

TG 02361 v 12.02
Summary of Changes

1. Allow the Designer, in consultation with the User and Project Coordinator, to specify the appropriate termite control system or systems for the project. Approved systems include Chemical Soil Treatment, BTB, Mesh Termite Barrier, and Bait Station.
2. Change “warranty” to “guarantee” wherever used.
3. Specify a two-year guarantee period in accordance with the provisions of the Interim General Conditions and delete General and Special Warranties.
4. Change “Substantial Completion” to “Project Acceptance” wherever used.
5. Delete \$5000.00 monetary limit for termite damage repair.
6. Delete metric units for BTB material gradation requirements.
7. Specify that vapor retarder is placed over BTB.

Termite Control
TECHNICAL GUIDE

TG 02361

1. COORDINATION ISSUES:

1.1 Control System Selection: Approved systems include:

- a. Chemical Soil Treatment.
- b. Basaltic Termite Barrier (BTB).
- c. Mesh Termite Barrier.
- d. Bait Station.

1.1.1 Chemical Soil Treatment shall be specified for all types of construction where termites are likely to establish colonies and make concealed access to wood construction, including doors, windows, finishes and trims, or to wood-product, cloth, or cellulose storage in buildings. Chemical soil treatment shall also be specified for structures constructed of or containing wood preservative treated items. For treated ground level crawl spaces accessible to people and animals, provide appropriate protective sealing concrete cover and warning signage.

Generally, there are two systems to use. The first is to use chemical treatment either with or without a bait system. The second is to use BTB with Termi-Mesh or all Termi-Mesh system.

1.1.2 ~~Basaltic Termite Barrier-System:~~ Confirm with User and Project Ceordinator IF system will be used in conjunction with chemical soil treatment. BTB is recommended when maximize protection of the structure is required.

1.1.3 ~~Mesh Termite control-Barrier-system:~~ Confirm with User and Project Coordinator if system will be used in conjunction with chemical soil treatment. System must comply with all federal, state, and local codes and regulations. Optional alternative to BTB, at contractor’s option.

~~1.1.4 Bait Station systems: Use on projects under CSD control including D.O.E. Confirm with the Project Coordinator whether a continuing maintenance agreement for termite bait system will be permitted on this project.~~

~~1.1.5 Chemical Soil Treatment: Preferred method by CSD and for DOE projects. Confirm with Project Coordinator if a bait system will also be implemented.~~

2. DESIGN ISSUES:

~~2.1 In addition to the use of **physical barriers** above approved systems, Termite Resistive Construction (TRC) shall also be employed, where practical. The intent of TRC is to eliminate or minimize the use of wood, which is the termite's food source, wherever practical. However, if using steel as an alternate to wood, the exposure of the facility to salt air in coastal environments must also be considered since the repair and maintenance of metal corrosion may exceed that of wood damaged by termites. Examples of TRC are as follows:~~

~~2.1.1 Galvanized steel or aluminum door frames. (Note: Door can remain as wood.)~~

~~2.1.2 Full surround jalousie window frames. (Refer to guidance noted under 08500 - Windows.)~~

~~2.1.3 Chalkboards and tackboard frames constructed of standard aluminum trims.~~

~~2.1.4 Furniture, including counters, cabinets, shelving and files, constructed of materials such as metal or phenolic plastic.~~

~~2.1.5 Metal roofing, decking and/or roof framing.~~

~~2.1.6 Galvanized steel studs and framing members.~~

~~2.2 Note: Chemical soil treatment for termite control, in addition to the BTB and Termi-Mesh, shall not be used. Chemical soil treatment shall be used in addition to a bait system. Since the incidence of termite infestation varies between the neighbor islands, the consultant shall verify with their DAGS Project Coordinator which form of treatment / construction (either BTB / Termi-Mesh or Soil Treatment) shall be used and if TRC is required on their particular project.~~

3. DRAWING NOTES:

3.1 Information Required: Show the following on the drawings:

3.1.1 Where bait station location is critical to appearance or function of exterior perimeter areas show bait station locations on drawings and, if unusual, provide a detail drawing of the bait station installation into pavement or landscape feature.

