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| ATE 10/8/21 | 21 REVISION REVISED PLANS PER DONALD L. HAMLIN CONSULTING ENGINEERS 10/4/2021 REVIEW COMMENTS | | |
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| RVEY OBCA | | LANDS OF BUSHEY | DATE 5/20/21 |
| <i>sign</i> OBCA | ■ FINAL | | <i>јов#</i> 2020—107 |
| GRT | O'LEARY-BURKE | 41 MAPLE STREET ESSEX JUNCTION, VT | <i>FILE</i> 2020–107–S3 |
| IECKED | CIVIL ASSOCIATES, PLC | | PLAN SHEET # |
| DWB ALE 1" = 20' | 13 CORPORATE DRIVE ESSEX JCT., VT PHONE: 878-9990 FAX: 878-9989 E-MAIL: poleary@olearyburke.com | SITE PLAN | 1 |





| REPLACEMENT | OF | EXISTING |
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| BITUMINOUS | PA | VEMENT |
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NTS



GENERAL WATER SPECIFICATIONS

- CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE AND THE VILLAGE OF ESSEX JUNCTION AT 802-878-6942 PRIOR TO ANY EXCAVATION. UTILITIES INFORMATION SHOWN ON THESE PLANS WERE OBTAINED FROM THE BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER BE ACCURATE OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON.
- THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE VILLAGE OF ESSEX JUNCTION LAND DEVELOPMENT CODE. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED MANHOLE OR SANITARY SEWER. THIS DISTANCE CAN BE REDUCED TO 5 FEET FOR STORM SEWERS. WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.
- THE WATER MAINS SHALL BE CONSTRUCTED. TESTED, AND DISINFECTED IN ACCORDANCE WITH THE VILLAGE OF ESSEX JUNCTION LAND DEVELOPMENT CODE SECTION 112.D.14 AND AWWA STANDARDS C-600 AND C-651 WITH THE EXCEPTION OF THE TABLET METHOD OF DISINFECTION. THE CONTRACTOR SHALL FURNISH ALL GAUGES, TESTING PLUGS, CAPS, AND ALL OTHER NECESSARY EQUIPMENT AND LABOR TO PERFORM LEAKAGE, PRESSURE AND DISINFECTION TESTS IN SECTIONS OF AN APPROVED LENGTH. EACH VALVED SECTION OR A MAXIMUM OF ONE THOUSAND FEET (1,000') OF THE PIPE SHALL BE TESTED. ALL WATER REQUIRED FOR TESTING SHALL BE POTABLE. ALL TESTING SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER.

FOR THE PRESSURE TEST, THE CONTRACTOR SHALL DEVELOP AND MAINTAIN 200 POUNDS PER SQUARE INCH FOR TWO HOURS. FAILURE TO HOLD THE DESIGNATED PRESSURE FOR THE TWO-HOUR PERIOD CONSTITUTES A FAILURE OF THE SECTION TESTED. THE LEAKAGE TEST SHALL BE PERFORMED CONCURRENTLY WITH THE PRESSURE TEST. DURING THE TEST, THE CONTRACTOR SHALL MEASURE THE QUANTITY OF WATER REQUIRED TO MAINTAIN THE TEST PRESSURE. LEAKAGE SHALL NOT EXCEED THE QUANTITY GIVEN BY:

- L = SD (SQUARE ROOT OF P) / 148,000
- L = LEAKAGE IN GALLONS/HOURS = LENGTH OF PIPELINE TESTED
- D = DIAMETER OF PIPE IN INCHESP = AVERAGE TEST PRESSURE IN PSI

ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH THE VILLAGE OF ESSEX JUNCTION LAND DEVELOPMENT CODE SECTION 112.D.14 AND AWWA C600 LATEST REVISION. SHOULD ANY SECTION OF THE PIPE FAIL EITHER THE PRESSURE OR LEAKAGE TESTS. THE CONTRACTOR SHALL DO EVERYTHING NECESSARY TO LOCATE AND REPAIR OR REPLACE THE DEFECTIVE PIPE, FITTINGS, OR JOINTS AT NO EXPENSE TO THE OWNER. IF, FOR ANY REASON, THE ENGINEER SHOULD ALTER THE FOREGOING PROCEDURES. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR THE TIGHTNESS OF THE LINE WITH THE ABOVE REQUIREMENTS. THE METHOD OF DISINFECTION SHALL BE BY THE CONTINUOUS FEED METHOD UNLESS OTHERWISE APPROVED BY THE ENGINEER. AFTER FILLING, FLUSHING, AND THE INITIAL ADDITION OF CHLORINE SOLUTION. THE FREE CHLORINE CONCENTRATION WITHIN THE PIPE SHALL BE AT LEAST 20 MG/L. THE CHLORINATED WATER SHALL REMAIN IN THE MAIN FOR A PERIOD OF AT LEAST 24 HOURS. AT THE END OF THIS PERIOD, THE TREATED WATER IN ALL PORTIONS OF THE MAIN SHALL HAVE A RESIDUAL OF NOT LESS THAN 10 MG/L FREE CHLORINE. ALL DISINFECTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE ENGINEER. THE DISINFECTION PROCESS SHALL BE DEEMED ACCEPTABLE ONLY AFTER SAMPLES OF WATER FROM THE FLUSHED, DISINFECTED MAIN TAKEN BY THE ENGINEER AND TESTED AT AN APPROVED LABORATORY SHOW NO EVIDENCE OF BACTERIOLOGICAL CONTAMINATION. DISINFECTION SHALL CONFORM TO THE LATEST AWWA C651 REVISION. THE PIPELINE AND APPURTENANCES SHALL BE MAINTAINED IN AN UNCONTAMINATED CONDITION UNTIL FINAL ACCEPTANCE. DISINFECTION SHALL BE REPEATED WHEN AND WHERE REQUIRED AT NO EXPENSE TO THE OWNER UNTIL FINAL ACCEPTANCE BY THE OWNER.

