

**APPLICATION FOR  
URBAN DESIGN COMMISSION  
REVIEW AND APPROVAL**

**AGENDA ITEM #** \_\_\_\_\_

**Project #** \_\_\_\_\_

03198

**Action Requested**

DATE SUBMITTED April 26, 2006

Informational Presentation

UDC MEETING DATE: May 3, 2006

Initial Approval and/or Recommendation

Final Approval and/or Recommendation

PROJECT ADDRESS: Mid Town Road and Waldorf Blvd., Madison, Wisconsin

ALDERMANIC DISTRICT: 1

OWNER/DEVELOPER (Partners and/or Principals)

ARCHITECT/DESIGNER/OR AGENT

Veterinary Specialty Options

Plunkett Raysich Architects, LLP

225 West Beltline Hwy.

2310 Crossroads Drive, Suite 2000

Madison, Wisconsin 53713

Madison, Wisconsin 53718

CONTACT PERSON: Steven A. Kieckhafer, AIA

Address: Plunkett Raysich Architects, LLP

2310 Crossroads Drive, Suite 2000

Madison, Wisconsin 53718

Phone: 608/240-9900

Fax: 608/240-9690

E-Mail: skieckhafer@prarch.com

**TYPE OF PROJECT:**

(See Section A for:)

Planned Unit Development (PUD)

General Development Plan (GDP)

Specific Implementation Plan (SIP)

Planned Community Development (PRD)

General Development Plan (GDP)

Specific Implementation Plan (SIP)

New Construction or Exterior Remodeling in an Urban Design District\*

School, Public Building of Space

New Construction of Addition to or Remodeling of a Retail, Hotel or Motel Building Exceeding 50,000 SF.

Planned Commercial Site

(See Section B for:)

New Construction or Exterior Remodeling in C4 District

(See Section C for:)

R.P.S.M. Parking Variance

(See Section D for:)

Comprehensive Design Review\* (Fee required)

Street Graphics Variance \* (Fee required)

Other \_\_\_\_\_



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Tel 608 240-9900  
Fax 608 240-9690  
[www.prarch.com](http://www.prarch.com)

# Veterinary Specialty Options

Midtown Commons  
Madison, Wisconsin

## Urban Design Submittal

April 26, 2006

Milwaukee, WI   ▸   Madison, WI   ▸   Northbrook, IL

Partners: Kim D. Hassell, Mark C. Herr, Abie A. Khatchadourian, Scott A. Kramer, David J. Raysich, Michael H. Scherbel, Michael J. Sobczak

 Intelligent Designs    Inspired Results



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April 26, 2006

Urban Design Commission  
City of Madison  
215 Martin Luther King Jr. Blvd.  
Madison, WI 53701-2985

Re: Letter of Intent –Veterinary Specialty Options

On behalf of Veterinary Specialty Options, LLC., we are pleased to submit the SIP submittal for final approval.

Applicant/Owner:

Veterinary Specialty Options  
225 West Beltline Highway  
Madison, WI 53713  
Tel: (608) 661-0090

Dr. David Edinger  
Dr. John Silbernagel  
Dr. Bruce Jens

Design Team:

*Architecture:*

Plunkett Raysich Architects, LLP    Steven A. Kieckhafer, AIA  
2310 Crossroads Drive, Suite 2000    Daniel Becker, AIA  
Madison, Wisconsin 53718  
Tel: (608)240-9900  
Fax: (608)240-9690  
[skieckhafer@prarch.com](mailto:skieckhafer@prarch.com)

*Civil Engineering:*

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Madison, WI 53718  
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Fax: (608) 838-0445  
[jsanger@calkinsengineering.com](mailto:jsanger@calkinsengineering.com)

Jason Sanger

*Landscape Architecture:*

Ziegler Design Associates  
4697 Capital View Road  
Middleton, Wisconsin 53562  
Tel: (608) 831-5098  
Fax: (608) 831-9071  
[mlgabler@yahoo.com](mailto:mlgabler@yahoo.com)

Steve Ziegler  
MaraLee Gabler

Development Information:

The proposed project is within Midtown Commons development, lot 90.

Project Narrative:

Freestanding two story small animal hospital of approximately 23,000 gross square feet and 10,300 net square feet. The facilities functional program consists of reception & administrative space, exam rooms and DVM work stations, diagnostic spaces, treatment and surgery spaces, ICU and recovery cages, office space, short-term animal housing and expansion space for multi-specialty veterinary practice. The specialty practice will have hours of operation between 7:00am and 6:00pm Monday through Friday. The emergency service will be open 24 hours a day, seven days per week. During daytime business hours there will be approximately 25-30 employees and 4-5 employees at other times. Patient volume during daytime business hours is anticipated to be around 25-30 per day and overnight volume will be more variable between 5-20 per day. To accommodate the staff and customer needs, 65 parking spaces are planned.

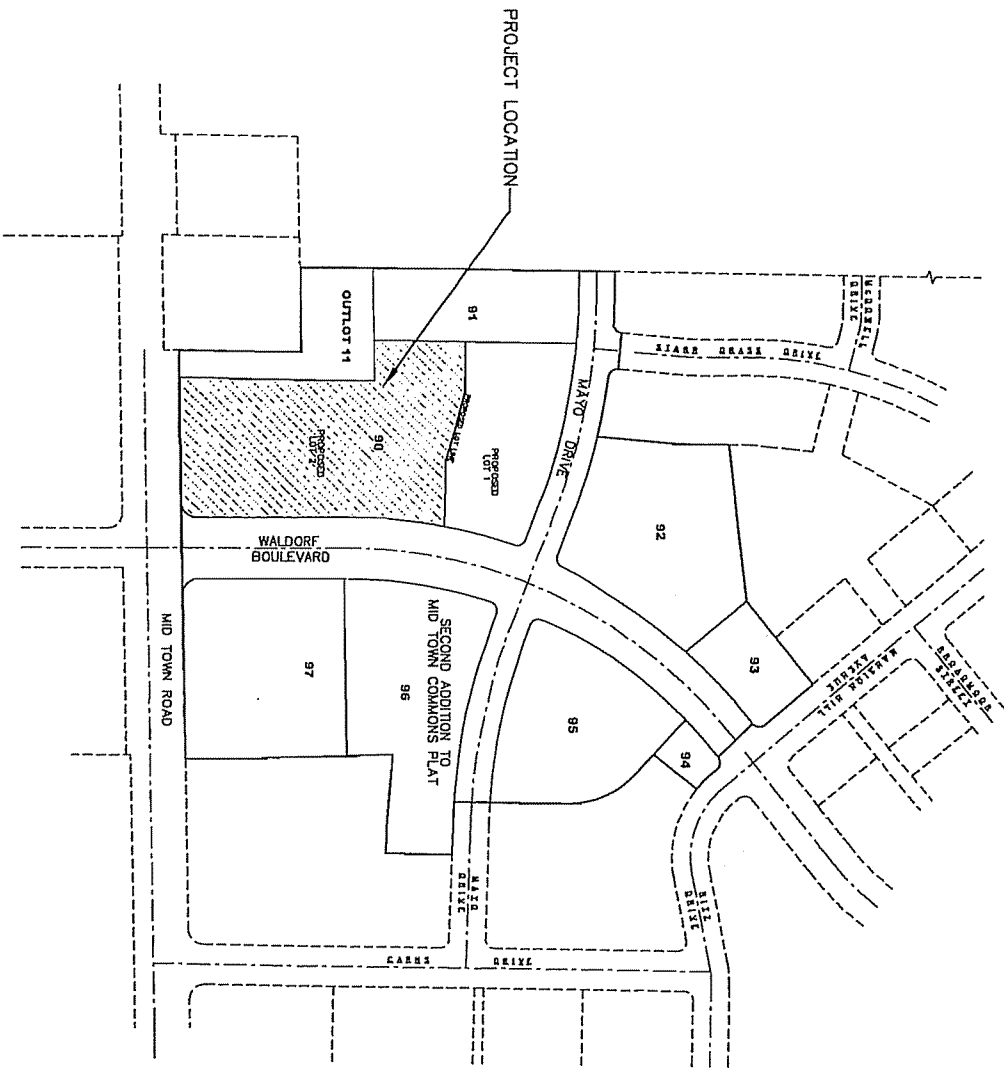
As part of the project's sustainable and LEED Certification goals, the designs of the four sides of the building uniquely respond to the differing sun and wind patterns presented by the four geographic quadrants. Introduction of natural light to the building's internal spaces, along with careful selection of interior finishes and building systems enhances the quality of the work environment and promotes a sense of healing and wellbeing. The parking spaces are provided as part of a site development that incorporates alternative storm water management techniques such as bio-swales, rain gardens and infiltration basins planted with native plant species.

The project has been planned for the anticipated future needs of a Phase II, which would add a two-story structure to the north and west of the proposed building, it would be similar in form and architecture. To accommodate additional parking, a lot will be constructed to the north of the shared access drive.

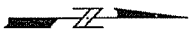
Project Schedule:

Planning and design, January- March, 2006  
Approval process, March-April, 2006  
Documents, March-July, 2006  
Construction, July 2006

Respectively Submitted,  
Steven A. Kieckhafer, AIA



SCALE: 1" = 200' (11"x17")  
 SCALE: 1" = 100' (24"x36")

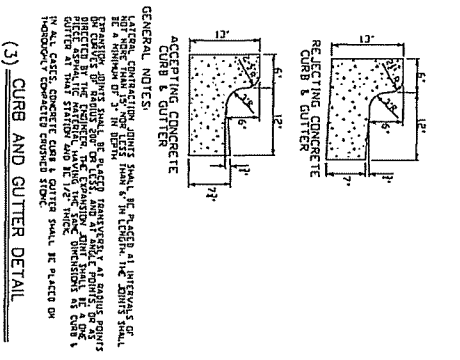
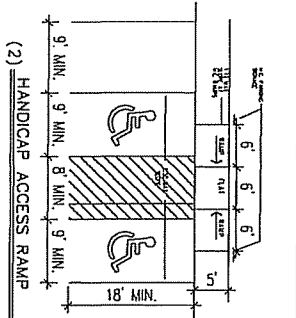
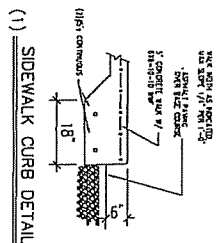
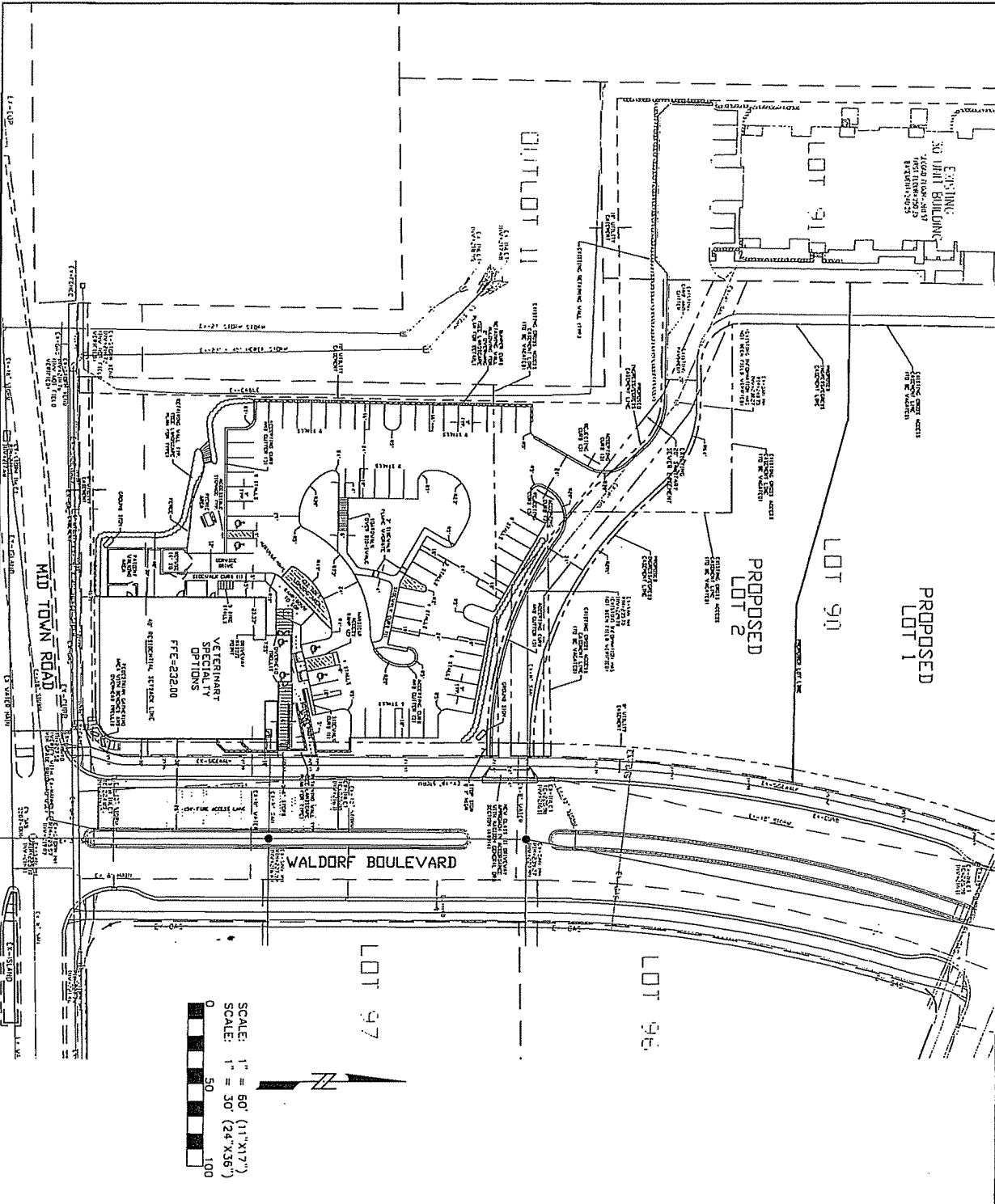


**Calkins Engineering, Inc.**  
 Civil Engineers & Land Surveyors  
 2310 Cassock Dr., Ste 2000 • Madison WI 53718 • Tel 608 240-9950 • Fax 608 240-9650  
 2310 Cassock Dr., Ste 2000 • Madison WI 53718 • Tel 608 240-9950 • Fax 608 240-9650

Job No.: 05195  
 Date: 4-26-06  
 Drawn By: JCS  
 Sheet Title and No.: Overall Site Map C1.1

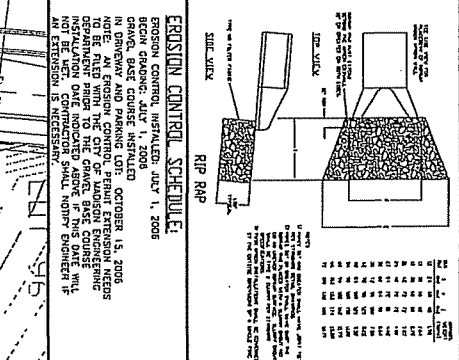
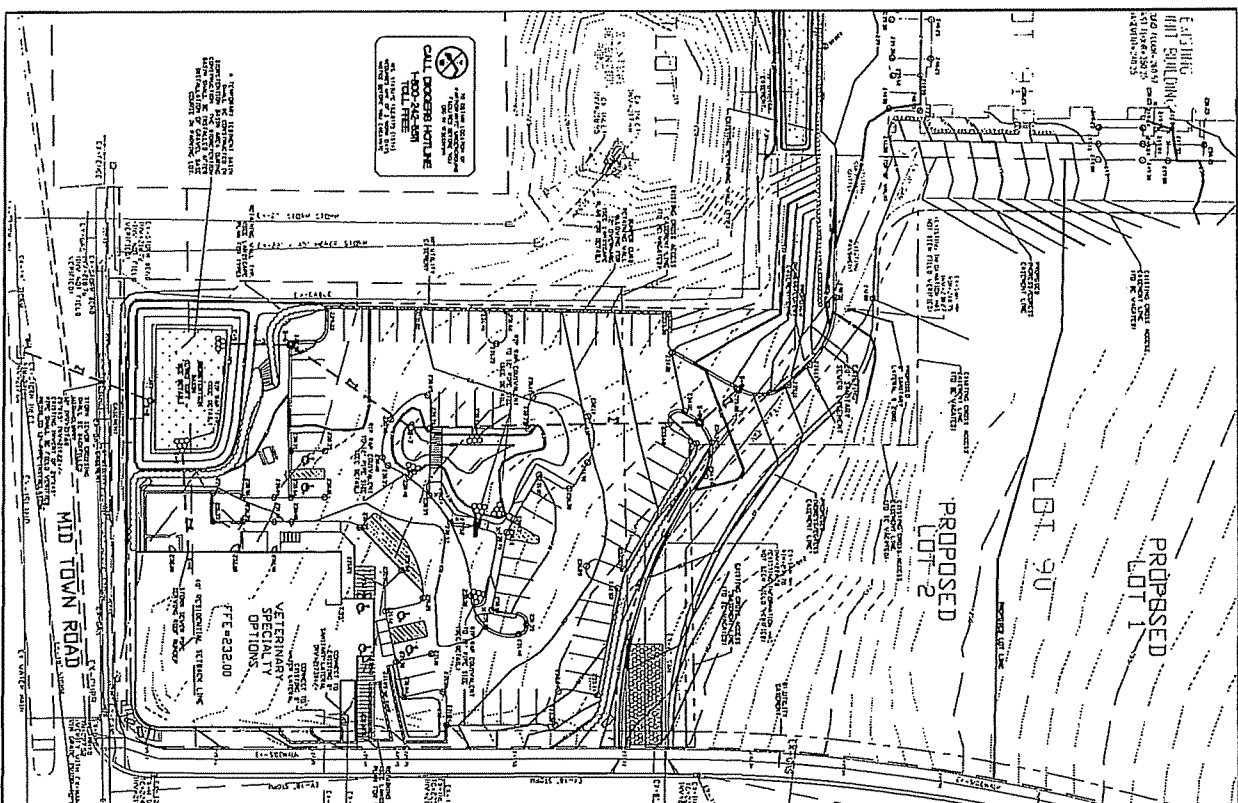
**Veterinary Specialty Options, LLC**  
 Midtown Commons  
 Madison, Wisconsin

Plunkett  
 Raysich  
 Architects  
 Intelligent Designs  
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 www.plrarch.com



**Colkins Engineering, Inc.**  
 Civil Engineers & Land Surveyors  
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 General Engineering Surveying Planning Architecture

EASTING  
 NORTH SOUTHERLY  
 2014 (10/21/2014)  
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 451194-13073  
 451194-13073

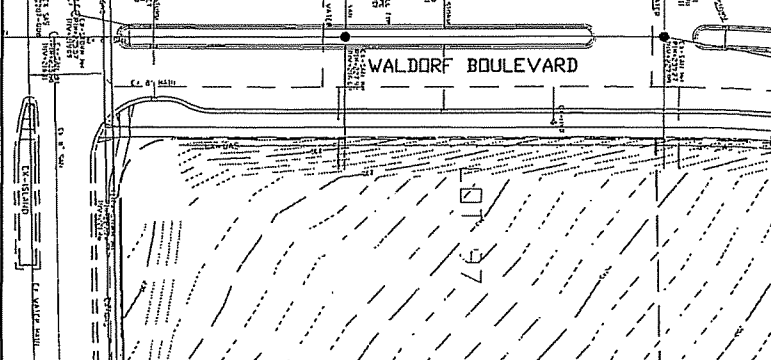


**EROSION CONTROL SCHEDULE**  
 EROSION CONTROL: INSTALLED JULY 1, 2006  
 GRASS: BARE COURSE INSTALLED  
 IN GENERAL, ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY. THE CITY OF MADISON ENGINEERING DEPARTMENT SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR AS SOON AS POSSIBLE IF REPAIR OR MAINTENANCE IS NECESSARY.