3.1.2 Be sure to indicate the location of control and expansion joints on the drawings.

4. STANDARD DRAWINGS:

4.1 Manufacturer's Standard Details: Refer to BTB and mesh manufacturer's sample details for guidance regarding the use of BTB material, Termi-mesh and Termite Resistive Construction.

5. SPECIFICATION NOTES:

5.1 Guide Specification: Section 02361 replaces previously issued DAGS Guide Specification Sections 02281 Soil Treatment for Termite Control, 02285 Basaltic Termite Barrier System, and 02287 Termite Control Barrier System.

5.2 Modify specifications for the proposed treatment system. Delete non applicable items.

6. GUIDE SPECIFICATION:

6.1 Section 02361 Termite Control

***SPECIFIER'S NOTE:** Blue colored italicized text is used for notes to the specifier and should be completely deleted from the final text. Where [Red colored italicized text in parentheses] is shown in this specification section, insert wording, numbers, etc. as appropriate and delete parentheses. Where <Red colored text in brackets> is shown, a choice is indicated. Make the appropriate choice and delete the brackets. Maintain footer notation with the current version used (e.g. TG02361 v012.02). Verify that section titles cross referenced in this Section correspond to this Project's specifications; Section titles may have changed.*

SECTION 02361 - TERMITE CONTROL

SPECIFIER'S NOTE: ~~Warranties-Guarantees are available for full building termite treatment to new or existing buildings. Warranties-Guarantees are not available for partial or spot treatments buildings. Coordinate full treatment for residences with HUD requirements.~~

SPECIFIER'S NOTE: *This specification is intended for use with new construction. It is not intended for retreatment of existing facilities or addition of bait stations to existing facilities.*

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes these following for termite control systems:
1. Chemical Soil Treatment.
 2. Bait Station-system.
 3. Basaltic Termite Barrier (BTB)-system.
 4. Mesh Termite control Barrier-system.

1.02 DEFINITIONS

- A. EPA: Environmental Protection Agency.
- B. PCO: Pest Control Operator.

1.03 SYSTEM DESCRIPTIONS

- A. Chemical Soil Treatment: System consists of application of termiticide chemicals to exposed soil and to voids in construction where insects may gain entry to the building.
- B. Bait Station System: First, monitoring stations that are bait devices containing bait (food), but not termiticide, are installed by the PCO. After termite activity is verified by the PCO, bait containing termiticide is substituted for bait without insecticide and the device becomes a bait station. Monitoring and bait stations are placed in areas designated as conducive sites for termite activity, at final positions determined by the PCO.
- C. Basaltic Termite Barrier System: System consists graded basaltic termite barrier material on the excavated building foundation to provide a barrier against subterranean termite intrusion.
- D. Mesh Termite ~~Control~~-Barrier System: System consists of a fine stainless steel mesh is placed across all termite entry points to the building, principally penetrations to concrete slab and cavities of walls. The mesh is too fine for the termites to squeeze through, too hard to chew through, and resistant to corrosive resistant to chemical attack.

1.04 SUBMITTALS

- A. Product Data:
1. Treatments.
 2. Application instructions.

3. Copies of the EPA-registered labels for all chemicals.
- B. Product Certificates: Signed by manufacturers of termite control products certifying that treatments furnished comply with requirements.
 - C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
 - D. Chemical Soil Treatment Application Report: After application of termiticide is completed, submit report for the State's record information, including the following as applicable:
 1. Date and time of application.
 2. Moisture content of soil before application.
 3. Brand name and manufacturer of termiticide.
 4. Quantity of undiluted termiticide used.
 5. Dilutions, methods, volumes, and rates of application used.
 6. Areas of application.
 7. Water source for application.
 - E. Bait Station System Application Report: Submit report for The State's records information, including the following as applicable:
 1. Location of areas and sites conducive to termite feeding and activity.
 2. Plan drawing showing number and locations of bait stations.