- ALL NEW WATER MAIN PIPE SHALL BE OF THE SIZE AND TYPE SHOWN ON THE PLANS. CL52, DOUBLE 4 CEMENT LINED DUCTILE IRON, SHALL BE IN ACCORDANCE WITH AWWA C-151, C-104, AND C-111. PVC PIPE SHALL BE IN ACCORDANCE WITH AWWA C-900. ALL FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON, 350 POUNDS WORKING PRESSURE, AND CONFORM TO AWWA C-104, C-111, AND C-110 OR C-153 FOR COMPACT FITTINGS. MECHANICAL JOINT NUTS AND BOLTS SHALL BE HIGH STRENGTH, LOW ALLOY STEEL PER ANSI A-21.11
- 5. ALL HYDRANTS SHALL BE KENNEDY MODEL K-81D MEULLER SUPER CENTURION 250 AND CONFORM TO AWWA C-502 WITH A 5 1/4" VALVE OPENING, A MECHANICAL JOINT INLET, A 6" MECHANICAL JOINT SHOE, AND BE LEFT OPENING WITH 5" STORZ CONNECTION WITH DOUBLE START THREADS. THE CONTRACTOR SHALL PROVIDE AND INSTALL AN AUXILIARY VALVE OF THE TYPE INDICATED ON THE CONTRACT DRAWINGS AND A LENGTH OF 6" DUCTILE IRON PIPE SUFFICIENT TO CONNECT THE HYDRANT TO THE MAIN.
- 6. ALL GATE VALVES SHALL BE CEMENT-LINED AND MEET THE REQUIREMENTS OF AWWA C-509. ALL VALVES SHALL BE MECHANICAL JOINT, CAST IRON BODY, PARALLEL BRASS SEATS, NON-RISING STEM, INSIDE SCREW, RESILIENT SEAT CONSTRUCTION WITH O-RING STEM SEALS.
- 7. ALL WATER MAIN THRUST BLOCKS SHALL BE CONSTRUCTED OF 3,500 PSI CONCRETE.
- 8. THE WATER MAINS SHALL HAVE A MINIMUM DEPTH OF COVER OF 6'.
- ANY SURFACES, LINES, OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS 9. SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF CONSTRUCTION.
- 10. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF THE INDIVIDUAL LOT WATER LINE SERVICES WITH THE OWNER AT THE TIME OF CONSTRUCTION.
- 11. THE CONTRACTOR SHALL USE "MEGALUG" RESTRAINTS ON ALL M.J. FITTINGS.
- 12. ALL MAIN LINE GATE VALVES SHALL BE BEDDED IN A MINIMUM OF 6" OF 3/4" 1" STONE. CONCRETE SHALL NOT BE USED.



NOTE: SHARED DRIVE SHALL BE CONSTRUCTED PER VILLAGE OF ESSEX JUNCTION DPW STANDARDS

SHARED DRIVEWAY / PARKING CROSS-SECTION NTS

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| NID W. BUR | SURVEY OBCA | | LANDS OF BUSHEY | DATE 5/20/21 | |
| | DESIGN OBCA | FINAL SKETCH/CONCEPT | | JOB# 2020—107 | |
| am How Date = | DRAWN GRT | O'LEARY-BURKE | 41 MAPLE STREET ESSEX JUNCTION, VT | FILE 2020-107-S3 | |
| 316488 | CHECKED | CIVIL ASSOCIATES, PLC | | PLAN SHEET # | |
| | DWB 13 CORPORATE DRIVE SCALE ESSEX JCT., VT NTS PHONE: 878-9990 FAX: 878-9989 E-MAIL: poleary@olearyburke.com | | WATER SUPPLY AND PROJECT DETAILS | 2 | |

GENERAL SEWER SPECIFICATIONS

GENERAL:

THIS ITEM SHALL CONSIST OF THE EXCAVATION AND BACKEILLING REQUIRED FOR THE COMPLETE CONSTRUCTION OF GRAVITY SANITARY SEWERS. FORCE MAINS, AND ALL APPURTENANT CONSTRUCTION RELATED THERETO, INCLUDING CHIMNEYS, SERVICE CONNECTIONS, THRUST BLOCKS, AND OTHER ITEMS NECESSARY FOR A COMPLETE SANITARY SEWER SYSTEM AS INDICATED ON THE DRAWINGS.

MATERIALS:

PROJECT WORK

A. TYPES OF PIPE

TYPES OF PIPE WHICH SHALL BE USED FOR THE VARIOUS PARTS OF WORK ARE AS FOLLOWS GRAVITY SEWERS SHALL BE PVC SOLID WALL PIPE MEETING ASTM SPECIFICATIONS D-3034 OR F679. B. PVC SEWER PIPE

PVC SEWER PIPE SHALL CONFORM IN ALL RESPECTS TO THE LATEST REVISION OF ASTM SPECIFICATIONS D-3034 OR F679, TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, SDR35. WALL THICKNESS OF ALL PVC SHALL MEET ASTM SPECIFICATIONS FOR SDR35 PIPE. ALL PIPE AND FITTINGS SHALL BE CLEARLY MARKED AS FOLLOWS:

> MANUFACTURER'S NAME AND TRADEMARK NOMINAL PIPE SIZE MATERIAL DESIGNATION 12454C PVC LEGEND "TYPE PSM SDR35 PVC SEWER PIPE" OR "PS 46 PVC SEWER PIPE" DESIGNATION ASTM D-3034 OR F679

JOINTS SHALL BE PUSH-ON TYPE USING ELASTOMERIC GASKETS AND SHALL CONFORM TO ASTM D-3212. THE GASKETS SHALL BE FACTORY INSTALLED.

THE PIPE SHALL BE FURNISHED IN NOMINAL 13 FOOT LENGTHS. SUFFICIENT NUMBERS OF SHORT LENGTHS AND FULL MACHINE FITTINGS SHALL BE PROVIDED FOR USE AT MANHOLES, CHIMNEYS, AND CONNECTIONS. ALL CONNECTIONS WILL REQUIRE THE USE OF MANUFACTURED FITTINGS. FIELD FABRICATED, SADDLE-TYPE CONNECTIONS WILL NOT BE CONSIDERED ACCEPTABLE.

ANY PIPE OR FITTING HAVING A CRACK OR OTHER DEFECT OR WHICH HAS RECEIVED A SEVERE BLOW SHALL BE MARKED REJECTED AND REMOVED AT ONCE FROM THE WORK SITE. ALL FIELD CUTS ARE TO BE MADE WITH SAW AND 90 DEGREE MITRE BOX. BEVEL THE CUT END TO THE SAME AS THE FACTORY BEVEL AND REMOVE ALL INTERIOR BURRS. MEASURE AND PLACE A HOMING MARK ON THE PIPE BEFORE ASSEMBLING

THE PIPE INSTALLED UNDER THIS SPECIFICATION SHALL BE INSTALLED SO THAT THE INITIAL DEFLECTION, MEASURED AS DESCRIBED BELOW, SHALL BE LESS THAN FIVE PERCENT (5%).

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. THE DEFLECTION TEST SHALL BE RUN USING A RIGID BALL OR MANDREL HAVING A DIAMETER EQUAL TO 95 PERCENT OF THE INSIDE DIAMETER OF THE PIPE. NO MECHANICAL PULLING DEVICES SHALL BE USED DURING THE DEFLECTION TESTS. ALL PIPE NOT MEETING THE DEFLECTION TEST SHALL BE REEXCAVATED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

THE MANHOLE WATER STOP GASKET AND STAINLESS STEEL CLAMP ASSEMBLY MUST BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION OF ANY PIPE. THE CONTRACTOR WILL SUBMIT CERTIFICATION THAT THE MATERIALS OF CONSTRUCTION HAVE BEEN SAMPLED. TESTED, AND INSPECTED, AND THAT THEY MEET ALL THE REQUIREMENTS -- INCLUDING WALL THICKNESS -- IN ACCORDANCE WITH ASTM C-3034 OR ASTM F679 FOR ALL PIPE AND FITTINGS TO BE INCLUDED IN THE

PVC PIPE SHALL NOT BE INSTALLED WHEN THE TEMPERATURE DROPS BELOW 32 DEGREES FAHRENHEIT OR GOES ABOVE 100 DEGREES FAHRENHEIT. DURING COLD WEATHER, THE FLEXIBILITY AND IMPACT RESISTANCE OF PVC PIPE IS REDUCED.