**LEGEND:**  
 \* STORM SEWER  
 \* STORM CONSTRUCTION ENTRANCE  
 \* BIPARTITION BASH  
 \* REPAIR TO STORMWATER DRAIN  
 \* 10000.00  
 \* REPAIR TO STORMWATER DRAIN

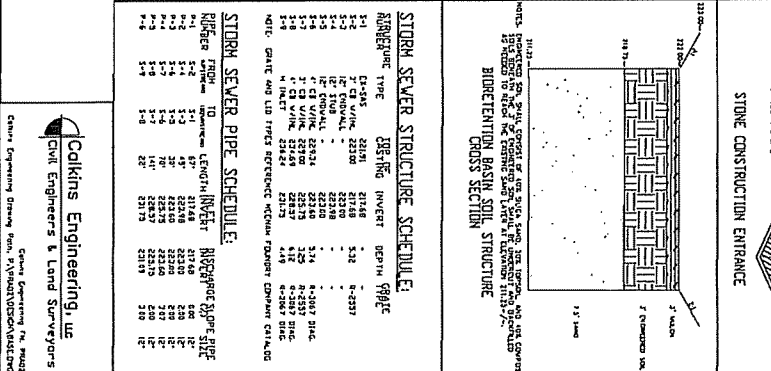
**GENERAL NOTES:**  
 ALL EROSION CONTROL MEASURES SHALL BE INSTALLED BEFORE THE END OF THE GRASSING PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.

SCALE: 1" = 60' (1"X17')  
 SCALE: 1" = 30' (24"X36')



**STORM SEWER STRUCTURE SCHEDULE**

NUMBER	TYPE	DEPTH	DEPTH	PIPING
1-1	12" CI VORL	2210	532	6-2231
1-2	12" CI VORL	2210	532	6-2231
1-3	12" CI VORL	2210	532	6-2231
1-4	12" CI VORL	2210	532	6-2231
1-5	12" CI VORL	2210	532	6-2231
1-6	12" CI VORL	2210	532	6-2231
1-7	12" CI VORL	2210	532	6-2231
1-8	12" CI VORL	2210	532	6-2231
1-9	12" CI VORL	2210	532	6-2231
1-10	12" CI VORL	2210	532	6-2231
1-11	12" CI VORL	2210	532	6-2231
1-12	12" CI VORL	2210	532	6-2231
1-13	12" CI VORL	2210	532	6-2231
1-14	12" CI VORL	2210	532	6-2231
1-15	12" CI VORL	2210	532	6-2231
1-16	12" CI VORL	2210	532	6-2231
1-17	12" CI VORL	2210	532	6-2231
1-18	12" CI VORL	2210	532	6-2231
1-19	12" CI VORL	2210	532	6-2231
1-20	12" CI VORL	2210	532	6-2231



**STORM SEWER PIPE SCHEDULE**

RATHER	TO	DEPTH	DEPTH	PIPING
1-1	12" CI VORL	2210	532	6-2231
1-2	12" CI VORL	2210	532	6-2231
1-3	12" CI VORL	2210	532	6-2231
1-4	12" CI VORL	2210	532	6-2231
1-5	12" CI VORL	2210	532	6-2231
1-6	12" CI VORL	2210	532	6-2231
1-7	12" CI VORL	2210	532	6-2231
1-8	12" CI VORL	2210	532	6-2231
1-9	12" CI VORL	2210	532	6-2231
1-10	12" CI VORL	2210	532	6-2231
1-11	12" CI VORL	2210	532	6-2231
1-12	12" CI VORL	2210	532	6-2231
1-13	12" CI VORL	2210	532	6-2231
1-14	12" CI VORL	2210	532	6-2231
1-15	12" CI VORL	2210	532	6-2231
1-16	12" CI VORL	2210	532	6-2231
1-17	12" CI VORL	2210	532	6-2231
1-18	12" CI VORL	2210	532	6-2231
1-19	12" CI VORL	2210	532	6-2231
1-20	12" CI VORL	2210	532	6-2231

**05195**  
 4-26-06  
 030 No.

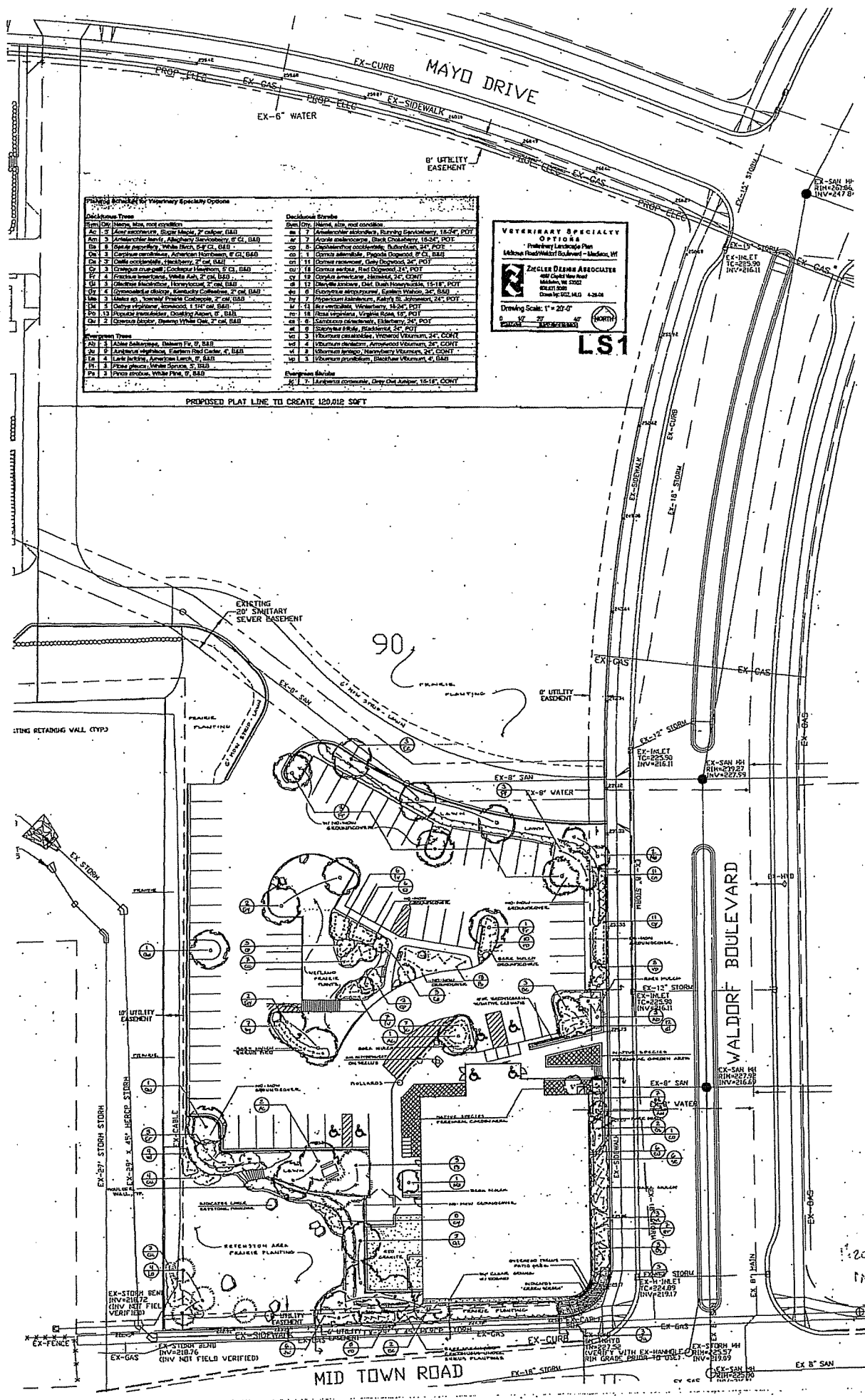
**Veterinary Specialty Options, LLC**  
 Midtown Commons  
 Madison, Wisconsin

**Plunkett Reynolds Architects**  
**Intelligent Designs** **Inspired Results**

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**Colkins Engineering & Land Surveyors, Inc.**  
 555 West First Street, Suite 100  
 Madison, WI 53703  
 Tel: 608.262.2200  
 Fax: 608.262.2201  
 Email: info@colkins.com

EARTHQUAKE RESISTANT DESIGN  
 11/11/11



Proposed Schedule for Veterinary Specialty Options

Deciduous Trees	Deciduous Shrubs
Am 1 3 Four season maple, Sugar Maple, 2\"/>	

**VETERINARY SPECIALTY  
OPTIONS**  
Preliminary Landscape Plan  
14300 Midtown Road, Madison, WI

**ZICKLER DESIGN ASSOCIATES**  
14300 Midtown Road  
Madison, WI 53702  
608.271.5000  
Date by: 02.14.13 4:28 PM

Drawing Scale: 1" = 20'-0"

**LS1**

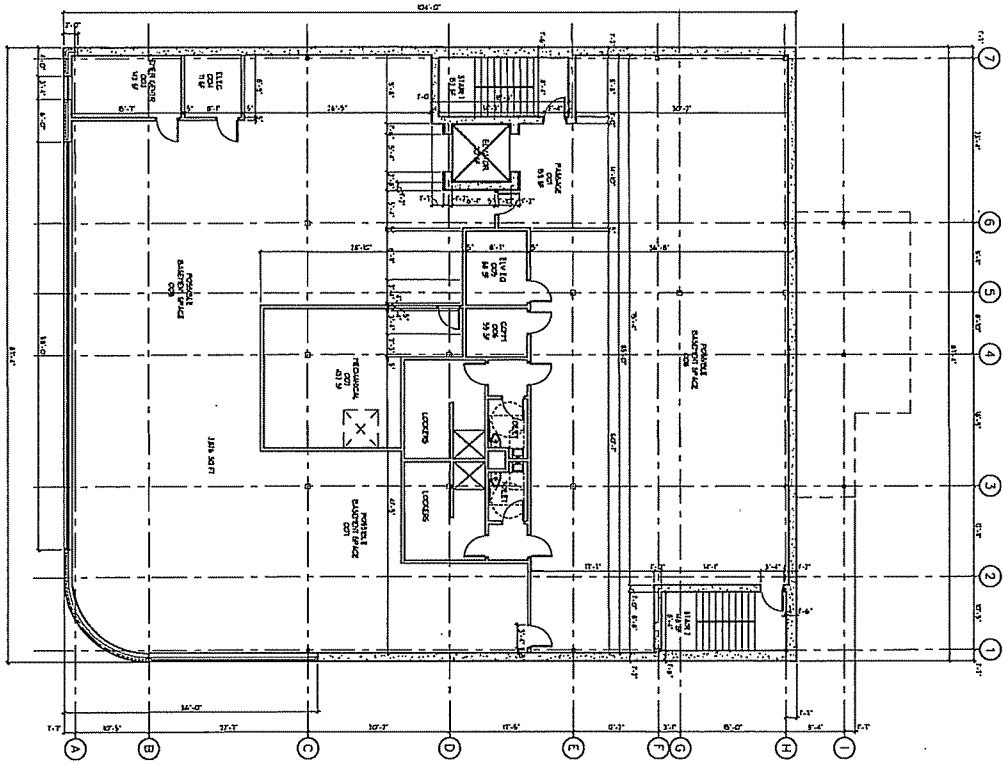
PROPOSED PLAT LINE TO CREATE 120,012 SQ FT

MID TOWN ROAD

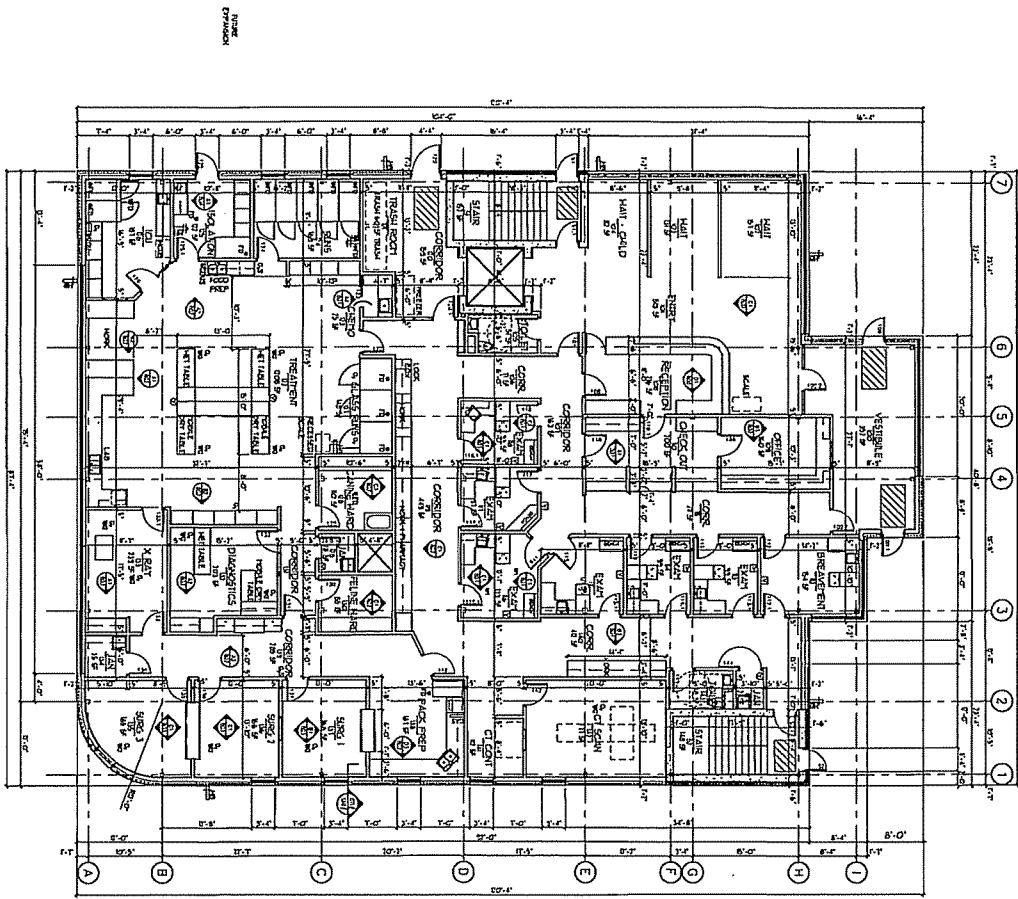
WALDORF BOULEVARD

MAYO DRIVE





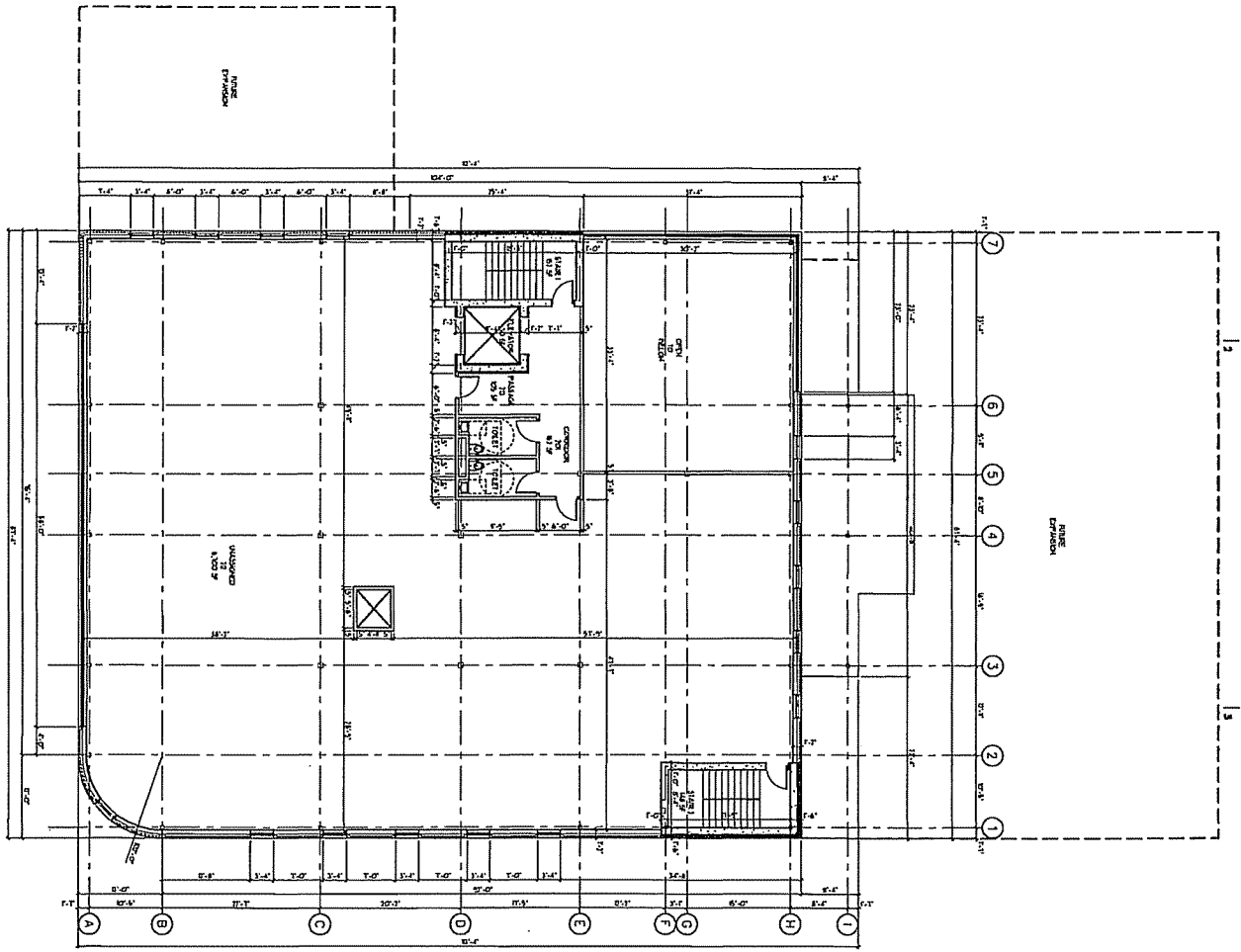
**BASMENT FLOOR PLAN**  
 1/8" = 1'-0"




