVESTIGATION AND PROVIDE A CROSS-SECTION ILLUSTRATION ON THE FIRST PLAN & PROFILE DRAWING OR GENERAL DETAIL PAGE.
9. IN ROCK EXCAVATION, A MINIMUM OF 150mm GRANULAR MATERIAL BEDDING IS REQUIRED UNDERNEATH THE PIPE (FOR PVC), AND UP TO SPRING LINE FOR CONCRETE PIPE.
10. IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 100mm THICK POLYETHYLENE FOAM FOR A.J. CONCRETE ENCASED SEWER INSTALLATIONS. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOAM® 400 OR NORDIC VOID 400 OR APPROVED EQUAL.

Region of Peel Working for you | PUBLIC WORKS STANDARD DRAWING | REV. DATE: MARCH 2017

BEDDING DETAILS FOR SEWERS

APPROVED BY	DRAWN BY
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STD. DWG. NUMBER	SCALE
2-3-1	N.T.S.

GENERAL NOTES FOR PRECAST CIRCULAR OR RECTANGULAR MAINTENANCE HCLES:

1. PRECAST MAINTENANCE HOLES TO BE SUPPLIED BY A MANUFACTURER CERTIFIED UNDER THE OCPA PLANT PRODUCTION PROGRAM (STD. DWG. 2-5-1)
2. PROVIDE MONOLITHIC BASE SECTIONS FOR ALL MAINTANANCE HOLES UNLESS ALTERNATE APPROVED AND SPECIFIED ON PROJECT SPECIFIC REQUIREMENTS.
3. USE ALTERNATIVE BASE, TOP, PIPE SUPPORT OR CONNECTOR, STEPS, FRAME AND COVER AND/OR BENCHING ONLY WHERE APPROVED AND SPECIFIED ON PROJECT SPECIFIC REQUIREMENTS.
4. PROVIDE BASE EXTENSIONS FOR UPLIFT PREVENTION ON PRECAST MAINTENANCE HOLES 1200mm DIAMETER OR GREATER WHERE REQUIRED. REFER TO CONTRACT DRAWINGS AND SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.
5. SPECIAL BASE DESIGN REQUIRED FOR DEPTHS GREATER THAN 9.0 m.
6. FOR 1500mm DIAMETER AND LARGER SEWERS, PRECAST MAINTENANCE HOLE TEES ARE ACCEPTABLE (STD. DWGS. SECTION 2-7).
7. APPROVED ADJUSTMENT UNITS AND APPROVED FRAME AND COVER SYSTEMS TO BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS (STD. DWGS. SECTION 2-6).
8. FILL LIFTING HOLES WITH 1:3 NON SHRINK MORTAR MIX.
9. FROST STRAPS SHALL BE INSTALLED AT ALL RISER, TOP AND BASE SECTION JOINTS ON ALL PRECAST MAINTENANCE HOLES TO A MAXIMUM DEPTH OF 3.5m FROM FINISHED GRADE. INTERNAL FROST STRAP TO BE TYPICAL (STD. DWG. 2-5-23). EXTERNAL FROST STRAPS PERMITTED WITH APPROVAL FROM PROJECT ENGINEER. ADDITIONAL CORROSION PROTECTION REQUIRED AS PER MANUFACTURER'S RECOMMENDATIONS.
10. VENT PIPES SHALL BE REQUIRED AT EVERY THIRD MAINTENANCE HOLE ON SECTIONS OF SANITARY SEWERS WITH SLOPES GREATER THAN 20% AND ALL SANITARY SEWERS WITH SLOPES GREATER THAN 10% WITH HIGH LEVELS OF HYDROGEN SULFIDE. REFER TO PROJECT SPECIFIC REQUIREMENTS (STD. DWG. 2-5-22).
11. WATERPROOF MEMBRANE SHALL BE APPLIED EXTERNALLY AROUND ALL RISER, GRADE ADJUSTMENT UNITS,TOP AND BASE SECTION JOINTS ON ALL MAINTENANCE HOLES. WATERPROOF MEMBRANE TO BE "MEL-RIZ L" BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL. EXTEND COMPLETELY AROUND ALL RISER SECTION JOINTS WITH A MINIMUM 300mm WIDE STRIP. WATERPROOF ABOVE GRADE SURFACES WITH "CEMKOTE FLEX ST" BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL (STD. DWG. 2-5-2, 2-5-20). APPLY DETAIL STRIP ON ALL INSIDE OR OUTSIDE CORNER JOINTS BENEATH PRECAST MAINTENANCE HOLES. WATERPROOF BELOW GRADE SURFACES WITH "CEMKOTE" BY W.R. MEADOWS OR DETAIL STRIP TO BE "MEL-RIZ L" BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL (STD. DWG. 2-5-25).
12. FRP SAFETY PLATFORMS BY ACCESS INDUSTRIAL OF MISSISSAUGA ONTARIO, OR ALUMINUM SAFETY PLATFORMS, WHERE REQUIRED, TO BE INSTALLED IN MAINTENANCE HOLES 1200mm DIAMETER OR GREATER (STD.DWGS. SECTION 2-6). PLATFORMS TO BE ANCHORED USING 316 SS HILTI KWIK BOLTS OR ENGINEER APPROVED EQUAL.
13. FRP LADDERS BY ACCESS INDUSTRIAL OF MISSISSAUGA ONTARIO, OR ALUMINUM LADDERS, TO BE INSTALLED IN ALL MAINTENANCE HOLES 1200mm DIAMETER OR GREATER (STD.DWGS. SECTION 2-6). LADDERS TO BE ANCHORED USING 316 SS HILTI KWIK BOLTS OR ENGINEER APPROVED EQUAL.
14. BENCHING TO BE CONSTRUCTED TO THE OBVERT OF THE PIPE IN ALL CASES. 15MPa CONCRETE UNLESS OTHERWISE INDICATED (STD DWG. 2-5-20). BENCHING AS PER OPSS PROV 1206. MATERIAL SPECIFICATION FOR CONCRETE MATERIALS AND PRODUCTION.
15. FOR PVC PIPE (SEE NOTE 19), USE A FLEXIBLE WATERTIGHT CONNECTOR WITH GRANULAR BEDDING (STD. DWG. 2-5-15).
16. FOR RIGID PIPE (SEE NOTE 19), SUPPORT FROM MAINTENANCE HOLE TO FIRST JOINT WITH MIN. 20 MPa. CONCRETE CRADLE (STD. DWG 2-5-16).
17. IF MONOLITHIC RISER OR PRECAST RISER SECTIONS ARE USED, THEN THE LADDER (OR FIRST STEP) CAN BE ANCHORED INTO THE SECTION TO MEET THE MAX. 300mm DISTANCE FROM SURFACE. IF COMPOSITE SECTIONS ARE USED, THEN FRP LADDER MUST ANCHOR INTO TOP OF CONE OR TOP OF BARREL SECTION AND EXTEND TO WITHIN 300mm OF SURFACE.
18. ALL CHAMBERS LOCATED OUTSIDE OF R.O.W. OR WITHIN PARK SETTINGS MUST HAVE A 150mm OF SANITARY CHAMBER MARKING POST (GREEN IN COLOUR). WITHIN 600mm OF CHAMBER COVER (STD. DWG. 2-5-24). WARNERS SHALL NOT BE INSTALLED IF ERECTION RESULTS IN AN IMPEDIMENT TO PEDESTRIAN OR VEHICULAR TRAFFIC. NOT INCLUSIVE OF MAINTENANCE EQUIPMENT.
19. FOR CONNECTION OF FLEXIBLE OR RIGID PIPE TO SANITARY CHAMBERS. A FLEXIBLE WATERIGHT RUBBER CONNECTOR SHALL BE USED. THE CONNECTOR DESIGN TO MATCH SPECIFIC PIPE MATERIAL AND DIAMETER. CONNECTOR SHALL BE FACTORY MANUFACTURED. CONNECTORS SHALL BE "KOR-N-SEAL" BOOT BY NATIONAL PIPE & PLASTICS LIMITED OR "LINK-SEAL" CONNECTOR WITH FLEXIBLE RUBBER BOOT TO FACILITATE GROUTING OF ANNULAR SPACE INSIDE OF CHAMBER (STD. DWG 2-5-18, 2-5-19, 2-5-17)
20. ALL BENCHING SHALL BE HORIZONTAL AT THE INVERT. SUBGRADE UNDERNEATH FLAT CAPS OR TRANSITION SECTIONS TO BE PROVIDED WITH MIC PROTECTION (CEM-KOTE FLEX CR OR APPROVED EQUAL).
21. ALL CHAMBERS LOCATED OUTSIDE OF R.O.W. OR WITHIN PARK SETTINGS SHALL BE CONSTRUCTED SO THAT COVER SURFACE IS 100mm (MIN.) ABOVE FINISHED GRADE UNLESS OTHERWISE APPROVED BY PROJECT ENGINEER. OR IF THIS CREATES AN IMPEDIMENT TO PEDESTRIAN OR VEHICULAR TRAFFIC, NOT INCLUSIVE OF MAINTENANCE EQUIPMENT.