EXTRA CARE IS REQUIRED WHEN HANDLING PVC PIPE DURING COLD WEATHER. PVC PIPE SHALL NOT BE STORED OUTSIDE AND EXPOSED TO PROLONGED PERIODS OF SUNLIGHT AS PIPE DISCOLORATION AND REDUCTION IN PIPE IMPACT STRENGTH WILL OCCUR. CANVAS OR OTHER OPAQUE MATERIAL SHALL BE USED TO COVER PVC PIPE STORED ONSITE. E. MANHOLES

THE CONTRACTOR SHALL CONSTRUCT REINFORCED CONCRETE MANHOLES AND DROP MANHOLES TO THE DIMENSIONS AT THE LOCATIONS SHOWN ON THE CONTRACT DRAWINGS. ALL PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST VERSION OF THE ASTM SPECIFICATIONS C478. THE EXTERIOR OF THE MANHOLE SHALL BE COATED WITH A WATERPROOF SEALANT.

THE FOOTING SHALL BE CLASS B PRECAST CONCRETE AND SHALL CONFORM TO THE DIMENSIONS INDICATED ON THE PLANS. SHELVES SHALL BE CONSTRUCTED WITH CAST-IN-PLACE OR PRECAST GRADE RINGS. INVERTS FOR SEWER

MANHOLES SHALL BE AS SHOWN ON THE PLANS AND DETAILS. INVERTS SHALL HAVE THE EXACT SHAPE OF THE SEWER TO WHICH THEY ARE CONNECTED, AND ANY CHANGE IN SIZE OR DIRECTION SHALL BE GRADUAL AND EVEN.

ALL CONSTRUCTION OF SEWER MANHOLES MUST BE CARRIED OUT TO ENSURE WATERTIGHT WORK. ANY LEAKS IN MANHOLES SHALL BE CAULKED AND COMPLETELY REPAIRED TO THE SATISFACTION OF THE ENGINEER OR THE ENTIRE STRUCTURE SHALL BE REMOVED AND REBUILT. REPAIRS SHALL ONLY BE ALLOWED TO THE EXTERIOR OF THE MANHOLE

ALL MANHOLES ARE TO BE PROVIDED WITH COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH STEEL REINFORCEMENT TWELVE INCHES (12") ON CENTER. ALL MANHOLES SHALL BE PROVIDED WITH TOUGH, GRAY, CAST IRON MANHOLE FRAMES AND COVERS. ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED AND THEN COATED WITH HOT TAR BEFORE BEING DELIVERED. FRAMES AND COVERS SHALL BE LEBARON LC 266 TYPE C OR AN APPROVED EQUAL, AND HAVE A MINIMUM WEIGHT OF 400 POUNDS. MANHOLE COVERS SHALL HAVE THE WORD SEWER PRINTED ON THEM.

PRECAST RISERS AND BASES FOR MANHOLES SHALL CONFORM TO ASTM SPECIFICATIONS C-361. THE PIPE OPENING IN THE PRECAST MANHOLE RISER SHALL HAVE A CAST-IN-PLACE FLEXIBLE GASKET OR AN EQUIVALENT SYSTEM FOR PIPE INSTALLATION AS APPROVED BY THE ENGINEER. JOINTS BETWEEN MANHOLE RISERS SHALL BE RUBBER "O" RING SEALS OR SOFT BUTYL JOINT SEALER (ROPE FORM).

THE MANHOLE COVER FRAMES SHALL BE SET TO FINAL GRADE ONLY AFTER THE BASE COURSE PAVING HAS BEEN COMPLETED. MANHOLES SHALL BE CONSTRUCTED TO GRADE WITH CAST-IN-PLACE OR PRECAST GRADE RINGS. ALL MANHOLE LIFT HOLES SHALL BE GROUTED INSIDE AND OUT WITH EXPANDABLE GROUT.

MANHOLES SHALL BE PLACED AT ALL CHANGES IN SLOPE, SIZE, ALIGNMENT OF PIPE, AT THE ENDS OF EACH LINE, AND AT LEAST EVERY 300 FEET.

EACH BRICK SHALL BE WETTED AND COMPLETELY BEDDED IN MORTAR AT ITS BOTTOM, SIDES, AND ENDS IN ONE OPERATION WITH CARE BEING TAKEN TO FILL EVERY JOINT. BRICKWORK SHALL BE WELL-BONDED, AND JOINTS SHALL BE AS CLOSE AS PRACTICABLE. NO BRICK MASONRY SHALL BE LAID IN WATER NOR SHALL ANY WATER BE ALLOWED TO RISE ON OR AROUND ANY BRICK MASONRY UNTIL IT HAS SET AT LEAST 24 HOURS. NO MASONRY SHALL BE LAID IN FREEZING WEATHER.

THE BRICK FOR ORDINARY BRICKWORK SHALL BE COMMON HARD-BURNED CLAY BRICK. ALL BRICK SHALL BE REGULAR AND UNIFORM IN SHAPE AND SIZE WITH PLANE, PARALLEL BEDS, AND FACES. ORDINARY BRICK SHALL CONFORM TO ASTM SPECIFICATION C-32, LATEST VERSION, AND SHALL BE GRADE SS.

BRICK MASONRY SHALL BE LAID IN PORTLAND CEMENT MORTAR COMPOSED OF ONE PART PORTLAND CEMENT AND TWO PARTS OF SAND, MEASURED BY VOLUME, TO WHICH NOT MORE THAN 10 POUNDS OF LIME SHALL BE ADDED FOR EACH BAG OF CEMENT. WATER FOR MORTAR SHALL BE CLEAN AND ONLY AN AMOUNT SUFFICIENT TO PRODUCE A WORKABLE MORTAR SHALL BE USED. MORTAR SHALL BE USED WITHIN ONE HOUR FROM THE TIME THE CEMENT WAS ADDED TO THE MIX.

THE SAND FOR MORTAR FOR BRICK MASONRY SHALL BE UNIFORMLY GRADED, CLEAN, SHARP, AND CONTAIN NO GRADES LARGER THAN WILL PASS A ONE-EIGHTH INCH (1/8") MESH SCREEN.

A. EXCAVATION:

CONSTRUCTION METHODS:

F. MASONRY

EXCAVATIONS SHALL BE MADE TO A POINT AT LEAST SIX INCHES (6") BELOW THE PIPE INVERT TO ACCOMMODATE THE BEDDING MATERIAL. ALL EXCAVATIONS ARE TO BE KEPT DRY WHILE PIPE IS BEING LAID AND UNTIL EACH JOINT AND PIPE HAS BEEN INSPECTED BY THE ENGINEER AND APPROVAL GIVEN TO COMMENCE BACKFILLING OPERATIONS.