**FIRST FLOOR PLAN**  
 1/8" = 1'-0"

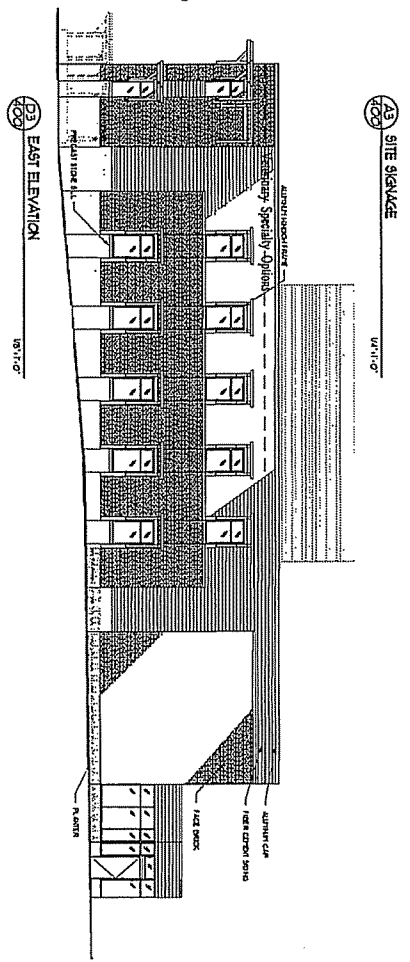
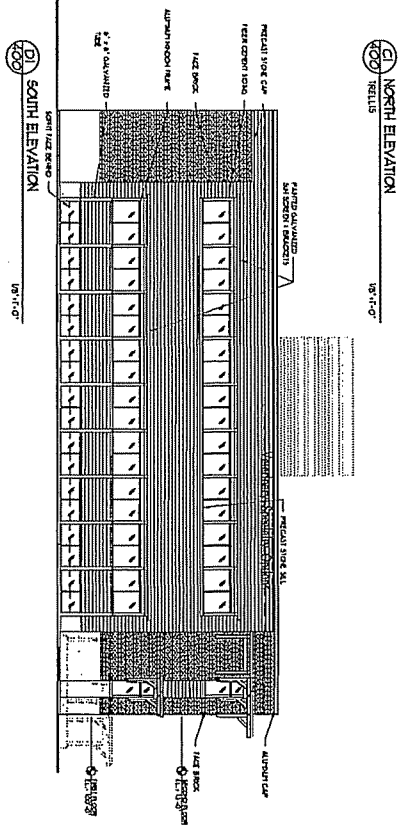
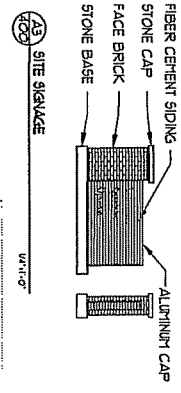
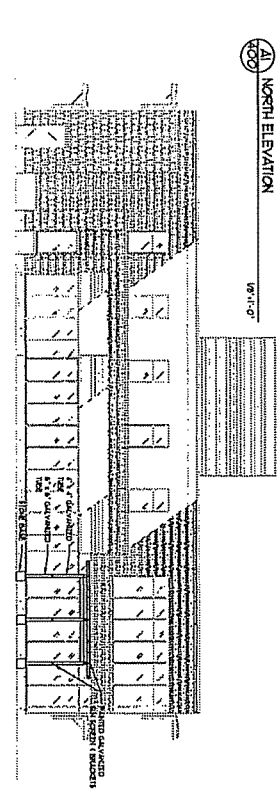
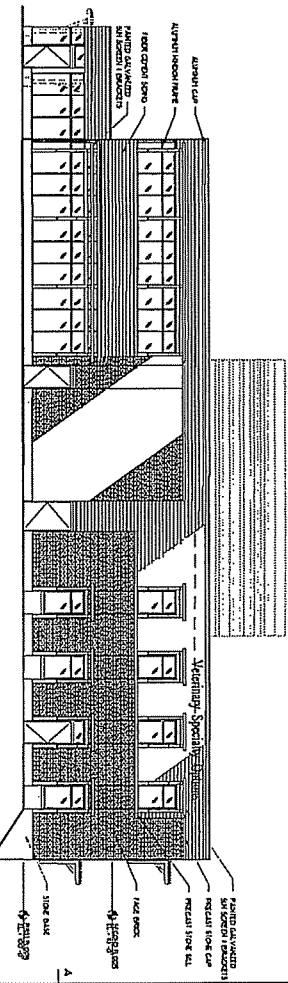
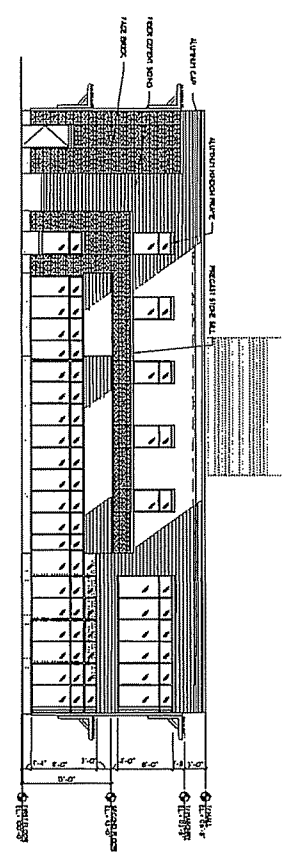
- FLOOR PLAN - SPECIAL DETAILS LEGEND**
- RECEIVED W/OUT CHANGES
  - ① CHANGE W/AL WALL FROM
  - ② CHANGE W/AL FLOOR FROM
  - ③ FLOOR FINISH
  - ④ W/AL FIN - CEILING OVER W/AL CORNER
  - ⑤ W/AL FIN - NOT COORD
  - ⑥ W/AL FIN - GAB
  - ⑦ W/AL FIN - GAB
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- FLOOR PLAN - GENERAL NOTES**
- A. REFER TO ROOM PLAN FOR CHANGES TO ROOM WALL, CEILING OR FLOOR.
  - B. REFER TO ROOM PLAN FOR CHANGES TO ROOM WALL, CEILING OR FLOOR.
  - C. REFER TO ROOM PLAN FOR CHANGES TO ROOM WALL, CEILING OR FLOOR.
  - D. REFER TO ROOM PLAN FOR CHANGES TO ROOM WALL, CEILING OR FLOOR.
  - E. REFER TO ROOM PLAN FOR CHANGES TO ROOM WALL, CEILING OR FLOOR.
- FLOOR PLAN - GENERAL NOTES**
- ① CHG. W/AL
  - ② CHG. W/AL
  - ③ CHG. W/AL
  - ④ CHG. W/AL
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 SECOND FLOOR PLAN  
 1/8" = 1'-0"

1 | 2 | 3 | 4 | 5



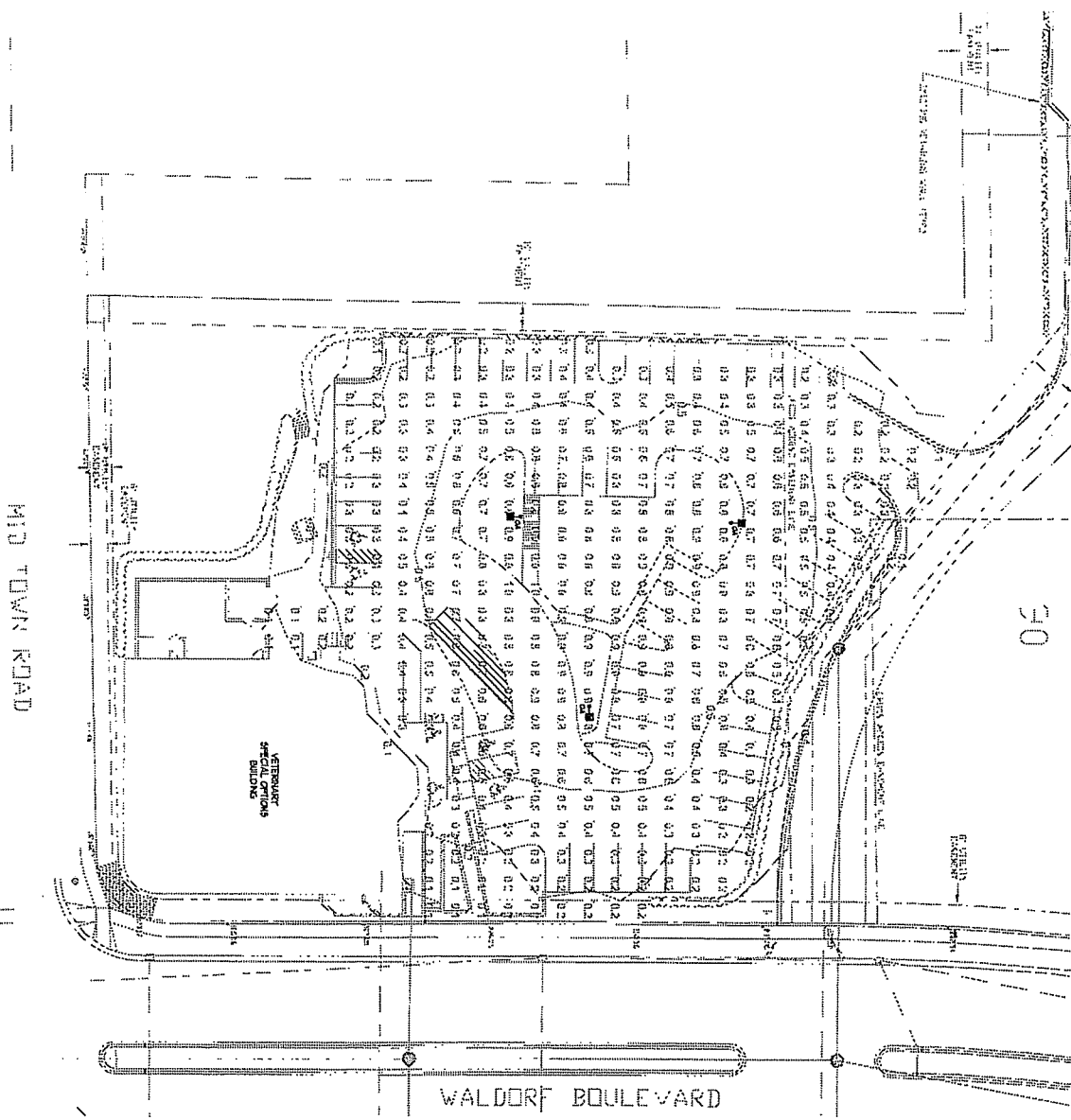
PROGRESS PLOT DATE: 04-26-2006

© 2006 Plunkett Raycich Architects, LLP

400	Sheet No.
05/19/05	Date
LK	Drawn By
4-26-06	Date
05/19/05	Date

**Veterinary Specialty Options, LLC**  
 Midtown Commons  
 Madison, Wisconsin

Plunkett Raycich Architects  
 Intelligent Designs | Inspired Results  
 2110 Crossroads Dr., Ste 2000 • Madison, WI 53714 • Tel: (608) 240-8900 • Fax: (608) 240-8220



**SITE PLAN - PHOTOGRAPHIC**

1"=20'-0"



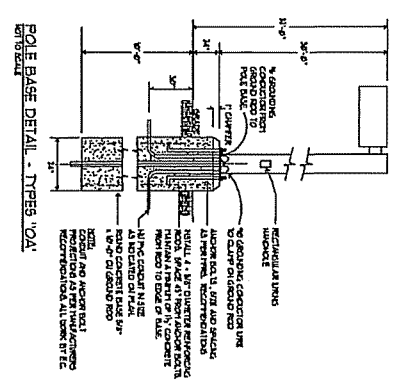
**LIGHT FIXTURE SCHEDULE**

NO.	TYPE	DESCRIPTION	SIZE	SPACING	HEIGHT	CEILING	TYPE	WATT	WATT	WATT
01	RECESSED	RECESSED HOLLOW BODY	4" X 4"	4'-0"	10'-0"	CONCRETE	FLUORESCENT	40	40	40
02	RECESSED	RECESSED HOLLOW BODY	4" X 4"	4'-0"	10'-0"	CONCRETE	FLUORESCENT	40	40	40

- NOTES**
1. REFER TO DRAWING FOR LIGHT FIXTURE SCHEDULE.
  2. ON EXISTING FOUNDATION, VERIFY ALL LIGHTING FIXTURES.

**PHOTOGRAPHIC CALCULATION STATISTICS**

AREA	HEIGHT	THREAT	THREAT	WATT
01C	0.00	0.00	0.00	0.00
02	0.00	0.00	0.00	0.00



**Preliminary Planting Schedule for Veterinary Specialty Options**

As per Landscape Plan 4-26-06

Ziegler Design Associates

**Deciduous Trees**

Sym.	Qty.	Name, size, root condition
Ac	3	<i>Acer saccharum</i> , Sugar Maple, 2" caliper, B&B
Am	3	<i>Amelanchier laevis</i> , Allegheny Serviceberry, 6' Cl., B&B
Be	5	<i>Betula papyrifera</i> , White Birch, 6-8' Cl., B&B
Ca	3	<i>Carpinus caroliniana</i> , American Hornbeam, 5' Cl., B&B
Ce	3	<i>Celtis occidentalis</i> , Hackberry, 2" cal, B&B
Cr	3	<i>Crataegus crus-galli</i> , Cockspur Hawthorn, 5' Cl., B&B
Fr	4	<i>Fraxinus americana</i> , White Ash, 2" cal, B&B
Gl	3	<i>Gleditsia triacanthos</i> , Honeylocust, 2" cal, B&B
Gy	4	<i>Gymnocladus dioica</i> , Kentucky Coffeetree, 2" cal, B&B
Ma	3	<i>Malus sp.</i> , 'Ioensis' Prairie Crabapple, 2" cal, B&B
Os	5	<i>Ostrya virginiana</i> , Ironwood, 1 1/4" cal, B&B
Po	13	<i>Populus tremuloides</i> , Quaking Aspen, 6', B&B
Qu	2	<i>Quercus bicolor</i> , Swamp White Oak, 2" cal, B&B

**Evergreen Trees**

Ab	3	<i>Abies balsamea</i> , Balsam Fir, 5', B&B
Ju	9	<i>Juniperus virginiana</i> , Eastern Red Cedar, 4', B&B
La	4	<i>Larix laricina</i> , American Larch, 6', B&B
Pi	3	<i>Picea glauca</i> , White Spruce, 5', B&B
Ps	3	<i>Pinus strobus</i> , White Pine, 5', B&B

**Deciduous Shrubs**

Sym.	Qty.	Name, size, root condition
as	7	<i>Amelanchier stolonifera</i> , Running Serviceberry, 18-24", POT
ar	7	<i>Aronia melanocarpa</i> , Black Chokeberry, 18-24", POT
cp	5	<i>Cephalanthus occidentalis</i> , Buttonbush, 24", POT
co	1	<i>Cornus alternifolia</i> , Pagoda Dogwood, 5' Cl., B&B
cn	11	<i>Cornus racemosa</i> , Grey Dogwood, 24", POT
cu	18	<i>Cornus sericea</i> , Red Dogwood, 24", POT
cy	19	<i>Corylus americana</i> , Hazelnut, 24", CONT
di	12	<i>Diervilla lonicera</i> , Dwf. Bush Honeysuckle, 15-18", POT
eu	6	<i>Euonymus atropurpurea</i> , Eastern Wahoo, 24", B&B
hy	7	<i>Hypericum kalmianum</i> , Kalm's St. Johnswort, 24", POT
iv	13	<i>Ilex verticillata</i> , Winterberry, 18-24", POT
ro	18	<i>Rosa virginiana</i> , Virginia Rose, 18", POT
sa	6	<i>Sambucus canadensis</i> , Elderberry, 24", POT
st	6	<i>Staphylea trifolia</i> , Bladderhut, 24", POT
vc	3	<i>Viburnum cassinoides</i> , Witherod Viburnum, 24", CONT
vd	4	<i>Viburnum dentatum</i> , Arrowwood Viburnum, 24", CONT
vl	3	<i>Viburnum lentago</i> , Nannyberry Viburnum, 24", CONT
vp	3	<i>Viburnum prunifolium</i> , Blackhaw Viburnum, 4', B&B

**Evergreen Shrubs**

jc	7	<i>Juniperus communis</i> , Grey Owl Juniper, 15-18", CONT
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**Surgical Options  
Representative Species List  
April 23, 2006**

Area A (low cost prairie at north end of lot).		Flower	Flower Period	Height	Comments
Scientific name	Common name	Color	Flower Period	Height	Comments
<b>Grasses and Sedges</b>					
1 <i>Bouteloua curtipendula</i>	Side-oats Grama		A M J J A S O	2-3'	Short stature; orange "flower"
2 <i>Carex vulpinoidea</i>	Brown Fox Sedge			1-3'	Dense seed heads at end of stem
3 <i>Schizachyrium scoparium</i>	Little Bluestem			2-3'	Fine texture; white feathery seed head
4 <i>Sporobolus heterolepis</i>	Prairie Dropseed			2'	Forms arching mounds; elegant; fragrant
<b>Forbs and Shrubs</b>					
1 <i>Aquilegia canadensis</i>	Wild Columbine	Red & yel	A M J	1-2'	Butterfly plant; self sows
2 <i>Asclepias tuberosa</i>	Butterfly Weed	Org	J J A	2-3'	Butterfly plant; very showy; monarch larvae food source
3 <i>Aster azureus</i>	Sky Blue Aster	Blue	S O	1-2'	Sky blue color; butterfly plant
4 <i>Aster laevis</i>	Smooth Aster	Blue	A S O	3-5'	Butterfly plant; foliage is smooth; butterfly plant
5 <i>Aster novae-angliae</i>	New England Aster	Purp-blue	A S O	2-4'	Butterfly plant; very showy; late season color
6 <i>Astragalus canadensis</i>	Canada Milk Vetch	Crm-yel	J J A	1-4'	Pea-like flowers held above foliage; legume
7 <i>Campanula americana</i>	Tall Bellflower	Blue	J A S	3-5'	Biennial; butterfly plant; flowers star-like
8 <i>Coreopsis palmata</i>	Stiff Coreopsis	Yel	J J A	12"	Butterfly plant; spreads
9 <i>Dalea purpurea</i>	Purple Prairie Clover	Purp	J J A	1'	Butterfly plant; very showy
10 <i>Echinacea pallida</i>	Pale Purple Coneflower	Lav	J J	2-4'	Butterfly plant; threatened in WI
11 <i>Helopsis helianthoides</i>	Ox Eye Sunflower	Yel	J J A S	2-5'	Forms clumps; butterfly plant
12 <i>Kuhnia eupatorioides</i>	False Boneset	Crm-Whit	A S	2-3'	Erect stem with flat flower cluster; gray-green foliage
13 <i>Lespedeza capitata</i>	Roundhead Bush Clover	Crm-Grn	A S O	1-4'	Interesting winter texture; nitrogen fixer
14 <i>Liatris aspera</i>	Blazing Star	Purp	J A S	2-3'	Very showy; butterfly plant
15 <i>Monarda fistulosa</i>	Bergamot	Lav	J A S	2-4'	Butterfly and humming bird plant; aromatic
16 <i>Penstemon digitalis</i>	Smooth Penstemon	Whit-pur	J J	2-4'	Leaf finely toothed; readily self sows
17 <i>Ratibida pinnata</i>	Yellow Coreflower	Yel	J A S	3-4'	Short-lived colonizer; butterfly plant; aromatic seed head
18 <i>Rudbeckia hirta</i>	Black-eyed Susan	Yel	J J A S O	2-3'	Biennial; pioneer; butterfly plant
19 <i>Tradescantia ohioensis</i>	Spiderwort	Blue	M J	1-2'	Butterfly plant; forms arching clumps
20 <i>Zizia aurea</i>	Golden Alexanders	Yel	A M J	1-3'	Butterfly plant

