

P E R M I T

CITY OF NAPOLEON
255 W. RIVERVIEW AVE
NAPOLEON, OHIO 43545

DIVISION OF BUILDING & ZONING
PH (419) 592-4010
FAX (419) 599-8393

PERMIT NO: 98317 DATE ISSUED: 09-15-98 ISSUED BY: BND

JOB LOCATION: 1166 WESTMONT AVE EST. COST: 165000.00

LOT #: 42 SUBDIVISION NAME: GERK/HOEFF 3RD

OWNER: LONG, ROBERT AGENT: MIKE HURST CONSTRUCT
ADDRESS: 704 W CLINTON ST ADDRESS: 21-395 CO RD U
CSZ: NAPOLEON, OH 43545 CSZ: RIDGEVILLE CORNERS, OH
PHONE: 419-592-3465 PHONE: 419-267-3303

USE TYPE - RESIDENTIAL: X OTHER:

ZONING INFORMATION

DIST: R-2 LOT DIM: 97X120 AREA: 11683 FYRD: 30 SYRD: 10 RYRD: 15
MAX HT: 45' # PKG SPACES: 2 # LOADING SP: MAX LOT COV: 35%

BOARD OF ZONING APPEALS:

WORK TYPE - NEW: X REPLMNT: ADD'N: ALTER: REMODEL:

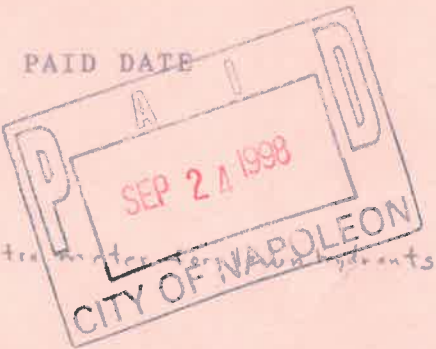
WORK INFORMATION

SIZE - LGTH: 57 WIDTH: 59 STORIES: 1 LIVING AREA SF: 1770
GARAGE AREA SF: 572 HEIGHT: 22 BLDG VOL DEMO PERMIT:

WORK DESCRIPTION

NEW HOME

FEE DESCRIPTION



PAID DATE	FEE AMOUNT DUE
	BUILDING PERMIT 289.00
	ELECTRICAL PERMIT 109.00
	PLUMBING PERMIT 57.00
	MECHANICAL PERMIT 32.00
	WATER TAP PERMIT Includes extra meter & permits 839.00
	SEWER PERMIT 201.00

TOTAL FEES DUE 1527.00

Sept 23, 98
DATE

Robert Long
APPLICANT SIGNATURE

CITY OF NAPOLEON

WATER METER YOKE RELEASE FORM

THIS DOCUMENT ENTITLES THE HOLDER TO "ONE" WATER METER YOKE ASSEMBLY
(Please pickup at City Operations Department 1775 Industrial Drive).

PERMIT #: 98317

ISSUED: 09-15-98

JOB LOCATION: 1166 WESTMONT AVE

OWNER: LONG, EVELYN

PHONE: 419-592-3465

ADDRESS: 704 W CLINTON ST NAPOLEON, OH 43545

CONTRACTOR: HURST MIKE CONST

ADDRESS: 21-395 CO RD U RIDGEVILLE CORNERS, OH 43555

PHONE: 419-267-3303

WATER TAP SIZE 1" 1.5" _____ 2" _____ OTHER _____

WATER METER YOKE SIZE 5/8" 3/4" _____ 1" _____ OTHER _____

NEW STRUCTURE EXISTING STRUCTURE _____ LAWN METER _____

WATER SERVICE LINE TO BE TYPE "K" COPPER OR "CTS" POLYETHELENE TUBING
OF 1" MINIMUM SIZE.

BACKFLOW DEVICE REQUIRED YES NO _____

TYPE OF BACKFLOW DEVICE REQUIRED Double check valve
assembly.

WATER METER YOKE INSTALLATION IS SUBJECT TO THE FOLLOWING CONDITIONS

- 1.) MUST BE LOCATED IN AN ACCESSIBLE AREA.
- 2.) MUST BE IN AN AREA WHICH IS NOT SUBJECT TO FREEZING TEMPERATURES.
- 3.) MUST BE AT LEAST 18" ABOVE FLOOR LEVEL (NO CRAWL SPACE INSTALLATIONS).
- 4.) MUST COMPLY WITH MINIMUM MOUNTING REQUIREMENTS (DRAWING AVAILABLE)

ISSUED BY _____ RECEIVED BY _____

1-Copy to: Building Dept, Water Dept, and Utilities Dept

CITY OF NAPOLEON

WATER METER YOKE RELEASE FORM

THIS DOCUMENT ENTITLES THE HOLDER TO "ONE" WATER METER YOKE ASSEMBLY
(Please pickup at City Operations Department 1775 Industrial Drive).

PERMIT #: 98317

ISSUED: 09-15-98

JOB LOCATION: 1166 WESTMONT AVE

OWNER: LONG, EVELYN

PHONE: 419-592-3465

ADDRESS: 704 W CLINTON ST NAPOLEON, OH 43545

CONTRACTOR: HURST MIKE CONST

ADDRESS: 21-395 CO RD U RIDGEVILLE CORNERS, OH 43555

PHONE: 419-267-3303

WATER TAP SIZE 1" 1.5" _____ 2" _____ OTHER _____

WATER METER YOKE SIZE 5/8" 3/4" _____ 1" _____ OTHER _____

NEW STRUCTURE _____ EXISTING STRUCTURE _____ LAWN METER

WATER SERVICE LINE TO BE TYPE "K" COPPER OR "CTS" POLYETHELENE TUBING
OF 1" MINIMUM SIZE.

BACKFLOW DEVICE REQUIRED YES NO _____

TYPE OF BACKFLOW DEVICE REQUIRED Double check valve
assembly.

WATER METER YOKE INSTALLATION IS SUBJECT TO THE FOLLOWING CONDITIONS

- 1.) MUST BE LOCATED IN AN ACCESSIBLE AREA.
- 2.) MUST BE IN AN AREA WHICH IS NOT SUBJECT TO FREEZING TEMPERATURES.
- 3.) MUST BE AT LEAST 18" ABOVE FLOOR LEVEL (NO CRAWL SPACE INSTALLATIONS).
- 4.) MUST COMPLY WITH MINIMUM MOUNTING REQUIREMENTS (DRAWING AVAILABLE)

ISSUED BY _____ RECEIVED BY _____

1-Copy to: Building Dept, Water Dept, and Utilities Dept

CITY OF NAPOLEON

ELECTRIC METER BASE RELEASE FORM

THIS DOCUMENT ENTITLES THE HOLDER TO "ONE" ELECTRIC METER BASE
(Please pickup at the City operations garage 1775 Industrial Drive).