B. LAYING SEWER PIPE:

C. BACKFILL

THE BELL END OF THE PIPE SHALL FACE UPGRADE AT ALL TIMES AND BE PLACED IN SUCH A POSITION AS TO MAKE THE INVERT EVEN WHEN THE SUCCEEDING SECTION IS INSERTED. WHERE REQUIRED BY ADVERSE GRADING CONDITIONS, THE CONTRACTOR SHALL FILL ANY GULLY TO MAKE A SUITABLE BEDDING FOR THE SEWER PIPE. ILL SHALL BE PNEUMATICALLY COMPACTED FOR THE FULL WIDTH OF THE PIPE UP TO A POINT 6" ABOVE THE TOP OF THE PIPE. TO A 95 PERCENT DRY DENSITY BY THE AASHTO-T-99, METHOD A (STANDARD PROCTOR) TEST, UPON WHICH THE SIX INCHES (6") OF BEDDING MATERIAL SHALL BE PLACED. PIPE BEDDING MATERIALS SHALL BE COMPACTED FOR THE FULL WIDTH OF THE TRENCH UP TO A POINT 6" ABOVE THE TOP OF THE PIPE.

ANY PIPE WHICH IS NOT LAID TO GRADE AND ALIGNMENT SHALL BE RELAID TO THE SATISFACTION OF THE ENGINEER. THE BEDDING MATERIAL SHALL BE PLACED AND COMPACTED ON EACH SIDE OF THE PIPE TO A HEIGHT EQUAL TO ONE-HALF THE PIPE DIAMETER AND FOR THE FULL WIDTH OF THE EXCAVATED TRENCH AND AS SHOWN ON THE ACCEPTED PLANS.

BACKFILL SHALL CONSIST OF APPROVED MATERIAL PLACED IN SIX INCH (6") LAYERS WITH EACH LAYER BEING THOROUGHLY COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO-T-99 STANDARD PROCTOR BY MEANS APPROVED BY THE ENGINEER.

THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR ITS FULL LENGTH. WALKING OR WORKING ON THE COMPLETED PIPELINE, EXCEPT AS MAY BE NECESSARY IN TAMPING OR BACKFILLING, SHALL NOT BE PERMITTED UNTIL THE TRENCH HAS BEEN BACKFILLED TO A HEIGHT OF AT LEAST TWO FEET (2') ON THE TOP OF THE PIPES. DURING CONSTRUCTION, ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

D. CONCRETE CRADLE AND ENCASEMENT FOR PIPE:

WHERE REQUIRED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, A CONCRETE CRADLE SHALL BE USED TO BOLSTER AND STRENGTHEN PIPE. WHERE REQUIRED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, CONCRETE ENCASEMENT OR SEWER WILL BE MADE TO PROTECT NEARBY WELLS OR WATERLINES FOR STREAM CROSSINGS OR FOR SIMILAR PURPOSES. ALL CONCRETE WILL BE CLASS B AS DEFINED IN THE VERMONT STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 501, AND WILL MEET THE REQUIREMENTS OF THAT SECTION.

E. FROST PROTECTION FOR SHALLOW SEWERS:

SEWERS WITH LESS THAN FIVE AND ONE-HALF FEET (5 1/2') OF COVER OVER THE CROWN OR WHER INDICATED ON THE PLANS SHALL BE PROTECTED AGAINST FREEZING BY INSTALLATION OF TWO, 2" THICK (4" TOTAL) STYROFOAM SM INSULATING SHEETS WITH A TOTAL WIDTH OF FOUR FEET (4') OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER. THE SHEETS SHALL BE PLACED SIX INCHES (6") ABOVE THE CROWN OF THE SEWER AFTER COMPACTION OF THE SIX INCH LIFT IMMEDIATELY ABOVE THE CROWN. CARE SHALL BE EXERCISED BY THI CONTRACTOR DURING BACKFILL, AND COMPACTION OVER THE STYROFOAM SM SHEETS SHALL MEET THE COMPRESSIVE STRENGTH REQUIREMENTS OF ASTM D1621-73 AND SHALL BE AS MANUFACTURED BY DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN, OR EQUAL. IN NO CASE SHALL THE SEWER LINES HAVE LESS THAN FOUR (4') FEET OF COVER OVER THE TOP OF THE PIPE.

F. LEAKAGE TESTS AND ALLOWANCES FOR GRAVITY SEWERS:

THE LOW PRESSURE AIR TEST WILL BE USED TO SIMULATE INFILTRATION OR EXFILTRATION RATES INTO OR OUT OF ALL GRAVITY SEWERS. THE CONTRACTOR WILL FURNISH ALL FACILITIES AND PERSONNEL FOR CONDUCTING THE TEST.

FINAL ACCEPTANCE OF THE SEWER SHALL DEPEND UPON THE SATISFACTORY PERFORMANCE OF THE SEWER UNDER TEST CONDITIONS. THE TEST SHALL BE PERFORMED ON PIPE BETWEEN ADJACENT MANHOLES AFTER BACKFILLING HAS BEEN COMPLETED AND COMPACTED.

ALL WYES, TEES, LATERALS, OR END-OF-SIDE SEWER STUBS SHALL BE PLUGGED WITH FLEXIBLE-JOINT CAPS, OR AN ACCEPTABLE ALTERNATE, SECURELY FASTENED TO WITHSTAND THE INTERNAL TEST PRESSURE. SUCH PLUGS OR CAPS SHALL BE READILY REMOVABLE, AND THEIR REMOVAL SHALL PROVIDE A SOCKET SUITABLE FOR MAKING A FLEXIBLE-JOINTED LATERAL CONNECTION OR EXTENSION

PRIOR TO TESTING FOR ACCEPTANCE, THE PIPE SHOULD BE CLEANED BY PASSING THROUGH THE PIPE A FULL GAUGE SQUEEGEE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE PIPE CLEANED. IMMEDIATELY FOLLOWING THE PIPE CLEANING. THE PIPE INSTALLATION SHALL BE TESTED WITH LOW-PRESSURE AIR. AIR SHALL BE SLOWLY SUPPLIED TO THE PLUGGED AIR INSTALLATION UNTIL THE INTERNAL AIR PRESSURE REACHES FOUR POUNDS PER SQUARE INCH (4.0 PSI) GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR TEMPERATURE STABILIZATION BEFORE PROCEEDING FURTHER

THE PIPELINE SHALL BE CONSIDERED ACCEPTABLE WHEN TESTED AT AN AVERAGE PRESSURE OF THREE POUNDS PER SQUARE INCH (3.0 PSI) GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE IF: 1. THE TOTAL RATE OF AIR LOSS FROM ANY SECTION TESTED IN ITS ENTIRETY BETWEEN MANHOLE AND CLEANOUT

STRUCTURES DOES NOT EXCEED 2.0 CUBIC FEET PER MINUTE: OR 2. THE SECTION UNDER TEST DOES NOT LOSE AIR AT A RATE GREATER THAN THE REQUIRED TIMES PER SECTION 115.D.6(b) OF THE VILLAGE OF ESSEX JUNCTION LAND DEVELOPMENT CODE.