**Surgical Options  
Representative Species List  
April 23, 2006**

Area B (eastern border, no-mow with showy forbs)		Flower Color	Flower Period	Height	Comments
Scientific name	Common name				
<b>Grasses and Sedges</b>					
1	<i>Festuca</i> spp.	No-mow	A M J J A S O	3-8"	Fine texture
<b>Forbs and Shrubs</b>					
1	<i>Allium cernuum</i>	Nodding Wild Onion	J A	10-16"	Can divide the edible bulb; butterfly plant
2	<i>Anemone canadensis</i>	Canada Anemone	M J	6-10"	Will slowly spread; low-growing; mace-like seed head
3	<i>Aquilegia canadensis</i>	Wild Columbine	A M J	1-2'	Butterfly plant; self sows
4	<i>Artemisia ludoviciana</i>	White Sage	A S	2-3'	Gray-green foliage; fuzzy
5	<i>Asclepias tuberosa</i>	Butterfly Weed	J J A	2-3'	Butterfly plant; very showy; monarch larvae food source
6	<i>Aster azureus</i>	Sky Blue Aster	S O	1-2'	Sky blue color; butterfly plant
7	<i>Coreopsis palmata</i>	Stiff Coreopsis	J J A	1-2'	Butterfly plant; spreads
8	<i>Dalea candida</i>	White Prairie Clover	J J A	1'	Butterfly plant; legume
9	<i>Dalea purpurea</i>	Purple Prairie Clover	J J A	1'	Butterfly plant; very showy
10	<i>Dodecatheon meadia</i>	Shooting Star	A M J	4-6"	Flower looks like a shooting star; spreads slowly
11	<i>Liatris aspera</i>	Blazing Star	J A S	2-3'	Very showy; butterfly plant
12	<i>Monarda punctata</i>	Dotted Mint	J A	6-12"	Biennial; flowers small but very showy; butterfly plant
13	<i>Potentilla arguta</i>	Tall Cinquefoil	J A S	6-12"	Lower leaves feather-divided
14	<i>Solidago nemoralis</i>	Dyer's weed	A S O	6-18"	Arching form; gray-green foliage; butterfly plant
15	<i>Tradescantia ohiensis</i>	Spiderwort	M J	1-2"	Butterfly plant; forms arching clumps
16	<i>Zizia aurea</i>	Golden Alexanders	A M J	1-2'	Butterfly plant



**Surgical Options  
Representative Species List  
April 23, 2006**

		Area C (bioswale)									
		Scientific name	Common name	Flower Color	Flower Period	Height	Comments				
Wc area	Upland area										
		<b>Grasses and Sedges</b>									
x	x	<i>Carex vulpinoidea</i>	Brown Fox Sedge		A M J J A S O	1-3'					
x		<i>Calamagrostis canadensis</i>	Bluejoint Grass			2-4'	Purple coloring on stem; fine texture				
x		<i>Carex hystericina</i>	Bottlebrush Sedge			1-2'	Inflated, spiky seed head				
x		<i>Carex stipata</i>	Common Fox Sedge			1-3'	Terminal seed head spike, often colored yellow-green				
	x	<i>Bouteloua curtipendula</i>	Side-oats Grama			2-3'	Short stature; orange "flower"				
	x	<i>Schizachyrium scoparium</i>	Little Bluestem			2-3'	Fine texture; white feathery seed head				
	x	<i>Sporobolus heterolepis</i>	Prairie Dropseed			2'	Forms arching mounds; elegant; fragrant				
	x	<i>Bromus kalmii</i>	Prairie Brome			2-3'	Fine texture				
	x	<i>Elymus riparius</i>	Riverbank Wild Rye			3-6'	Cool season; clump forming				
	x	<i>Glyceria striata</i>	Fowl Manna Grass			3-5'	Cool season; fine texture; wildlife food source				
		<b>Forbs and Shrubs</b>									
	x	<i>Allium cernuum</i>	Nodding Wild Onion	Lav	J A	10-20"	Can divide the edible bulb; butterfly plant				
	x	<i>Anemone canadensis</i>	Canada Anemone	Wht	M J	6-18"	Will slowly spread; low-growing; mace-like seed head				
	x	<i>Aquilegia canadensis</i>	Wild Columbine	Red & yel	A M J	1-2'	Butterfly plant; self sows				
	x	<i>Asclepias incarnata</i>	Marsh Milkweed	Purp-red	J J A	3-4'	Butterfly plant; very showy; monarch larvae food source				
	x	<i>Asclepias tuberosa</i>	Butterfly Weed	Org	J J A	2-3'	Butterfly plant; very showy; monarch larvae food source				
	x	<i>Aster azureus</i>	Sky Blue Aster	Blue	S O	1-2'	Sky blue color; butterfly plant				
	x	<i>Aster novae-angliae</i>	New England Aster	Purp-blue	A S O	2-4'	Butterfly plant; very showy; late season color				
	x	<i>Campanula americana</i>	Tall Bellflower	Blue	J A S	3-5'	Biennial; butterfly plant; flowers star-like				
	x	<i>Dalea purpurea</i>	Purple Prairie Clover	Purp	J J A	12-18"	Butterfly plant; very showy				
	x	<i>Echinacea pallida</i>	Pale Purple Coneflower	Lav	J J	2-4'	Butterfly plant; threatened in WI				
	x	<i>Eupatorium maculatum</i>	Joe Pye Weed	Purp	J J A	3-5'	Leaves whorled; butterfly plant; terminal flower cluster				
	x	<i>Eupatorium perfoliatum</i>	Boneset	Wht	J A S	2-4'	Stem pierces the wrinkled leaves				
	x	<i>Helenium autumnale</i>	Sneezeweed	Yel	A S O	2-4'	Does not cause allergies; large flowers; very showy				
	x	<i>Liatris aspera</i>	Blazing Star	Purp	J A S	2-3'	Very showy; butterfly plant				
	x	<i>Liatris pycnostachya</i>	Prairie Blazingstar	Purp	J A S	3-4'	Very showy; butterfly plant				
	x	<i>Lobelia siphilitica</i>	Great Blue Lobelia	Blue	J A S	1'	Butterfly plant; spikes of blue flowers				
	x	<i>Monarda fistulosa</i>	Bergamot	Lav	J A S	2-4'	Butterfly and humming bird plant; aromatic				
	x	<i>Parthenium integrifolium</i>	Wild Quinine	Wht	J J A S	2-3'	Flat topped flower clusters somewhat like a cauliflower head				
	x	<i>Ratibida pinnata</i>	Yellow Coneflower	Yel	J A S	3-4'	Short-lived colonizer; butterfly plant; aromatic seed head				
	x	<i>Rudbeckia hirta</i>	Black-eyed Susan	Yel	J J A S O	2-3'	Biennial; pioneer; butterfly plant				
	x	<i>Rudbeckia triloba</i>	Branched Coneflower	Yel	J A S O	2-4'	Short-lived; butterfly plant; very showy				
	x	<i>Tradescantia ohioensis</i>	Spiderwort	Blue	M J	1-2'	Butterfly plant; forms arching clumps				
	x	<i>Veronicastrum virginicum</i>	Culver's Root	Wht	J J A	3-6'	Long flower spike; butterfly plant				
	x	<i>Zizia aptera</i>	Heartleaf Golden Alexanders	Yel	A M J	1-2'	Heart-shaped leaves; butterfly plant				

**Surgical Options  
Representative Species List  
April 23, 2006**

Site	Scientific name	Common name	Flower Color	Flower Period	Height	Comments
28	Zizia aurea	Golden Alexanders	Yel	A M J	1-2'	Butterfly plant

**Surgical Options  
Representative Species List  
April 23, 2006**

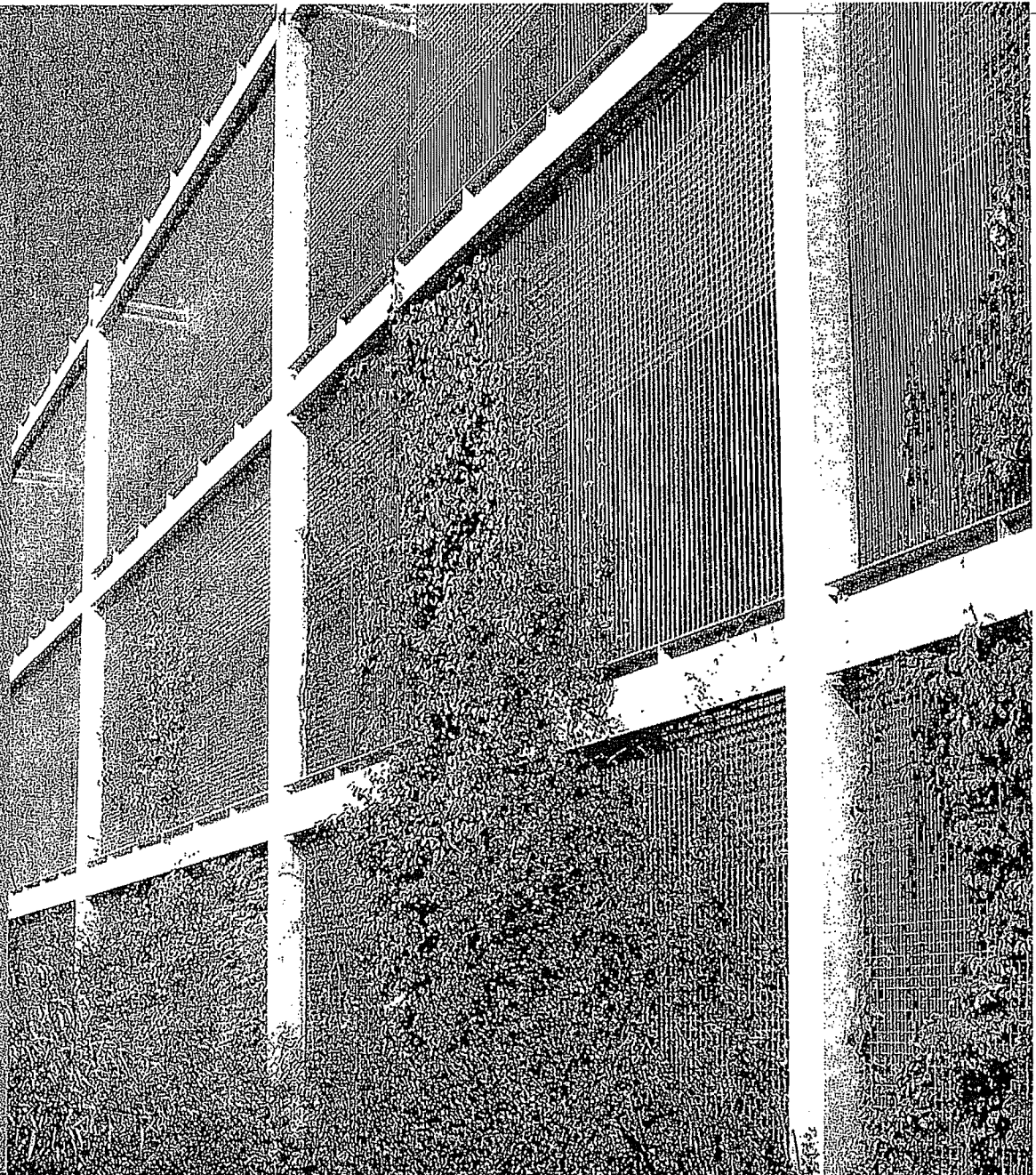
		<b>Area E (detention pond)</b>					
		Scientific name	Common name	Flower Color	Flower Period	Height	Comments
		<b>Grasses and Sedges</b>					
	Upland area				A M J J A S O		
x	1	<i>Bouteloua curtipendula</i>	Side-oats Grama			2-3'	Short stature; orange "flower"
x	2	<i>Calamagrostis canadensis</i>	Bluejoint Grass			2-4'	Purple coloring on stem; fine texture
x	3	<i>Carex hystericina</i>	Bottlebrush Sedge			1-3'	Inflated, spiky seed head
x	4	<i>Carex stipata</i>	Common Fox Sedge			1-3'	Terminal seed head spike, often colored yellow-green
x	5	<i>Carex vulpinoidea</i>	Brown Fox Sedge			1-3'	Long seed head
x	6	<i>Elymus riparius</i>	Riverbank Wild Rye			3-6'	Cool season; clump forming
x	7	<i>Glyceria striata</i>	Fowl Manna Grass			2-5'	Cool season; fine texture; wildlife food source
x	8	<i>Schizachyrium scoparium</i>	Little Bluestem			2-3'	Fine texture; white feathery seed head
x	9	<i>Scirpus atrovirens</i>	Dark Green Bulrush			3-5'	Dark green color; fine texture
x	10	<i>Scirpus cyperinus</i>	Wool Grass			3-5'	Seed head is fuzzy
x	11	<i>Sorghastrum nutans</i>	Indian Grass			3-6'	Rich golden brown feather-like seed head
x	12	<i>Sporobolus heterolepis</i>	Prairie Dropseed			1-2'	Forms arching mounds; elegant; fragrant
		<b>Forbs and Shrubs</b>					
x	1	<i>Allium cernuum</i>	Nodding Wild Onion	Lav	J A	10-20"	Can divide the edible bulb; butterfly plant
x	2	<i>Aselepias incarnata</i>	Marsh Milkweed	Purp-red	J J A	3-4'	Butterfly plant; very showy; monarch larvae food source
x	3	<i>Aselepias tuberosa</i>	Butterfly Weed	Org	J J A	2-3'	Butterfly plant; very showy; monarch larvae food source
x	4	<i>Aster azureus</i>	Sky Blue Aster	Blue	S O	1-2'	Sky blue color; butterfly plant
x	5	<i>Aster novae-angliae</i>	New England Aster	Purp-blue	A S O	2-4'	Butterfly plant; very showy; late season color
x	6	<i>Aster simplex</i>	Marsh Aster	Whit	A S	2-4'	Willow-like leaves; flowers are small, often pink-tinged
x	7	<i>Cacalia atriplicifolia</i>	Pale Indian Plantain	Whit	J A S	3-5'	Leaves white underneath, red stem; distinctive foliage
x	8	<i>Echinacea pallida</i>	Pale Purple Coneflower	Lav	J J	2-4'	Butterfly plant; threatened in WI
x	9	<i>Eupatorium perfoliatum</i>	Boneset	Whit	J A S	2-4'	Stem pierces the wrinkled leaves
x	10	<i>Helenium autumnale</i>	Sneezeweed	Yel	A S O	2-4'	Does not cause allergies; large flowers; very showy
x	11	<i>Liatis aspera</i>	Blazing Star	Purp	J A S	2-3'	Very showy; butterfly plant
x	12	<i>Liatis pycnostachya</i>	Prairie Blazingstar	Purp	J A S	3-4'	Very showy; butterfly plant
x	13	<i>Liatis spicata</i>	Marsh Blazingstar	Purp	A S	2-3'	Very showy; butterfly plant
x	14	<i>Lobelia siphilitica</i>	Great Blue Lobelia	Blue	J A S	1'	Butterfly plant; spikes of blue flowers
x	15	<i>Monarda fistulosa</i>	Bergamot	Lav	J A S	2-4'	Butterfly and humming bird plant; aromatic
x	16	<i>Penstemon digitalis</i>	Smooth Penstemon	Whit-pur	J J	2-4'	Leaf finely toothed; readily self sows
x	17	<i>Ratibida pinnata</i>	Yellow Coneflower	Yel	J A S	3-4'	Short-lived colonizer; butterfly plant; aromatic seed head
x	18	<i>Rudbeckia hirta</i>	Black-eyed Susan	Yel	J J A S O	2-3'	Biennial; pioneer; butterfly plant
x	19	<i>Rudbeckia triloba</i>	Branched Coneflower	Yel	J A S O	2-4'	Short-lived; butterfly plant; very showy
x	20	<i>Silphium terebinthaceum</i>	Prairie Dock	Yel	J A S	4-7'	Taproots reach 9-12' deep; butterfly & bird plant
x	21	<i>Solidago graminifolia</i>	Grass-leaved Goldenrod	Yel	J A S	2-4'	Grass-like foliage; small but abundant flowers

**Surgical Options  
Representative Species List  
April 23, 2006**

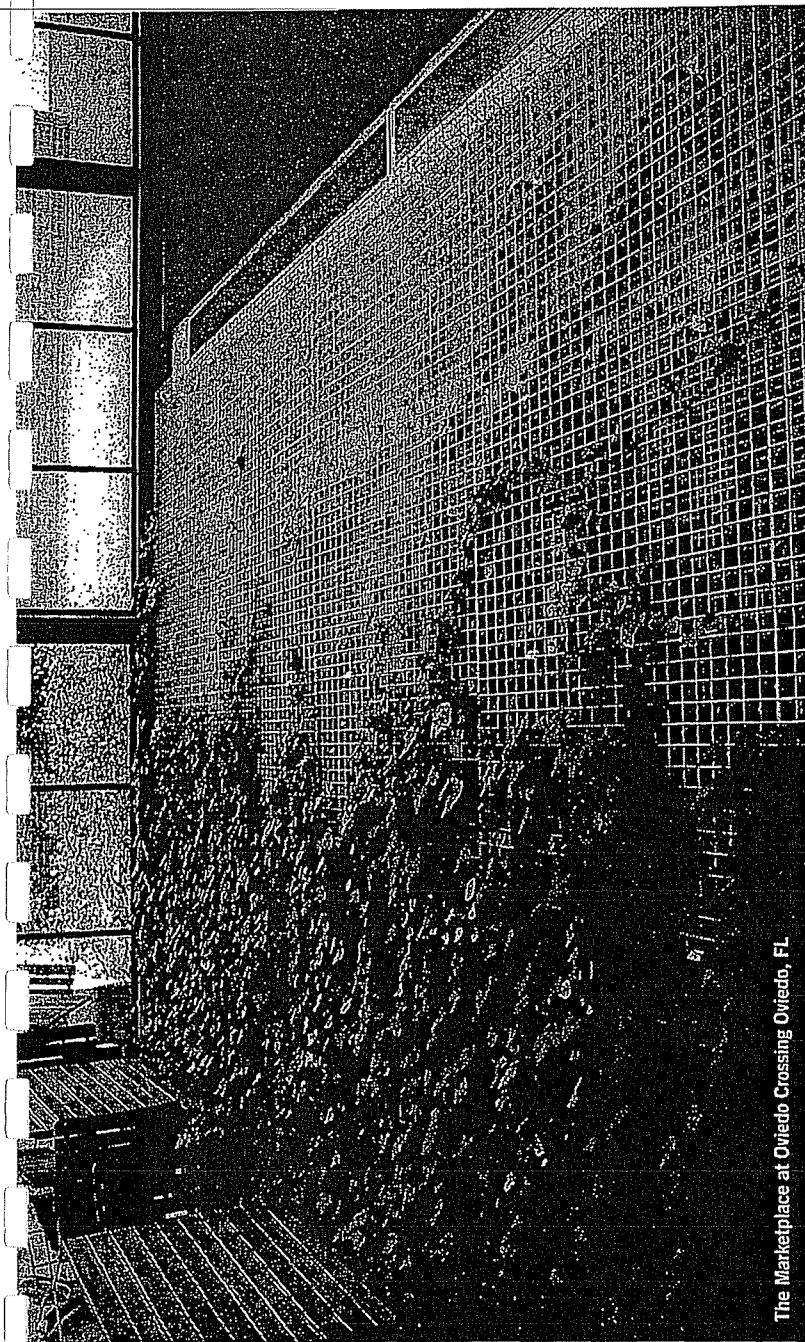
	Scientific name	Common name	Flower Color	Flower Period	Height	Comments
x	22 Tradescantia ohiensis	Spiderwort	Blue	M J	1-2'	Butterfly plant; forms arching clumps
x	23 Verbena hastata	Blue Vervain	Blue	J A S	2-6'	Arrowhead shaped leaves; butterfly plant
x	24 Vernonia fasciculata	Ironweed	Purp	J A S	4-6'	Butterfly plant; very showy; rich color
x	25 Veronicastrum virginicum	Culver's Root	Whit	J J A	3-6'	Long flower spike; butterfly plant
x	26 Zizia aurea	Golden Alexanders	Yel	A, M, J	1-2'	Butterfly plant

ward and lightweight panels are  
24 inches wide and 6 feet long  
with 1/2 inch openings and can  
be installed either vertically or  
horizontally, wall mounted or  
freestanding.