PERMIT #: 98317

ISSUED:09-15-98

JOB LOCATION: 1166 WESTMONT AVE

WORK DESCRIPTION: NEW HOME

OWNER: LONG, EVELYN

ADDRESS: 704 W CLINTON ST NAPOLEON, OH 43545

OWNER PHONE: 419-592-3465

CONTRACTOR: HURST MIKE CONST

ADDRESS: 21-395 CO RD U RIDGEVILLE CORNERS, OH 43555

CONTRACTOR PHONE: 419-267-3303

ELECTRIC SERVICE UPGRADE _____ NEW SERVICE INSTALLATION X

INDUSTRIAL _____ COMMERCIAL _____ RESIDENTIAL X 1PHASE X 3PHASE _____

SIZE OF SERVICE 100AMP _____ 150AMP _____ 200AMP X 400AMP _____ OTHER _____

HUB SIZE - 1 1/4" _____ 1 1/2" _____ 2" _____

DESIRED VOLTAGE 120/240 X OTHER _____

UNDERGROUND SERVICE X OVERHEAD SERVICE _____

=====

DATE COMPLETED: _____ APPROVED BY: _____

OLD METER NUMBER: _____ NEW METER NUMBER: _____

COMMENTS:

CITY OF NAPOLEON WATER TAPPING PERMIT FORM

PERMIT #: 98317

ISSUED: 09-15-98

JOB LOCATION: 1166 WESTMONT AVE

SUBDIVISION NAME: Gerken/Hoeffel 3rd LOT #: 42

OWNER: LONG, EVELYN

ADDRESS: 704 W CLINTON ST NAPOLEON, OH 43545

CONTRACTOR: HURST MIKE CONST PHONE: 419-267-3303

TAP SIZE: 1" X 1.5" _____ 2" _____ OTHER _____

AMOUNT PAID: \$650.00 YOKE SIZE: 5/8"

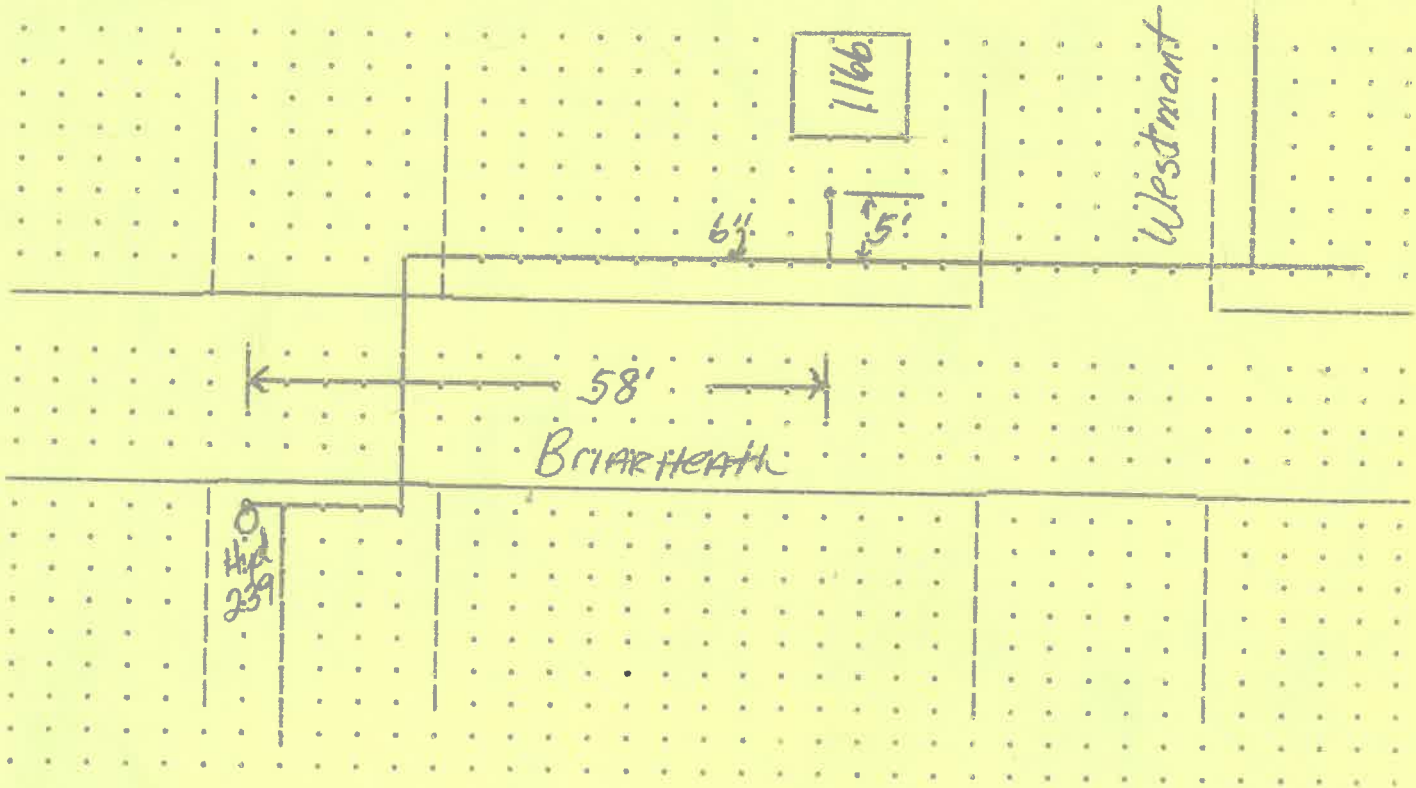
PLUMBING CONTRACTOR: _____ PH: _____

DATE OF TAP: 11-27-98 OLD TAP #: _____ NEW TAP #: 9880

SIZE AND KIND OF MAIN: 6" AC

LOCATION OF MAIN: 12' EAST OF EAST CURB DEPTH OF MAIN: 5'

DIST FROM HYDRANT ~~TO~~: 58' S of Hyd 239 DIST TO CURB STOP FROM CORP: 5'



DATE APPROVED: Dec 21, 1998 BY: Jeffrey C. Mautz

APPLICATION FOR

Residential, Building, Electrical, Plumbing, Mechanical, and Demolition Permit
FROM - The City of Napoleon, Ohio, Building Department
 255 West Riverview Avenue; P.O. Box 151; Napoleon, Ohio 43545 - Telephone (419) 592-4010

ENTRY NO. _____
 PERMIT NO. _____ ISSUED _____
 JOB LOCATION _____
 LOT _____
 (Subdivision or Legal Description) _____
 ISSUED BY _____
 (Building Official) _____
 OWNER _____ PHONE _____
 ADDRESS _____
 AGENT _____ PHONE _____
 ADDRESS _____
 USE: () Residential () Commercial () Industrial
 () Other _____
 WORK: () New () Addition () Replacement () Remodel
 ESTIMATED COST = \$ _____

	<u>Base</u>	<u>Plus</u>	<u>Total</u>
(X) Building	\$ <u>700</u>	\$ <u>237.00</u> \$ <u>52.00</u>	\$ <u>289.00</u>
(X) Electrical	\$ <u>15.00</u>	\$ <u>94.00</u>	\$ <u>109.00</u>
(X) Plumbing	\$ <u>9.00</u>	\$ <u>48.00</u>	\$ <u>57.00</u>
(V) Mechanical	\$ <u>18.00</u>	\$ <u>14.00</u>	\$ <u>32.00</u>
() Demolition	\$ _____	\$ _____	\$ _____
() Zoning	\$ _____	\$ _____	\$ _____
() Sign	\$ _____	\$ _____	\$ _____
(X) Water Tap	\$ <u>650.00</u>	\$ <u>5.00</u>	\$ <u>655.00</u>
(X) Sewer Tap	\$ <u>60.00</u>	\$ <u>141.00</u>	\$ <u>201.00</u>
() Temp Water	\$ _____	\$ _____	\$ _____
() Temp Elec.	\$ _____	\$ _____	\$ _____

Additional Structure _____ Hours _____
 Plan Review: Electric _____ Hours _____

TOTAL FEES \$ _____
 Less Fees Paid \$ _____
 BALANCE DUE \$ _____

ZONING INFORMATION

<u>District</u>	<u>Lot Dimensions</u>	<u>Area</u>	<u>Front Yard</u>	<u>Side Yard</u>	<u>Rear Yard</u>

<u>Max Height</u>	<u>No. Pkg. Spaces</u>	<u>No. Ldg. Spaces</u>	<u>Max Cover</u>	<u>Petition or Appeal Required-Date</u>

WORK INFORMATION

Building: Ground Floor Area _____ sq. ft. Basement Floor Area _____ sq. ft.
 Garage Floor Area _____ sq. ft. 2nd Floor Area _____ sq. ft. Other _____ sq. ft.
 Size: Length _____ Width _____ Stories _____ Height _____
 Building Volume (for Demolition Permit) _____ cubic feet
 Description of Work: _____

