B. COOPERATION AND COORDINATION OF WORK

THE CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE NATURE AND EXTENT OF ANY WORK WHICH IS TO BE PERFORMED BY ANY OTHER CONTRACTORS, SUBCONTRACTORS AND/OR UTILITY OWNERS, AND HOW SUCH WORK WILL AFFECT THE WORK THAT HE WILL BE PERFORMING. IN CASE OF INTERFERENCE BETWEEN THE OPERATIONS OF DIFFERENT CONTRACTORS, SUBCONTRACTORS, AND/OR UTILITY OWNERS, THE OWNER'S FIELD REPRESENTATIVE WILL BE THE SOLE JUDGE OF THE RIGHTS OF EACH AND THE SEQUENCE OF WORK NECESSARY, AND IN ALL CASES HIS DECISION SHALL BE ACCEPTED AS FINAL.

C. <u>SITE ENGINEER'S DUTIES</u>

THE SITE ENGINEER WILL CLARIFY AND EXPLAIN THE INTENT OF THE CONTRACT DOCUMENTS AS REASONABLY REQUIRED. HE WILL BE RESPONSIBLE FOR REVIEW OF SHOP DRAWINGS AS MORE FULLY SET FORTH HEREIN. THE SITE ENGINEER WILL NOT BE CONTINUOUSLY PRESENT IN THE FIELD, THEREFORE IT IS UNDERSTOOD THAT HE DOES NOT UNDERTAKE NOR ASSUME ANY OBLIGATION FOR SUPERVISION OF CONSTRUCTION. SAFETY MEASURES TAKEN DURING THE COURSE OF CONSTRUCTION. RESPONSIBILITY FOR SCHEDULING THE WORK, OR FOR INSURING COMPLETE COMPLIANCE WITH THE CONTRACT DOCUMENTS AND/OR ANY AND ALL CODE REQUIREMENTS, RULES AND REGULATIONS OF ANY PUBLIC OR PRIVATE AUTHORITY HAVING JURISDICTION OVER THE WHOLE OR ANY PART OF THE WORK. THE SITE ENGINEER NEITHER UNDERTAKES, ASSUMES, NOR GUARANTEES THE WORK AND/OR PERFORMANCE OF THE CONTRACTOR.

D. <u>SITE ENGINEER'S STATUS</u>

THE SITE ENGINEER WILL HAVE AUTHORITY TO HAVE SUCH TESTS MADE AS HE DEEMS ADVISABLE TO DETERMINE COMPLIANCE WITH THE CONTRACT DOCUMENTS. ALL DECISIONS OF THE SITE ENGINEER WITH REGARD TO TECHNICAL INTERPRETATION OF THE CONTRACT DOCUMENTS SHALL BE FINAL. ALL OTHER DECISIONS SHALL BE DEEMED TO BE ADVISORY ONLY.

E. LOCATIONS SHOWN ON DRAWINGS NOT GUARANTEED

ALL FEATURES SHOWN ON THE DRAWINGS ARE THOSE KNOWN TO EXIST, BUT THEIR LOCATIONS ARE NOT GUARANTEED TO BE EXACT. NOR IS IT GUARANTEED THAT ALL FEATURES ARE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL FEATURES TO REMAIN WHETHER SHOWN ON THE DRAWINGS OR

F. SCHEDULE OF OPERATIONS

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT, IN BAR CHART FORM ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. A DETAILED SCHEDULE OF CONSTRUCTION OPERATIONS AND COMPLETION DATES FOR EACH STAGE OF HIS OPERATIONS FOR REVIEW AND APPROVAL. NO WORK SHALL BE STARTED UNTIL THIS SCHEDULE HAS BEEN REVIEWED AND APPROVED.

G. SAFEGUARDS AND PROTECTION

IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE ALL NECESSARY SAFEGUARDS INCLUDING THE INSTALLATION OF SHORING, STRUCTURAL SUPPORTS, PROTECTIVE FENCING, AND BARRIERS, ETC., AS REQUIRED TO PREVENT DAMAGE TO PROPERTY OR INJURY TO PERSONS, IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODES AND THE RULES, REGULATIONS AND ORDINANCES OF ALL OTHER GOVERNING BODIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY CLAIM FOR NON-COMPLIANCE OR CARELESSNESS.

CONSTRUCTION FENCING SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION OPERATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF OSHA AND ALL AUTHORITIES HAVING JURISDICTION. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL SECURE THE SITE TO ENSURE THAT ALL SAFETY MEASURES, INCLUDING FENCES, BARRICADES, ETC. ARE IN PLACE AND THERE ARE NO UNPROTECTED HAZARDS ON OR ADJACENT TO THE SITE.

H. REPLACEMENT OF DISTURBED GROUND SURFACES AND DAMAGE

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE GOOD, REPAIR AND/OR REPLACE ALL AREAS INCLUDING AREAS TO REMAIN, AND WHICH MAY BECOME DISTURBED OR DAMAGED AS A DIRECT OR INDIRECT RESULT OF HIS OPERATIONS. SAID REPAIR OR REPLACEMENT SHALL BE SATISFACTORY TO THE OWNER'S FIELD REPRESENTATIVE AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING BODY HAVING JURISDICTION.