In addition to the standard flat  
panel, the Greenscreen family  
of roll-up products includes the  
column shells, the Rolling Curbs  
and can be customized to create  
shapes, panel sizes and a com-  
plete selection of attachment  
options. Customizing and adapting  
to unique project specifications  
can easily become a part of your  
Greenscreen project. The panels  
are made from recycled content  
steel galvanized wire and finished  
with a baked-on powder coating  
for durability.



National Wildlife Federation Headquarters - Reston, VA



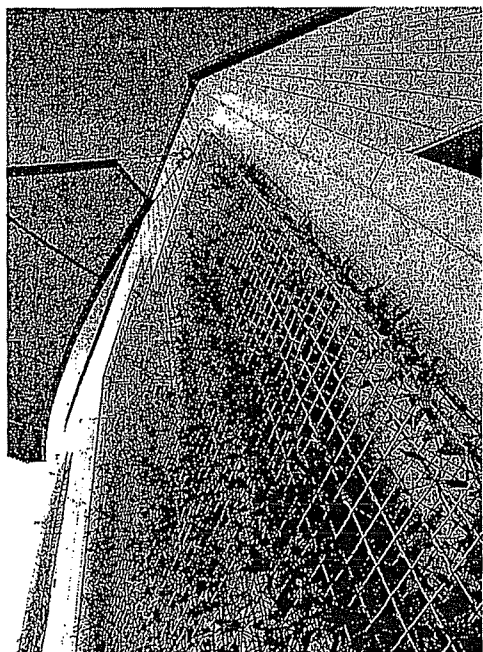
The Marketplace at Oviedo Crossing Oviedo, FL

## Wall Mounted Trellis Panel

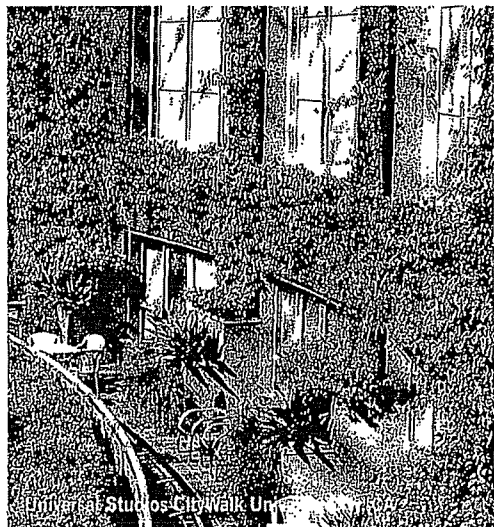
Originally conceived to create an "inhabited bush," the greenscreen™ trellis system can transform blank concrete or masonry walls into soft-textured, vine and flower covered, seasonally varying surfaces. The elements are simple and the possibilities are endless for mounting modular or shaped panels near entries, surrounding windows, in interior courts, as a living plant matrix to cover all or part of a building facade... the examples are many!

Our system of mounting accessories is designed to hold greenscreen™ trellis panels off the building surface, protecting the building's water-proof membrane from direct plant attachment and transferring the weight of the plants to the screen structure and the wall. Integrate wall mounted greenscreen™ elements into new construction or add to existing buildings with adjustable clips that adapt to uneven surfaces. Panels can be stacked side to side or top to bottom to cover larger areas.

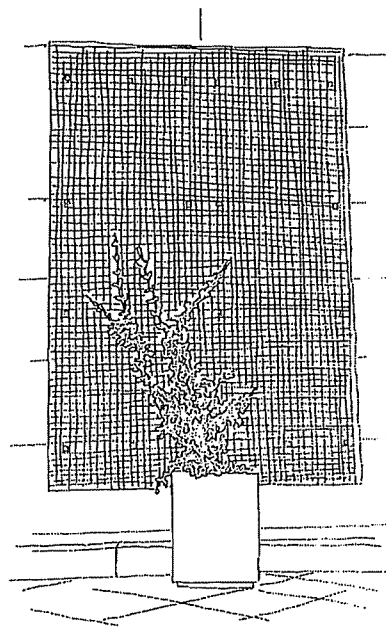
WALL MOUNTED



Willows Shopping Center - Concord, CA

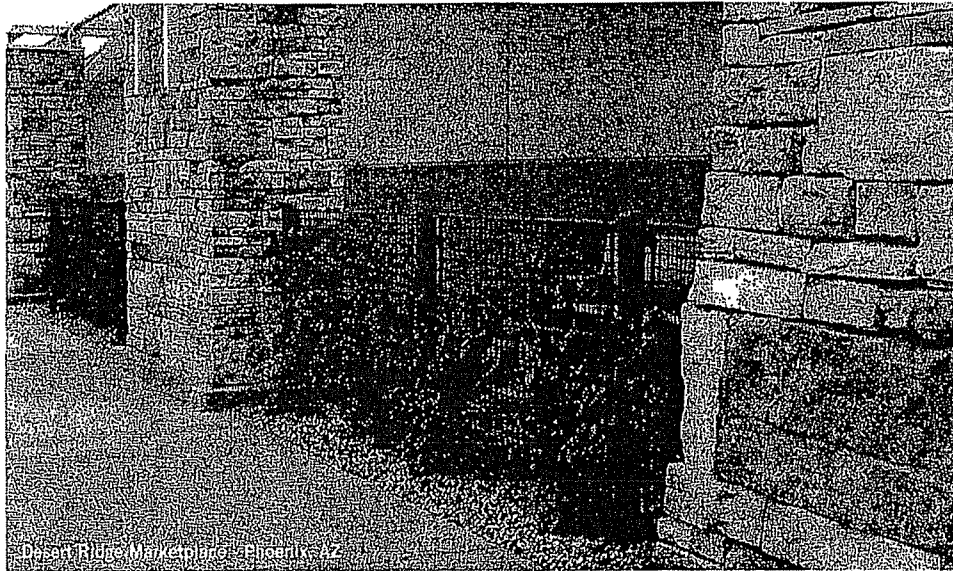


Universal Studios CityWalk Universal Orlando

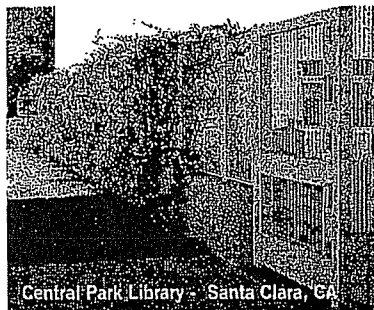


# project examples

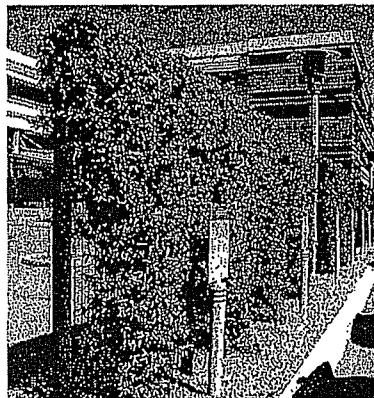
The following pages illustrate some of the many combinations offered with the **greenscreen™** trellis system.



Desert Ridge Marketplace - Phoenix, AZ



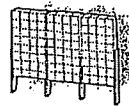
Central Park Library - Santa Clara, CA



Infonet Corporation - El Segundo, CA

The "captive growing space" created by the unique **greenscreen™** panel design promotes plant growth and is an excellent support for maintaining healthy plants. Edge trim can be added at pedestrian areas as a closure strip or at the panel perimeter to provide a reinforced edge for plant trimming. A variety of colors and finish-matched clips and brackets make it easy to adapt to round or square post systems. **greenscreen™** panels can be mounted vertically or horizontally between posts and are easily integrated into custom gate openings.

## FENCING



Notes:

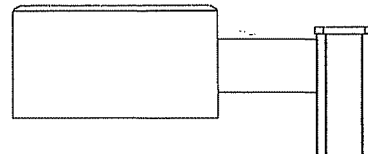
EH19-1-VS-250MH-QUAD-BRP

Job: VETERINARY SPECIALTY OPTIONS

Type: OA

# FORM 10 SQUARE

## EH/H/HT ARM MOUNT



**GENERAL DESCRIPTION:** The Gardco arm mounted Square Form 10 products are sharp cutoff luminaires for high intensity discharge lamps up to 1000 watts. The EH units are manufactured from mitered extruded aluminum and finished in an Architectural Class 1 anodizing. The H and HT style luminaires are dieformed aluminum with a thermoset polyester finish. Both products can accept one of eight (8) interchangeable and rotatable precision segmented optical systems.

### ORDERING

Flat glass lens luminaires meet IESNA Full Cutoff criteria. Sag Lens luminaires meet IESNA Cutoff criteria.

PREFIX	CONFIGURATION	DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS
EH19	1	VS	250MH	QUAD	BRP	

Enter the order code into the appropriate box above. Note: Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

### PREFIX

EH14	14" Square Extruded Luminaire
EH19	19" Square Extruded Luminaire
H14	14" Square Fabricated Luminaire
H19	19" Square Fabricated Luminaire
HT19	19" Tall Square Fabricated Luminaire
H26	18" Square Fabricated Luminaire

### CONFIGURATION

1	Single Assembly	3@120	Triple at 120°
2	Twin Assembly	4	Quad Assembly
2@90	Twin Assembly at 90°		
3	Triple at 90°		

### DISTRIBUTION

#### Horizontal Lamp

1	Type I
3	Type III
4X	Type IV (19/T19 only)
FM	Type IV
Q	Type V

Type 4X optics supplied with sag glass lens standard.

#### Vertical Lamp

VS Type V  
14" and 19" supplied with acrylic sag lens. 26" supplied with sag glass lens. Medium base, 200v max on 14" units.

FC3V\* Full Cutoff Type III  
FCVS\* Full Cutoff Type V

\*19" 320PSMH only. Supplied w/MS320/BU/ED2&LLC/PS lamp

### WATTAGE

14"	19"	T19"	26"	
100MH <sup>1</sup>	250MH	750PSMH <sup>2</sup>	1000MH	1. Medium base lamp
150MH <sup>1</sup>	400MH	875PSMH <sup>3</sup>		2. Available with vertical lamp optics only.
175MH				3. Operates 55V lamp.
200MH	250PSMH <sup>4</sup>	750HPS	750PSMH <sup>5</sup>	4. M138 or M153
250MH <sup>4</sup>	320PSMH <sup>5</sup>		1000PSMH <sup>6</sup>	5. M132 or M154
	350PSMH <sup>6</sup>			6. M135 or M155
	400PSMH <sup>7</sup>		750HPS	7. M137 or M152
175PSMH <sup>7</sup>	450PSMH <sup>7</sup>		1000HPS	8. Available with Horizontal optics only.
				9. M149 only. Horizontal optics require MS750/PS/BU/HOR/BT37 lamp
100HPS				10. Requires Sag Glass Lens.
150HPS <sup>8</sup>	250HPS			
	400HPS			

### VOLTAGE

120	240	347	QUAD
208	277	480	120/208/240/277, Factory tied to 277V.

MH Metal Halide  
PSMH Pulse Start Metal Halide  
HPS High Pressure Sodium

### FINISH

#### EH and H26

BLA	Black Anodized
BRA	Bronze Anodized
NA	Natural Aluminum Anodized
OC	Optional Color Paint
	Specify RAL designation ex: OC-RAL7024
SC	Special Color Paint
	Specify. Must supply color chip.

#### H/HT Style

BRP	Bronze Paint
BLP	Black Paint
OC	Optional Color Paint
	Specify RAL designation ex: OC-RAL7024
SC	Special Color Paint
	Specify. Must supply color chip.

### OPTIONS

F	Fusing In Head	CD	Clear Drop Diffuser EH Style only
LF	In-Line/In-Pole Fusing	MF	Mast Arm Fitter
PC	Photocontrol and Receptacle N/A with 480V.	MU	10° Uptilt Bracket
PCR	Photocontrol Receptacle only	UB	Quick Disconnect for Ballast Tray
POLY	Polycarbonate Sag Lens In lieu of flat glass. N/A with 4X optics. 450v maximum.	AP	Adjustable Knuckle - Pole Mount Only available with 1 way and 2 @ 180° mounting
HS	Internal Houseside Shield Supplied standard with FM optics.	AT	Adjustable Knuckle - Tenon Mount Fits 2 3/8" tenon. N/A with 14" units
QS	Quartz Standby	PTF2	Pole Top Fitter - 2 3/8" Dia. Tenon
SG	Sag Glass Lens In lieu of flat glass Supplied standard with 4X optics and 26" VS	PTF3	Pole Top Fitter - 3-3 1/2" Dia. Tenon
		PTF4	Pole Top Fitter - 3 1/2-4" Dia. Tenon

Gardco Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program. The 4X optical system is protected by U.S. patent number 5690422.

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Gentyle Group

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San Marcos, TX 78666

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# FORM 10 SQUARE

## EH/H/HT ARM MOUNT

### SPECIFICATIONS

**GENERAL:** Each Gardco Square Form 10 arm mount is a sharp cutoff luminaire for high intensity discharge lamps. Units are designed with half-cube proportions. Internal components are totally enclosed, rain-tight, dust-tight and corrosion resistant. No venting of optical system or electrical components is required or permitted. Luminaires are completely assembled with no disassembly required for installation. Lamping requires no lifting or hinging of the luminaire housing, disturbing wiring or exposing uninsulated live parts.

**HOUSING:** Extruded housings (EH style) are offered in 14" (35.56 cm) and 19" (48.26 cm) sizes and are composed of precisely mitered anodized aluminum extrusions. Fabricated (H style) units are available in 14" (35.56 cm), 19" (48.26 cm), T19" (48.26 cm) and 26" (66.04 cm) sizes and are one piece, multi-formed aluminum with an integral reinforcing spline and a single concealed joint. Pressure injected silicone provides a continuous weathertight seal at all miters and points of material transition.

**ARM:** Extruded aluminum arm is prewired and secured to fixture by contractor. Assembly is suitable for mounting to pole without requiring access to luminaire.

**LENS:** Mitered, extruded anodized aluminum door frame retains the optically clear, heat and impact resistant tempered flat glass in a sealed manner using hollow section, high compliance, memory retentive extruded silicone rubber. Luminaires with Type 4X optics and 26" VS units feature a sag glass lens and VS unit employs sag acrylic lens. Concealed stainless steel latch and hinge permit easy toolless access to the luminaire.

**OPTICAL SYSTEMS:** The segmented Form 10 optical system is homogeneous sheet aluminum, electrochemically brightened, anodized and sealed. The segmented reflectors are set in faceted arc tube image duplicator patterns to achieve IES Types I (1), III (3), IV (FM), and V (Q - horizontal lamp and VS - vertical lamp) distributions. The mogul lampholder is glazed porcelain with a nickel plated screw shell with lamp grip - all securely attached to the reflector assembly. 100MH units have medium base lampholder. All Metal Halide units in the 19" and 26" housings have lamp stabilizers ensuring precise arc tube positioning.

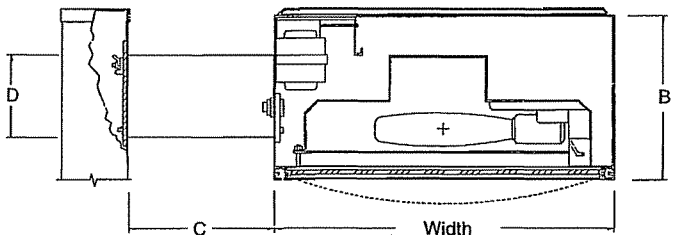
**ELECTRICAL:** Each high power factor ballast is the separate component type, capable of providing reliable lamp starting down to -20°F/-29°C. The ballast is mounted on a unitized tray and secured within the luminaire, above the reflector system. Component-to-component wiring within the luminaire will carry no more than 80% of rated current and is listed by UL for use at 600 VAC at 150°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 15A or higher.

**FINISH:** Extruded housings (EH style) are standard with natural, bronze, or black Aluminum Association Architectural Class I anodized finish. Special color polyester finishes are available.

Formed housings (H style) are standard with a chromatic acid pretreatment and an epoxy undercoat. The finish coat is a thermosetting polyester baked at 450°F/232°C to achieve an H-2H hardness measure. 26" H style units are also offered with optional Architectural Class I anodized finish.