ELECTRICAL: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____

Type of Work: ()New ()Service Change ()Rewiring ()Add'l Wiring TEMPORARY ELEC. REQUIRED - ()Yes ()No
Size of Service _____ Underground _____ Overhead _____ Number of New Circuits _____

Description of Work: _____

PLUMBING: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____

WATER TAP REQUIRED - ()Yes ()No Size _____ Type of Pipe _____ Water Dist. Pipe _____

SANITARY SEWER TAP REQUIRED - ()Yes ()No Size _____ Type of Pipe _____ Dr. Waste Vt. Pipe _____

STREET SEWER TAP REQUIRED - ()Yes ()No Type of Pipe _____ STREET TO BE OPENED - ()Yes ()No
Main Building Drain Size = _____ Main Vent Pipe Size = _____

LIST NUMBER OF PLUMBING FIXTURES BELOW:

Water Closets = _____ Bathtubs = _____ Showers = _____ Lavatories = _____ Kitchen Sinks = _____ Disposal = _____

Clothes Washer = _____ Floor Drains = _____ Dishwasher = _____ Other _____ Total = _____

Description of Work: _____

MECHANICAL: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____

HEATING SYSTEM - ()Forced Air ()Gravity ()Hot Water ()Steam ()Unit Heaters ()Radiant ()Baseboard

TYPE OF FUEL - ()Electric ()Natural Gas ()Propane ()Wood ()Coal ()Solar ()Geothermal Other _____

NUMBER OF HEAT ZONES = _____ HOT WATER - ()One (1) Pipe ()Two (2) Pipes ()Series Loop

ELECTRIC HEAT - Number of Circuits _____ Number of Furnaces _____ Number of Hot Air Runs _____

Number of Hot Water Radiators _____ Total Heat Loss _____ Rated Capacity of Furnace/Boiler _____

LOCATION OF HEATING UNITS - ()Crawl Space ()Floor Level ()Attic ()Suspended ()Roof ()Outside

Description of Work: _____

DRAWINGS REQUIRED: All applications must be accompanied by two (2) complete sets of Drawings including Site Plans, Foundation Plans, Floor Plans, Structural Framing Plans, Exterior Elevations, Section and Details, Stair Details, Electrical Layout, Plumbing Isometric, Heating Layout, etc. All Plans shall be drawn to scale, show all existing structure on the Site Plans, and show electric panel and furnace locations.

READ AND SIGN BELOW: The undersigned hereby makes application for a Permit for all work described herein and agrees to complete the work in strict accordance with all applicable provisions of the current edition of the C.A.B.O. Building Code, the Napoleon Building and Zoning Codes, the Napoleon Engineering Department Rules and Regulations, Standard Specifications and other pertinent sections of the Napoleon Code of Ordinances.

Signature of Applicant _____ Date _____

CITY OF NAPOLEON OHIO PERMIT APPLICATION

THIS APPLICATION IS FOR RESIDENTIAL CONSTRUCTION INCLUDING BUILDING, ELECTRICAL, PLUMBING, MECHANICAL, DEMOLITION, REMODELING.

DATE _____ JOB LOCATION 1166 Westmont

LOT # 42 SUBDIVISION NAME G.H. 3rd

OWNER Bob Long PHONE 592-3415

OWNER ADDRESS 704 W. Clinton CITY _____ ZIP _____

CONTRACTOR Mike Hurst Const PHONE _____

CONTRACTOR ADDRESS _____ CITY _____ ZIP _____

CONTRACTOR FAX # _____ CELL PHONE (Opt.) _____

DESCRIPTION OF WORK TO BE PERFORMED: _____

ESTIMATED COST OF WORK TO BE PERFORMED: \$145,000.00

WORK INFORMATION

BUILDING: Basement Floor Area _____ Sq. Ft. 1st Story Living Area 1770 Sq. Ft.

2nd Floor Living Area _____ Sq. Ft. Garage Floor Area 572 Sq. Ft.

BUILDING SIZE: Length _____ Width _____ Stories _____ Height _____ DEMO VOL _____

Masonry Contractor Dave Meyer Phone _____ Fax _____
Address _____ City _____ St _____ Zip _____

Electrical Contractor Dave Heer Phone _____ Fax _____
Address _____ City _____ St _____ Zip _____

Plumbing Contractor Elling Phone _____ Fax _____
Address _____ City _____ St _____ Zip _____

Heating Contractor Elling Phone _____ Fax _____
Address _____ City _____ St _____ Zip _____

Insulation Contractor _____ Phone _____ Fax _____
Address _____ City _____ St _____ Zip _____

Other Contractor attach information.

ZONING INFORMATION (to be completed by City): District R-2 Lot Dimensions 97x120
Lot Area 11683 FRSB 30 SYSB 10 RYSB 15 Max Ht 45 ft Max Cov 35 %

I by signing below agree to comply with all applicable City of Napoleon Codes & Ordinances while performing the work herein described. I understand that all work for which a permit is issued is required to be approved by the building inspector of the City of Napoleon.

Applicant Signature _____ Date _____

ELECTRICAL: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____
Type of Work: ()New ()Service Change ()Rewiring ()Add'l Wiring TEMPORARY ELEC. REQUIRED - ()Yes ()No
Size of Service _____ Underground _____ Overhead _____ Number of New Circuits 28

Description of Work: _____

PLUMBING: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____

WATER TAP REQUIRED - ()Yes ()No Size _____ Type of Pipe _____ Water Dist. Pipe _____

SANITARY SEWER TAP REQUIRED - ()Yes ()No Size _____ Type of Pipe _____ Dr. Waste Vt. Pipe _____

STREET SEWER TAP REQUIRED - ()Yes ()No Type of Pipe _____ STREET TO BE OPENED - ()Yes ()No

Main Building Drain Size = _____ Main Vent Pipe Size = _____

LIST NUMBER OF PLUMBING FIXTURES BELOW:

Water Closets = 3 Bathtubs = 2 Showers = 1 Lavatories = 4 Kitchen Sinks = 1 Disposal = 1

Clothes Washer = 1 Floor Drains = 1 Dishwasher = 1 Other LT.-1 Total = 16

Description of Work: _____

MECHANICAL: Contractor _____ Phone _____
Address _____ ESTIMATED COST = \$ _____

HEATING SYSTEM - ()Forced Air ()Gravity ()Hot Water ()Steam ()Unit Heaters ()Radiant ()Baseboard

TYPE OF FUEL - ()Electric ()Natural Gas ()Propane ()Wood ()Coal ()Solar ()Geothermal Other _____

NUMBER OF HEAT ZONES = _____ HOT WATER - ()One (1) Pipe ()Two (2) Pipes ()Series Loop

ELECTRIC HEAT - Number of Circuits _____ Number of Furnaces 1 Number of Hot Air Runs 16

Number of Hot Water Radiators _____ Total Heat Loss _____ Rated Capacity of Furnace/Boiler _____

LOCATION OF HEATING UNITS - ()Crawl Space ()Floor Level ()Attic ()Suspended ()Roof ()Outside

Description of Work: _____

DRAWINGS REQUIRED: All applications must be accompanied by two (2) complete sets of Drawings including Site Plans, Foundation Plans, Floor Plans, Structural Framing Plans, Exterior Elevations, Section and Details, Stair Details, Electrical Layout, Plumbing Isometric, Heating Layout, etc. All Plans shall be drawn to scale, show all existing structure on the Site Plans, and show electric panel and furnace locations.

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Signature of Applicant _____ Date _____

Facsimile Cover Sheet

To: *Brent*

Company:

Phone:

Fax: *599-8393*

From: *Lorrie Briner*

Company: J.L. BRINER CONSTRUCTION CO.