I. <u>CONSTRUCTION LAYOUT</u>

THE CONTRACTOR SHALL PROVIDE ALL WORK REQUIRED TO LAYOUT THE CONSTRUCTION WORK. HE SHALL ESTABLISH PROPERTY LINES, BASE LINES, CONTROL POINTS AND BENCHMARKS WHICH SHALL BE MAINTAINED AND PROTECTED THROUGHOUT THE LIFE OF THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEASUREMENTS AND DIMENSIONS NECESSARY FOR CONSTRUCTION, AND THE FINISHED WORK IN CONFORMANCE WITH THE LINES, GRADES AND LOCATIONS CALLED FOR ON THE DRAWINGS. HE SHALL CORRECT ALL ERRORS CAUSED BY IMPROPER LAYOUT OF THE WORK OR DUE TO ERRORS BY HIS PERSONNEL AT NO ADDITIONAL COST TO THE OWNER.

J. <u>TEMPORARY SERVICES</u>

UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, WATER, SANITARY FACILITIES, LIGHT, HEAT, POWER, TELEPHONE, TRANSPORTATION AND SUPERINTENDENCE FOR TEMPORARY CONSTRUCTION, SERVICES AND FACILITIES OF EVERY NATURE WHATSOEVER NECESSARY TO EXECUTE, COMPLETE AND DELIVER THE WORK WITHIN THE SPECIFIED

K. PROTECTION OF EXISTING STRUCTURES AND UTILITIES

THE CONTRACTOR SHALL PROTECT FROM INJURY OR DAMAGE ALL EXISTING STRUCTURES AND UTILITIES WHICH ARE TO REMAIN. ALL EXISTING GAS AND WATER LINES, TELEPHONE AND ELECTRIC POLES, WIRES, CONDUITS, SEWERS, DRAINS, CULVERTS, HYDRANTS, AND OTHER UTILITIES WHICH ARE TO REMAIN SHALL BE CAREFULLY SUPPORTED, MAINTAINED IN OPERATION, AND PROTECTED BY THE CONTRACTOR FROM INJURY OR DAMAGE. THE CONTRACTOR SHALL SLING, SUPPORT, SHORE UP AND SECURE IN PLACE ALL PIPE OR CONDUITS, WITHOUT DAMAGE THERETO. HE SHALL PROVIDE FOR AND MAINTAIN, BY MEANS OF SUITABLE TEMPORARY CHANNELS OR PIPE, THE FLOW OF DRAINAGE AND WATERCOURSES, WHETHER ON THE SURFACE OR UNDERGROUND, WHICH MAY BE INTERRUPTED DURING AND BY THE WORK. ALL WORKS OF DRAINAGE INTERCEPTED OR DISCONNECTED SHALL BE RESTORED AND MADE GOOD OR TAKEN DOWN AND REBUILT TO THE EXTENT MADE NECESSARY BY THE NEW WORK, AND ALL TEMPORARY MATERIAL REQUIRED FOR SUCH CONSTRUCTION SHALL IMMEDIATELY BE REMOVED THEREFROM WHEN NO LONGER REQUIRED.

L. <u>CLEARING AND GRUBBING</u>

EXCEPT FOR EXISTING TREES WHICH HAVE BEEN DESIGNATED TO REMAIN, THE AREA WITHIN THE LIMITS OF WORK SHALL BE CLEARED OF TREES, LOGS, STUMPS, BRUSH, VEGETATION, RUBBISH AND OTHER PERISHABLE OR OBJECTIONABLE MATERIALS, AS DIRECTED, AND LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.

M. REMOVAL OF STRUCTURES, UTILITIES AND OBSTRUCTIONS

THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF OFF-SITE THOSE EXISTING STRUCTURES, UTILITIES AND OBSTRUCTIONS WHICH INTERFERE WITH THE PROPOSED.CONSTRUCTION. THE CONTRACTOR SHALL REMOVE ONLY THOSE ITEMS AND STRUCTURES THAT HE HAS BEEN AUTHORIZED TO REMOVE. EITHER BY SPECIFIC DIRECTIONS GIVEN ON THE DRAWINGS OR BY INSTRUCTIONS GIVEN BEFORE OR DURING THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY CLAIM ARISING FROM HIS REMOVAL OF ANY EXISTING ITEM OR STRUCTURE WITHOUT THE REQUIRED AUTHORIZATION.