SPECIFIER'S NOTES: Revise subparagraph below if American Cyanamid's product is retained. Monitoring stations are not available from American Cyanamid.

3. Plan drawing showing number and locations of monitoring stations and bait stations.
 4. Dated report for each monitoring and inspection occurrence indicating level of termite activity, procedure, and treatment applied before ~~time of Substantial Completion~~ date of Project Acceptance.
 5. Brand name and manufacturer of termiticide.
 6. Quantities of termite bait used.
- F. ~~Warranties~~ Guarantee: Copies of ~~special warranties~~ guarantee specified in this Section.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: A PCO who is licensed by the Hawaii State Pest Control Board in Branch #3 and certified as a commercial applicator under the Hawaii Pesticide Law by the Hawaii State Department of Agriculture in category 7b and who is:

1. Chemical Soil Treatment: An experienced installer who has completed termite control treatment similar to that indicated for this Project and whose work has a record of successful in-service performance.
 2. Bait Station System : An experienced installer who employs workers trained and approved by bait station system manufacturer to install manufacturer's products.
 3. Mesh Termite ~~Control~~-Barrier System: An experienced installer who employs workers trained and approved by barrier system manufacturer to install manufacturer's products.
- B. Regulatory Requirements: Formulate and apply termiticides, and label with a Federal registration number, to comply with EPA regulations and authorities having jurisdiction.
- 1.06 PROJECT CONDITIONS
- A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated. Do not treat soil while precipitation is occurring. Comply with EPA-Registered Label requirements and requirements of authorities having jurisdiction.
- 1.07 COORDINATION
- A. Coordinate termite control treatment application or installation with excavating, filling, and grading and concreting operations.
1. Treat soil under footings, grade beams, and ground-supported slabs, before construction.
 2. Install bait station system after construction, including landscaping, is completed.
- 1.08 WARRANTY-GUARANTEE
- A. ~~General Warranty: Special warranty specified in this Article shall not deprive The State of other rights The State may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.~~

SPECIFIER'S NOTE: Revise paragraph below to suit products specified. Insert bait station system and warranty terms, if applicable. Warranty is for protection of construction from infestation and not specifically for methods used. If required, contact HUD for new "Subterranean Termite Soil Treatment Builder's Guarantee" and change "Applicator" to "Contractor."

- ~~B. Special Warranty: Written warranty-guarantee, signed by applicator and Contractor certifying that termite control work, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty-guarantee period, re-treat soil and repair or replace damage caused by termite infestation.~~
1. ~~Warranty-Guarantee Period: Three-Two (2) years from Project Acceptance date of Substantial Completion.~~
 2. All necessary repairs of damages resulting from subterranean termite infestation ~~within a period of one (1) year from the date of project acceptance will-shall~~ be made at the Contractor's own-expense-up-to-a-total-cost-of \$5,000.00; and

3. If subterranean termite infestation should occur through the treated area within the ~~three (3)~~two (2) year guarantee period, the soil shall be re-treated as described in paragraph 1.8.B.4 below, **or**, other methods, including but not limited to, installation of a monitored bait station system- to reduce infestation shall be installed without cost to the State of Hawaii.
4. Minimum retreatment ~~under special warranty~~.
 - a. All corrective treatments shall be performed to at least 10 feet around each visible subterranean termite activity.
 - b. Drill one hole per block along one course above adjacent grade of hollow tile walls which extend below grade, and treat at a rate consistent with the pesticide label.
 - c. Remove carpets from areas being treated.
 - d. Drill and treat through all interior concrete floors, along both sides of all partitions and walls, and all cracks and expansion joints according to label directions. Drill holes through concrete slab shall be ½ inch or 9/16 inch diameter and spaced not more than 18 inches apart.
 - e. Drill one hole at each plumbing or utility penetration through ground floor slab and treat according to label instructions.
 - f. Patch drill holes with cement/concrete to full depth of slab thickness and refinish walls/floors as necessary to prevent any backflow and to restore original appearance.
 - g. Re-install carpets as applicable / necessary. Installation shall be done by a competent commercial carpet installer.
 - h. Replace any finish/finish materials which are contaminated by spilled chemicals.
5. The above-ground areas infested with subterranean termites shall be treated as appropriate with a proven, effective insecticide to eliminate those termites.

