SECTION 312300 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Front End Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Preparing subgrades for slabs-on-grade, walks, pavements, parking areas, driveways, lawns and grasses, and exterior plants.
2. Undercutting and handling of unsuitable materials.
3. Furnishing suitable borrow material from off-site.
4. Predensification and proofrolling.
5. Spreading and finish grading of topsoil on all site areas including lawn and landscape areas.
6. Excavating and backfilling for buildings and structures.
7. Floor slab base material for slabs-on-grade.
8. Excavating and backfilling for utility trenches.
9. Excavating and backfilling pits for buried utility structures.
10. Removing sediment from temporary storage areas.

B. Related Sections include the following:

1. "Allowances" for quantity allowance provisions related to sitework.
2. Specification Section "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
3. Specification Section "Finishing of Lawn and Landscape Areas" for finish grading, including preparing and placing topsoil and planting soil for lawns.
4. Specification Section “Rock Removal.”
5. Specification Section "Cast-in-Place Concrete" for granular course if placed over vapor retarder and beneath the slab-on-grade.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.

C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill. Offsite borrow areas shall be approved by the Geotechnical firm prior to use.

D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for such items.
2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

E. Fill: Soil materials used to raise existing grades.

F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation (Mass Rock) or ¾ cu. yd. for footing, trench, and pit excavation (Trench Rock) that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:

1. Excavation of Footings, Trenches, and Pits (Trench Rock): Late-model, track-mounted hydraulic excavator; equipped with a 36 inch wide, maximum, short-tip-radius rock bucket; with bucket-curling force of not less than 40,000 lbf; measured according to SAE J-1179.

2. Bulk Excavation (Mass Rock): Late-model, track-mounted dozer pulling a single tooth ripper with a drawbar pull of not less than 80,000 pounds; measured according to SAE J-732.
3. Any material that may be classified as rock shall be evaluated by the Geotechnical Engineer or his representative prior to excavation. No claims for payment of rock excavation will be paid for unless the excavation is witnessed and verified by a representative of the Geotechnical Testing Company.

G. Soil Materials: Defined under Part 2 "Products", if not defined here.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below base, drainage fill, or topsoil materials.

J. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt and clay particles; friable, pervious and black or a darker shade of brown, grey or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel and other objects greater than one inch in diameter; and free of subsoil and weeds, roots, toxic materials or other nonsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D 698 for on-site soil material proposed for fill and backfill.

B. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

1.5 QUALITY ASSURANCE

A. Blasting: Comply with applicable requirements in NFPA 495, "Explosive Materials Code."

B. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548. Soil tests, field density tests, and testing of footing subgrades, observation and report of predensification shall be made by a Geotechnical Testing Agency (Geotechnical Engineer) approved by the OWNER and paid for in accordance with requirements set forth in the Specification Section “Quality Requirements.”

C. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1. Protect structures, utilities, sidewalks, pavement and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

D. Barricade open excavations occurring as part of this work and post with warning lights.
1. Operate warning lights as recommended by authorities having jurisdiction.

1.6 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.
3. Contact utility-locator service for area where Project is located before excavating.

B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS (Excludes soil backfill for Modular Concrete Block Retaining Walls)

A. Satisfactory Suitable Soils for project requirements excluding reinforced backfill for modular concrete block retaining walls are limited to soils classified in accordance with ASTM D 2487 Soil Classification Groups GC, SC, CL, GW, GP, GM, SW, SP, SM and ML or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension and contain no more than 15 percent larger than 2.5 inches. Satisfactory fill shall be free of debris, waste, frozen materials, vegetation, and other deleterious matter and shall have a liquid limit less than 50, plastic index less than 30 and a Standard Proctor maximum dry density (ASTM D-698) greater than 95 pcf.

B. Unsatisfactory Soils: Soil Classification Groups OL, CH, MH, OH, and PT according to ASTM D 2487 or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 3 percent of optimum moisture content at time of compaction.

C. Unsuitable soil/materials are soils or materials defined as Soil Classification Groups OL, GH, MH, OH and PT and/or that are not suitable or appropriate for their intended use as determined by the Testing Agency or the Engineer of Record.

D. Base Course: Graded, crushed aggregate base conforming to Georgia Department of Transportation specifications.

E. Backfill and Fill Materials: Satisfactory soil materials as defined above.

F. Floor Slab Base Material: Floor slab base material shall be #89 aggregate meeting the Georgia Department of Transportation specifications for Road and Bridge Construction Section 800 (latest edition).

G. Granular Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100 percent passing a 1 ½ inch sieve and not more than 5 percent passing a number 4 sieve.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
1. Blue: Water systems.
2. Green: Sewer systems.