Phone: 419-875-5469

Fax: 419-875-5466

Date: *9/25/98*

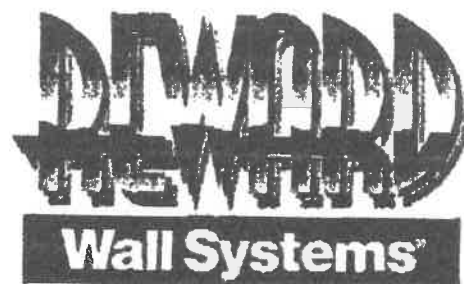
Pages including this

cover page: *3*

Comments:

*Brent, Jeff found this in the book
and I hope this is what you need.
If not let me know*

*Thank You
Lorrie Briner*



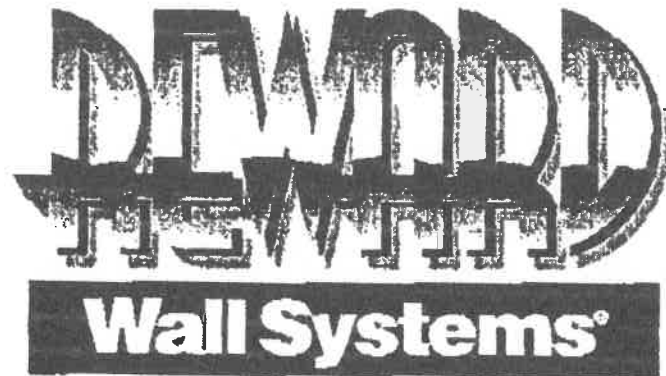
EVALUATED BY THE FOLLOWING AGENCIES:

ICBO Evaluation Service, Inc.
5630 Workman Mill road
Whittier, CA 90601-2298
310-699-0543
FAX 310-695-4694
Report #ER-5373

BOCA Evaluation Services, Inc.
4051 West Flossmoor Road
Country Club Hills, IL 60478-5795
708-799-2305
Report #95-48

SBCCI Public Safety Testing and Evaluation Services Inc.
900 Montclair Road, Suite A
Birmingham, AL 35213-1206
205-599-9800
Report #9757

Metro-Dade Building Code Compliance Office
140 West Flagler Street
Miami, FL 33130-1563
305-375-2901
Report #97-0319.03



The Use of Reward Wall Systems Stay in Place Forms

Reward products are supplied exclusively through a nationwide network of trained Certified Dealers and Distributors in an effort to insure proper instruction and installation. The instructions and guidelines contained in this manual are easy to follow and understand. These installation procedures have been developed from the experience of building contractors nationwide who use our forms. Please follow the procedures carefully.

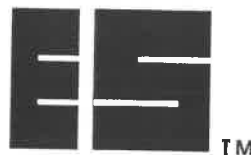
Like many of their predecessors, Reward forms utilize a design that develops a reinforced post and beam concrete wall. The forms are 16' high, 48" long, 9 1/4" wide (6" core) and 11" wide (8" core). You will find with the Reward forms, the aggregate size and concrete slump are not as critical as compared to previous versions of stay-in-place forms using the same type of concrete form design. This improvement is due to a uniquely designed modified polyethylene form tie that minimizes the restriction of concrete flow in the forms. The placement of the end ties on the Reward form also helps in the prevention of voids.

Another advantage of the Reward III Form is the 16" high, 1 1/2" wide, furring strip placed at 12 inch on center which makes applying all interior and exterior finishes easier than similar forms. This type of furring strip allows the E/IFS finishes (stucco) to be applied without concerns associated with metal or steel furring strips.


ADVICE AND ASSISTANCE can be obtained by contacting your local dealer, distributor, or Reward Wall Systems, Inc. (National Distributor) Technical Service Department, 800-468-6344, located at 4115 South 87th Street, Omaha, NE 68127-1601.

**BOCA
EVALUATION
SERVICES, INC.**

BOCA RESEARCH REPORT NO.



95-48

A Participating Member of the NES, Inc. 

DIVISION 03 - CONCRETE

SECTION 03130 - PERMANENT FORMS

REWARD FORMS

REWARD WALL SYSTEMS, INC.
P.O. BOX 461117
OMAHA, NE 68046-1117

1.0 DESCRIPTION OF EVALUATION

This report evaluates the use of Reward Forms as expanded polystyrene formwork for concrete through a review of structural testing and analysis of the Reward Forms.

This report also evaluates the flame spread and smoke development ratings of the Reward Forms through a review of test data in accordance with:

ASTM E84-95b, *Test Methods for Surface Burning Characteristics of Building Materials.*

2.0 DESCRIPTION AND USE OF PRODUCT

2.1 GENERAL DESCRIPTION

Reward Forms are intended for use as permanent formwork units for use in construction of reinforced concrete walls and components, including: loadbearing exterior walls, nonloadbearing exterior walls, foundation walls, retaining walls, and lintels.

The Reward Form system is a modular concrete-forming unit fabricated with expanded polystyrene, as shown in Figure 1. Reward Forms produce a "waffle" shaped pattern of reinforced columns and beams with a concrete solid panel between the columns and beams, as shown in Figure 2. The vertical columns are 12 inches on center and horizontal beams are 16 inches on center. The polystyrene is expanded from beads produced by the manufacturers listed in Section 3.2.1 of this report. Reward Forms are produced in both 6-inch and 8-inch-concrete core sizes. Each of the two opposing faces are held in place by high density plastic form ties. See Figure 3 for the 6-inch form and Figure 4 for the 8-inch form.

A Reward Form nominal 6-inch unit is 48 inches in length, 9.25 inches wide overall and 16 inches tall. A Reward Form nominal 8-inch unit is 48 inches in length, 11.25 inches wide overall, and 16 inches tall. The top and bottom edge of the forms are provided with lap joints for interlocking of units. The Reward Forms are also provided with 1-1/2-inch-wide plastic furring strips spaced vertically 12 inches on center. The strips provide the face of the form with furring strips for the attachment of wall finishing materials with drywall or self tapping screws, as shown in Figure 5.

2.2 USE AND APPLICATION

Where Reward Form units are utilized, the design and construction of the concrete element created by the Reward Form shall be in accordance with the requirements of ACI 318-95, the *BOCA National Building Code/1996*, and this report.

3.0 CODE ANALYSIS OF SUBMITTED INFORMATION

The following data was submitted by the proponent for the demonstration of compliance with the respective code sections listed above each item of information. The basis is the *BOCA National Building Code/1996*.

3.1 FORMWORK

Code Section 106.4 Alternative materials and equipment:

This section requires that proposed alternative methods of construction shall be demonstrated as being in accordance with accepted engineering practice and at least equivalent to that prescribed in the code in quality, strength, durability, safety, and fire-resistance effectiveness.

Code Section 1909.1 Design of formwork: This section requires that the design, fabrication and erection of forms shall result in a final structure that conforms to shapes, lines, and dimensions of the members as required by the construction documents. Also, this section requires that forms be substantial and sufficiently tight to prevent leakage of concrete and properly braced or tied together to maintain the position and shape of the forms during the placing of concrete.

INFORMATION SUBMITTED:

3.1.1 Installation Manual titled *Installation Manual for Reward Forms*, Copyright 1995 by I.S.M., Inc., issued by the proponent.

Please contact BOCA Evaluation Services, Inc., with any questions you may have regarding this report. Additionally, please contact us if you have any information on the performance of the product described herein which is contrary to this report. This report is subject to the limitations listed herein and to the specific product, data and test reports submitted by the applicant requesting this report. Independent tests were not performed by BOCA Evaluation Services, Inc., and BOCA Evaluation Services, Inc., specifically does not make any warranty, either expressed or implied, as to any findings or other matter in this report or as to any product covered by this report. Evaluation reports are not to be construed as representing aesthetics or any other attributes not specifically addressed nor as an endorsement or recommendation for the use of the subject of the report. This disclaimer includes, but is not limited to, merchantability.