1.09 MAINTENANCE SERVICE

SPECIFIER'S NOTE: Retain or delete this Article to suit needs of the State. Coordinate with warranty requirements, if any. Since bait station systems require post-construction monitoring, retain if bait products are specified, after consulting The State. The State may prefer another contractual arrangement.

- A. Continuing Service: Provide a proposal for continuing service, including monitoring, inspection, and retreatment for occurrences of termite activity, from applicator to The State, in the form of a standard yearly (or other period) continuing service agreement, starting on the Project Acceptance date ~~of Substantial Completion~~. State services, obligations, conditions, and terms for agreement period and for future renewal options.

PART 2 - PRODUCTS

2.01 CHEMICAL SOIL TREATMENT

- A. Termiticide: Provide an EPA-registered termiticide complying with requirements of authorities having jurisdiction, in a soluble or emulsible, concentrated formulation that dilutes with water or foaming agent, and formulated to prevent termite infestation. Use only soil treatment solutions that are not harmful to plants. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to the product's EPA-Registered Label.
- B. Chemicals shall be aqueous solutions of Type I repellent termiticides such as Prelude, Dragnet SFR, Demon TC, or Prevail FT or the Type II non-repellent termiticide Premise 75. The chemicals shall be used in accordance with the labels and provisions related to the use of those pesticides as adopted by the Hawaii Pesticide Law, Chapter 149A, HRS, and the Federal Insecticide, Fungicide and Rodenticide Act.
 - 1. Type II non-repellent termiticides such as Dursban TC shall not be used.
- C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- D. Manufacturers: Subject to compliance with requirements, provide products by one of the following: (Insert product names if required to suit Project):-
 - 1. AgrEvo Environmental Health, Inc.; a Company of Hoechst and Schering, Berlin.
 - 2. American Cyanamid Co.; Agricultural Products Group; Specialty Products Department.
 - 3. Bayer Corp.; Garden & Professional Care.
 - 4. DowElanco.
 - 5. FMC Corp.; Pest Control Specialties.
 - 6. Zeneca Professional Products.

2.02 BAIT STATION SYSTEM

- A. General: Provide bait stations and, if applicable, monitoring stations, according to manufacturer's EPA-Registered Label for product, manufacturer's written instructions, and the following:
 - 1. Provide number of stations, based on the dimensions of building perimeter indicated on Drawings, according to manufacturer's written instructions.
- B. Product: Subject to compliance with requirements, provide one of the following product:

SPECIFIER'S NOTE: First and last are systems involving some control by manufacturer. American Cyanamid's product is sold to PCOs as a commodity. If retaining more than one product, insert applicable standard paragraphs.

- 1. Hexaflumuron: Sentricon System, Recruit II; DowElanco.

SPECIFIER'S NOTE: Product above eliminates termite colonies and can be used as an alternative to soil treatment, according to manufacturer. Products below are intended primarily to supplement barrier soil treatments.

- 2. Hydramethylnon: Subterfuge; American Cyanamid Co., Agricultural Products Group, Specialty Products Department.

3. Sulfluramid: Systematic Termite Control, FirstLine GT; FMC Corp., Pest Control Specialties.

2.03 BASALTIC TERMITE BARRIER SYSTEM

- A. Basaltic Termite Barrier (BTB) Material: Clean, dry, basaltic aggregate material manufactured from crushed basalt rock and meeting the following requirements:

1. Material Gradation (per ASTM C 136):

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	95 - 100
No. 10 (2.00 mm)	75 - 95
No. 12 (1.70 mm)	35 - 50
No. 16 (1.18 mm)	0 - 10

2. Specific Gravity: 2.80 when tested in accordance with ASTM C 128.
3. Silica Content: 45 percent when tested in accordance with ASTM C 289.
4. Abrasion Loss: 20 percent after 500 revolutions when tested in accordance with ASTM C 131.
5. The materials shall not contain aggregate that has formed into Clumps.