THE REQUIREMENTS OF THIS SPECIFICATION SHALL BE CONSIDERED SATISFIED IF THE TIME REQUIRED IN SECONDS FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSI GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE IS NOT LESS THAN THAT COMPUTED ACCORDING TO THE FOLLOWING TABLE:

MINIMUM TEST TIME FOR VARIOUS PIPE SIZES DIAMETER (MIN./100 FT.) (INCHES)



THE TABLE GIVES THE REQUIRED TEST TIME IN MINUTES PER 100 FOOT LENGTHS OF PIPE FOR A GIVEN DIAMETER. IF THERE IS MORE THAN ONE PIPE SIZE IN THE SECTION OF LINE BEING TESTED, COMPUTE THE TIME FOR EACH DIAMETER; AND SUM THE TIMES TO FIND THE TOTAL REQUIRED TEST TIME.

IF THE PIPE INSTALLATION FAILS TO MEET THESE REQUIREMENTS, THE CONTRACTOR SHALL DETERMINE AT HIS OR HER OWN EXPENSE THE SOURCE OR SOURCES OF LEAKAGE AND SHALL REPAIR (IF THE EXTENT AND TYPE OF REPAIRS PROPOSED BY THE CONTRACTOR APPEAR REASONABLE TO THE ENGINEER) OR REPLACE ALL DEFECTIVE MATERIALS OR WORKMANSHIP. THE COMPLETED PIPE INSTALLATION SHALL MEET THE REQUIREMENTS OF THIS TEST BEFORE BEING CONSIDERED ACCEPTABLE.

SINCE THIS TEST DOES NOT DETERMINE THE TIGHTNESS OF MANHOLES. THEY SHALL BE TESTED SEPARATELY. THE EXFILTRATION LEAKAGE ALLOWANCE OUT OF MANHOLES SHALL BE NO GREATER THAN ONE GALLON PER DAY PER VERTICAL FOOT TO DEPTH. THE MANHOLE SHALL BE FILLED WITH WATER TO A POINT ONE FOOT (1') ABOVE THE HIGHEST POINT BETWEEN MANHOLE SECTIONS. IN AREAS OF HIGH GROUNDWATER, THERE SHALL BE NO VISIBLE LEAKAGE DUE TO INFILTRATION. IF A VACUUM TEST IS DESIRED, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED: THIS PREFERRED METHOD OF TESTING MANHOLES FOR LEAKAGE INVOLVES THE USE OF A DEVICE FOR SEALING THE TOP OF THE MANHOLE CONE SECTION AND PUMPING AIR OUT OF THE MANHOLE, CREATING A VACUUM AND HOLDING THIS VACUUM FOR A PRESCRIBED PERIOD OF TIME.)

1. ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. THE COMPLETED MANHOLE SHALL NOT BE BACKFILLED PRIOR TO TESTING. MANHOLES WHICH HAVE BEEN BACKFILLED SHALL BE EXCAVATED TO EXPOSE THE ENTIRE EXTERIOR PRIOR TO VACUUM TESTING OR THE MANHOLE SHALL BE TESTED FOR LEAKAGE BY MEANS OF A HYDROSTATIC TEST. REPAIRS SHALL ONLY BE MADE TO THE EXTERIOR OF THE MANHOLE.

2. ALL PIPE AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED IN A MANNER TO PREVENT DISPLACEMENT. 3. A PLATE WITH AN INFLATABLE RUBBER RING THE SIZE OF THE TOP OF THE MANHOLE SHALL BE INSTALLED BY

INFLATING THE RING WITH AIR TO PRESSURE ADEQUATE TO PREVENT LEAKAGE OF AIR BETWEEN THE RUBBER RING AND MANHOLE WALL. 4. AIR SHALL THEN BE PUMPED OUT OF THE MANHOLE THROUGH AN OPENING IN THE PLATE UNTIL A VACUUM IS CREATED INSIDE OF THE MANHOLE EQUAL TO TEN INCHES (10") OF MERCURY ON AN APPROVED VACUUM

GAUGE. THE REMOVAL OF AIR SHALL THEN BE STOPPED AND THE TEST TIME BEGUN. THE VACUUM MUST NOT DROP TO BELOW NINE INCHES (9") OF MERCURY WITH A TWO MINUTE TEST PERIOD. IF MORE THAN A ONE INCH (1") DROP IN VACUUM OCCURS WITHIN THE TWO MINUTE TEST PERIOD, THE MANHOLE HAS FAILED AND SHALL BE REPAIRED OR RECONSTRUCTED AND THEN RETESTED.

6. FOLLOWING SATISFACTORY TEST RESULTS, THE MANHOLE MAY BE BACKFILLED. IT IS NOTED THAT ALL EXISTING SANITARY SEWERS SHALL BE KEPT OPERATIONAL UNTIL NEW WORK HAS BEEN TESTED AND APPROVED BY THE ENGINEER. AT SUCH TIME, EXISTING SEWERS AND SEWER SERVICES SHALL BE CONNECTED TO THE NEW SEWERS.

G. LEAKAGE AND PRESSURE TESTING FOR FORCE MAIN ALL PIPELINES SHALL BE TESTED IN ACCORDANCE WITH THE VERMONT DEPARTMENT OF WATER RESOURCES ENVIRONMENTAL PROTECTION RULES, LATEST EDITION. A LEAKAGE AND PRESSURE TEST SHALL BE PERFORMED

THE HYDROSTATIC TEST PRESSURE SHALL BE A MINIMUM OF 50 PSI AT THE HIGHEST POINT ALONG THE TEST SECTION AND SHALL NOT VARY BY MORE THAN FIVE PSI DURING THE ENTIRE TWO HOUR TEST. IF AND WHEN DURING THE TEST THE PRESSURE DROPS BY FIVE PSI, THE QUANTITY OF WATER REQUIRED TO RESTORE THE TEST PRESSURE SHALL BE MEASURED.

AT THE END OF THE TWO HOUR TEST, THE PRESSURE SHALL BE RETURNED TO THE TEST PRESSURE AND THE ADDITIONAL VOLUME OF WATER MEASURED. THE TOTAL AMOUNT OF WATER USED DURING AND AT THE END OF THE TEST SHALL CONSTITUTE THE ACTUAL LEAKAGE. THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:

 $L = ND(P)^{3} / 7,400$ L = LEAKAGE IN GALLONS PER HOUR WHERE: D = DIAMETER OF PIPE IN INCHESP = AVERAGE TEST PRESSURE IN PSIN = NUMBER OF JOINTS IN THE LENGTH OF PIPE TESTEDH. CLEANING PIPELINES AND APPURTENANCES:

UPON COMPLETION OF CONSTRUCTION, ALL DIRT AND OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM PIPELINES AND THEIR APPURTENANT CONSTRUCTIONS. NO MATERIALS SHALL BE LEFT IN THE PIPELINES TO IMPEDE NORMAL FLOW THROUGH THEM.

I. SEWER SERVICE CONNECTIONS:

CONCURRENTLY.

WHERE REQUIRED ON THE PLANS, SEWER SERVICE CONNECTIONS FOR ONE HOUSE SHALL BE CONSTRUCTED OF SIX INCH (6") PIPE UNLESS OTHERWISE NOTED ON THE PLANS OF THE TYPE MATERIAL SPECIFIED UNDER THIS SECTION. THE PIPE SHALL BE LAID AND ITS JOINTS MADE AS REQUIRED FOR SEWER CONSTRUCTION IN THIS SPECIFICATION.