**LABELS:** All fixtures bear UL or CUL (where applicable) Wet Location labels.

### DIMENSIONS



Size	Width	B	C		D
			1-2 way	3-4 way	
EH14	14"	7"	6"	6"	5"
	35.56 cm	17.78 cm	15.24 cm	15.24 cm	12.70 cm
H14	14"	7"	2"	6"	5"
	35.56 cm	17.78 cm	5.08 cm	15.24 cm	12.70 cm
EH19	19"	10"	9"	9"	5"
	48.26 cm	25.40 cm	22.86 cm	22.86 cm	12.70 cm
H19	19"	10"	2"	9"	5"
	48.26 cm	25.40 cm	5.08 cm	22.86 cm	12.70 cm
T19	19"	12"	2"	9"	5"
	48.26 cm	30.48 cm	5.08 cm	22.86 cm	12.70 cm
26	26"	12"	12"	12"	8"
	66.04 cm	30.48 cm	30.48 cm	30.48 cm	20.32 cm

Size	EPA's			Approximate Weight		
	Single	Twin	3/4	Single	Twin	Quad
14	1.1 ft²	2.3 ft²	2.9 ft²	30 lbs	60 lbs	120 lbs
	.10 m²	.21 m²	.27 m²	13.61 kg	27.22 kg	54.43 kg
19	2.1 ft²	4.0 ft²	5.5 ft²	55 lbs	110 lbs	220 lbs
	.20 m²	.37 m²	.51 m²	24.95 kg	49.90 kg	99.79 kg
T19	2.2 ft²	4.3 ft²	6.4 ft²	65 lbs	130 lbs	260 lbs
	.20 m²	.40 m²	.59 m²	29.48 kg	58.97 kg	117.93 kg
26	3.5 ft²	7.0 ft²	8.9 ft²	95 lbs	190 lbs	380 lbs
	.33 m²	.65 m²	.83 m²	43.09 kg	86.18 kg	172.37 kg

Gardco Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program. The 4X optical system is protected by U.S. patent number 5690422.

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IESNA:LM-63-1995

[TEST] 94-5246

[ISSUEDATE] 10/21/1994

[MANUFAC] GARDCO LIGHTING

[LUMCAT] EH19-VS-250MH

[LUMINAIRE] CLEAR SAG POLYCARBONATE LENS

[LAMP] CLEAR 250MH PRORATED TO 1000 LUMENS

TILT=NONE

1 1000 1 29 21 1 1 1.44 1.44 0

1 1 292

0 5 10 15 20 25 30 35 40 42.5 45 47.5 50 52.5 55 57.5 60 62.5 65 67.5 70 72.5 75 77.5 80 82.5  
85 87.5 90

0 5 15 25 35 45 55 65 75 85 90 95 105 115 125 135 145 155 165 175 180

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218.6 248.3 269 252.9 177 80.9 35.9 16.1 10.7 5.8 4.1 0

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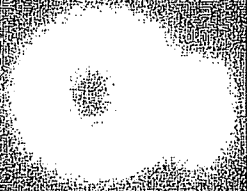
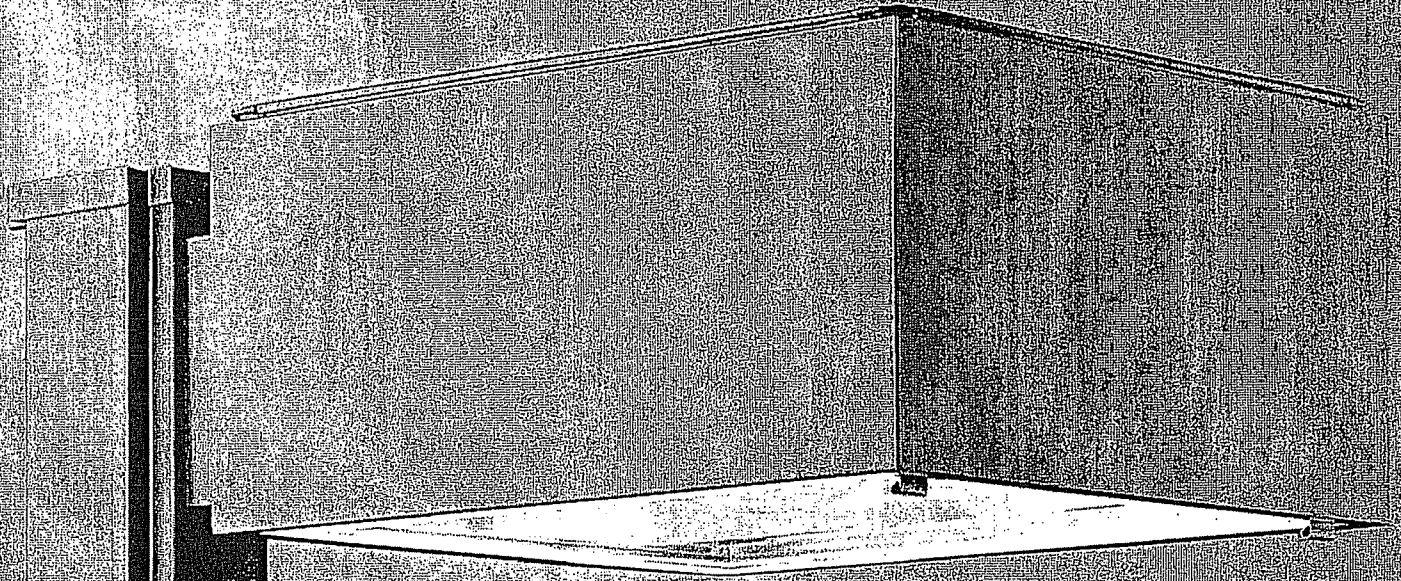
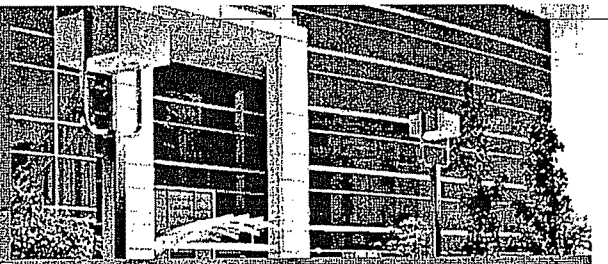
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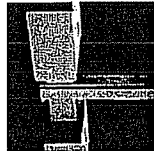
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# FORM TEN

SQUARE FORM AREA LIGHTING



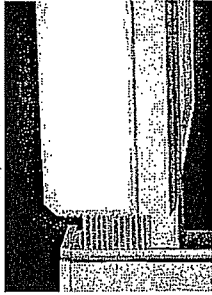
GARDCO  
LIGHTING



### ORIGINAL

A quarter century ago, Gardco reinvented the theory and practice of outdoor lighting with a luminaire and optical assembly that dramatically improved visibility in the nighttime environment. By day, the Form Ten was the first architecturally significant design available to the lighting plan designer.

### FORM



### OPTICAL SYSTEMS

4-9

Continuously refined since its inception, the Form Ten remains the standard for high performance outdoor area lighting. Often imitated but never matched, Gardco's six precision crafted, multi-faceted optical systems minimize light trespass, sharply cut off glare and uniformly illuminate. There is no more versatile, more efficient illumination system available to engineer and architect.

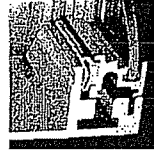
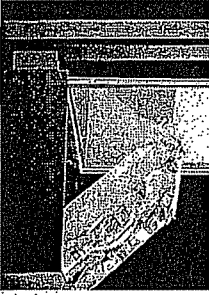


### GUIDELINES AND APPLICATIONS

10-13

The pages that follow introduce the fundamentals of visibility and how it is achieved through the application of five unique optical systems. A practical example is provided to demonstrate the remarkable performance of the system, and how optical systems can be interchanged and rotated within the housing styles to meet site geometry and aesthetic.

### FUNCTION



### DURABILITY

14-15

Durability is uncompromised — rugged construction, extruded aluminum housings, weather-light sealing — Form Ten design and construction is synonymous with quality.

### PERFORMANCE



### SPECIFICATIONS

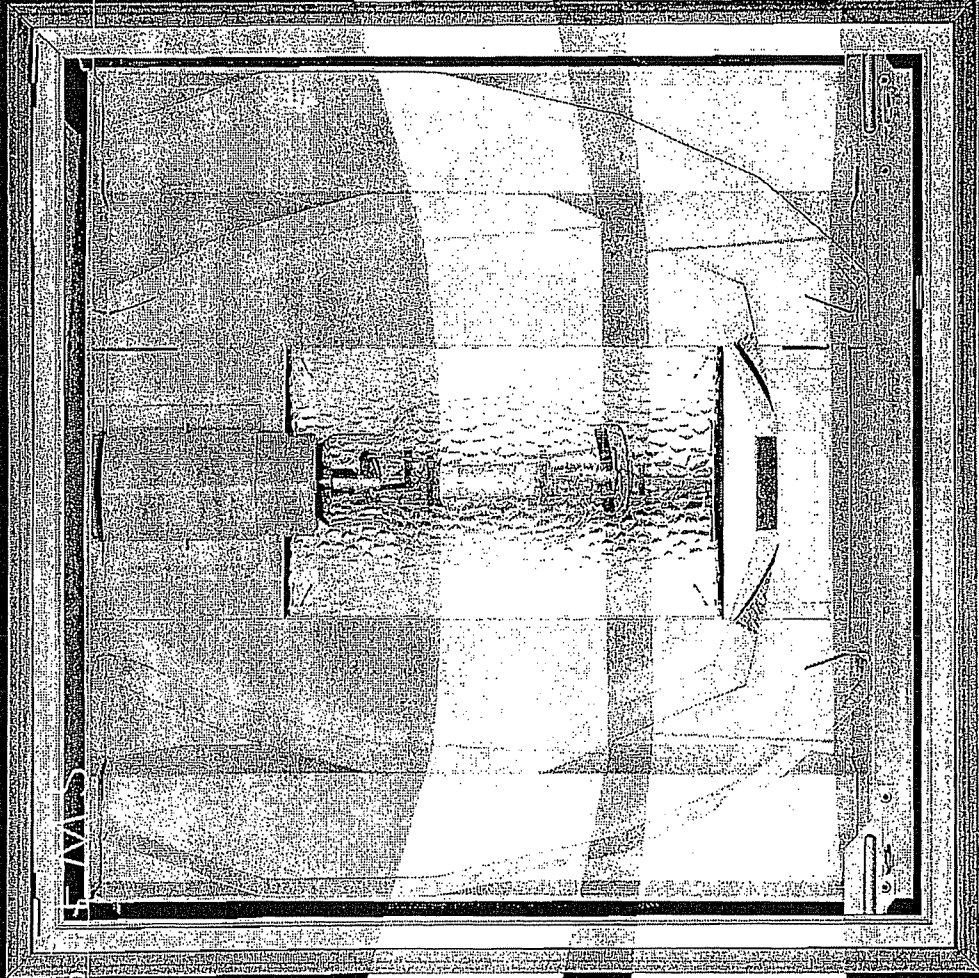
16-22

Complete ordering and specification information is provided. Your professional Gardco lighting representative can assist with further information and specification assistance.



OPTICAL SYS

FWD



TELEVISION

TELEVISION

TELEVISION

TELEVISION

TYPE 1

TYPE 2

TYPE 3

TYPE 4

# PERFORMANCE

A fundamental difference between competing lighting systems is

performance — and performance ultimately effects cost.

That said, it is important

to recognize that the

patented Form Ten X

optical systems make these

luminaires the best performing

lighting instruments available.

The benefits of higher performance

levels are numerous. In many applications,

fewer luminaires are necessary to illuminate

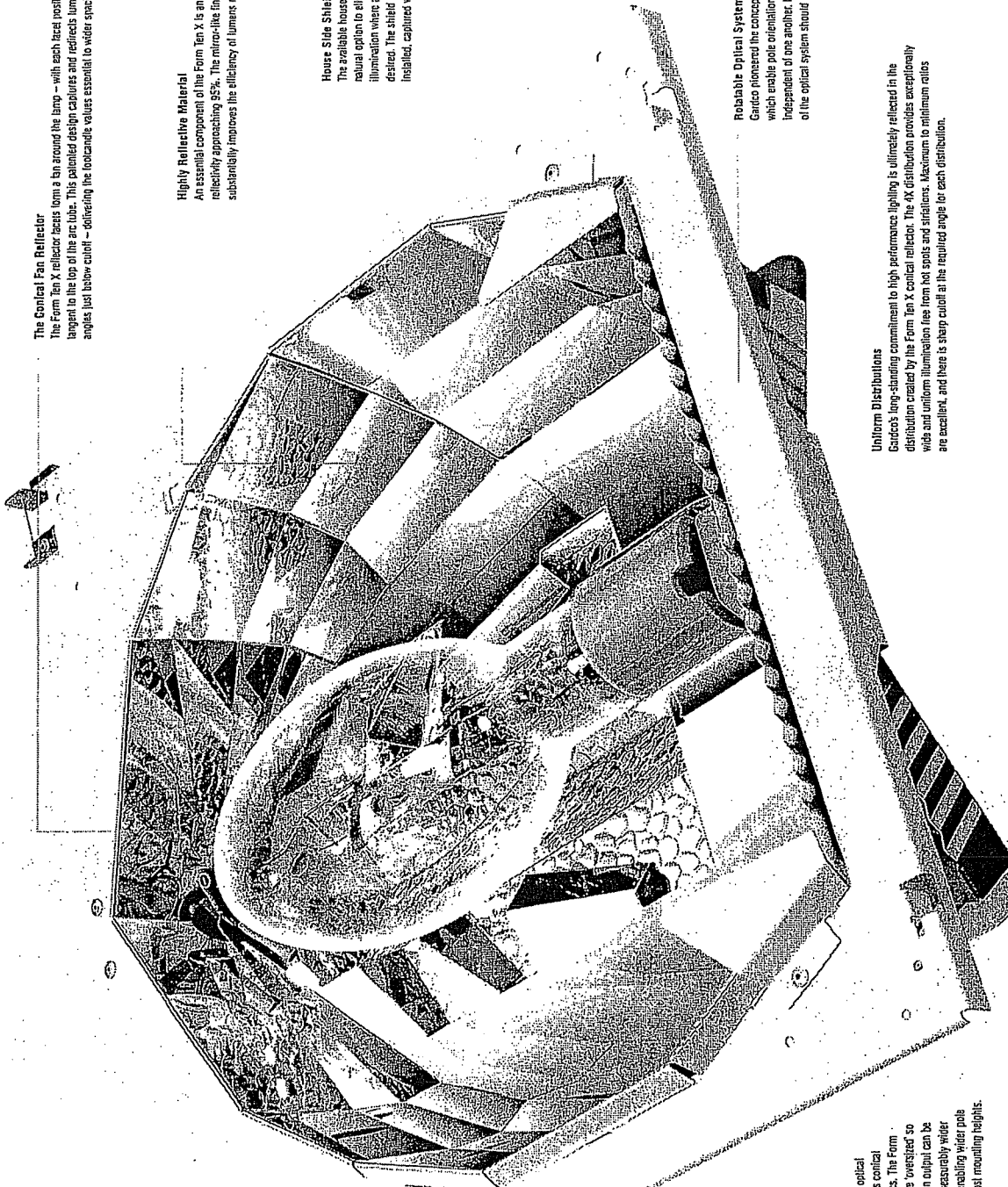
a site, compounding fixture, pole,

installation and maintenance savings.

These more efficient luminaires typically

enable mounting at lower heights, further

reducing initial and long term service costs.



### The Conical Fan Reflector

The Form Ten X reflector facets form a fan around the lamp — with each facet positioned to be precisely tangent to the top of the arc tube. This patented design captures and reflects lumens to the critical angles just below cutoff — defocusing the footcandle values essential to water spacing.

### Highly Reflective Material

An essential component of the Form Ten X is an anodized aluminum with reflectivity approaching 95%. The mirror-like finish of the better optics substantially improves the efficiency of lumens reflected by the reflector.

### House Side Shield

The available house side shield is a neutral option to eliminate house side illumination where absolute cutoff is desired. The shield arrives factory installed, captured within the reflector.

### 4X Optics

New Form Ten optical design includes conical tangential optics. The Form Ten X optics are 'oversized' so that lamp lumen output can be directed into measurably wider distributions, enabling wider pole spacings at most mounting heights.

### Uniform Distributions

Garco's long-standing commitment to high performance lighting is ultimately reflected in the distribution created by the Form Ten X conical reflector. The 4X distribution provides exceptionally wide and uniform illumination free from hot spots and striations. Maximum to minimum ratios are excellent, and there is sharp cutoff at the required angle for each distribution.

### Rotatable Optical Systems

Garco pioneered the concept of rotatable optics — which enable pole orientation and light distribution to be independent of one another. It also enables reorientation of the optical system should traffic patterns change.

The Garco Form Ten X optical system has been awarded U.S. Patent #5650422.

# FLEXIBILITY

The Form Ten system is comprised of high performance optical reflectors – six multi-faceted, multi-layered reflectors which are unequal in their ability to efficiently shape, direct and distribute lamp output. They provide remarkable flexibility in precisely matching light distribution patterns to specific site geometry and mounting requirements. Because each reflector is fully interchangeable throughout housing shapes and styles, a uniform site aesthetic can be achieved regardless of luminaire mounting height.

Because Gando optical systems direct a higher percent of lamp lumens into desired areas, design criteria may be achieved with wider pole spacings.

Wider spacings can provide immediate savings

in luminaires, poles, trenching and other installation costs and long term savings in maintenance and energy consumption.



## Type 4X

Type 4X conical lens optics produce an asymmetrical distribution pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration the 4X produces a square symmetrical pattern ideally suited for area lighting.

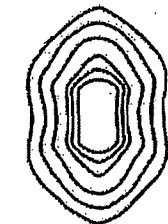


### Applications

- Wide Area Lighting
- Wide Roadway
- Perimeter Only Lighting
- Low Glare Requirements
- Minimal Mounting Locations

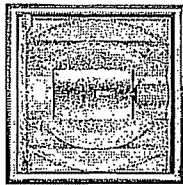
### Typical Spacing

Single luminaire:  
2 MH forward x 6 MH lateral.  
Back-to-back luminaires:  
2 MH forward x 6 MH lateral.



## Type I

Type I optics produce a long and narrow distribution pattern that disperse light equally on both sides of the luminaire with peak light output falling along the roadway or walkway. This distribution is most useful in illuminating long narrow areas.



### Applications

- Narrow Walkways
- Building Alleyways
- Median Mounted Divided Highways

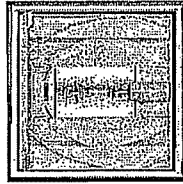
### Typical Spacing

1 MH forward and behind x  
6-7 MH lateral.



## Type III

Type III optics produce an asymmetrical distribution pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration the Type III produces a rectangular pattern which can extend pole spacings.

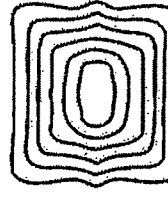


### Applications

- Semi-Wide Walkways
- Semi-Wide Roadways
- Area Lighting
- Parking Entries/Exits
- Perimeter Lighting

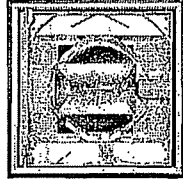
### Typical Spacing

Single luminaire:  
5 1/2 MH on center.  
Back-to-back luminaires:  
4-5 MH on center.