4051 WEST FLOSSMOOR ROAD • COUNTRY CLUB HILLS, IL 60478-5795 • TELEPHONE (708) 799-2305

3.1.2 Structural design/analysis, including calculations, titled *Structural and Performance Design Data* at a density of 1.5 pounds per cubic feet, Copyright 1995 by I.S.M., Inc., issued by the proponent; signed and sealed by Kenneth H. Blom, P.E. and Albert P. Hermans, P.E. Design and construction of basements, foundation walls, and exterior loadbearing walls was investigated.

3.1.3 Engineering Analysis, dated August 23, 1996, from Roy J. Leonard, Ph.D., P.E. of Alpha-Omega Geotech, Inc., for the testing information regarding the ability of the forms to withstand the pressures resulting from the uncured concrete.

3.2 FIRE/FLAME SPREAD

Code Section 2603.3 Surface-Burning Characteristics: This section requires foam plastic and foam plastic cores of manufactured assemblies to have a flame spread rating of not more than 75 and a smoke-developed rating of not more than 450 when tested in accordance with ASTM E84-95b in the maximum thickness intended for use.

INFORMATION SUBMITTED:

3.2.1 Reward Forms are manufactured from beads produced by manufacturers having National Evaluation Services, Inc. Reports substantiating test results, when manufactured to the maximum densities and thicknesses, conducted in accordance with ASTM E84. A smoke-developed rating of less than 450 and a flame spread rating of less than 25 are substantiated in accordance with the following reports:

NER-236: ARCO Chemical Company, "Expanded Polystyrene Thermal Insulation";

NER-238: Scott Polymers, Inc., "Expanded Polystyrene Foam Plastic";

NER-384: Huntsman Chemical Corporation, "Expanded Polystyrene Beads"; and

NER-479: BASF Corporation, "Expanded Polystyrene Thermal Insulation."

3.3 QUALITY CONTROL

Code Section 1704.3 Labeling: This section requires that foam plastics be tested and periodically inspected to the relevant standard or standards by an approved agency that is objective and competent, has adequately calibrated equipment, and experienced personnel to conduct, supervise and evaluate the tests.

Code Section 1704.3.2 Inspection and identification: This section requires that the approved agency shall periodically perform an inspection, which shall be in-plant if necessary, of the product or material that is to be labeled. The inspection shall verify that the labeled product or material is representative of the product or material tested.

Code Section 2603.2 Labeling: This section requires that foam plastics be labeled by an approved independent inspection agency in accordance with Section 1704.3 of the *BOCA National Building Code/1996*.

INFORMATION SUBMITTED:

3.3.1 *Quality Control Manual* submitted by Airlite Plastics Company, manufacturer of the Reward Forms, and signed agreement for inspection services, dated November 7, 1996, prepared by Maxim Technologies, Inc. for Reward Wall Systems, Inc.

4.0 INSTRUCTIONS TO THE CODE OFFICIAL

The Reward Forms have been evaluated for compliance with the 1996 editions of the *BOCA National Codes*. This report is limited to the applications and products as stated herein. This evaluation is based solely upon information provided to BOCA Evaluation Services, Inc., by Reward Wall Systems, Inc. and has not been independently verified. BOCA-ES intends that the report be used by the code official to determine that the Reward Forms comply with the code requirements specifically addressed in Section 3.0 and referenced standards specifically addressed in Section 1.0 of this report, provided that this product is installed in accordance with the following limitations:

Limitations

4.1 This report is subject to annual certification. Reports that are not certified shall not be used or referred to. In order to determine the status of certification of this report, contact BOCA Evaluation Services, Inc., or visit our web site at www.boca-es.com/~boca-es and view the monthly listing of current reports.

4.2 The application for permit shall be accompanied by construction documents and structural calculations, which are signed and sealed by a registered design professional.

4.3 Material requirements for each permit shall be in accordance with ACI 318-95, the *BOCA National Building Code/1996*, and this report.

Design of footings, determination of soil capacities, and calculation of allowable design loads are not within the scope of this report, and shall be provided with each permit application as described in Section 5.0 of this report.

A maximum pouring height of 4 feet with continuous pouring around the perimeter of the foundation until the full height is attained shall be performed. The minimum pouring temperature shall be -15 degrees Fahrenheit.

4.3.1 Forms shall be installed such that the final structure complies with the shapes, lines, and dimensions of the members as required on the approved drawings. The forms shall be sufficiently tight to prevent the leakage of mortar, and properly braced and tied together to maintain position and shape, prevent floating, and prevent rupture of the forms.

4.3.2 The concrete mix used with the Reward Forms shall have a minimum compressive strength of 2500 psi at 28 days, a maximum slump of 5 inches, a maximum aggregate size of 3/4 inch and a maximum density of 150 pcf.

4.3.3 All concrete shall be thoroughly consolidated by an approved means that will not damage the forms, and that ensures complete consolidation of the concrete.

- 4.3.4 Required locations for anchor bolts for intersecting walls shall be marked for the required number, size, and spacing of the anchor bolts. Bolts for ledgers shall be installed prior to concrete placement.
- 4.3.5 Special inspections shall be provided for all installations of Reward Form walls, in accordance with Sections 1705.14 and 1705.4 of the *BOCA National Building Code/1996*, including materials, installation of reinforcing steel, formwork installation and bracing, and concreting operations. Special inspectors shall be experienced and approved, independent from the company that manufactures the product, subject to the code official's evaluation and approval, and have adequate and calibrated equipment to perform the required special inspections
- 4.3.6 In addition to the special requirements of the *BOCA National Building Code/1996*, all inspectors shall also be certified by Reward.
- 4.4 The scope of this report is limited to the use of Reward Forms in Type 5 construction.
- 4.5 Fireblocking shall be provided, as in concealed wall spaces, in accordance with Section 721.0 of the *BOCA National Building Code/1996*. The EPS material thickness shall not vitiate required fireblocking.
- 4.6 The Reward Form shall be separated from the interior of the building by a thermal barrier of 1/2-inch gypsum board or equivalent approved material, attached in an approved manner, in accordance with Section 2603.4 of the *BOCA National Building Code/1996*.
- 4.7 Use of the Reward Form as a component of a fire-resistance rated assembly is outside the scope of this report.
- 4.8 Reward Forms which are exposed to the exterior environment shall be faced with a durable, weather-resistant covering in accordance with the requirements of the *BOCA National Building Code/1996*.
- 4.9 Yellow and dusty surface oxidation on the EPS (resulting from ultraviolet light) shall be removed by brushing thoroughly prior to application of adhesives, waterproofing, and dampproofing materials.
- 4.10 Waterproofing, dampproofing and adhesive materials shall meet the following criteria:
- 4.10.1 Applied materials shall be compatible with EPS and durable for this purpose. EPS is not compatible with organic solvents such as hydrocarbons, chlorinated hydrocarbons, ketones and esters.
- 4.10.2 All proposed materials shall be subject to sample testing and specific approval by the code official.
- 4.11 Forms shall be installed in accordance with the manufacturer's instructions referred to in Section 3.1 of this report, the approved construction documents, and this report.
- 4.12 Utilization of the plastic strips as a base for the fasteners has not been evaluated and therefore is outside the scope of this report.

- 4.13 The expanded polystyrene foam plastic used with the Reward Form units shall bear a label in accordance with Section 1704.3 of the *BOCA National Building Code/1996* and contain the nominal density, material type and manufacturer's name, and third party labeling agency (Maxim Technologies, Inc.)

5.0 INFORMATION REQUIRED ON CONSTRUCTION DOCUMENTS

To aid in the use of this report, the following represents the minimum level of information to be reflected on the construction documents in order to determine compliance with this research report.

