

VILLAGE OF CALEDONIA
DITCH MODIFICATION APPLICATION

(\$45.00 per hour/minimum two hours)

For Village Use
Permit Number: _____
Receipt Number: _____
Account Number: 4350
Approved / Denied
Date Issued: _____

DM- -

4350

Project Address: _____ **Date:** _____:

Lot: ____ **Block:** ____ **Subdivision:** _____:

Parcel Id #: _____:

Name of Applicant: _____ **Applicant's Telephone:** _____:

Address of Applicant: _____:

Name of Mortgagee: _____:

Mortgagee's Telephone: _____:

Address of Mortgagee: _____:

Estimated Cost of Ditch Modification: _____:

Name of Design Engineer/Inspector: _____:

Size of Driveway Culvert: _____

Size of Upstream Culvert: _____

Size of Downstream Culvert: _____

Length and Description of Area Proposed to be modified:

(Applicant to supply Drawings of installation with cross sections)

Name of Installation Contractor: _____:

Contractor's Insurance Carrier: _____:

Hold Harmless Agreement Signed: Yes: No:

Conditions:

Signature of Applicant

Village Engineer's Signature

Date Approved: _____

Date Installed: _____ **Date of Backfill Inspection:** Pass Fail **By:** _____

Date of Final Grading Inspection: _____ **By:** _____

Village of Caledonia

Ditch Modifications

Ditch Modification Procedures

1. Engineering Department to visit and assess the ditch to determine if ditch modifications are feasible.
2. If the Engineering Department determines that ditch modifications are feasible the owner may obtain a ditch modification application form.
3. The owner may select the ditch modification that they intend to install based on the recommendation of the Engineering Department. The owner shall supply a complete application form, a typical detail of the installation, an overall site plan with grades of the ditch modification, and if available a plat of survey of the property.
4. The Engineering Department will review the application form and prepare all permits and documents for the owner to proceed with the work.
5. The Engineering Department shall issue the permit to the owner.
6. Prior to the owner backfilling the pipe or installing the concrete liner, the owner shall contact the Engineering Department for an inspection of the installation.
7. Once the installation passes inspection(s), the owner may backfill over the pipe / place the concrete liner, and then grade and seed the disturbed area.

Ditch Modification Specifications

Partial Ditch Enclosure (Tile in the backslope of the road ditch)

1. The type of pipe shall be a 4" or 6" perforated or slotted polyethylene drain tile conforming to AASHTO Designation M 252 or any pipe which is found acceptable to the Engineering Department.
2. The pipe shall be surrounded with a minimum of 3" of crushed bedding stone conforming to Section 6.43.2 of the State Standard Specifications.
3. The pipe shall be installed in the backslope of the road ditch a minimum of 3' from the centerline of the road ditch. The pipe invert shall be at or below the road ditch centerline. The inlet of the pipe shall be in a stone pocket inlet. The outlet of the pipe shall be at grade in the road ditch at the property line or on the apron of a driveway or road culvert.
4. All sump pumps and/or downspouts shall not be directly connected to the ditch enclosure pipe. A stone pocket inlet over the pipe shall be provided for sump pumps and/or downspouts.

Concrete Ditch Liner

1. The concrete ditch liner blocks shall be a trough type or any concrete ditch liner which is found acceptable to the Engineering Department.
2. The concrete ditch liner blocks shall be installed per manufacturer's specifications.
3. The concrete ditch liner shall be supported by a minimum of 6" of crushed bedding stone conforming to Section 6.43.2 of the State Standard Specifications.
4. The concrete ditch liner shall be interlocking with a PVC track.
5. The concrete ditch liner shall be installed to provide the best percent of grade between upstream and downstream areas.
6. At driveway culvert aprons, the concrete liners shall be cut and tapered to the width of the apron with flat concrete blocks of the same type and thickness.
7. Contact the Engineering Department for an inspection of the concrete liner blocks when starting to install concrete liner blocks and when the installation of concrete liner blocks is complete.
8. Owners shall monitor & maintain system to ensure proper drainage & system functionality are maintained.