N. DISCONTINUANCE OF UTILITIES

BEFORE ANY STRUCTURE WITH UTILITIES THEREON IS DISPOSED OF, THE UTILITIES SHALL BE DISCONNECTED AND REMOVED. THE CONTRACTOR SHALL PERFORM THE WORK OF DISCONTINUING THE UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS AND DIRECTIONS OF THE AUTHORITIES HAVING JURISDICTION OVER THE UTILITIES

O. <u>EXISTING SERVICES TO BE MAINTAINED</u>

IN REMOVING STORM DRAIN STRUCTURES OR SANITARY SEWER STRUCTURES, ALL EXISTING LIVE STORM DRAINS OR SANITARY SEWERS CONNECTED TO THE STRUCTURES SHALL BE REBUILT AND PROPERLY RECONNECTED, AND SERVICE SHALL BE MAINTAINED DURING SUCH CONSTRUCTION OPERATIONS.

P. <u>DEAD-END PIPE AND/OR CONDUIT TO BE SEALED</u>

WHEN PIPE, CONDUITS, SEWERS OR DRAINS ARE REMOVED FROM TRENCHES, LEAVING DEAD-ENDS IN THE GROUND, THE CONTRACTOR SHALL FULLY PLUG OR BULKHEAD SUCH ENDS IN A MANNER SATISFACTORY TO THE OWNER'S FIELD REPRESENTATIVE AND THE UTILITY OWNER.

Q. PORTIONS OF PAVEMENTS, CURBS, ETC., TO REMAIN

IN REMOVING PORTIONS OF PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND SIMILAR ITEMS WHERE THE BALANCE OF SUCH ITEMS IS TO REMAIN. REMOVAL SHALL BE TO AN EXISTING JOINT. WHERE THIS IS NOT PRACTICAL. REMOVAL SHALL BE TO A REASONABLY TRUE LINE WITH VERTICAL FACE, WHICH SHALL BE CUT WITH A POWER DRIVEN CONCRETE SAW OR BY OTHER APPROVED MECHANICAL LINE CUTTING

R. <u>STORAGE ON-SITE</u>

METHOD AND LOCATIONS OF STORAGE OF PIPE, APPURTENANCES AND OTHER CONSTRUCTION MATERIAL ON-SITE SHALL BE SUBJECT TO THE APPROVAL.

S. MAINTENANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AND PROTECT PEDESTRIANS IN SUCH A MANNER SATISFACTORY TO THE OWNER'S FIELD REPRESENTATIVE AND AUTHORITIES HAVING JURISDICTION. HE SHALL COMPLY WITH RULES AND REGULATIONS OF THOSE GOVERNING BODIES HAVING JURISDICTION ON THE ADJACENT ROADWAYS AND SIDEWALKS, AND SHALL OBTAIN REQUIRED PERMITS AND PAY FEES, DEPOSITS, AND CHARGES. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN CONSTRUCTION SIGNS, BARRICADES, LIGHTS, STEEL PLATES, AND/OR ALL OTHER DEVICES REQUIRED TO MAINTAIN BOTH VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION, INCLUDING PROVIDING PERSONNEL NECESSARY FOR GUIDING TRAFFIC. TRAFFIC ENTERING AND EXITING THE SITE SHALL NOT DISRUPT THE FLOW OF TRAFFIC. EMERGENCY PERSONNEL AND EQUIPMENT SHALL HAVE SAFE AND ADEQUATE ACCESS AT ALL TIMES.

T. <u>CLEAN UP</u>

THE CONTRACTOR SHALL CLEAN UP AND REMOVE REFUSE, RUBBISH, SCRAP MATERIALS, UNSUITABLE MATERIALS, AND DEBRIS SO THAT THE MATERIALS ARE NOT ALLOWED TO ACCUMULATE, AND THE SITE PRESENTS A NON-HAZARDOUS, NEAT AND WORKMANLIKE APPEARANCE.

U. <u>RESTORATION</u>

THE CONTRACTOR SHALL REPLACE ALL SURFACES DISTURBED AS DIRECTED, AND SHALL RESTORE ALL SURFACES TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE WORK BEGAN, FURNISHING ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY THERETO.

HE SHALL, AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER'S FIELD REPRESENTATIVE, CLEAN UP AND CORRECT UNSIGHTLINESS, INCONVENIENCE, HAZARD OR DAMAGE CAUSED BY WATER, MUD, STONES, DUST, RUBBISH, CONSTRUCTION DEBRIS. TRAFFIC. OR HIS OPERATIONS. WHEEL TRACKS. PATHS. PUDDLES. DAMAGED GROWTH, RAGGED EDGES, UNDESIRABLE SPOIL FROM EXCAVATION AND ROUGH SLOPES ARE TO BE REMOVED, CORRECTED, GRADED, LEVELED OR PATCHED, AND ADJACENT AREAS THAT HAVE BEEN DAMAGED OR THAT REQUIRE REGRADING SHALL BE SMOOTHED AND WORKED TO MAKE THE AREA BLEND INTO EXISTING CONDITIONS. UNSIGHTLINESS EXTENDING ONTO ADJACENT PRIVATE OR PUBLIC PROPERTY SHALL BE CORRECTED TO THE SATISFACTION OF BOTH THE OWNER OF THE ADJACENT PROPERTY AND THE OWNER'S FIELD REPRESENTATIVE. NO PRIVATE AGREEMENTS ALLOWING A WAIVER OF CLEAN-UP WILL BE RECOGNIZED.