OPEN ENDS OF PIPES SHALL BE PROPERLY SEALED TO PREVENT DAMAGE AND INTRUSION OF FOREIGN MATTER WHERE HOOKUP TO THE BUILDING SEWER IS NOT COINCIDENT WITH SEWER MAIN CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR WILL PROVIDE A PVC PIPE TEMPORARY MARKER APPROVED BY THE ENGINEER FROM THE SEWER SERVICE INVERT UP TO TWENTY-FOUR INCHES (24") ABOVE THE FINISHED GRADE. THE MARKER SHALL BE SEATED SECURELY INTO THE GROUND FOR EASE IN RELOCATING THE END OF SEWER SERVICE CONNECTION FOR HOOKING UP THE BUILDING SEWER.

IN THE CASE OF RECONNECTION OF EXISTING SERVICES, SUCH RECONNECTIONS WILL BE MADE ONLY AFTER THE NEW SEWER MAIN HAS BEEN COMPLETED, TESTED, AND ACCEPTED. THE EXCAVATION, BEDDING MATERIAL, INSTALLATION, AND BACKFILL FOR SERVICE CONNECTIONS SHALL BE THE SAME AS FOR SEWER MAINS.

J. CLEANOUTS FOR SEWERS:

CLEANOUTS FOR GRAVITY SEWERS AND FORCE MAINS SHALL BE PROVIDED EVERY 100 FT OR WHERE THE SUM OF BENDS = 45 DEGREES. CLEANOUT FRAMES AND COVERS SHALL BE OF TOUGH GRAY CAST IRON. CASTINGS SHALL BE TRUE TO PATTERN AND FREE FROM FLAWS. THE BEARING SURFACE OF CLEANOUT FRAMES AND COVERS AGAINST EACH OTHER SHALL BE MACHINED TO GIVE CONTINUOUS CONTACT THROUGHOUT THEIR CIRCUMFERENCE. ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED AND THEN COATED WITH HOT COAL TAR BEFORE BEING DELIVERED.



SHARED 8' DIAMETER PUMP STATION DETAIL

SEWAGE DESIGN INFORMATION

USE A CAST IRON MANHOLE FRAME -----

1. THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS & THE ENVIRONMENTAL PROTECTION RULES.

2. BASIS OF DESIGN:

NO. OF UNITS = TOTAL DESIGN FLOW (210 GPD/UNIT)= 1,260 GPD

3. PUMP STATION: A) USE AN 8.0 FT I.D. PRE-CAST CONCRETE TANK AS MANUFACTURED BY CAMP PRECAST PRODUCTS OR APPROVED EQUAL, WITH ONE COVER TO GRADE; 4,000 PSI CONCRETE; WATERPROOF JOINTS; AND SET ON THOROUGHLY COMPACTED SUB-BASE. EXTERNALLY COAT THE CONCRETE.

B) ALL BACKFILL MATERIAL AROUND THE TANK SHALL BE THOROUGHLY COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO-T-99 STANDARD PROCTOR.

C) ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE AND MATERIALS SHALL MEET U.L. APPROVAL.

D) PUMP SPECIFICATIONS: HEAD LOSSES:

| FORCE MAIN (2" SDR 26 PVC X 360 LF= STATIC LIFT (336.0-343.3)= NETWORK LOSSES / FITTINGS= | 3 FT 8 FT 3 FT |
|---|----------------------|
| PRESSURE HEAD TO BE MAINTAINED= | 0 FT 14 FT |
| MIN. DISCHARGE RATE= | 30 GP |

USE ONE (1) PUMP WITH GRINDER, SINGLE PHASE, 230 VOLTS, MINIMUM PASSING DIAMETER = 1-1/2" SOLID SPHERE, 2" DISCHARGE PIPE CONNECTION, MINIMUM CAPACITY: SEE ABOVE AND ATTACHED.

E) THE CONTRACTOR SHALL VERIFY PUMP ADEQUACY WITH THE ENGINEER.

F) FLOAT CONTROL AND PANEL; ANCHOR SCIENTIFIC OR APPROVED EQUAL. ALARM PANEL SHALL HAVE BOTH AUDIO AND VISUAL ALARMS. G) PUMP CONTROL SHALL BE BY S.J. ELECTRO SYSTEMS PUMP CONTROLS OR APPROVED

TESTING REQUIREMENTS

THE CONTRACTOR SHALL FURNISH ALL FACILITIES AND PERSONNEL FOR CONDUCTING THE FOLLOWING TESTS:

1. STRUCTURES TEST:

EQUAL.

SEAL THE TANK AND RISERS, FILL WITH WATER TO THE TOP OF THE RISERS, AND LET STAND FOR 24 HOURS. REFILL THE TANK. THE TANK IS CONSIDERED WATERTIGHT IF THE WATER LEVEL IS HELD FOR 1 HOUR.

2. FORCE MAIN PRESSURE TEST: SEE GENERAL SEWER SPECIFICATIONS SECTION "G" THIS SHEET.

PUMP STATION TEST THE CONTRACTOR AND THE ENGINEER SHALL BE PRESENT DURING START-UP. THE CONTRACTOR SHALL PROVIDE A WATER SOURCE TO PERFORM A FULL OPERATIONAL CHECK OF THE STATION, INCLUDING ALL FLOAT FUNCTIONS AND ALARM TESTING. THE PUMP SHALL BE FIELD-TESTED TO INSURE THE TESTED TO PUMPING CAPACITY MEETS THE PROJECT REQUIREMENTS.