CHECKLIST FOR DITCH MODIFICATIONS PROCEDURES

- _____ 1.) Engineering Department to visit and assess the ditch to determine if ditch modifications are feasible.
- _____ 2.) If the Engineering Department determines that ditch modifications are feasible the owner may obtain a ditch modification application form.
- _____ 3.) The owner may select the ditch modification that they intent to install based on the recommendation of the Engineering Department. The owner shall supply a complete application form, a typical detail of the installation, an overall site plan with grades of the ditch modification, and if available a plat of survey of the property.
- _____ 4.) The Engineering Department will review the application form and prepare all permits and documents for the owner to proceed with the work.
- _____ 5.) The Engineering Department shall issue the permit to the owner.
- _____ 6.) Prior to the owner backfilling the pipe, the owner shall contact the Engineering Department for an inspection of the installation.
- _____ 7.) Once the installation passes inspection(s), the owner may backfill the pipe / ditch liner, and grade and seed the disturbed areas.

AGREEMENT

To: Village of Caledonia

I hereby acknowledge that I fully understand and agree to all of the conditions specified by the Village of Caledonia Engineering Department in approving my request for permission to partially enclose the drainage ditch / drainage swale on my property (install drain tile system in back/side slope of drainage swale /road ditch). I understand and agree that the construction of the partial enclosure must strictly conform to the standards specified by the Village Engineer's office. I understand and agree that the Village of Caledonia has no liability for any of the costs associated with this enclosure. I understand and agree that the Village of Caledonia in no way warrants the proper operation of this enclosure. I understand and agree that the Village of Caledonia has no liability for damage to, or destruction of this enclosure from any cause whatsoever, including, but not limited to, ditch work by the Village. If the system fails, is in need of repair, drainage is restricted, or if a drainage problem occurs as a result of this installation, the Owner will be responsible to repair or remove the system at the direction of the Village Engineer. Failure to do so in a timely fashion will result in the issuance of daily fines and or payment of all removal / repair costs related to the correction of the drainage problems caused by this system. If payment is not received costs will be placed on the tax roll for this parcel. This agreement shall constitute a covenant running with the land and shall be binding upon the parties hereto, their heirs, successors and assigns.

Signed: _____

Date: _____

Property Location: _____

Phone: _____ : _____

Parcel Tax Key Number: 51-104-04-____-____-____-____

STATE OF WISCONSIN)
)SS
COUNTY OF RACINE)