NOTE
1. GENERAL NOTES TO BE READ IN CONJUNCTION WITH ALL STANDARD DRAWINGS PERTAINING TO PRECAST CIRCULAR MAINTENANCE HOLES.

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NEW SANITARY SEWER CONSTRUCTION
GENERAL NOTES FOR PRECAST MAINTENANCE HOLES

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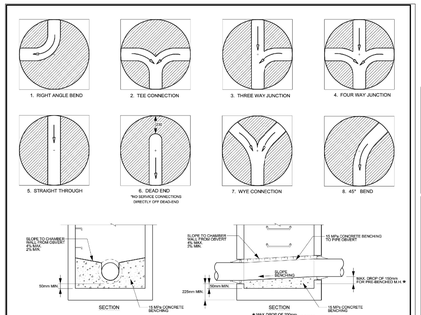
2-5-1	N.T.S.



REFER TO STANDARD DRAWING 2-5-21 FOR MAXIMUM PIPE SIZES FOR MAINTENANCE HOLES

NOTE
1. CONCRETE TO BE 15 MPa COMPRESSIVE STRENGTH.
2. BENCHING TO BE GIVEN WOOD FLOAT FINISH. CHANNEL TO BE GIVEN STEEL TROWEL FINISH.
3. ALL CHANNELS MUST EXTEND 300 mm STRAIGHT OUT FROM MAINTENANCE HOLE WALL BEFORE CURVATURE BEGINS.
4. BENCHING TO BE CONSTRUCTED TO THE OBVERT OF THE PIPE.
5. FACTORY CAST PRE-BENCHING MAY BE USED WITHIN MONOLITHIC BASE SECTIONS.
6. REFER TO STANDARD DRAWING 2-5-1 FOR GENERAL NOTES PERTAINING TO PRECAST MAINTENANCE HOLES.
7. REFER TO STANDARD DRAWING 2-5-2 FOR TYPICAL INSTALLATION OPTIONS AND REQUIREMENTS.

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NEW SANITARY SEWER CONSTRUCTION
MAINTENANCE HOLE BENCHING DETAILS

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