391/D-281

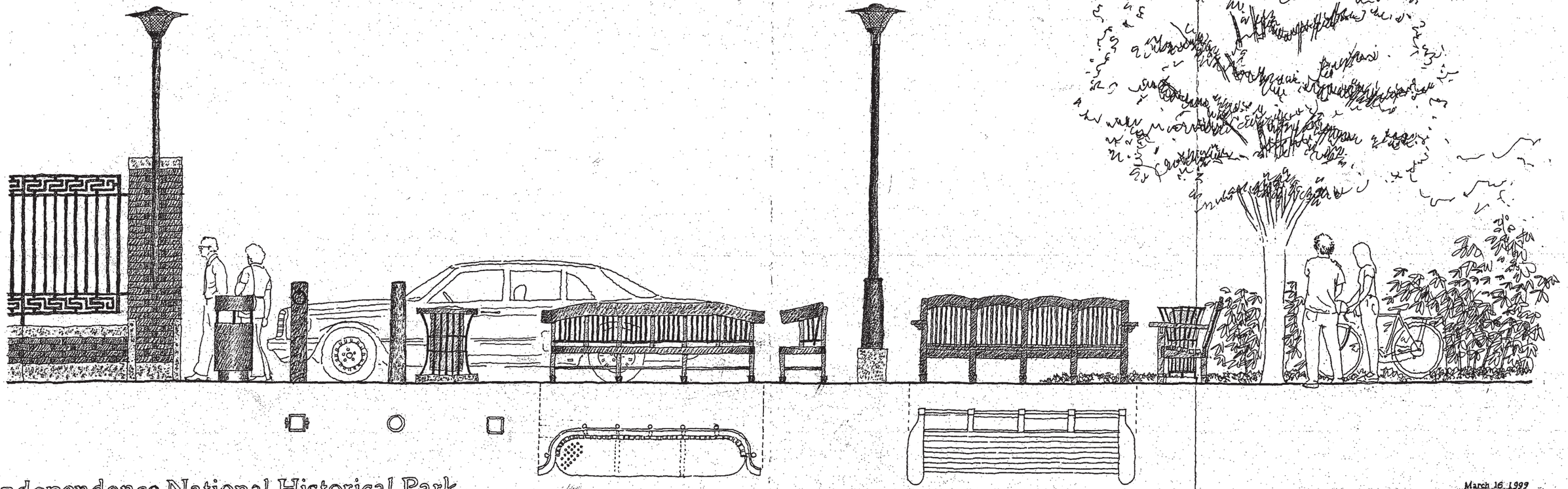
Independence National Historical Park
National Park Service
Olin Project No. 9705.02

March 1999
100% Design Development

Furnishings Design Studies

- Benches
- Lighting
- Bollards
- Trash Receptacles

Color Scans
1/26/2004



Independence National Historical Park

National Park Service
Olin Partnership

March 16, 1999
Scale: 1"=1'-0"

Benches

Olin Partnership has explored two approaches for selecting a bench for the Park: custom designed and mass produced. This will allow us to make a comparison of cost and quality.

1. Custom Design: Olin Partnership developed several studies for custom designed benches. Two designs were refined and submitted to manufacturers for rough cost estimates. The sketches and prices are attached. The prices are based upon a total of 55 benches (8 ' length).

2. Mass Produced: Olin Partnership conducted research into potential benches in production which may be suitable for use in the new Mall landscape. Three benches and their respective prices are attached. Any of the mass produced benches can be modified at an additional cost.