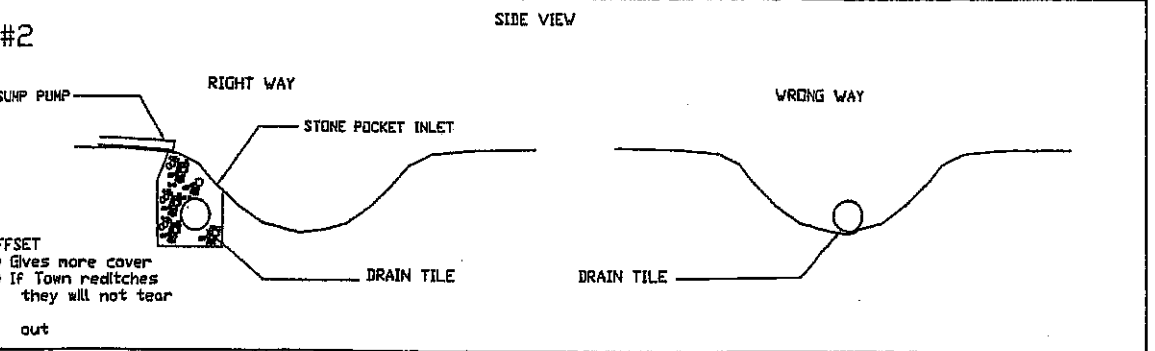
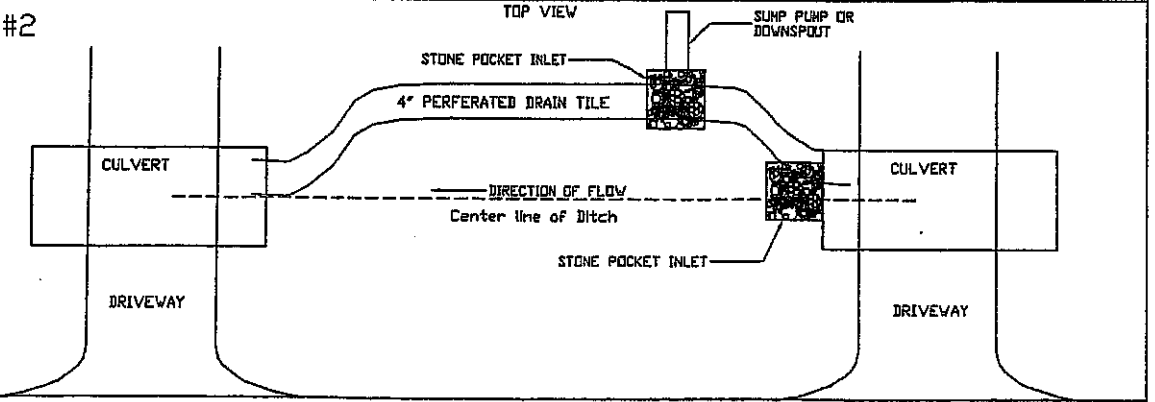
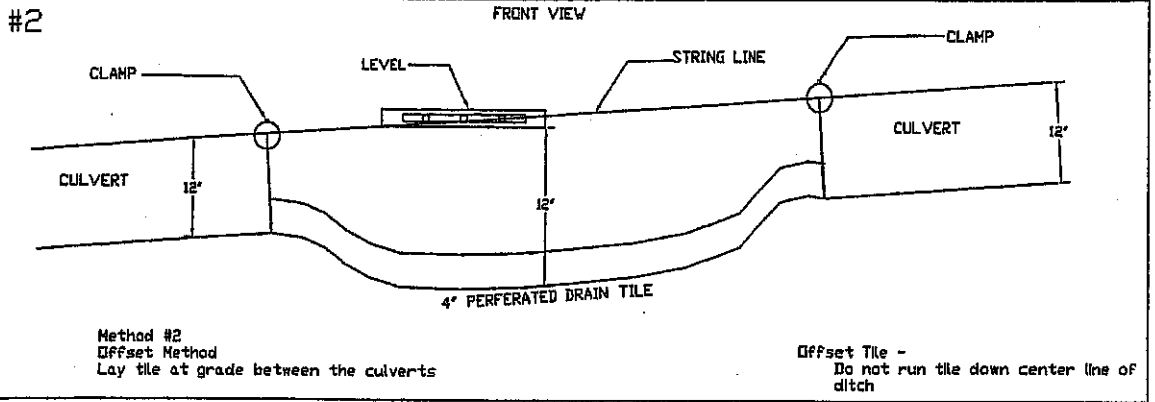
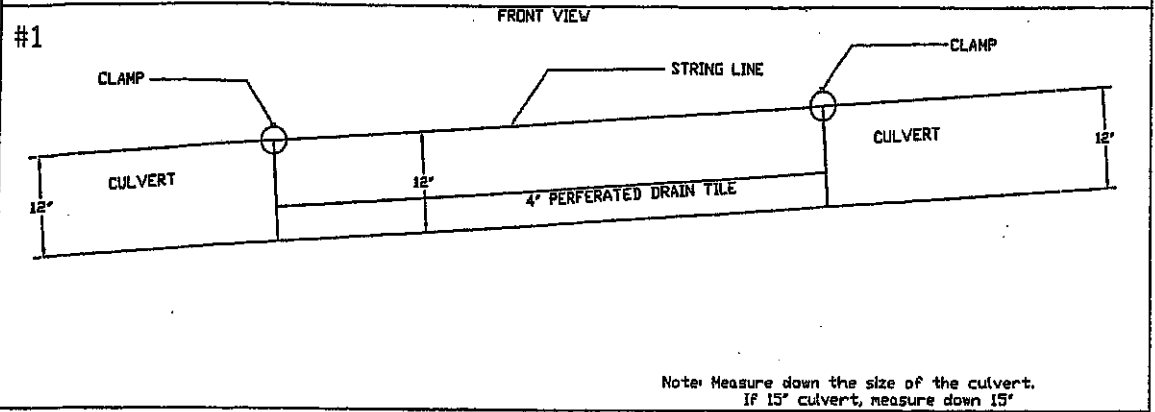
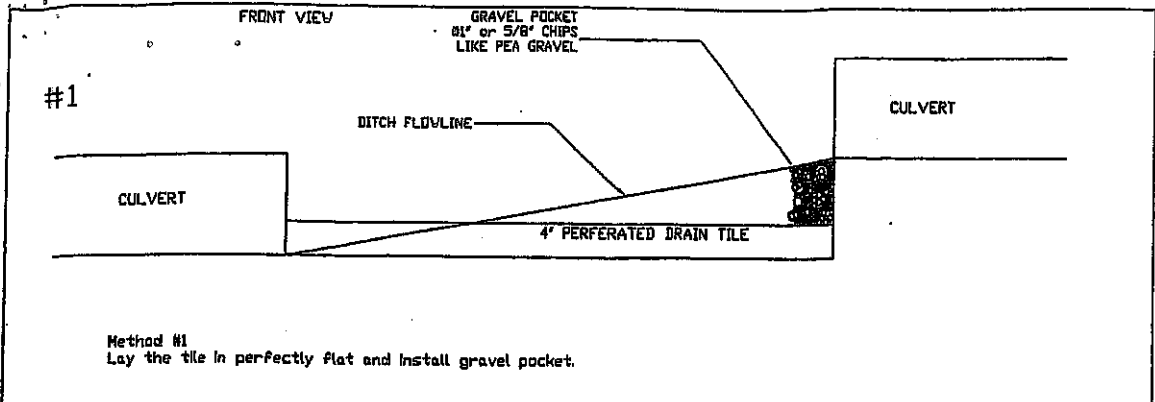
_____, being first duly sworn on oath says that he/she is the person who made and signed the forgoing statement and agreement, and that all statements made therein are true.