GENERAL CONSTRUCTION NOTES

- I. ALL WORK AND MATERIALS SHALL BE APPROVED BY AND IN ACCORDANCE WITH THE LATEST VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE VILLAGE OF ESSEX JUNCTION EQUIREMENTS, THE WRITTEN TECHNICAL SPECIFICATIONS, AND THESE PLANS.
- 2. THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE AND THE VILLAGE OF ESSEX JUNCTION AT 802-878-6942 PRIOR TO ANY EXCAVATION.
- 3. UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM BEST AVAILABLE SOURCES AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT AND STRUCTURES NECESSARY TO CONSTRUCT THIS PROJECT UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS AND TRASH FROM THE SITE UPON COMPLETION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR A SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE OR SWEEP ASPHALT ROADS WITH A POWER BROOM AS DUST CONTROL.
- ANY SURFACES, LINES, OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THE CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
- THE DESIGN ON THESE PLANS SHALL BE INSPECTED BY O'LEARY-BURKE CIVAL ASSOCIATES, PLC. OF ESSEX JUNCTION, VERMONT, TO ENSURE COMPLIANCE WITH THE APPROVED PLANS AND REQUIREMENTS. O'LEARY-BURKE WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM THE FAILURE OF THE CONTRACTOR TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED TO INSPECT THE WORKS AND TESTS IN PROGRESS.
- FOR ANY WORK WITHIN THE HIGHWAY RIGHT-OF-WAY A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, DURING PEAK-HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. UNIFORMED TRAFFIC CONTROL OFFICERS SHALL DIRECT TRAFFIC DURING PEAK HOURS WHEN THERE IS ONE-WAY TRAFFIC OR WHEN DEEMED NECESSARY BY THE TOWN OR STATE. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
- TO ASSURE COMPLIANCE WITH THE PLAN(S), THE CONTRACTOR SHALL NOTIFY THE VILLAGE ENGINEER AND THE CONSULTING ENGINEER 48 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING THE PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITIES, BRINGING IN ANY NEW GRAVEL FOR THE NEW BASE, PAVING AND FINAL INSPECTION.
- 10. THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE VILLAGE OF ESSEX JUNCTION LAND DEVELOPMENT
- 11. TOPSOIL SHALL BE STOCKPILED, SEEDED, AND MULCHED UNTIL REUSED. SILT FENCE SHALL BE PLACED AND STAKED CONTINUOUSLY AROUND THE BOTTOM OF THE TOPSOIL PILES.
- 12. HEALTHY EXISTING TREES AS SHOWN ON THE SITE PLAN TO BE SAVED SHALL BE PROTECTED BY THE CONTRACTOR.
- 13. OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND SILT FENCE SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREAS AS ORDERED BY THE ENGINEER.
- 14. AT COMPLETION OF GRADING, SLOPES, DITCHES, AND ALL DISTURBED AREAS SHALL BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
- 15. ALL FILL SHALL BE PLACED IN 6 INCH LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 STANDARD PROCTOR, UNLESS OTHERWISE SPECIFIED.
- 16. THE CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES AS NEEDED. TO PREVENT SEDIMENTATION. THE SILT FENCES, DITCHES, AND OTHER EROSION CONTROL DEVICES, SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR AFTER EVERY RAINFALL OF 1/2 INCH OR MORE UNTIL ALL DISTURBED AREAS HAVE BEEN GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE REMOVAL OF ANY ACCUMULATED SEDIMENTATION

STORM SYSTEM MAINTENANCE

MAINTENANCE PLAN

SYSTEM MAINTENANCE IS IMPORTANT FOR TREATMENT AND CONTROL OF STORM RUNOFF FROM THE IMPERVIOUS SURFACES (ROAD, PARKING, AND WALKWAY). THE FOLLOWING ELEMENTS FORM THE MINIMUM REQUIREMENTS:

1. THE OWNER (OR REPRESENTATIVE) SHALL PERFORM INSPECTIONS ANNUALLY AND FOLLOWING SIGNIFICANT (LARGE) STORM EVENTS. THE FOLLOWING ITEMS SHALL BE REVIEWED: CONDITION OF THE VEGETATION, CONDITION OF THE DITCH SURFACES, DEPTH OF ACCUMULATED SEDIMENT (IF ANY), THE PRESENCE OF EROSION (IF ANY), CONDITION OF THE INFILTRATION BASIN AND ANY SEDIMENT/DEBRIS ACCUMULATION. ANY OBSERVABLE DEGRADATION OF THE STORM SYSTEM SHALL BE NOTED.

2. THE OWNER (OR REPRESENTATIVE) SHALL COMPLETE REPAIR OF ANY ITEMS, AS REQUIRED TO MAINTAIN OPTIMAL SYSTEM OPERATION. AT A MINIMUM, THE FOLLOWING ITEMS SHALL BE INCLUDED:

A. ANY EROSION GULLIES 6 INCHES OR DEEPER SHALL BE FILLED AND VEGETATION ESTABLISHED IN THE DISTURBED AREA.

B. SEDIMENT ACCUMULATED TO A DEPTH OF MORE THAN 6 INCHES IN THE ROAD DITCHES SHALL BE REMOVED AND DISPOSED OF IN AN UPLAND AREA THAT IS NOT WITHIN 100 FEET OF WATERS OF THE STATE. VEGETATION SHALL BE ESTABLISHED IN ALL DISTURBED AREAS.

C. VEGETATION SHALL BE ESTABLISHED AS NEEDED, IN AREAS OF BARE SOIL. THIS IS PARTICULARLY IMPORTANT IN FLOW AREAS WHERE VEGETATION PROVIDES SEDIMENT REMOVAL.

D. SILT FENCES SHALL BE USED IF NEEDED TO PREVENT EROSION AND AID IN THE ESTABLISHMENT OF VEGETATION. THESE TEMPORARY MEASURES SHALL BE REMOVED AFTER THE

SITE IS STABILIZED AND THE RISK OF EROSION IS REDUCED. E. THE GRASSED AREAS SHALL BE MOWED AS NEEDED TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION.



TEMPORARY FILL MATERIAL STOCKPILE

NTS

MULCHING SPECIFICATIONS

HAY MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AT A RATE THAT IS SUFFICIENT TO PROVIDE ADEQUATE COVERAGE.

WITHIN 48 HOURS OF FINAL GRADING, THE EXPOSED SOIL MUST BE SEEDED AND MULCHED.

SNOW MANAGEMENT PLAN

FOLLOWING THE ACCUMULATION OF ANY SNOW FALL EVENT WHICH GENERATES MORE THAT I" OF SNOW OR ICE THE SITE SHALL BE CLEARED AND ALL SNOW AND ICE STORED IN THE IDENTIFIED SNOW STORAGE AREAS ON THE EPSC CONSTRUCTION PLANS. ALL SNOW STORAGE AREAS SHALL BE DOWN GRADIENT OF ANY DISTURBED AREAS AND THE STORAGE OF SNOW IN STORMWATER TREATMENT STRUCTURES IS PROHIBITED.

WINTER CONSTRUCTION REQUIREMENTS

- PREVENTION AND SEDIMENT CONTROL.
- 2. PROVIDE ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
- 3. A MINIMUM 25 FT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE.
- 4. DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
- AHEAD OF FROM GROUND.
- OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.
- - OR OPEN UTILITY TRENCHES.

- FEET WIDE TO ACCOMMODATE VEHICULAR TRAFFIC. SILT FENCE MUST BE INSTALLED ALONG THE CONTOUR.

WINTER INSPECTION SCHEDU

INSPECT SILT FENCING

- INSPECT AREAS TEMPORARILY MULCHED
- INSPECT TEMPORARY STOCKPILES
- INSPECT STABILIZED CONSTRUCTION ENTR
- INSPECT AREAS THAT HAVE BEEN TOPSOIL INSPECT STORMWATER SWALES, SPREADER

STUMP DISPOSAL SPECIFICATIONS

FOLLOWING GUIDELINES SHALL BE MET:



SPECIFICATIONS.