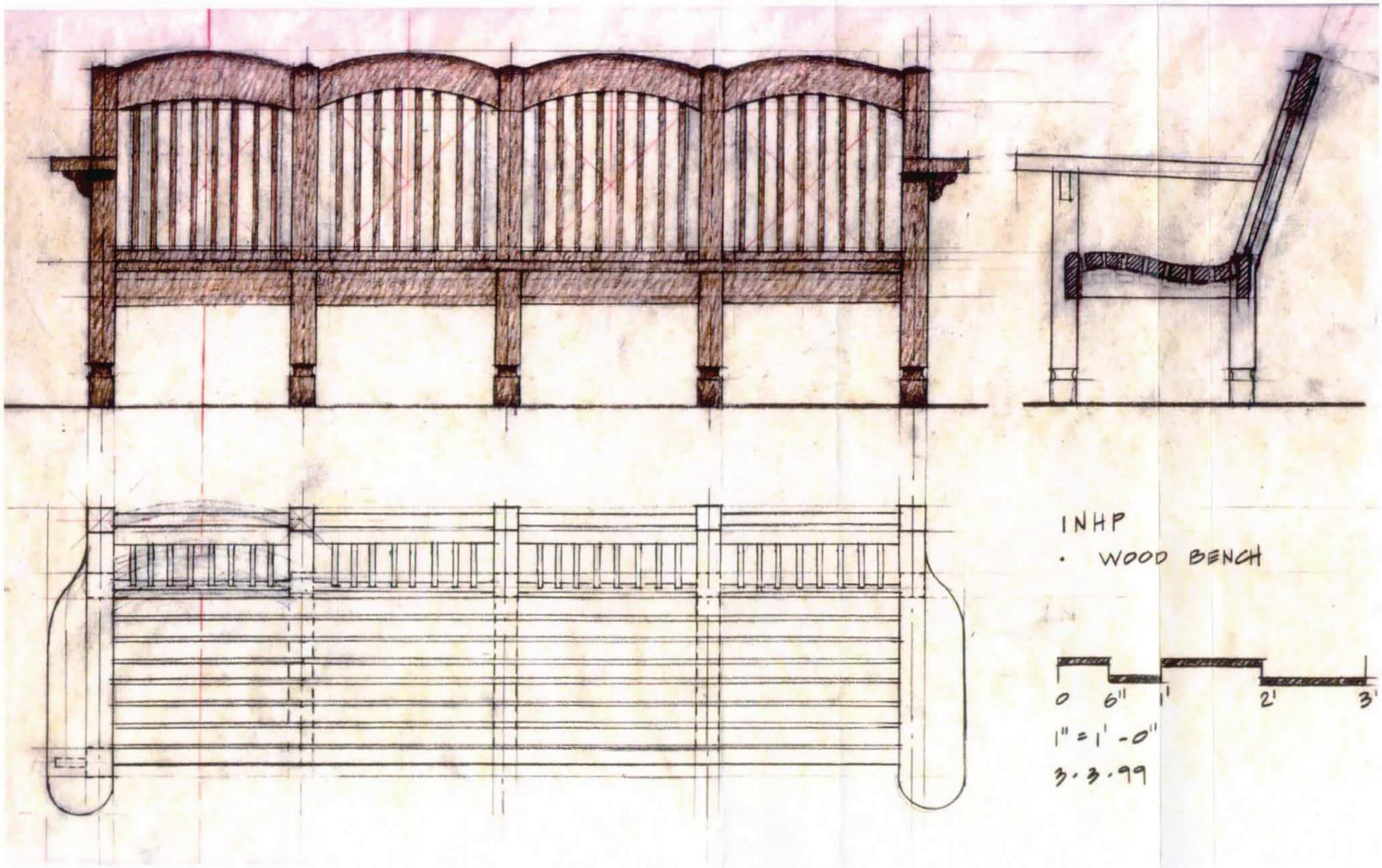
Pricing

1. Custom Design: Order of Magnitude Estimate Ranges

   - Wood Bench: $1,300-2,100 (Mahogany)
   - Wood and Metal Bench $3,000-3,250 (Mahogany)

2. Mass Produced:

   - Hines III - *Milan*
     Wood & Metal $1,259.25/EA
     (Mahogany)
   - McKinnon and Harris, Ind. – *Withers*
     Wrought Iron $1,675/EA
   - Munder Skiles – *Almondington Bench*
     All Wood $3,060/EA (Mahogany)