Subscribed and sworn before me this _____ day of _____, 20_____.

Notary Public

_____, County, WI

My Commission Expires: _____



Modular Drainage PRODUCTS & SYSTEMS™

MD 1545L

Product Specification Sheet



PRODUCT DESCRIPTION: Modular Drainage Concrete Block - Standard Configuration Product # MD 1545L

ORIGIN OF MANUFACTURE: Modular Drainage PRODUCTS & SYSTEMS™
5510 Independence Road, Racine, WI 53406-2708

OVERVIEW

Modular Drainage Concrete Block systems offer innovative concrete block product designs. Developed to provide a new solution for troublesome drainage ditches, swales and runoff areas, the concrete block drainage design eliminates the problems of standing water, weed growth, and insect infestation while enhancing the appearance of low-lying areas.

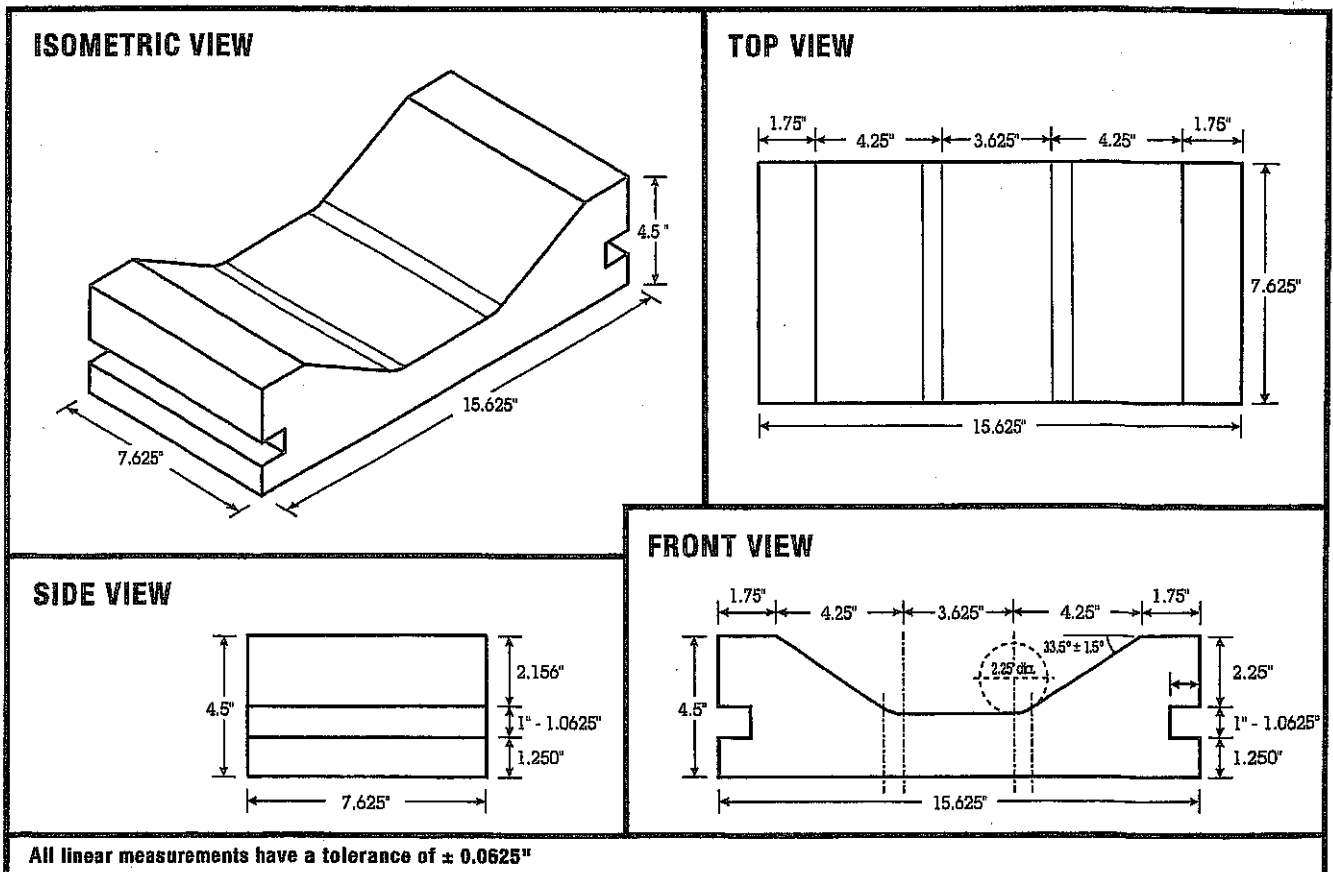
The system consists of specially-formed concrete blocks held in place by PVC pipe "keys," affording both horizontal and vertical stability and the flexibility to follow contours and curves.

This patented design (with two patents pending) is available in one standard size, which requires nothing more than hand tools and a mallet for installation.

The Modular Drainage Block System has caught the interest of the EPA because its "open" construction allows groundwater to make its way back into the water table.

NOTE: MODULAR DRAINAGE BLOCKS ARE NOT INTENDED FOR USE AS A STRUCTURAL ELEMENT.