V. <u>SHOP DRAWINGS</u>

THE CONTRACTOR SHALL SUBMIT TO THE SITE ENGINEER FOR REVIEW, MANUFACTURERS' AND VENDORS' DRAWINGS OF FABRICATED AND ASSEMBLED ITEMS, DESIGNED MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING DESCRIPTIVE LITERATURE AND TECHNICAL DATA, INSTALLATION DRAWINGS, SETTING DRAWINGS, AND PHOTOGRAPHS OR CUTS OF ITEMS, INCLUDING A DATED LETTER OF TRANSMITTAL.

ANY PROPOSED DEVIATIONS FROM CONTRACT REQUIREMENTS, TOGETHER WITH THE CONTRACTOR'S EXPLANATION, SHALL BE STATED ON THE LETTER OF TRANSMITTAL. SHOULD SUCH DEVIATIONS BE FOUND ACCEPTABLE, ALL ADDITIONAL COSTS RESULTING THEREFROM, INCLUDING ANY COST FOR CHANGES REQUIRED TO ADJACENT WORK OR THE COST OF CHANGES TO ANY OTHER WORK MADE NECESSARY AS A RESULT OF SUCH DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR UNLESS SUCH CLAIM IS MADE IN WRITING WITH THE SHOP DRAWING SUBMISSION AND FOUND ACCEPTABLE BY THE SITE ENGINEER. ANY COST SAVINGS RESULTING FROM THE PROPOSED DEVIATION, SHALL BE INCLUDED ON THE TRANSMITTAL FOR CONSIDERATION BY THE SITE ENGINEER.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND OTHER DATA IN THE REQUIRED SEQUENCE SO THAT EACH ITEM CAN BE DELIVERED AND INSTALLED WHEN NEEDED, TAKING INTO CONSIDERATION THE TIME REQUIRED FOR DELIVERY AFTER FINAL REVIEW OF SUBMITTED MATERIAL, AND ALLOWING THE SITE ENGINEER TEN (10) CALENDAR DAYS FOR CHECKING EACH SUBMISSION. SHOP DRAWINGS SENT VIA FACSIMILE WILL NOT BE ACCEPTED.

SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY TO THE SITE ENGINEER AND WILL BE RETURNED TO THE CONTRACTOR IN THE SAME MANNER.

THE SITE ENGINEER MAY CHECK THE QUANTITIES INDICATED ON SHOP DRAWINGS. IF HE CHOOSES TO DO SO, IT SHALL BE UNDERSTOOD THAT THE CHECKING IS DONE AS A CONVENIENCE TO THE CONTRACTOR, AND IT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR FURNISHING ALL THE ITEMS AND QUANTITIES REQUIRED.

DRAWINGS AND OTHER SUBMITTED DATA THAT ARE RETURNED "NO EXCEPTIONS TAKEN" NEED NOT BE RESUBMITTED. THE SUBMITTAL SHALL BE CONSIDERED AS FINALLY REVIEWED, AND THE CONTRACTOR MAY PROCEED WITH THE WORK SHOWN. IF RETURNED "MAKE CORRECTIONS NOTED", THE CONTRACTOR MAY PROCEED WITH THE WORK SHOWN THEREON AS PER ADDED NOTATIONS AND CORRECTIONS. THE DRAWINGS AND OTHER DATA MUST, HOWEVER, BE CORRECTED AND REISSUED TO THE SITE ENGINEER FOR FINAL REVIEW. DRAWINGS AND DATA THAT ARE STAMPED

"REVISE AND RESUBMIT" SHALL BE REVISED AS INDICATED, AND THEN RESUBMITTED TO THE SITE ENGINEER FOR FINAL REVIEW. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK SHOWN AND SUBMITTALS WITH THIS NOTATION ARE NOT TO BE USED IN THE PERFORMANCE OF THE WORK. DRAWINGS AND DATA THAT ARE STAMPED "REJECTED" ARE DISAPPROVED FOR NON-COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK SHOWN, AND HE SHALL PREPARE AND SUBMIT A COMPLETELY NEW SUBMISSION. DRAWINGS AND OTHER SUBMITTED DATA STAMPED "REVISE AND RESUBMIT" OR "REJECTED" SHALL BE RESUBMITTED TO THE SITE ENGINEER UNTIL THERE ARE NO EXCEPTIONS TAKEN TO THE SUBMISSIONS.

IF THE REVIEWED AND/OR CORRECTED DRAWINGS INDICATE THAT THE SITE ENGINEER HAS CHECKED DIMENSIONS, IT SHALL BE UNDERSTOOD THAT THE CHECKED OR CORRECTED DIMENSIONS ARE BASED UPON HIS OWN DESIGN DRAWINGS, AND THE DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR WITH ACTUAL FIELD DIMENSIONS AND CONDITIONS. IF THE CONTRACTOR FEELS THAT THE SITE ENGINEER'S CORRECTIONS TO SHOP DRAWINGS AND OTHER SUBMITTED DATA WILL INCUR HARDSHIP OR ADDITIONAL COSTS THAT THE CONTRACTOR FEELS HE SHOULD NOT BEAR. HE SHALL SO INFORM THE SITE ENGINEER IN WRITING, AND NOT PROCEED WITH THE CHANGES UNTIL THE PROBLEMS ARE SETTLED.