- B. Vapor Retarder: As specified in Section 03300 - Cast-in-Place Concrete.

- C. Bio-Barrier: Permeable geotextile fabric having a tensile strength of approximately 145 lbs., impregnated with time-release nodules of root growth inhibitors such as treflan herbicides.

- D. Equipment used to place BTB shall be free of dirt and other deleterious material so as not to contaminate the BTB.

- E. Compaction: Use power driven, vibrating-plate type tampers for large areas and rod-and-plate type hand tampers for small areas such as foundation and walk edges.

2.04 ~~MESH TERMITE CONTROL BARRIER SYSTEM~~

- A. Barrier Mesh: Type AIM marine grade 316 stainless steel mesh of 0.18 mm diameter wire with mesh openings of 0.66 x 0.45 mm.

- B. Accessories: Parging adhesives, clamps, ties, and other accessories as recommended by system supplier.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of the soil, interfaces with earthwork, slab and foundation work, landscaping, and other conditions affecting performance of termite control. Proceed with application only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's written instructions for preparing substrate. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil and around foundations.
- B. Chemical Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended by termiticide manufacturer.
 - 1. Fit filling hose connected to water source at the site with a backflow preventer, complying with requirements of authorities having jurisdiction.
- C. Basaltic Termite Barrier Preparation: Prior to placing material, remove visible plant roots and standing water from the excavated area. Inspect the subgrade, piping and conduits to ensure the minimum 4 inch cover over piping and conduits will be achieved. Inspect the foundation perimeter to assure that there is sufficient room between the sides of excavations and edges of foundations and walks to provide the required barrier depth and width. Do not proceed with the work until discrepancies have been corrected.

3.03 APPLICATION, GENERAL

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.
- B. Notify Contracting Officer at least one day before application of chemicals.

3.04 APPLYING CHEMICAL SOIL TREATMENT

- A. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute the treatment evenly.
 - 1. A totalizing meter shall be provided to determine application rates and to indicate the total volume of pesticide applied in U.S. gallons. the meter shall be no more than five feet from the applicator at all times.
 - 2. Slabs-on-Grade and Basement Slabs: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
 - a. Whenever possible, the solution shall be applied not more than 24 hours before the pouring of concrete over the affected area.
 - b. Where a treated area that is not scheduled to be covered with a vapor retarder moisture barrier in the finished construction (e.g. lanai area) cannot be covered with a poured concrete slab the same day, the area shall be protected with a waterproofing covering such as ~~polyethelene~~polyethylene sheeting.
 - 3. Foundations: Adjacent soil including soil along entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating slab, and around interior

column footers, piers, and chimney bases; and along entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.

- a. Treatment shall include the provision of vertical barriers as stated on the product label.
 4. Crawlspace: Soil under and adjacent to foundations as previously indicated. Treat adjacent areas including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
 5. Masonry: Treat voids.
 6. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.
- B. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
- C. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.
- D. Post warning signs in areas of application.
- E. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

3.05 INSTALLING BAIT STATION SYSTEMS

SPECIFIER'S NOTE: Retain this Article if retaining bait stations. Strategies and applications of bait station systems vary among products. Procedures on the EPA-registered label, including guidelines for station placement, inspecting, and servicing, must be followed.

- A. Place bait stations and, if applicable, monitoring stations, according to the EPA-Registered Label for the product and manufacturer's written instructions, in areas that are conducive to termite feeding and activity, as follows:
 1. Conducive sites and locations indicated on Drawings.
 2. In and around infested trees and stumps.
 3. In mulch beds.
 4. Where wood directly contacts soil.
 5. Areas of high soil moisture.
 6. Near irrigation sprinkler heads.
 7. Each area where roof drainage system, including downspouts and scuppers, drains to soil.
 8. Along driplines of roof overhangs without gutters.
 9. Where condensate lines from mechanical equipment drip or drain to soil.