PHYSICAL DIMENSIONS



BLOCK WEIGHT approx 28.0 lbs

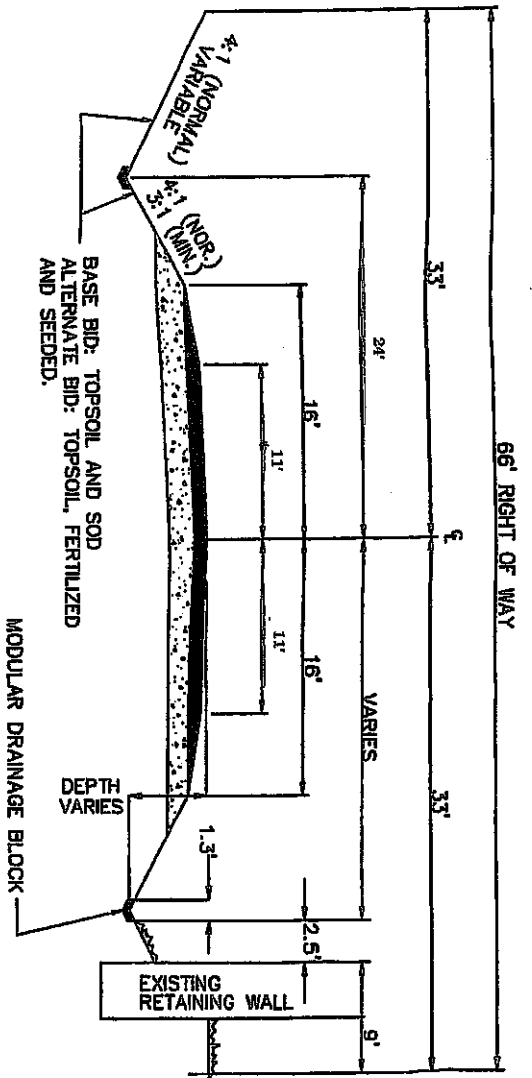


5510 Independence Road | Racine, WI 53406-2708

Phone: 262-598-9510 | Fax: 262-598-9514

jim@modulardrainage.com | www.modulardrainage.com

Revision 10-2006



DITCH SECTION
 NOT TO SCALE

Modular Drainage PRODUCTS & SYSTEMS™
MD 1548L
 Product Specification Sheet

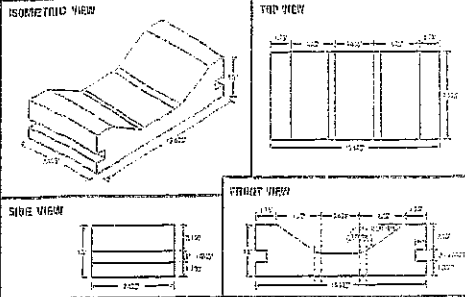


PRODUCT DESCRIPTION: Modular Drainage Concrete Block - Standard Configuration Product # MD 1548L
ORIGIN OF MANUFACTURE: Modular Drainage PRODUCTS & SYSTEMS™
 5400 Independence Blvd., Newark, NJ 07102-2702

OVERVIEW

Modular Drainage Concrete Blocks are a high strength, precast concrete product used for drainage applications. They are designed to be installed in a trench and provide a durable, long-lasting drainage solution. The blocks are made of high quality concrete and are designed to be used in a variety of applications, including residential and commercial drainage systems. The blocks are designed to be installed in a trench and provide a durable, long-lasting drainage solution. The blocks are made of high quality concrete and are designed to be used in a variety of applications, including residential and commercial drainage systems.