PORTIONS OF THE WORK REQUIRING A SHOP DRAWING OR OTHER SUBMISSION SHALL NOT BEGIN UNTIL THE SHOP DRAWING OR SUBMISSION HAS BEEN CONSIDERED AS FINALLY REVIEWED WITH NO EXCEPTIONS TAKEN BY THE SITE ENGINEER. A COPY OF EACH FINALLY REVIEWED SHOP DRAWING SHALL BE KEPT IN GOOD ORDER BY THE CONTRACTOR AT THE SITE AND SHALL BE AVAILABLE WHEN REQUESTED.

W. <u>RECORD DRAWINGS</u>

AN "AS-BUILT" SET OF RECORD DRAWINGS SHALL CONSIST OF A MARKED SET OF THE SITE ENGINEER'S DRAWINGS WITH ADDITIONAL SKETCHES AS REQUIRED. DENOTING AND DIMENSIONING ACCURATELY AND NEATLY ALL CHANGES AND CONDITIONS THAT ARE VARIATIONS FROM THE SITE ENGINEER'S DRAWINGS, INCLUDING EXISTING SITE ITEMS WHICH ARE REWORKED OR RELOCATED.

OFFSETS. BENDS AND CHANGES IN ALIGNMENT AND GRADE OF UNDERGROUND UTILITIES WHICH ARE NOT MARKED BY A VISIBLE SURFACE STRUCTURE SHALL BE RECORDED. THESE LOCATIONS SHALL BE LOCATED IN REFERENCE TO THREE (3) SEPARATE PERMANENT SURFACE REFERENCE POINTS AND RECORDED ON THE "AS-BUILT" RECORD DRAWINGS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL DELIVER TO THE OWNER AND THE SITE ENGINEER A REPRODUCIBLE SET OF THE RECORD DRAWINGS AND AN AUTOCAD FILE ON A THUMB DRIVE.

CERTAIN UTILITY AS-BUILTS MAY BE REQUIRED TO BE SENT TO THE HEALTH DEPARTMENT AND/OR OTHER AUTHORITIES FOR APPROVAL, PRIOR TO THE FINAL "AS-BUILT" SET SUBMISSION, IN ORDER TO PLACE THE UTILITY IN SERVICE. THESE AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A SURVEYOR LICENSED IN THE STATE OF NEW YORK AND SHALL BE PROVIDED TO THE SITE ENGINEER IN PDF AND

SUBMISSION OF THE REPRODUCIBLE SETS OF "AS-BUILT" RECORD DRAWINGS IS A PREREQUISITE FOR FINAL PAYMENT.

<u>GUARANTEES</u>

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE WORK UNTIL ITS COMPLETION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR GUARANTEES THAT HE SHALL REPLACE AND/OR REPAIR ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT FOR A MINIMUM PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE OF THE COMPLETED WORK BY THE OWNER AT THE CONTRACTOR'S SOLE EXPENSE. THE CONTRACTOR ALSO GUARANTEES THAT ALL SUCH DEFECTIVE WORK. MATERIAL OR EQUIPMENT SHALL BE REPAIRED PROMPTLY BY THE CONTRACTOR UPON RECEIPT OF WRITTEN NOTIFICATION BY THE OWNER, AND TO THE COMPLETE SATISFACTION OF THE OWNER.

<u>. EROSION & SEDIMENT CONTROL</u> A. PROTECTION OF EXISTING TREES, LANDSCAPING AND NATURAL FEATURES

THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN. HE SHALL ALSO PROTECT ALL LANDSCAPING, VEGETATION AND NATURAL FEATURES ON PUBLIC AND PRIVATE PROPERTY. THE CONTRACTOR SHALL USE EVERY PRECAUTION TO PREVENT INJURY, DAMAGE, POLLUTION, EROSION OR DESTRUCTION OF EXISTING LANDSCAPING, VEGETATION, AND NATURAL FEATURES. HE SHALL BE RESPONSIBLE FOR REPAIR AND/OR RESTORATION OF ALL DAMAGE CAUSED AS A DIRECT OR INDIRECT RESULT OF HIS OPERATIONS.

COMPLIANCE WITH OTHER REGULATIONS

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE PERMITS AND ALL APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL STATUTES AND ORDINANCES RELATING TO THE PREVENTION AND ABATEMENT OF SOIL EROSION, SEDIMENT, AND DUST. IN THE EVENT OF CONFLICT, THE MORE RESTRICTIVE LAWS, RULES, AND REGULATIONS SHALL GOVERN.