10. At plumbing penetrations through ground-supported slabs.

11. Other sites and locations as determined by the PCO.

SPECIFIER'S NOTE: Retaining below is contingent on retaining "Maintenance Service" Article in Part 1 and on the State's agreeing to continuing service.

B. Inspect and service stations from time of their application until completion of the time period established by continuing service agreement, according to the EPA-Registered Label for the product and manufacturer's written instructions for termite management system and bait products.

1. Service Frequency: Inspect monitoring stations not less than once every three months.

3.06 BASALTIC TERMITE BARRIER SYSTEM

A. General:

1. The minimum effective depth of the BTB material shall be 4 inches. In no case shall the BTB material be placed in less than the 4 inch thickness.

2. Place material in one lift for thicknesses of 6 inches or less and in successive lifts of 4 to 6 inches where the thickness indicated on the drawings is greater than 6 inches. Compact each lift prior to placing successive lifts.

3. BTB material shall not be placed directly onto sand and porous (e.g. loose gravel / rock) substrates. It shall be separated by a membrane such as polyethylene sheeting.

4. Placement of BTB material beneath concrete slabs-on-grade: After the subgrade has been properly prepared, the BTB material shall be placed and compacted to a minimum thickness of 4 inches. Place the ~~on~~ vapor retarder over the BTB as indicated.

5. Placement of BTB material against the exterior face of CMU walls extending below grade: After placement of footings and walls and the removal of forms, remove dirt, loose concrete, and other debris from the excavated area. Install bio-barrier material against the exposed earth face and place BTB material. Provide a minimum 2 inch thick reinforced concrete topping atop the BTB material sloped to drain away from the building. Provide the topping with control and expansion joints to minimize cracking.

6. Placement of BTB material beneath thickened perimeter foundation edges: Place BTB in the minimum thickness as described above. After concrete placement and form removal, remove dirt and debris that may have contaminated the BTB. Bring the vapor retarder up the sides of the foundation and place additional BTB material on the exterior side of the vapor retarder. Tamp the BTB material and provide a minimum 2 inch thick reinforced concrete topping atop the BTB material sloped to drain away from the building. Provide the topping with control and expansion joints to minimize cracking.

B. The General Contractor shall coordinate the following work by other trades:

1. The Contractor shall take the necessary precautions and modify his operations to avoid displacement and contamination of the BTB material during deposition of concrete and removal of forms and stakes.

2. Plumbing, mechanical piping and electrical conduits shall not be placed horizontally within the 4 inch thick BTB layers beneath slabs-on-grade. They

shall be placed in trenches beneath the 4 inch layer and shall only penetrate it vertically.

3. As an option, the Contractor may, at his own expense, provide a BTB layer exceeding the minimum 4 inch thickness to accommodate the placement of horizontal conduits and piping laid directly on a subgrade that has been rolled flat. However, the 4 inch thick effective depth of the BTB material atop the conduit and piping shall be maintained.
4. With the exception of insulated piping, where conduits and piping pass vertically through the BTB material, sleeves and wrappings shall be removed so that the BTB material directly abuts the pipe/conduit surface.
5. Insulated pipes: Provide a barrier mesh collar where insulated piping penetrates the BTB layer and slab-on-grade as detailed on the drawings.

3.07 MESH TERMITE CONTROL BARRIER SYSTEM

- A. Strictly follow the manufacturer's instructions published in Builder's Installation Notes.
 1. Install mesh as required, fit and clamp mesh around all pipe penetrations, and terminate at perimeters as appropriate for the building construction as described in Builder's Installation Notes.
 2. Install special fittings appropriate to construction as described in Builder's Installation Notes.
- B. Install ~~Following installation of mesh,~~ vapor retarder, reinforcing steel and concrete ~~is installed as specified under other sections~~ in section 03300 Cast-in-Place Concrete.
- C. Where required, mesh is integrated into subsequent construction as described in Builder's Installation Notes.

END OF SECTION 02361