- 5.1 The language "See BOCA Evaluation Services, Inc., Research Report No. 95-48."
- 5.2 All permit applications for buildings using Reward Forms shall be accompanied by structural calculations which substantiate the ability of the walls to carry all superimposed loads as required by Chapter 16. Items addressed by the calculations shall include, but not necessarily be limited to, design of footings, determination of soil capacities, form height, and location of anchor bolts.
- 5.3 The information submitted under Section 5.2 above shall be signed and sealed by a registered design professional, as required by the *BOCA National Building Code/1996*.
- 5.4 The manufacturer shall provide the user of this report with complete instructions on the safe construction of systems utilizing Reward Forms on the construction documents. These instructions shall include, but not be limited to, the following:
- 5.4.1 Complete instructions for bracing of wall systems during construction.
- 5.4.2 Any other safety precautions needed for the safe erection of walls utilizing Reward Forms.
- 5.4.3 Instructions on the maximum rate of concrete placement, the required concrete strength density, slump, and aggregate size.
- 5.4.4 Complete instructions on the size, amount, spacing, and type of reinforcement required.

6.0 IDENTIFICATION

All Reward Forms manufactured in accordance with this research report shall be marked at the plant with the identifying language "See BOCA Evaluation Services, Inc., Research Report No. 95-48."

Each pallet of Reward Form units shall be labeled with the authorized listing mark of the third party inspection agency. The label shall give the product's identification, and fire performance characteristics (flame spread and smoke-developed ratings.)

Reference to this research report is limited to the identification as described herein. Any other reference to this report is prohibited.

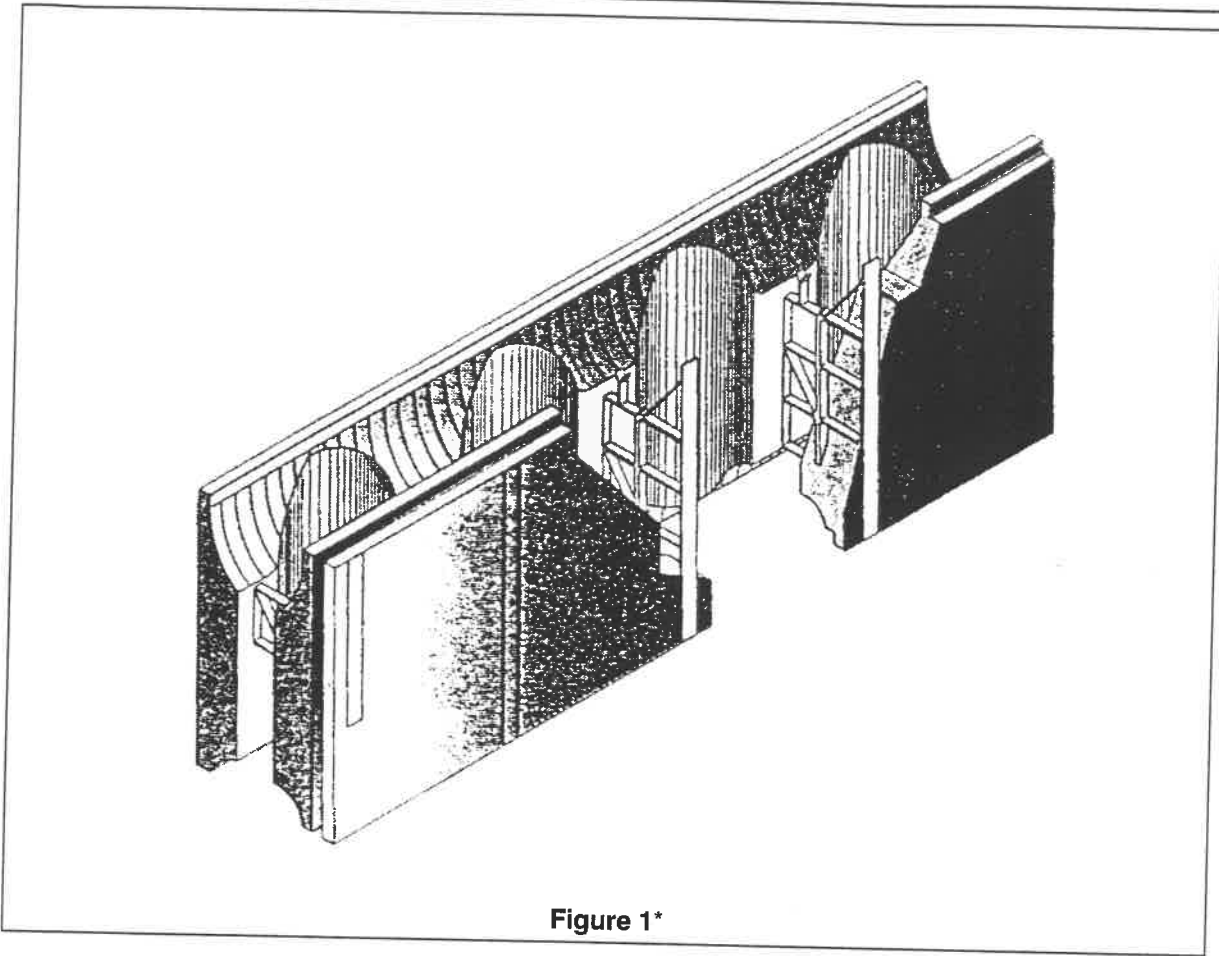


Figure 1*

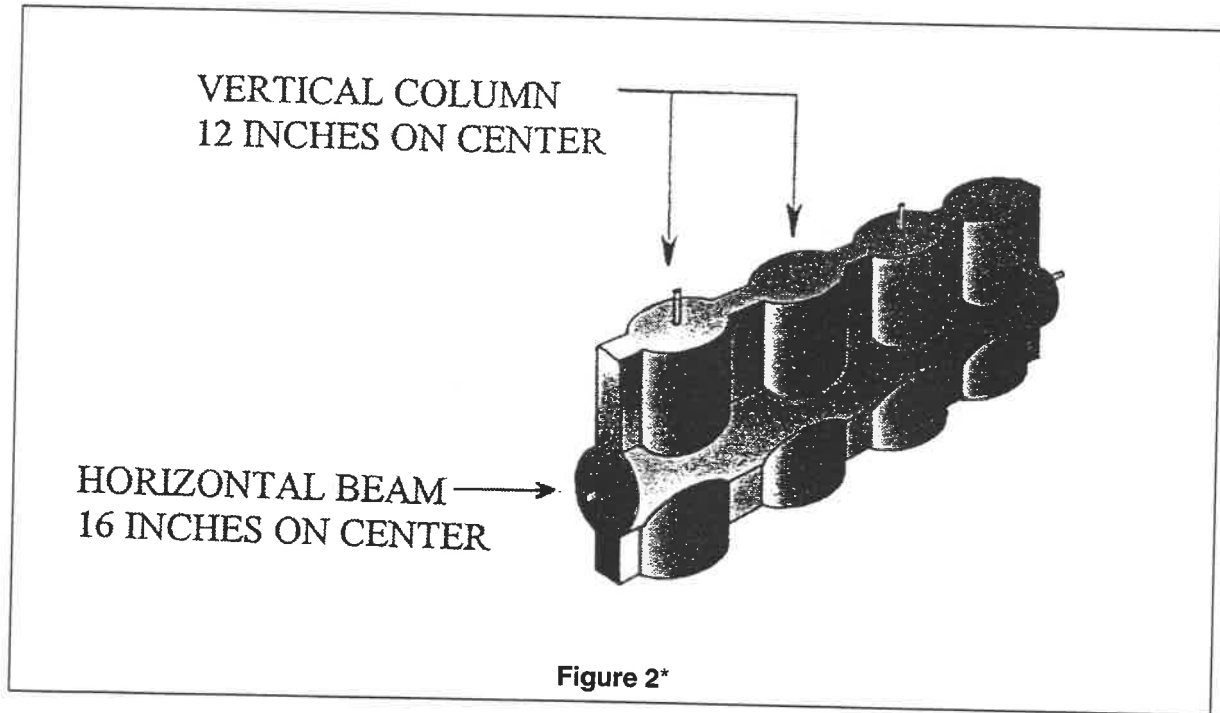
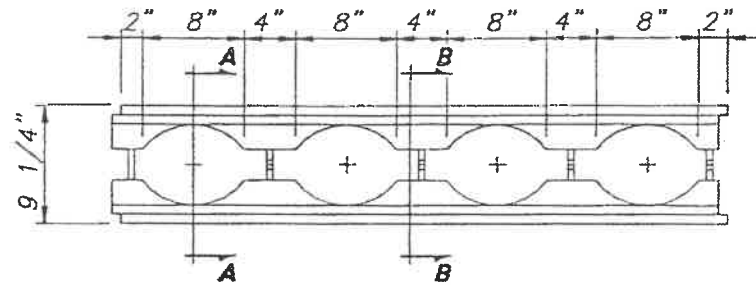
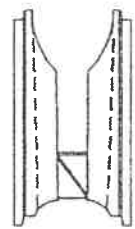