C. <u>POLLUTANTS</u>

POLLUTANTS SUCH AS WASH WATER FROM CONCRETE MIXING OPERATIONS. FUELS. OILS, LUBRICANTS, AND OTHER HARMFUL MATERIALS SHALL NOT BE DISCHARGED INTO RIVERS, STREAMS, PONDS, WATER IMPOUNDMENT AREAS, WATERCOURSES, DRAINAGEWAYS, CHANNELS, DRAINAGE DITCHES, CATCH BASINS OR DRAINAGE OR SEWER SYSTEMS.

<u>LIMIT OF AREA OF WORK</u>

THE LIMIT OF THE AREA OF CLEARING AND GRUBBING AND/OR EXCAVATION AND FILL OPERATIONS IN PROGRESS SHALL BE COMMENSURATE WITH THE CONTRACTOR'S CAPABILITY AND PROGRESS IN KEEPING UP WITH THE FINISHED GRADING, MULCHING, SEEDING AND OTHER SUCH CONTROL MEASURES CURRENT AND IN ACCORDANCE WITH THE ACCEPTED SCHEDULE. SHOULD SEASONAL LIMITATIONS MAKE SUCH COORDINATION UNREALISTIC. AS DETERMINED BY THE OWNER'S FIELD REPRESENTATIVE, ADDITIONAL TEMPORARY EROSION CONTROL MEASURES SHALL BE TAKEN IMMEDIATELY BY THE CONTRACTOR.

III.EXCAVATION AND FILL

A. <u>SCOPE</u>

WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, STRIPPING AND STOCKPILING OF TOPSOIL AS APPLICABLE; EXCAVATION AND/OR FILLING, COMPACTION AND GRADING TO SUBGRADE SURFACE ELEVATIONS OF DEVELOPED AREAS ON THE SITE INCLUDING SUBGRADE SURFACE ELEVATIONS OF THE PROPOSED BUILDING; FORMATION AND COMPACTION OF FILL SECTIONS, EMBANKMENTS AND SUBGRADES USING SUITABLE ON-SITE EXCAVATED MATERIAL AND/OR OFF-SITE BORROW MATERIAL; DISPOSAL OF UNSUITABLE AND/OR SURPLUS EXCAVATED MATERIAL; PROOF-ROLLING OF SUBGRADE SURFACES; SHEETING, SHORING AND BRACING; AND DEWATERING OF EXCAVATIONS AS

WORK SHALL ALSO INCLUDE THE CONSTRUCTION OF INFILTRATION BASINS AS SHOWN AND DETAILED ON THE PLANS. ALL SECTIONS OF THIS SPECIFICATION BELOW, SHALL HAVE METHODS AND MATERIALS APPROVED BY THE OWNER'S FIELD REPRESENTATIVE OR GEOTECHNICAL ENGINEER, HEREIN REFERRED TO AS THE 'AUTHORITY'. ALL WORK SHALL BE AS APPROVED, AND PERFORMED TO THE SATISFACTION OF THE OWNER, OWNER'S FIELD REPRESENTATIVE, GEOTECHNICAL ENGINEER, OR THE AUTHORITY HAVING JURISDICTION.

THE CONTRACTOR SHALL CARRY OUT EXCAVATION, EMBANKMENT AND FILL TO THE SUBGRADE SURFACE ELEVATIONS WHICH CONFORM WITH THE FINISHED GRADES AS

DETERMINED BY THE THICKNESS OF PAVEMENTS, DEPTHS OF TOPSOIL REQUIRED, ETC. IN THE BUILDING AREA, WORK SHALL BE CARRIED TO SUBGRADE FLOOR ELEVATIONS AS DETERMINED BY THICKNESS OF FLOOR SLABS AND GRANULAR BASE COURSE (WHERE SPECIFIED).

TOPSOIL, WHERE PRESENT ON THE SITE, SHALL BE STRIPPED BY THE CONTRACTOR AND A SUFFICIENT QUANTITY STOCKPILED TO INSURE COMPLIANCE WITH THE CONTRACT. TOPSOIL SHALL BE DEFINED AS THE EXISTING SURFACE LAYER OF ORGANIC MATERIAL WHICH IS SUITABLE FOR RE-USE IN SEEDING, SODDING AND PLANTING. TOPSOIL SHALL CONTAIN NO ADMIXTURE OF REFUSE OR SUBSTANCES HARMFUL TO PLANT GROWTH AND SHALL BE FREE FROM SUBSOIL, STUMPS, ROOTS, BRUSH, STONES, CLAY LUMPS OR ANY OTHER UNDESIRABLE MATERIAL. TOPSOIL SHALL NOT BE USED FOR FILL OR EMBANKMENT. IF THERE IS AN EXCESS OF TOPSOIL. THE EXCESS SHALL BE DISPOSED OF OFF-SITE. IF THERE IS A DEFICIENCY OF TOPSOIL TO COMPLETE THE TOPSOIL OPERATIONS, THE CONTRACTOR SHALL FURNISH THE NECESSARY QUANTITY OF TOPSOIL FROM OFF-SITE SOURCE(S); COMPENSATION BEING CONSIDERED AS INCLUDED UNDER THE LUMP SUM BASE BID.