## Type Q

Type Q optics produce a symmetrical square distribution pattern that distributes light equally on all sides of the luminaire. The optical system is universal for most area lighting applications.



### Applications

- Area Lighting
- Wide Median Mounted Divided Highways
- Parking Entries/Exits

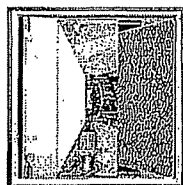
### Typical Spacing

5 x 5 MH on center.



## Type FW

Type IV forward throw optics distribute the majority of light in front on the luminaire with sharp cut-off of the pattern behind the luminaire (HS). This distribution is useful for areas where illumination is to be precisely confined in one direction.

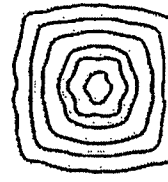


### Applications

- Wall Mount Requirements
- Sports (i.e. Tennis Courts)
- Perimeter Lighting with Surrounding Residential

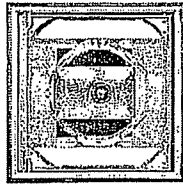
### Typical Spacing

2 MH forward x 4 MH lateral.



## Type VS

The VS optics use a vertically positioned lamp. These Type 5 cutoff optics produce a square uniform distribution pattern.



### Applications

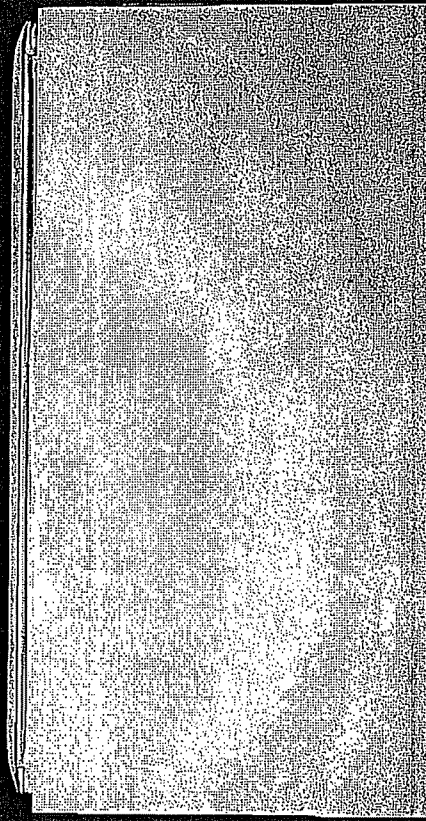
- Wide Area Lighting
- Higher Glare Acceptable
- Stringent Uniformity Requirements

### Typical Spacing

6 x 6 MH on center.

# VISIBILITY

Providing for good visibility is more difficult in practice than in theory, as site, aesthetic, economic and maintenance factors are introduced. Designing for good visibility means ensuring that there is an adequate level of illumination, uniform pavement luminance, and minimal glare. In addition to good visibility, light trespass should be controlled, the daytime product appearance should be appropriate, and both the initial and life cycle cost of the design should be considered.



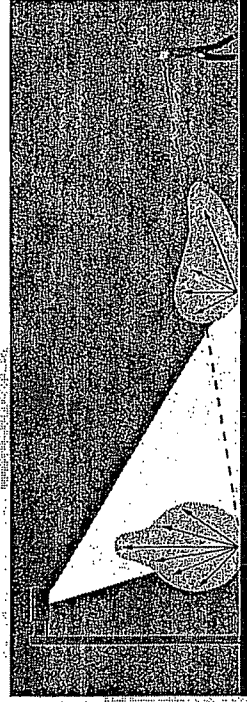
## ADEQUATE LIGHTING LEVELS

The first requirement for visibility is ensuring that there is a sufficient quantity of light. It is always important to consider the surrounding environment. A restaurant parking lot on a dark country road will require significantly lower light levels than that same restaurant parking lot in a downtown area adjacent to other brightly lit commercial establishments.

## UNIFORM PAVEMENT LUMINANCE

The second component of visibility is uniformity of pavement luminance. When the eye has to continually adjust to lighter and darker areas, vision is significantly impaired. A uniformly lit site appears lighter than a site which may have somewhat higher light levels, but poor uniformity. Although there are practical difficulties associated with specifying luminance values (footcandle) as opposed to illuminance values (footcandle), it is important to remember that the eye sees luminance and not illuminance. Furthermore, because of the reflected angles of light that the eye sees, frequently areas lit to extremely uniform illuminance values (5 to 1) or below maximum to minimum footcandle may appear non-uniform.

It is because of this phenomenon that Garco Lighting recommends designing to footcandle levels of 10-to-1 to 15-to-1 maximum to minimum, which will result in a site that appears uniformly lit.



Because the eye sees reflected light, sites lit to extremely uniform levels appear dark directly under luminaires.

## GLARE CONTROL

The factor most destructive to lighting performance is glare. Simply stated, glare is bright direct light from an unshielded source. At night, the human eye is drawn to the most luminous element in its field of vision. Uncontrolled, glare is distracting, causes discomfort to the viewer, and adversely affects visibility. Glare entering the eyes causes a veiling luminance and impairs one's ability to identify objects in the site. Two forms of glare are recognized. The most obvious form, discomfort glare, causes us to avert our eyes from its source. The effects of discomfort glare are mainly psychological, i.e. increasing irritation and tiredness. The second type of glare, disability glare, results in reduced visual performance and visibility. Both types of glare are potentially dangerous and influence traffic safety.



# APPLICATION



**Overall Site Parking Statistics**

Overall Site Parking Statistics	100
Maximum	150
Minimum	50
Average	75
Standard Deviation	25

Careful attention to four basic design considerations will inevitably lead to superior visibility and the best value.

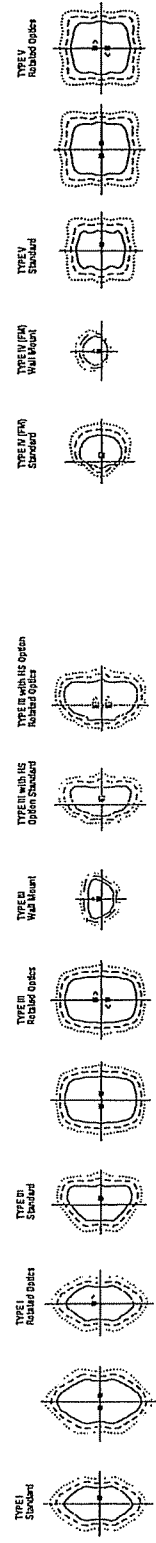
**Minimum footcandle levels** must be established, preferably, a maintained level using a depreciation factor that ensures illumination levels are sustained over time.

**Mounting heights** are of fundamental importance and have a direct influence on the number and location of luminaires, wattages of lamps, and initial and life cycle costs. Mounting height may be restricted by local ordinance, accessibility and capability of service equipment and the spatial relationship between the luminaires and landscape.

Type and wattage of lamp includes an analysis of the color, cost, life and performance characteristics of various HID sources. Gerdco recommends the choice of clear lamps, to optimize the performance of the Form Ten optical systems.

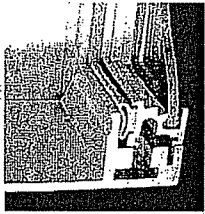
Maximum to minimum footcandle ratios of between 10:1 and 15:1 assure uniform appearing pavement luminance. When mounting heights, lamp types and optical systems are selected and placed as shown at left — light levels and uniformity criteria can be verified.

A footcandle printout verifies that the objectives of the lighting plan are accomplished... a one footcandle minimum maintained, with a maximum to minimum ratio no greater than 15:1.

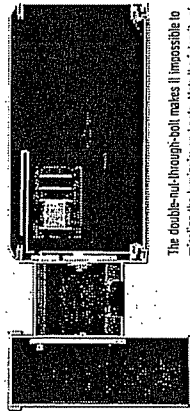


# FEATURES

The Integrity of Form Ten appearance and performance owes to a design and construction philosophy without compromise. The weather-light luminaire housing is sealed at all points of material transition with pressure-injected silicone, and the door frame seals to the luminaire with hollow-core, memory-retentive silicone. Arm assemblies are designed with a double-nut-through-bolt that effectively makes it impossible to misalign luminaire and pole. The prewired electrical harnesses is triple-checked prior to shipment. In short, for the architect, contractor and owner, the benefits are immediate, long term and quite obvious.



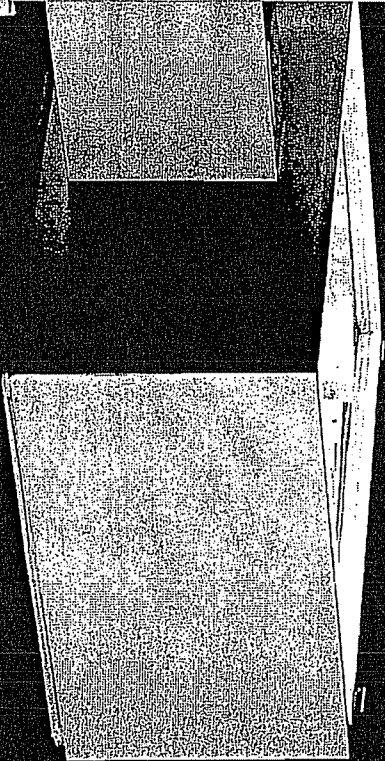
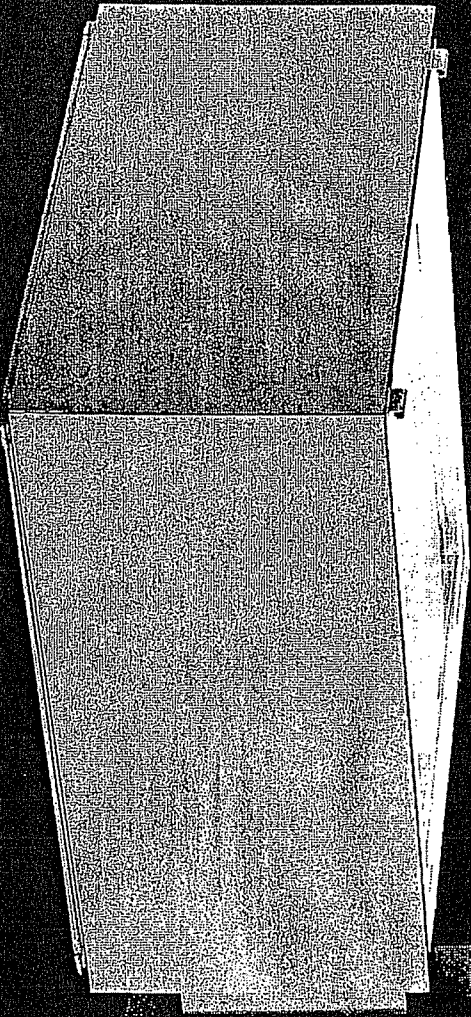
At every point of entry the luminaire is sealed against the penetration of moisture, dirt and insects with memory-retentive silicone and memory-retentive silicone gaskets. Not only does the sealed optical chamber preserve the illuminating characteristics of the infrared, laser reflector, but it contributes to longer ballast and electrical component life — a measurable contribution to long term value.



The double-nut-through-bolt makes it impossible to misalign the luminaire and pole. Note the integrity of the infrared construction and aluminum extrusions, which provide remarkable strength-to-weight ratios.

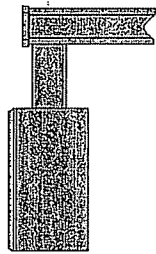
Guido pioneered the concept of toolless access for ease of installation and service. Each successive assembly swings conveniently away to reveal underlying components. The door is equipped with spring-loaded hardware for quick rearming. The optical system includes quick-disconnect electrical components, and hinges down to access the unilluminated ballast tray. The entire system is factory pre-wired and pre-tested prior to shipment.

The Form Ten is the product of nearly thirty years of thoughtful engineering, craftsmanship and continuous quality improvement. It is ideally conceived and adapted to its purpose and environment. In terms of quality, value and return on investment, it remains the specification that has no equal.



# EH/HARM MOUNT FORM 10

**GENERAL DESCRIPTION:** The Gerdec arm mounted Square Form Ten products are sharp cut-off luminaires using high intensity discharge lamps up to 1000 watts. The EH units are manufactured from milled extruded aluminum and finished in an Architectural Class 1 anodizing. The H style luminaires are die-formed aluminum with a thermoseal polyester finish. Both products can accept one of six (6) interchangeable and rotatable precision segmented optical systems.

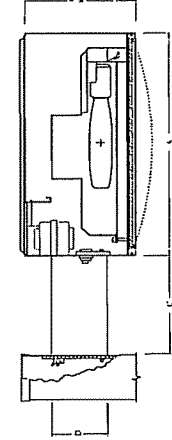


## ORDERING

PREFIX	SIZE	CONFIGURATION	PHOTOMETRIC DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS
EH	14'	1 Single Assembly	1 Type I	400W	120	BRA	MF
EH	14'	2 16in @ 18"	3 Type II	See Table Below			
EH	15'	3 16in @ 30"	4X Type IV (197/119 only)				
H	19'	3 @ 120	FM Type V				
H	19'	4 Quad Assembly	D Type V				
H	26'		VS Type V				

WATTAGE	FINISH	OPTIONS
14'	19'	CD Clear Drop Diffuser (EH Style only)
100MH	250MH	HS Inherent Fluorescent Shield
150MH	400MH	F Excepted lenses with FM shield
175MH	250PSMH	MF Mica Arm Filler
200MH	320PSMH	PC Photocatalytic and Recyclable
250MH	350PSMH	combined lenses except
175PSMH	400PSMH	PCR Photocatalytic Recyclable only
100HPS	250HPS	POLY Polyethylene SAG lens (in final
150HPS	400HPS	lin glass, NA with 44 poles, 60W maximum)
		OS Quartz Standby
		MU 10" Uplift Bracket
		AP Adjustable Knuckle - Pole Mount
		AT Adjustable Knuckle - Pole Mount
		SG Six Spot Glass Lens (in the present examples)
		PTF2 Pole Top Filter - 2 1/2" Dia. Iron
		PTF3 Pole Top Filter - 3 1/2" Dia. Iron
		PTF4 Pole Top Filter - 3 1/2" - 4" Dia. Iron

## DIMENSIONS

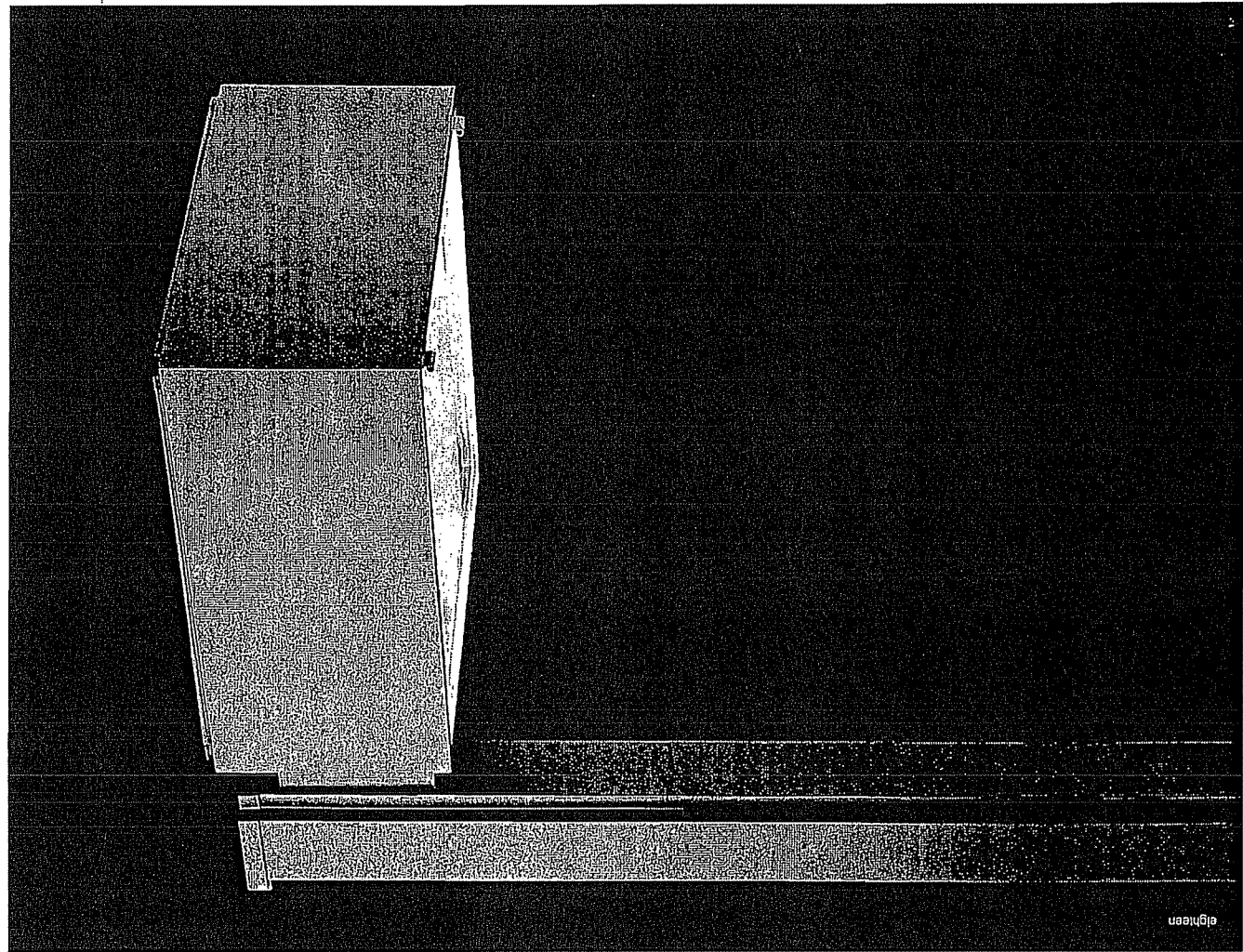


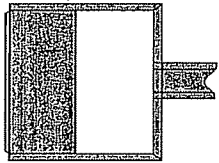
EH Style	Site	A	B	C	D	EPAS Single Arm, 180°	Approx. Wt. Single Fixture
14'	14'	7"	6"	5"	350mm 120mm 152mm 127mm	1.1 2.3 2.9	30 lbs 24.9 lbs
19'	19'	10"	9"	5"	483mm 254mm 229mm 127mm	2.1 4.0 5.5	50 lbs 29.9 lbs

H Style	Site	A	B	C	D	EPAS Single Arm, 180°	Approx. Wt. Single Fixture
14'	14'	7"	2"	5"	350mm 120mm 152mm 127mm	1.1 2.3 2.9	30 lbs 13.5 lbs
19'	19'	10"	2"	5"	483mm 254mm 229mm 127mm	2.1 4.0 5.5	50 lbs 24.9 lbs
26'	26'	12"	8"	8"	609mm 350mm 350mm 329mm	3.5 7.0 8.9	80 lbs 41.1 lbs

Max. 110' max height (EH, HPS) or 22' (PTF2, PTF3, PTF4) or 35' (PTF3) or 40' (PTF4).  
 \*5' max. 25' max. height for use with 1000W lamps (110' max. height for 1000W lamps) or 40' max. height for 1000W lamps.  
 Max. 6' max. height for 1000W lamps.