B. Locator Wire: 12 gauge insulated copper wire, continuously installed above water lines and looped up inside valve boxes and looped around base of hydrants, P.I.V.s and other water main accessories.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Specification Section "Site Clearing."

C. Protect and maintain erosion and sedimentation controls, which are specified in Specification Section "Site Clearing," during earthwork operations.

3.2 SHORING AND BRACING

A. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

B. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

C. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.

D. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

E. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

3.3 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated utility trenches as temporary drainage ditches.
2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

C. Convey water removed from excavations and rain water to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Construct temporary drainage ditches to divert groundwater and subsurface water away from building and paving areas. Do not use footing excavations as temporary drainage ditches. Do not permit construction drainage onto adjacent property.

3.4 EXPLOSIVES

A. Explosives: Obtain written permission from authorities having jurisdiction and Architect before bringing explosives to Project site or using explosives on Project site.

1. Perform blasting without damaging adjacent structures, property, or site improvements.
2. Perform blasting without weakening the bearing capacity of rock subgrade and with the least-practicable disturbance to rock to remain.

3.5. EXCAVATION, GENERAL

A. Classified Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth, unsuitable materials and rock. Do not excavate unsuitable materials or rock until they have been classified by Geotechnical Engineer and cross sectioned by the Surveyor. The Contract Sum will be adjusted for rock and unsuitable soil excavation according to Contract provisions for such items.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as unsuitable materials, rock or unauthorized excavation.

    a. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.

2. Unsuitable soil excavation includes the excavation and disposal of materials classified as unsuitable by the Geotechnical Engineer. Suitable materials above the unsuitable fill layers shall be removed and placed as onsite fill material.

    a. Excavated unsuitable materials may be utilized onsite in non-structural areas as directed by the Engineer or disposed of offsite.
    b. Measurement of excavated unsuitable material and haul-in borrow materials will be performed in accordance with specifications.

3. Rock excavation includes removal and disposal of rock onsite or offsite as directed by the Engineer. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction. Rock will be measured in accordance with Specification Specification “Rock Removal.”

3.6 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.10 feet. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

3.7 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.8 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe at elevations indicated or below frost line, whichever is deeper.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated or required for safety purposes.

1. Clearance: 12 inches each side of pipe or conduit unless pipe is in rock, in which case excavation shall be 6 inches clear on each side of pipe.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Allow for bedding courses as required for each item.

3.9 SUBGRADE INSPECTION, PREDENSIFICATION, AND PROOFROLLING

A. Notify Geotechnical Engineer when excavations have reached required subgrade.

B. If Geotechnical Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. The entire stripped subgrade for building, sidewalks, and paving areas shall be scarified and compacted and then proof-rolled as recommended by the Geotechnical Engineer. The compaction efforts shall be sufficient to densify the subgrade of areas to receive fill to a minimum density of 98% in accordance with ASTM-D-698 for a depth of 12 inches. All at grade areas and cut surfaces shall be scarified to a depth of 12 inches and compacted to at least 98% of the same criteria.

D. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 20 tons.
3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or as directed.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.10 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.

1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

3.11 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line or trees to remain.

3.12 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, ice, vegetation, or other deleterious matter.

3.13 UTILITY TRENCH BACKFILL

A. Do not backfill trenches until tests and inspections have been made and backfilling authorized by the Engineer or authorities having jurisdiction.

B. Place backfill on subgrades free of mud, frost, snow or ice.

C. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

D. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

E. Backfill voids with satisfactory soils while installing and removing shoring and bracing.

F. Place and compact final backfill of satisfactory soil to final subgrade elevation.

G. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.14 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 5 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under steps and ramps, use satisfactory soil material.
4. Under building slabs, use satisfactory soil material, to floor slab base material.
5. Under footings and foundations, use satisfactory soil material.

C. Place soil fill on subgrades free of mud, frost, snow, ice, vegetation or deleterious matter.

3.15 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 3 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 3 percent and is too wet to compact to specified dry unit weight.

3.16 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure to prevent wedging.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 and not less than the following percentages of relative density, determined in accordance with ASTM D 2049 for soils which will not exhibit a well-defined moisture-density relationship.

1. Subgrades for Footings, Utility Trenches, Structures, Building Slabs, Steps and Pavements: Compact to at least 95 percent of the Standard Proctor Maximum Dry Density to within 12 inches of finished subgrade. The top 12 inches shall be compacted to at least 98 percent of the same criteria.
2. Lawn and Landscape Areas: Compact each layer of backfill or fill soil material to 95%.
3. Base Course for Paving – Compact base course in accordance with Paragraph 3.19.