D. <u>EXCAVATION</u>

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION OF WHATEVER MATERIAL IS ENCOUNTERED, AND THERE WILL BE NO EXTRA COMPENSATION FOR ANY EXCAVATION REGARDLESS OF THE CHARACTER OF THE SOIL. AT THE OWNER'S EXPENSE, A GEOTECHNICAL ENGINEER MAY BE ON-SITE TO EVALUATE AND INSTRUCT THE CONTRACTOR REGARDING ROCK EXCAVATION, THE SUITABILITY OF SOILS, AND BACKFILL AND COMPACTION REQUIREMENTS. EXCAVATION IN "CUT" AREAS — AFTER APPROVAL OF THE STRIPPING OPERATION IN A "CUT" AREA. EXCAVATION SHALL BE MADE OF THE EXISTING MATERIAL TO THE LINES AND GRADES REQUIRED. MATERIAL ENCOUNTERED WHICH IS NOT SUITABLE FOR THE PROPOSED CONSTRUCTION SHALL BE EXCAVATED TO THE DEPTHS SPECIFIED BY THE AUTHORITY. MATERIAL SUITABLE FOR USE IN FILLS OR BACKFILLS, AND IN QUANTITIES SUFFICIENT FOR THOSE PURPOSES SHALL BE STOCKPILED ON-SITE IN APPROVED LOCATIONS.

CLASSIFICATION – ALL MATERIAL EXCAVATED SHALL BE CLASSIFIED AS "UNCLASSIFIED EXCAVATION". AND THIS MATERIAL SHALL BE FURTHER CLASSIFIED AS "SUITABLE MATERIAL" OR "UNSUITABLE MATERIAL" AS FOLLOWS:

- 1. UNCLASSIFIED EXCAVATION UNCLASSIFIED EXCAVATION SHALL BE DEFINED AS REMOVAL OF ALL MATERIAL OF ANY NATURE WHATSOEVER, INCLUDING TOPSOIL, PAVEMENTS, ROCK AND EARTH.
- 2. SUITABLE MATERIAL SUITABLE MATERIAL SHALL BE DEFINED AS MATERIAL WHOSE COMPOSITION IS SATISFACTORY FOR USE IN EMBANKMENT AND FILL CONSTRUCTION. IN GENERAL, ANY MINERAL (INORGANIC) SOIL, INCLUDING THEIR MIXTURES WITH BLASTED OR BROKEN ROCK, AS APPROVED BY THE AUTHORITY, AND SIMILAR MATERIALS OF NATURAL OR MAN-MADE ORIGIN, SHALL BE CONSIDERED AS SUITABLE MATERIALS.
- 3. UNSUITABLE MATERIAL UNSUITABLE MATERIAL SHALL BE DEFINED AS ANY MATERIAL CONTAINING VEGETATION OR ORGANIC MATTER, SUCH AS MUCK, PEAT, ORGANIC SILT, TOPSOIL OR SOD, THAT IS NOT SATISFACTORY FOR USE IN EMBANKMENT OR FILL CONSTRUCTION OR FOR SUPPORT OF PERMANENT STRUCTURES. CERTAIN MAN-MADE DEPOSITS SUCH AS LANDFILL MAY ALSO BE DETERMINED TO BE UNSUITABLE MATERIAL.

STOCKPILING AND USE OF SUITABLE MATERIAL - THE CONTRACTOR SHALL STOCKPILE SUITABLE EXCAVATED MATERIAL AS REQUIRED FOR USE IN THE EMBANKMENT AND/OR FILL AREAS. MATERIAL WHICH IS STOCKPILED SHALL BE PROTECTED SO THAT ITS USE AS FILL WILL NOT BE IMPAIRED. THE CONTRACTOR SHALL PLACE A DOUBLE ROW OF SILT FENCE AROUND STOCKPILES.

DISPOSAL OF SURPLUS MATERIAL - THE CONTRACTOR SHALL DISPOSE OF SURPLUS EXCAVATED MATERIAL OFF-SITE. IF THE CONTRACTOR DISPOSES OF TOO MUCH EXCAVATED MATERIAL, HE SHALL REPLACE THIS MATERIAL AT HIS OWN COST AND EXPENSE. MATERIAL TO BE REPLACED SHALL MEET THE REQUIREMENTS FOR FILL MATERIAL AS SPECIFIED HEREIN.

DEFICIENCY OF SUITABLE EXCAVATED MATERIAL - SHOULD THERE BE A DEFICIENCY OF SUITABLE MATERIAL OBTAINED FROM EXCAVATION OF THE SITE, ADDITIONAL FILL MATERIAL SHALL BE FURNISHED FROM AN OFF-SITE SOURCE. IF THE DEFICIENCY OF SUITABLE MATERIAL IS THE RESULT OF THE CONTRACTOR'S FAILURE TO PROPERLY SCHEDULE THE WORK, STOCKPILE THE PROPER AMOUNT OF SUITABLE EXCAVATED MATERIAL, PROTECT STOCKPILED MATERIAL, OR IF THE CONTRACTOR CAUSES SUITABLE MATERIAL TO BECOME UNSUITABLE FOR USE AS FILL MATERIAL. THEN SUCH DEFICIENCY SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.