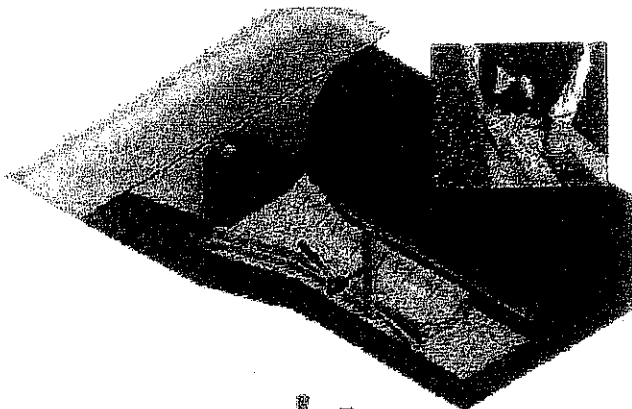
PHYSICAL DIMENSIONS



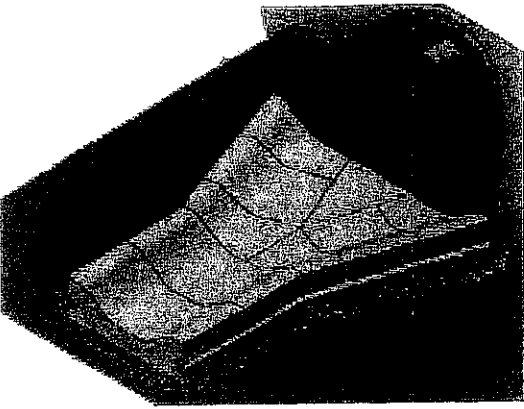
Block weight: 30.0 lbs

5400 Independence Blvd. | Newark, NJ 07102-2702
 Phone: 973-978-9818 | Fax: 973-978-9819
 Email: info@modular-drainage.com | www.modular-drainage.com

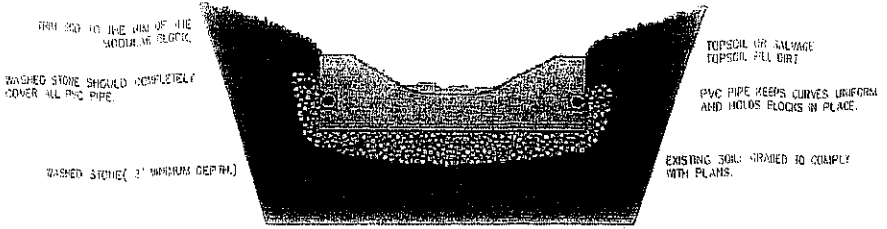
MODULAR BLOCK PAVER DETAIL
 NOT TO SCALE