ALL WORK SHALL BE IN ACCORDANCE WITH THE LOW RISK SITE HANDBOOK FOR EROSION

5. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED

MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE,

TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS: - IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY. - DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS

8. PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1 INCH THICKNESS. 9. USE STONE TO STABILIZE AREAS SUCH AS THE PERIMETER OF BUILDINGS UNDER CONSTRUCTION OR WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE 10-20 10. IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, TWO ROWS OF

| LE | AFTER A THAW OR A RAINFALL GENERATING RUNOFF FROM SITE |
|--------------------|--|
| | × |
| | × |
| | × |
| RANCES | × |
| LED + MULCHED | × |
| S. OUTFLOW DEVICES | × |

ALL SUITABLE TREES THAT MUST BE CUT WILL BE USED AS FIREWOOD. THE STUMPS, BRUSH, EXCESS UNSUITABLE EARTH WILL BE DISPOSED OF AT THE LOCATION DESIGNATED BY THE ENGINEER, CONTINGENT UPON APPROVAL FROM THE TOWN BUILDING INSPECTOR. SAID AREA(S) SHALL BE A MINIMUM OF TWO FEET ABOVE THE SEASONAL HIGH GROUNDWATER OR THE STUMPS SHALL BE HAULED OFF-SITE TO A STATE-APPROVED LANDFILL. IF ON-SITE STUMP DISPOSAL IS IMPLEMENTED, THE

> WHENEVER POSSIBLE, STUMP DISPOSAL SITES SHOULD BE LOCATED ON NEARLY LEVEL TO MODERATELY SLOPING LANDS (SLOPES LESS THAN 12%). DISPOSAL SITES WILL NOT BE LOCATED IN OR WITHIN 100 FEET OF FLOWING WATERCOURSES OR STREAMS OR IN ACTIVELY ERODING GULLIES. DISPOSAL SITES SHALL NOT BE LOCATED IN FLOODED OR FLOOD-PRONE LANDS, MARSHES, STUMPS WILL BE PLACED ON THE SITE IN A SINGLE LIFT PRIOR TO BACKFILLING. WHEN ADDITIONAL STUMPS ARE TO BE DEPOSITED ON THE SAME SITE, EACH SUCCESSIVE LAYER OR LIFT OF STUMPS WILL BE BACKFILLED.

STUMPS DEPOSITED IN DRAINAGEWAYS OR DEPRESSIONS SHALL BE BACKFILLED AND BERMED SO AS TO DIVERT OVERLAND FLOWS FROM THE DISPOSAL AREA. A MINIMUM OF TWO FEET (2') OF OVERBURDEN WILL BE PLACED OVER ALL DISPOSAL THE TWO FEET OF OVERBURDEN WILL BE COVERED WITH A MINIMUM OF FOUR INCHES (4") OF TOPSOIL, GRADED, SEEDED, AND MULCHED IN ACCORDANCE WITH THE

CONCRETE DUMPSTER PAD (PROVIDE 5"

DUMPSTER FENCING

NTS

EROSION CONTROL SPECIFICATIONS

1. SEE OTHER DRAWINGS OF THESE PLANS FOR ADDITIONAL STORMWATER AND EROSION CONTROL SPECIFICATIONS AND DETAILS.

- 2. THE ROADWAY AND YARD FINISH GRADE SLOPES SHALL NOT BE STEEPER THAN 3 ON 1. THE FINISHED GRADE SLOPES SHALL BE IMMEDIATELY GRADED AND MULCHED. 3. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING
- AND MULCHING PRIOR TO SEPTEMBER 15 OF EACH YEAR. ANY DISTURBED AREAS OUTSIDE OF THE ROADWAY SHALL BE IMMEDIATELY SEEDED AND MULCHED WITHIN 15 DAYS. 4. THE EROSION CONTROL METHODS USED DURING CONSTRUCTION OF THE DEVELOPMENT SHALL PROCEED IN THE FOLLOWING SEQUENCE:
 - A) THE CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCES, AND OTHER EROSION CONTROL MEASURES, IF REQUIRED, AS ORDERED BY THE ENGINEER. THE EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AFTER EVERY RAINFALL UNTIL THE NEW IMPROVEMENTS ARE PAVED AND ALL DISTURBED AREAS HAVE BEEN GRASSED. THE REPAIR OF THE EROSION CONTROL MEASURES WILL INCLUDE REMOVING ANY SEDIMENTATION. THE SEDIMENT MAY BE PLACED AS FILL IN THE LOW AREAS, IF APPROVED BY THE ENGINEER.
- B) THE TOPSOIL SHALL BE REMOVED FROM THE AREAS TO BE GRADED AND STOCKPILED. A SILT FENCE SHALL BE PLACED CONTINUOUSLY AROUND THE BOTTOM OF THE PILE.
- C) IN AREAS NEAR THE NEW CONSTRUCTION, THE CONTRACTOR SHALL ENCLOSE THE TRUNKS OF TREES TO BE SAVED WITH WOODEN SNOW FENCING ALONG THE DRIPLINE TO PROTECT THE FROM INJURY.
- D) THE SITE GRADING AND BUILDING/UTILITY INFRASTRUCTURE SHALL BE CONSTRUCTED. THE CONTRACTOR WILL INSTALL INLET PROTECTION AROUND THE CATCH BASINS UNTIL THE ROADWAY HAS BEEN PAVED AND GRASS HAS BEEN ESTABLISHED ON THE SLOPES. E) THE CONTRACTOR WILL TOPSOIL, SEED, AND MULCH THE DISTURBED AREAS AS SOON AS
- POSSIBLE FOLLOWING COMPLETION OF ADJACENT CONSTRUCTION. F) OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND SILT FENCE
- SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER.
- DURING CONSTRUCTION, THE PROJECT SHALL BE IN COMPLIANCE WITH THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.

LANDSCAPING SPECIFICATIONS

ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO SEPTEMBER 15 OF EACH YEAR. ANY DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED WITHIN IS DAYS. ANY WORK PERFORMED AFTER SEPTEMBER IS OF EACH YEAR SHALL BE STABILIZED WITH MULCH OR NETTING SUFFICIENT TO PREVENT EROSION AND SHALL BE IMMEDIATELY SEEDED AND REMULCHED AS SOON AS WEATHER PERMITS IN THE SPRING. ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4" OF TOPSOIL AND BE SEEDED, FERTILIZED, LIMED, AND MULCHED IN ACCORDANCE WITH THE FOLLOWING:

- 1. SEED MIXTURE IN ALL AREAS SHALL BE URBAN MIX CONFORMING TO THE TABLE SHOWN ON THE PLANS. FOR SEEDING BETWEEN SEPTEMBER I AND SEPTEMBER 15, WINTER RYE SHALL BE USED AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
- FERTILIZER SHALL BE NON-PHOSPHORUS, STANDARD COMMERCIAL GRADE CONFORMING TO THE STATE FERTILIZER LAW AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. DRY FERTILIZER, IF USED, SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE
- LIMESTONE SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. THE LIMESTONE SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE OR AS DIRECTED.
- WITHIN 24 HOURS OF APPLICATION OF FERTILIZER, LIME, AND SEED, THE SURFACE SHALL BE MULCHED WITH A HAY MULCH. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AS ORDERED BY THE ENGINEER.

| URBAN MIX GRASS SEED | | | |
|----------------------|----------------------------|--------------------------------|--|
| % BY WEIGHT | LBS. LIVE SEED PER ACRE | TYPE OF SEED | |
| 37.5 | 45 | CREEPING RED FESCUE | |
| 31.25 | 37.5 | KENTUCKY BLUEGRASS | |
| 31.25 | 37.5 | WINTER HARDY, PERENNIAL RYE | |
| 100 | 120 # LIVE SEED PER ACRE | | |