SLOPES - UNLESS INDICATED OTHERWISE, SLOPES IN EARTH SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL IN BOTH CUT AND FILL. AND STORM WATER SHALL NOT BE DRAINED OVER THE SLOPES.

MOISTURE CONTENT OF EXCAVATED SOIL - WHEN THE SOIL BEING EXCAVATED IS SUCH THAT AN INCREASE IN MOISTURE CONTENT WILL HAVE A DETRIMENTAL EFFECT ON ITS USE AS FILL MATERIAL, THE SOIL SHALL BE STOCKPILED, GRADED, AND PROTECTED IN A MANNER WHICH WILL MINIMIZE THE INFILTRATION OF RAINWATER OR SURFACE RUNOFF WATER.

DRAINAGE - SOIL EXCAVATION AREAS ARE TO BE KEPT SLOPED TO DRAIN. THEY ARE TO BE SEALED BY ROLLING EACH NIGHT.

E. <u>ROCK EXCAVATION</u>

GENERAL REQUIREMENTS - IF ROCK IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE, REMOVE, REUSE (IF ALLOWED AND APPLICABLE), AND DISPOSE OF ROCK WITHIN THE LIMITS SPECIFIED. UNLESS OTHERWISE SPECIFIED OR DIRECTED, ROCK EXCAVATION SHALL BE CARRIED TO A LEVEL SIX (6) INCHES BELOW SUBGRADE SURFACE. IN LAWN AND LANDSCAPE AREAS. UNLESS OTHERWISE SPECIFIED OR DIRECTED, ROCK EXCAVATION SHALL BE CARRIED TO EIGHTEEN (18) INCHES BELOW FINISH GRADE. THE SUBGRADE SHALL THEN BE BROUGHT TO A SMOOTH SURFACE WITH SUITABLE, APPROVED MATERIAL AND COMPACTED TO THE SPECIFIED DENSITY.

SHATTERED ROCK - IF, IN THE COURSE OF ROCK EXCAVATION THE ROCK BELOW GRADE IS SHATTERED, AND THE AUTHORITY CONSIDERS SUCH SHATTERED ROCK TO BE UNFIT FOR SUPPORT OF STRUCTURES, THE SHATTERED ROCK SHALL BE REMOVED AND THE EXCAVATION BACKFILLED WITH CONCRETE, SCREENED GRAVEL OR CRUSHED STONE, AS DIRECTED. ALL REMOVAL, BACKFILLING AND CORRECTIVE WORK SHALL BE DONE BY AND AT THE EXPENSE OF THE CONTRACTOR.

SLOPE PRESERVATION - WHERE ROCK CUTS REQUIRING DRILLING AND BLASTING WILL BE EXPOSED AFTER THE PROJECT IS COMPLETED, ALL PRECAUTIONS SHALL BE EXERCISED TO PRESERVE THE ROCK IN THE FINISHED SLOPE IN A NATURAL UNDAMAGED CONDITION, WITH THE SURFACE REMAINING REASONABLY STRAIGHT AND CLEAN. BLAST HOLES SHALL BE DRILLED AT THE INCLINATION OF SLOPE ALONG THE LINE OF THE PROPOSED FINISHED SLOPE. AN APPROVED SYSTEM OF BLASTING SHALL BE EMPLOYED. THE SPACING OF THE BLAST HOLES AND THE METHOD OF BLASTING REQUIRED WILL BE DEPENDENT UPON THE QUALITY AND THE STRUCTURE OF THE ROCK ENCOUNTERED AND THE METHOD OF BLASTING USED IN APPROACHING THE SLOPE. THE CONTRACTOR SHALL ADJUST HIS OPERATIONS TO OBTAIN THE REQUIRED SLOPE CONDITIONS.

BLASTING - WHEN DRILLING AND BLASTING ARE PERMITTED, THE CONTRACTOR MUST EMPLOY LICENSED PERSONNEL, AND ADHERE TO ALL LOCAL, COUNTY, STATE AND OSHA REGULATIONS REGARDING THE USE AND STORAGE OF EXPLOSIVES, AND HE SHALL ACQUIRE ALL NECESSARY INSURANCE, PERMITS AND LICENSES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL DAMAGES DUE EITHER DIRECTLY OR INDIRECTLY TO SUCH OPERATIONS. BLASTING, WHEN PERMITTED, SHALL BE DONE ONLY AT SUCH TIMES AS THE OWNER AND THOSE AUTHORITIES HAVING JURISDICTION SHALL APPROVE AND UNDER SUCH CONDITIONS AND RESTRICTIONS AS THEY IMPOSE. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION; COMPENSATION SHALL BE CONSIDERED AS INCLUDED IN THE LUMP SUM BASE BID.

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