MODULAR BLOCK PVC PIPE INSTALLATION
 NOT TO SCALE



MODULAR BLOCK APRON TYPICAL SECTION
 NOT TO SCALE



MODULAR DRAINAGE BLOCK INSTALLATION DETAIL
 NOT TO SCALE

- INSTALLATION NOTES:**
1. EXCAVATE THE DITCH TO THE PROPOSED PLAN GRADE. THE TRENCH FOR THE MODULAR BLOCK TO BE Laid DOWN NEEDS TO BE AT LEAST 34" WIDE AND 9" TO 17" DEEP AT A MINIMUM. MAKING THE TRENCH DEEPER THAN THE MODULAR BLOCK WILL ALLOW FOR EASIER INSTALLATION OF THE PVC PIPING IN THE FUTURE. THIS DEPTH IS NECESSARY TO ACCOMMODATE AT LEAST 2" OF 3/8" LIMESTONE CHIPS, AND THE 4 1/2" HEIGHT OF THE MODULAR BLOCK. KEEP THE "FLOOR" OF THE TROUGH AS LEVEL AS POSSIBLE. IF YOU ARE BUILDING AROUND A APRON (AS SHOWN), YOU MAY NEED TO FINISH THE SURROUNDING SOIL DOWN TO MEET THE BLOCK, AND ADJUST THE ROAD DITCH SIDE SLOPE ACCORDINGLY.
 2. COMPACT THE WASHED STONE DOWN FIRMLY TO PREVENT SETTLING LATER. THE STONES ALLOW FOR PROPER DRAINAGE BETWEEN THE MODULAR BLOCK, AND THEY MAKE IT EASIER TO REPOSITION AND LEVEL THE BLOCKS ONCE THEY ARE Laid IN POSITION.
 3. BEGIN BY LAYING THE BLOCKS AT THE FARTHEST "UPSTREAM" LOCATION AND INSTALL THE BLOCKS "DOWNSTREAM" FROM THERE. DO NOT INSTALL PVC PIPE "KEYS" UNTIL ALL TRENCHES ARE Laid AND ALL BLOCKS ARE Laid FOR THE SECTION YOU ARE WORKING ON.
 4. USE 1/2" PVC PIPE AS A "KEY" TO LOCK THE MODULAR BLOCKS IN PLACE ONCE THEY ARE POSITIONED CORRECTLY. THE PVC PIPE CAN ALSO BE USE TO KEEP THE BLOCKS IN PLACE AROUND ARCS AND CURVES. INSTALL THE PVC KEYS BY CAREFULLY TAPPING THEM IN WITH A RUBBER Mallet. IN AREAS OF THE INSTALLATION WHERE YOU CANNOT DIRECTLY TAP IN THE PVC, YOU MAY USE A WOOD 2" X 4" TO TRANSFER THE FORCE OF YOUR HAMMER BLOWS TO THE PVC. SEE DIAGRAM "A" IN THE MODULAR BLOCK TYPICAL SECTION DIAGRAM. IF REPRESENTS A NORMAL INSTALLATION WITHOUT THE USE OF A 2" X 4". EVERY TIME YOU NEED TO INSTALL A NEW PVC PIPE, THE PVC PIPE SHALL BE CUT SO THE PIPE CENTERLINE SHALL BE IN THE CENTER OF THE MODULAR BLOCK.
 5. IF YOU ARE INSTALLING ON A CURVE, INSTALL THE INSIDE RADIUS PVC KEY OF THE CURVE FIRST. CHECK THE GAPPING AND SMOOTHNESS OF THE RADIUS ONCE THE RADIUS IS COMPLETE. CUTTING OF THE MODULAR BLOCKS WILL BE REQUIRED WITH A CONCRETE SAW. IF THE CURVATURE NEEDS TO BE ADJUSTED, USE A PRY BAR TO ADJUST THE RADIUS IN OR OUT. THIS MUST BE DONE BEFORE THE SECOND PVC KEY IS INSTALLED ON THE OUTSIDE RADIUS. ALWAYS CHECK THE STRAIGHTNESS OF STRAIGHT RUNS AND THE CURVATURE SMOOTHNESS OF CURVED RUNS BEFORE INSTALLING THE SECOND PVC KEY. ONCE THE FIRST PVC KEY IS INSTALLED AND THE LAYOUT OF THE BLOCKS APPEARS CORRECT, GO AHEAD AND INSTALL THE OTHER SIDE OF PVC. ONCE THIS IS DONE, THE BLOCKS ACT AS A SINGLE GROUP AND ARE VERY DIFFICULT TO MOVE.
 6. IF PROBLEMS DO OCCUR AFTER THE INSTALLATION OF THE SECOND PVC KEY, USE A 1/2" DIAMETER ROD OR A LARGE SCREWDRIVER TO CAREFULLY REMOVE THE KEY. GENTLY PRY THE PVC PIPE LOOSE FROM THE OPEN END TO REMOVE THE KEY FROM THE BLOCKS ON THE SIDE OF THE MODULAR BLOCK. ADJUST AS NEEDED, THEN RE-INSTALL.
 7. CHECK THE LAYOUT OF THE MODULAR BLOCKS ONCE BOTH SIDES OF THE PVC KEYS ARE INSTALLED. IF ANY BLOCK IS OUT OF PLACE, NOT LEVEL, OR SLOPED, LIFT THE BLOCK AND ADD 1/2" LIMESTONE CHIPS UNDERNEATH IT TO LEVEL OR ALIGN IT WITH THE BLOCKS BEFORE AND AFTER IT. ONLY MINIMAL ADJUSTMENTS SHOULD BE NECESSARY. ONCE ALL BLOCKS ARE LEVEL AND SECURE, BEGIN BACK-FILLING ALONG ALL SIDES WITH THE SAME WASHED STONE (NOT USED AS A BASE FOR THE CONCRETE BLOCK PRODUCT). FILL ALL AREAS WITH THE LIMESTONE CHIPS BY TAMP ALL OF THE PVC PIPE IS COVERED COMPLETELY. ONCE YOU HAVE Filled THE GROUPE TO THIS LEVEL, KEY MAY USE TOPSOIL TO BRING THE LEVEL OF THE ADJACENT SIDE SLOPES TO THE END CAN BE PLACED TO MEET THE TOP OF THE MODULAR BLOCK, CREATING A FLUSH LOOK.

OPERATIONAL HOTLINE
 Call 800 or (800) 242-8811
 www.DiggersHotline.com