Figure 2*

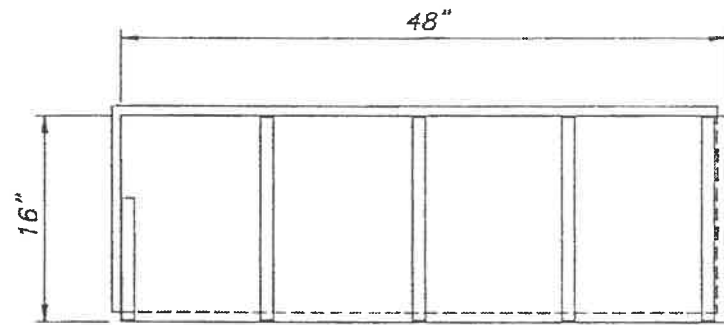
CONCRETE COLUMN AND BEAM
(6-INCH FORM)



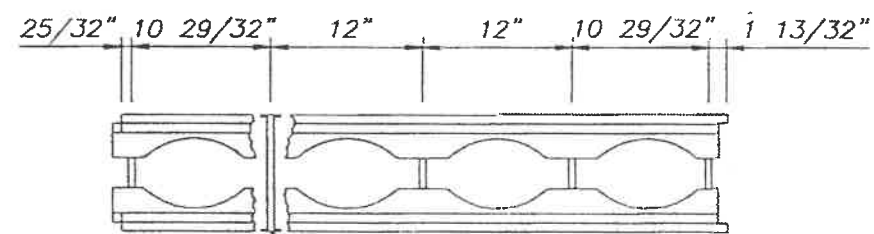
TOP VIEW



END VIEW

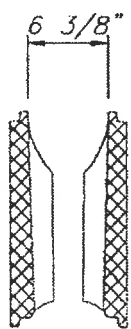


SIDE VIEW

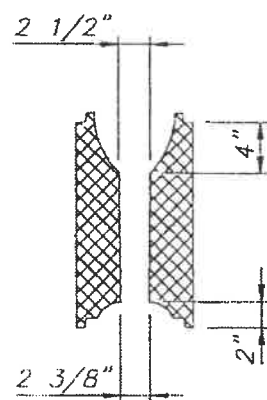


TYPICAL FORM TIE

BOTTOM VIEW



SECTION A-A



SECTION B-B

Figure 3*

6-INCH FORM DETAILS

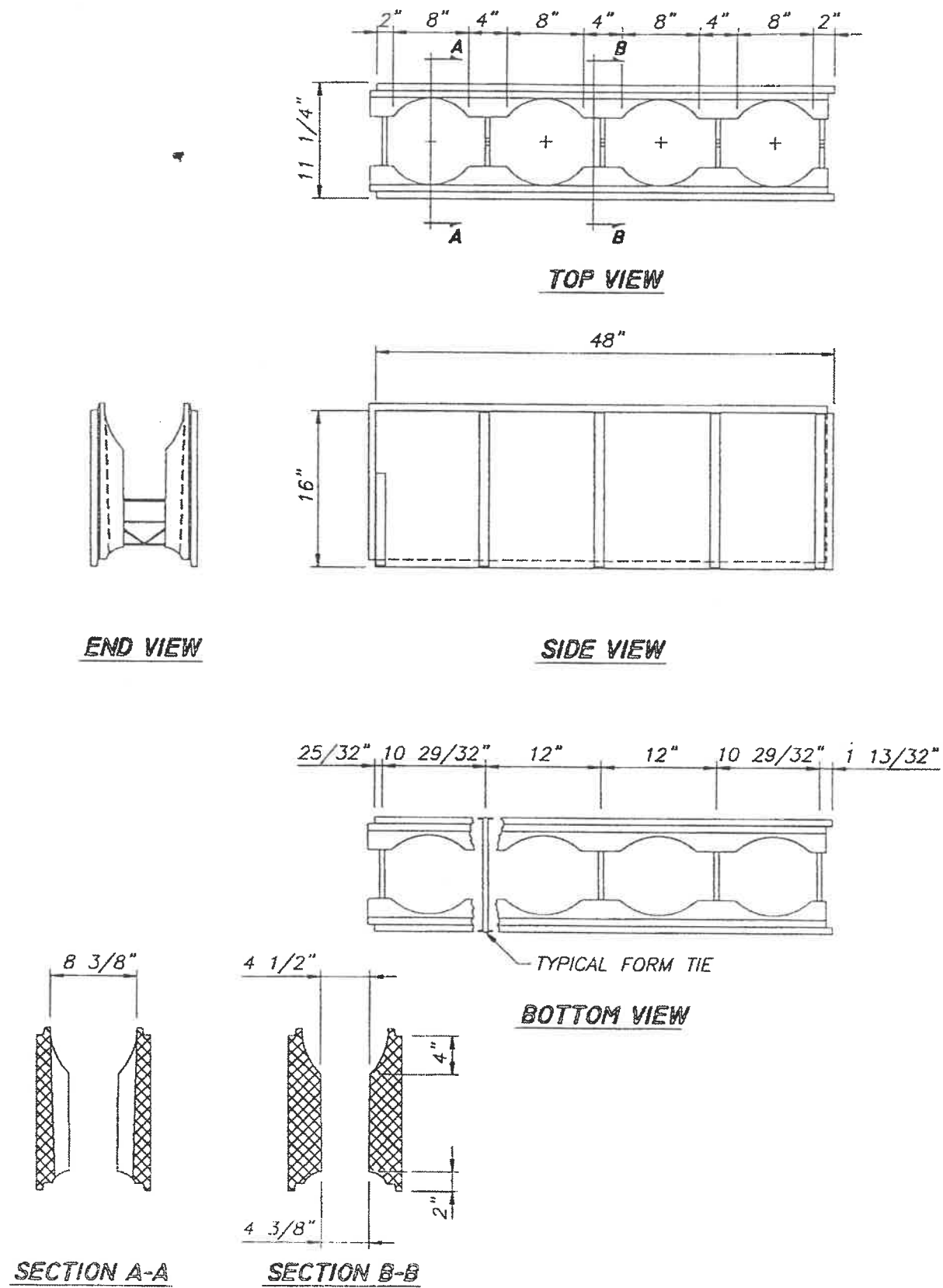


Figure 4*

8-INCH FORM DETAILS

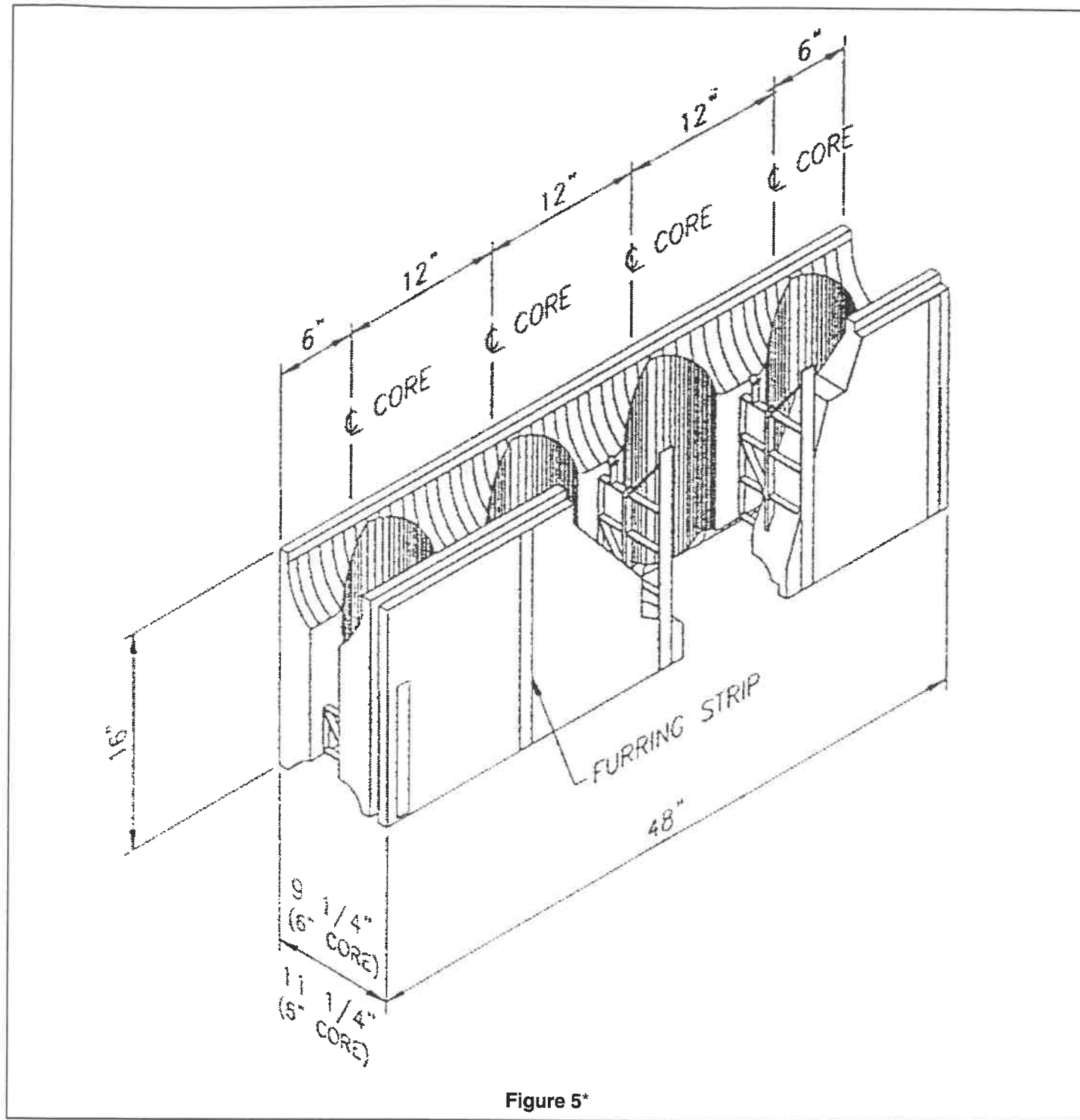


Figure 5*

FURRING STRIP LOCATION ON THE REWARD FORMS

*THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED FOR USE AS CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF DESIGN, FABRICATION OR ERECTION.

CITY OF NAPOLEON INSPECTION FORM

PERMIT #: 98317

DATE ISSUED: 09-15-98

JOB LOCATION: 1166 WESTMONT AVE

OWNER: LONG, EVELYN

OWNER PHONE: 419-592-3465

CONTRACTOR: HURST MIKE CONST

CONTRACTOR PHONE: 419-267-3303

WORK DESCRIPTION: NEW HOME

PLUMBING: UNDGR _____ RGHIN 11-29-98 FINAL _____

SEWER INSP 10-14-98

MECHANICAL: UNDGR _____ RGHIN 11-29-98 FINAL _____

FURNACE REPLC _____ AIR COND _____

ELECTRICAL: UNDGR _____ RGHIN 11-29-98 FINAL _____

SERV UPGR _____

BUILDING: SITE 9-23-98 FTG 10-6-98 FNDDT 10-9-98