3.17 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated, allowing for minimum depth of topsoil. Compact with uniform levels or slopes between points where elevations are shown or between such points and existing grades.

1. Provide a smooth transition between adjacent existing grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Curbs, Walks, Lawns, and Unpaved Areas: Plus or minus 1/2 inch. Backfill against curbs and pavement edges flush to provide smooth finish in areas to grassed. Grade areas to receive sod to allow for 1-1/2 inch thickness.
2. Pavements: Plus or minus 1/2 inch.

C. Grading Inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.18 GRADING OF ALL LAWN AND LANDSCAPE AREAS (UNDER SPECIFICATION "EARTHWORK")

A. General: Uniformly grade areas including adjacent transition areas. Smooth finish surfaces within specified work areas and adjacent transition areas to within plus or minus 0.10' between points where elevations are shown or between such points and existing grades. Grade areas adjacent pavement to slope as indicated on the drawings and to prevent ponding of water.

B. Topsoil Placement:
1. All lawn and landscape areas shall have a 4" uniform layer of topsoil spread prior to final grading. Smooth and compact finished surface with uniform levels between points where elevations are shown or between such points and existing grades.
2. Grade elevation of topsoil relative to walks, curbs, paved surfaces, and drainage structures, manhole tops, valve boxes, etc. to conform to the following criteria.

    a. Seeded Lawn Areas - One-half inch below finish grade.
    b. Sodded Lawn Areas - One and one-half inches below finish grade.
    c. Shrub and Ground Cover Areas - One inch below finish grade.

C. Temporary and Permanent Grassing shall be performed in accordance with Specification Section "Landscape Work."

3.19 BASE COURSE

A. Proofroll: Proofroll subgrades immediately prior to placing base material. Proofroll shall be in accordance with Paragraph 3.9 of this Section. Rework or undercut areas that pump or rut and replace with suitable materials prior to placing base materials. Place base course on subgrades free of mud, frost, snow, ice, vegetation or deleterious matter.

B. On prepared subgrade, place base course under pavements and walks as follows:

1. Place base course material over subgrade course under hot-mix asphalt pavement.
2. Shape base course to required crown elevations and cross-slope grades.
3. Place base course 8 inches or less in compacted thickness in a single layer, unless mandated otherwise by Authorities having jurisdiction.
4. Where indicated on the Drawings, place base course that exceeds 8 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

5. Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 100 percent of maximum dry unit weight according to ASTM D 1557.

C. Pavement Shoulders: Place shoulders along edges of base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 100 percent of maximum dry unit weight according to ASTM D 698.

3.20 FIELD QUALITY CONTROL

A. Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed. An experienced geotechnical engineer shall observe the pre-densification of the building and parking areas. One copy of results of all Compaction Test and observations of pre-densification shall be submitted to Owner, Architect and Engineer.

1. Testing company shall perform field density tests in accordance with ASTM D 2937 (drive cylinder method), ASTM D 2167 (rubber balloon method), as applicable, or nuclear method ASTM D 2922.
2. Pavement Subgrade Areas and Building Slab Subgrade: Make at least one field density test for each one foot lift for every 2,500 sq. ft. of building subgrade area and 5,000 sq. ft. in pavement subgrade areas but in no case fewer than two tests per lift.
3. Utility Trench Backfill: Make at least one field density test for each 12 inch layer of compacted backfill for every 75 lineal feet of trench construction and at least one test per structure.
4. Topsoil Thickness: Test topsoil thickness one test per 5,000 sq. ft. of lawn area but in no case fewer than three tests.

B. Footing Subgrades: All footing subgrades shall be examined by an experienced geotechnical engineer or his representative immediately prior to placement of reinforcing steel. Auger and penetrometer testing, augmented by hand probing, shall be performed on all footings in accordance with the following:

1. Auger and penetrometer testing: One test for each 25 lineal feet of footing subgrade.
2. Probe rod testing: One test for each spread footing and one test for each 10 lineal feet of continuous footing.

C. If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction to meet the requirements specified herein. Re-testing of areas shall be at the Contractor's expense.

3.21 PROTECTION

A. Protect Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth required; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove waste material, trash, and debris, and legally dispose of it off Owner's property.

3.23 INSUFFICIENT FILL MATERIAL

A. If the quantity of grading material is insufficient to provide finished grade and subgrade elevations shown on the drawings, the Contractor shall obtain the required material from approved offsite borrow sources. No additional compensation will be made to balance the earthwork.

3.24 EXCESS CUT MATERIAL

A. If the quantity of grading material is in excess of the quantities necessary to provide subgrade and finish grade elevations indicated on the drawings, the excess material shall be disposed of offsite. No additional compensation will be made to balance the earthwork.

END OF SECTION 312300