# JEH/JHYKE MOUNT FORM 10

**GENERAL DESCRIPTION:** The Garcia yoke mounted Form Ten products are sharp cutoff luminaires for high intensity discharge lamps up to 1000 watts. JEH units are manufactured from milled extruded aluminum and finished in an Architectural Class 1 anodizing. The JH luminaires are die-formed aluminum with a thermoset polyester finish. Both products feature a choice of six (6) interchangeable rotatable precision segmented optical systems.

## ORDERING

PREFIX	SIZE	CONFIGURATION	PHOTOMETRIC DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS
JEH	10"	1 Single Assembly	3	400MH	120	BRA	MF
JH	14"	1 Single Assembly	1	See Table Below	120	See Table Below	CD HS F PC POLY OS UR SC
JH	14"	1 Single Assembly	3	See Table Below	120	See Table Below	CD HS F PC POLY OS UR SC
JH	19"	1 Single Assembly	4X	See Table Below	120	See Table Below	CD HS F PC POLY OS UR SC
JH	19"	1 Single Assembly	FM	See Table Below	120	See Table Below	CD HS F PC POLY OS UR SC
JH	26"	1 Single Assembly	Q	See Table Below	120	See Table Below	CD HS F PC POLY OS UR SC

**WATTAGE**  
 14" 1000W, 2500W, 4000W, 7500PSMH, 1000PSMH, 1750PSMH, 2000W, 3000PSMH, 3500PSMH, 4000PSMH, 4500PSMH, 5000PSMH, 7500PSMH, 10000PSMH  
 19" 1000W, 2500W, 4000W, 7500PSMH, 1000PSMH, 1750PSMH, 2000W, 3000PSMH, 3500PSMH, 4000PSMH, 4500PSMH, 5000PSMH, 7500PSMH, 10000PSMH  
 26" 1000W, 2500W, 4000W, 7500PSMH, 1000PSMH, 1750PSMH, 2000W, 3000PSMH, 3500PSMH, 4000PSMH, 4500PSMH, 5000PSMH, 7500PSMH, 10000PSMH

**PHOTOMETRIC DISTRIBUTION**  
 1. Single Assembly  
 3. Type I  
 4X Type II (187/119 only)  
 FM Type IV  
 Q Type V  
 NS Vertical Line  
 14" and 19" Supplied with 2000K ball ballast. 26" Supplied with 2000K ball ballast. 10000W ball ballast.

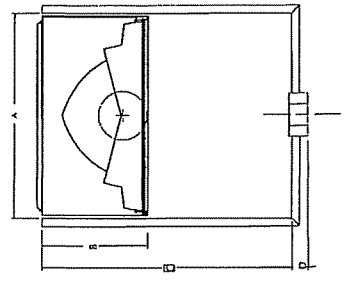
**FINISH**  
 BRA Black Anodized  
 BPA Bronze Anodized  
 NA Natural Anodized  
 BRP Bronze Paint  
 BLP Black Paint  
 OC Optional Color Paint  
 SC Special Color Paint

**OPTIONS**  
 CD Clear Drop Diffuser (JEH Style only)  
 HS High Intensity Shield  
 F Fluoride  
 PC Polychromatic and Receivable  
 POLY Polyurethane Receivable only  
 OS Optical System  
 UR Quick Disconnect for Ballast Tray  
 SC Sag Glass Lens (for use of the ballast)  
 MF Specifier standard with all optics and PSYS

**FINISH**  
 BRA Black Anodized  
 BPA Bronze Anodized  
 NA Natural Anodized  
 BRP Bronze Paint  
 BLP Black Paint  
 OC Optional Color Paint  
 SC Special Color Paint

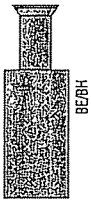
**OPTIONS**  
 CD Clear Drop Diffuser (JEH Style only)  
 HS High Intensity Shield  
 F Fluoride  
 PC Polychromatic and Receivable  
 POLY Polyurethane Receivable only  
 OS Optical System  
 UR Quick Disconnect for Ballast Tray  
 SC Sag Glass Lens (for use of the ballast)  
 MF Specifier standard with all optics and PSYS

## DIMENSIONS



JH/JEH Style	Size	A	B	C	D	EPA (F)
14"	14"	7"	17"	1.5"	1.4"	2.50m / 0.76m cutback 210lm
19"	19"	10"	23"	1.5"	2.5"	4.25m / 1.30m cutback 310lm
26"	26"	17"	35"	1.5"	2.6"	6.00m / 1.80m cutback 410lm

# BEAWE/BH/WH WALL MOUNT FORM 10



BEZBH



WEWH

**GENERAL DESCRIPTION:** The Gardco Round Wall Mounted Form Ten products are cylindrical (CW) or semi-spherical (MW) sharp cutoff luminaires using high intensity discharge lamps up to 400 watts. Housings are one piece seamless spun aluminum and finished with either Architectural Class 1 anodizing or electrostatically applied polyurethane. Luminaires can accept one of four (4) interchangeable precision optical systems.

## ORDERING

HOUSING	HOUSING	SIZE	PHOTOMETRIC DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS
B	Arm Mount	19"	FM	400MH	120	BRA	PCR
W	No Arm	14"	1	See Table Below		BEZBH	CD
E	Extruded	14"	1			BLA	HS
H	Fabricated	14"	3			BRA	F
E	Extruded	19"	4X			NA	PC
H	Fabricated	19"	FM			DC	PCR
H	Fabricated	T19"	Vertical			SC	POLY
			FCV*			BLA and LAMAR	OS
						BRP	UR
						BLP	SG
						DC	SC

**WATTAGE**

1.5" 150W  
 2.0" 200W  
 2.5" 250W  
 3.0" 300W  
 3.5" 350W  
 4.0" 400W  
 4.5" 450W  
 5.0" 500W

**HOUSING**

E Extruded  
 H Fabricated

**SIZE**

14"  
 19"  
 T19"

**PHOTOMETRIC DISTRIBUTION**

1 Type I  
 3 Type II  
 4X Type IV (18°/19° only)  
 FM Type IV  
 Vertical  
 FCV\* Full Cutoff Type III

**WATTAGE**

See Table Below

**VOLTAGE**

120

**FINISH**

BRA Black Anodized  
 BLA Bronze Anodized  
 NA Natural Anodized  
 BEZBH Bezel Available on 19" and T19" only  
 BRP Bronze Paint  
 BLP Black Paint  
 DC Optional Color Paint  
 SC Special Color Paint (Not subject code only)

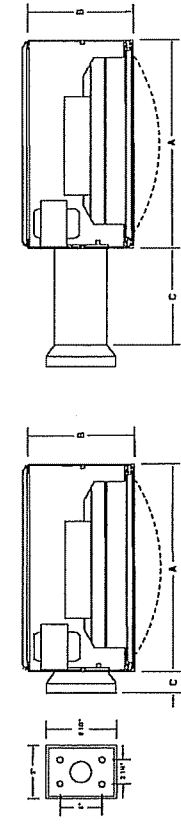
**OPTIONS**

CD Clear Drop Diffuser (BEZBH Style only)  
 HS Internal House-Edge Shield (Supplier standard with BEZBH)  
 F Finish (Supplier standard with BEZBH)  
 PC Photocatalytic and Recyclable (MIL-816-024)  
 PCR Photocatalytic Recyclable only  
 POLY Polyurethane Spg Lens (In line of the spg. NA with 40° optic)  
 OS Quartz Specialty  
 UR Quick Disconnect for Ballast Tray  
 SG Spg Glass Lens (In line of the glass) (Supplier standard with 40° optic)

**NOTE**

1. Medium base lamp.  
 2. Operates 350V lamp.  
 3. Uses 317 lamp only.  
 4. Operates 350V lamp.  
 5. M132 or M155.  
 6. M132 or M155.  
 7. M135 or M155.  
 8. M149 only. Halogenics optics require M157SP55BU-HDR4817 lamp.

## DIMENSIONS



BEZBH	WEWH	Size	Width	B	C	D
14"	14"	14"	7"	2"	6"	2"
19"	19"	19"	10"	5"	10"	5"
T19"	T19"	T19"	12"	0"	0"	0"

# A STYLE FORM 10



**GENERAL DESCRIPTION:** The Gardco A Style Form 10 products are rectilinear sharp cutoff luminaires for high intensity discharge lamps up to 1000 watts. Housings are manufactured from milled extruded aluminum and finished in an Architectural Class 1 anodizing. Each of these performance luminaires can accept one of six (6) interchangeable and reliable precision optical systems.

## ORDERING

**PREFIX** A **SIZE** 19" **CONFIGURATION** 2 **PHOTOMETRIC DISTRIBUTION** FM **VOLTAGE** 120 **OPTIONS** HF  
**WATTAGE** 400W **FINISH** BRA

**CONFIGURATION**  
 1 Single Assembly  
 2 Two @ 90°  
 3 Three @ 90°  
 4 Quad Assembly

**PHOTOMETRIC DISTRIBUTION**  
 FM Full Cut Off Type III  
 FM Full Cut Off Type V  
 VS Vertical Beam  
 QUAD Quad Beam

**VOLTAGE**  
 120 See Table  
 208 Below  
 240 Below  
 277 Below  
 347 Below  
 480 Below  
 QUAD 120/240/277/480V  
 See Table Below

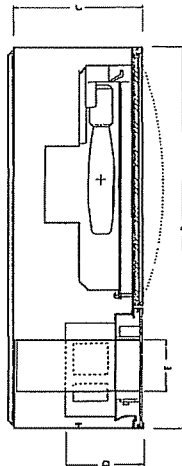
**OPTIONS**  
 HS Internal House-side Shield  
 BR Bronze Anodized  
 NA Natural Anodized  
 OC Optional Color Paint  
 PCR Photocurable and Reciprocate  
 POLY Polycarbonate Lens  
 OS Direct Straylight  
 SG Step Glass Lens (to meet all laws)  
 HS Bronze Anodized with 7H coat  
 F Facing (to back)  
 PC Photocurable and Reciprocate  
 POLY Polycarbonate Lens only  
 OS Direct Straylight  
 SG Step Glass Lens (to meet all laws)  
 HS Bronze Anodized with 7H coat  
 F Facing (to back)  
 PC Photocurable and Reciprocate  
 POLY Polycarbonate Lens only  
 OS Direct Straylight  
 SG Step Glass Lens (to meet all laws)

**WATTAGE**  
 1L 100W  
 1M 250W  
 1S 400W  
 2S 500W  
 3S 750W  
 4S 1000W  
 1L 100W  
 1M 250W  
 1S 400W  
 2S 500W  
 3S 750W  
 4S 1000W

**FINISH**  
 BLA Black Anodized  
 BRB Bronze Anodized  
 NA Natural Anodized  
 OC Optional Color Paint  
 PCR Photocurable and Reciprocate  
 POLY Polycarbonate Lens only  
 OS Direct Straylight  
 SG Step Glass Lens (to meet all laws)

**PHYSICAL DIMENSIONS**  
 1. Mounting holes are 1/8" apart  
 2. Mounting holes are 1/8" apart  
 3. Mounting holes are 1/8" apart  
 4. Mounting holes are 1/8" apart  
 5. Mounting holes are 1/8" apart  
 6. Mounting holes are 1/8" apart  
 7. Mounting holes are 1/8" apart  
 8. Mounting holes are 1/8" apart  
 9. Mounting holes are 1/8" apart  
 10. Mounting holes are 1/8" apart  
 11. Mounting holes are 1/8" apart

## DIMENSIONS



A Style	Size	Width	B	C	D	E	F	G	H	Approx. Wt.
14"	14"	21"	7"	4"	2.375"	1.3"	2.7"	34 lbs	62 lbs	122 lbs
19"	19"	28"	10"	6"	3.125"	1.75"	3.5"	48 lbs	96 lbs	152 lbs
26"	26"	36"	13"	8"	4.125"	2.375"	4.5"	68 lbs	136 lbs	204 lbs

# SPECIFICATIONS

## Housing

(A, EH, H, J, W, B) Extruded housings (A, EH, JEH, WE, and BE) feature four precisely mitered and welded 0.130" aluminum side sections. Fabricated housings (H, JH, WH, BH) are single piece, multi-formed 0.06" aluminum sheet with an integral reinforcing spine. All units feature press formed aluminum top, which is welded to housing sides. After finishing, pressure injected silicone is applied to all miters and points of material transition providing a continuous weather-tight seal. Luminaires are prewired and suitable for installation without accessing housing.

Form Ten S (EP, EA, EW) lower housing is composed of precisely mitered and internally welded aluminum extrusions. Upper section consists of 0.25" extruded

acrylic sides and aluminum sheet top. Prismatic units (EPS, EAS, EWS) feature internal prismatic acrylic which provides a subtle crystalline sparkle. While translucent units (EPG, EAG, EHW) feature internal white diffusing acrylic which provides a soft, evenly illuminated glow. Pressure injected silicone provides a continuous weather-tight seal at all points of material transition.

## Arm

(EH, H, BE, BH, EA) Extruded aluminum arm features integral channel to support tie rods maintaining housing to pole (or wall bracket) alignment.

## Yoke

(JEH, JH) The co-axial filter-yoke assembly is fabricated from extruded rectangular aluminum tubing with

welded mitered corners. The yoke-to-pole filter is designed and manufactured specifically for the pole, ensuring transitions are clean and continuous.

Form Ten S (EP) 9/16" diameter parallel yokes of high strength, low mass schedule 40 steel are precisely contoured to match the housing silhouette. Yoke assembly is designed for mounting compatibility with Gardco CAA-5 pole. Welds are not visible at the luminaire or pole attachment. Yoke is electro-galvanized and coated with satin black polyurethane.

## Wall Bracket

Hooking diecast aluminum wall bracket conceals 10 gauge mounting plate.

Form Ten S (EW) ballast is mounted in wall bracket.

## Lens

Mitered, extruded anodized aluminum door frame retains the optically clear, heat and impact resistant tempered flat glass in a sealed manner using hollow section, high compliance, memory retentive extruded silicone rubber. Concealed stainless steel latch and hinge permit easy toolless access to the luminaire.

## Electrical

Each high power factor ballast is the separate component type, capable of providing reliable lamp starting down to -20°F. High Pressure Sodium ballasts operate lamps within ANSI trapezoidal limits. Metal Halide and Mercury Vapor ballasts are medium regulation auto transformer providing ±10% variation from rated input voltage.

Component-to-component wiring within the luminaires will carry no more than 80% of rated current and is listed by UL for use at 600 VAC at 150°F or higher.

## Optical Systems

The segmented Form Ten optical system is homogeneous sheet aluminum, electro-chemically brightened, anodized, and sealed. The segmented reflectors are set in faceted arc tube image duplicator patterns to achieve desired distribution.

The mogul base lampholder is glazed porcelain with a nickel plated screw shell, 50MH, 70MH, and 100MH units have medium base lampholder. Metal halide

units with horizontally positioned mogul base sockets feature lamp stabilizers ensuring precise arc tube positioning. base sockets feature lamp stabilizers ensuring precise arc tube positioning.

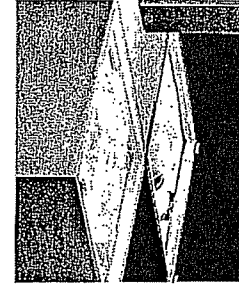
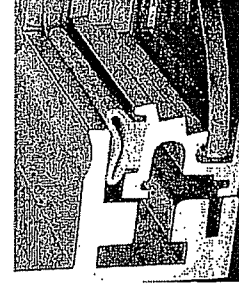
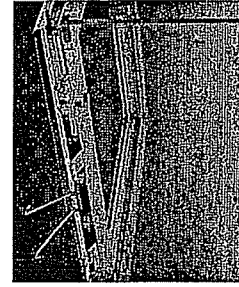
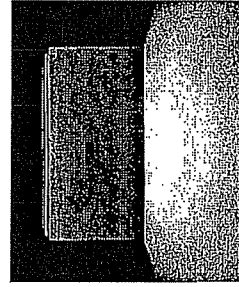
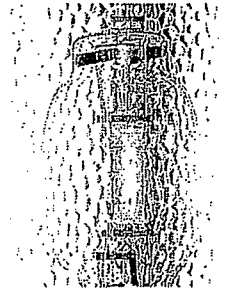
## Finish

Painted units feature hardcoat fade resistant thermal cured polyester finish. Extruded units (A, EH, JEH, WE and BE) are available with Aluminum Association Architectural Class I Anodizing.

## Labels

All Fixtures bear UL and/or CUL (where applicable) Wet Location labels.

Gardco reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program. Gardco's segmented reflector optical system has been awarded U.S. Patent #3746854. The Gardco Form Ten X optical system has been awarded U.S. Patent #5890422.

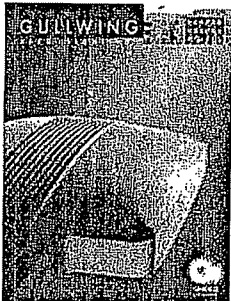


At the heart of the Gardco optical system, two levels of mirror-polished facets are precisely aligned with the arc tube of an HID lamp so as to present it with optimal reflective surfaces. The configured, hammerstone upright recovery box directs lumens out and away from below the luminaire, eliminating hotspots. Precise lamp positioning assures sharp cutoff of light minimizing glare and controlling light trespass. No optical system can consistently match the predictable, exacting performance of this faceted, sharp cutoff Form 10.

Optional clear or amber drop acrylic diffuser provides a decorative accent to luminaires. Memory retentive silicone gasket won't take a set which can result in gaps after relamping. Flat surfaces, sharp corners and precise geometric proportions characterize the pure architectural forms of the Square Form 10 product line.



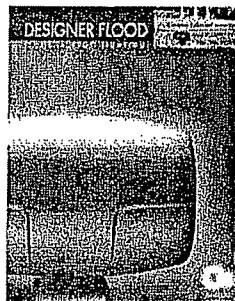
Gullwing



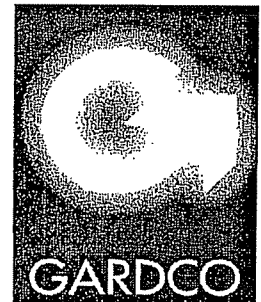
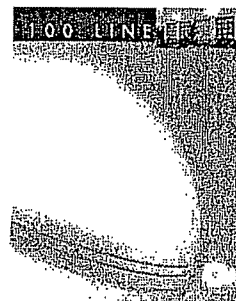
Fascia Plates



Floodlight



100 Line Sconces



2661 Alvarado Street  
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