STRUC 11-28-98 ROOF 11-28-98 EXT _____

VENT _____ ACCES _____ EGRS _____

SMKDT _____ FINAL _____

ISSUE TEMP OCCUP _____ ISSUE OCCUP _____

STRG SHED: SITE _____ FINAL _____

SIGN: FTG _____ FINAL _____

FENCE: SITE _____ FINAL _____

MISC INSP: Insulation

NOTES: _____

INSPECTOR INITIALS: _____

BRIARHEATH AVE.

104.74

DRIVE WAY 240

10' u fill ty
corrmnt

59'-4"

8'

20'

4" PVC SDR35
@ 3.0 F/L
Storm line (sump pump)

97.36'

ROBERT LONG
LOT # 42

Storm main

GERKEN - ROEFFEL
THIRD ADDITION
FIRST SW 1/4 SEC. # 14

LOT # 41

1166 Westmont

CURVE I

30°
SET BACK

57'-4"

11.5

GARAGE

12.5

ARCH

30.5

1

24

120.00'

30' SET BACK

83.20'

← WEST MONT AVE. →

BRIARHEATH AVE.

104.74

DRIVE WAY 5'x0

59'-4"

8'

20'

97.86'

ROBERT LONE
LOT # 42

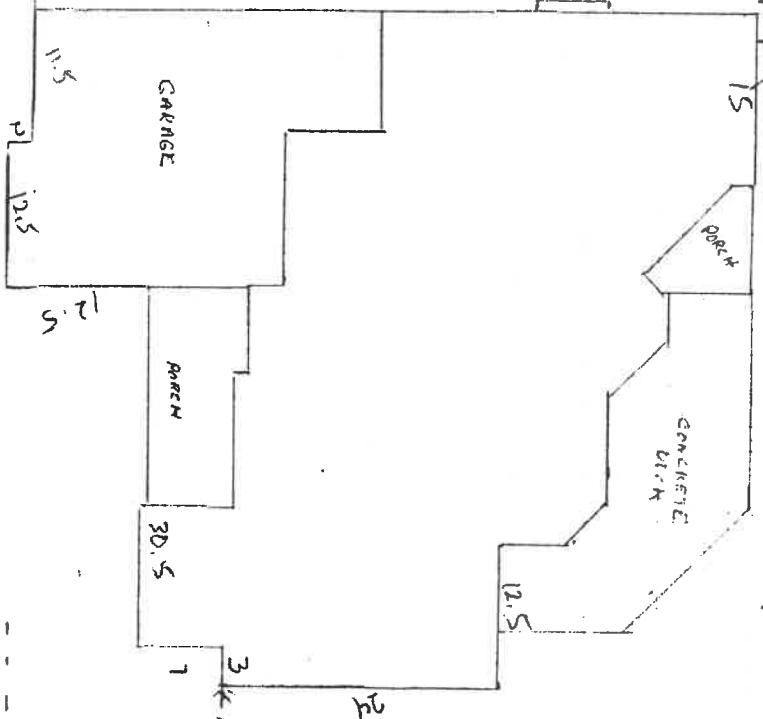
Storm main

4" PVC SDR35
@ 3.0 F/L
Storm line (Sump pump)

GIRKEN - HOEFFEL
THIRD ADDITION
FIRST SW 1/4 SEC. # 14

LOT # 41

1166 Westmont



CURVE I

83.20'

WESTMONT AVE.

30' SET BACK

30° SET BACK

59'-4"

11.5

12.5

ARCH

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120.00'

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PORCH

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