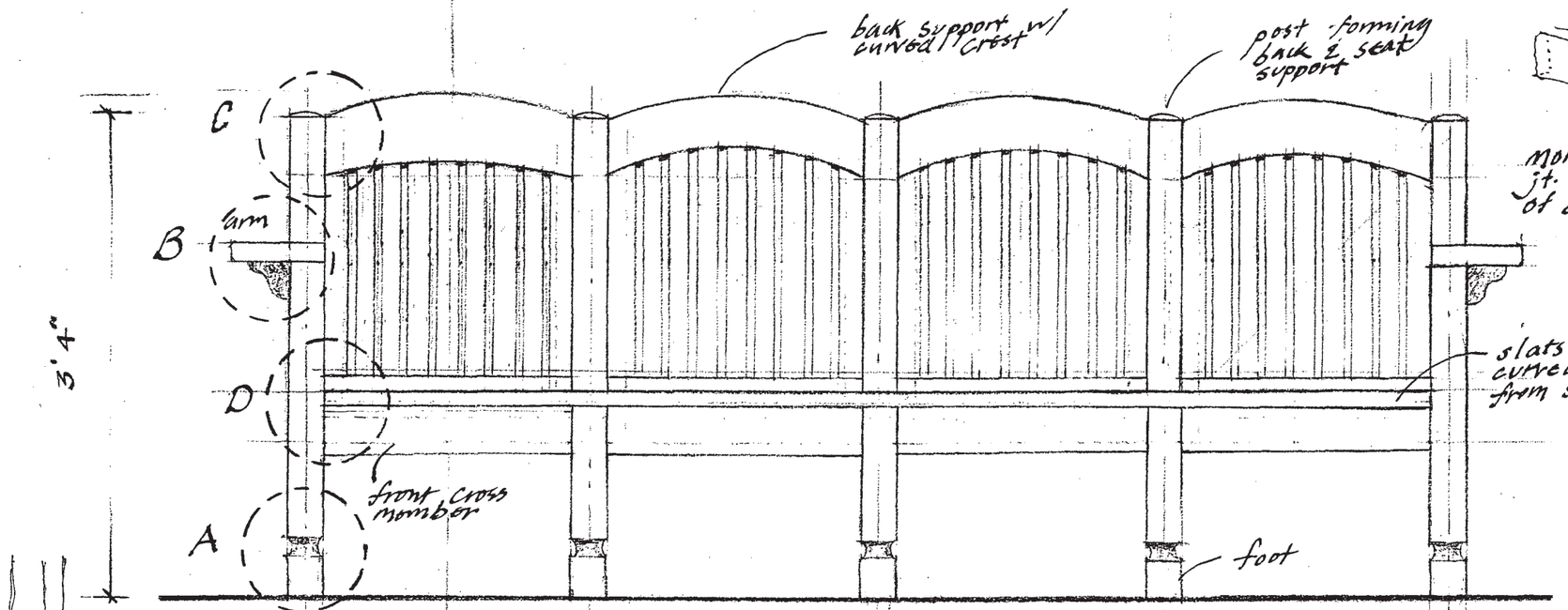


INHP

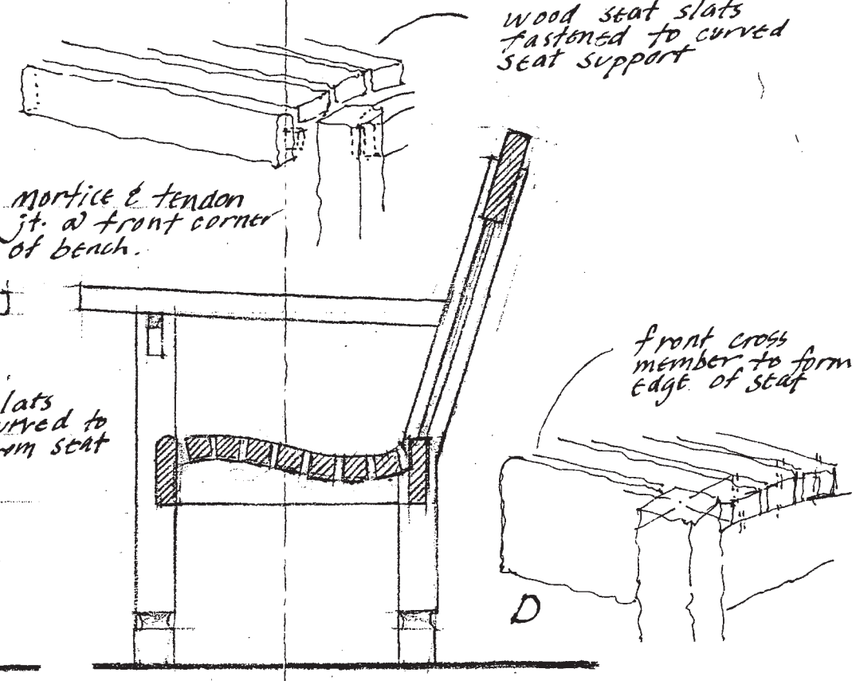
· WOOD BENCH

1" = 1' - 0"

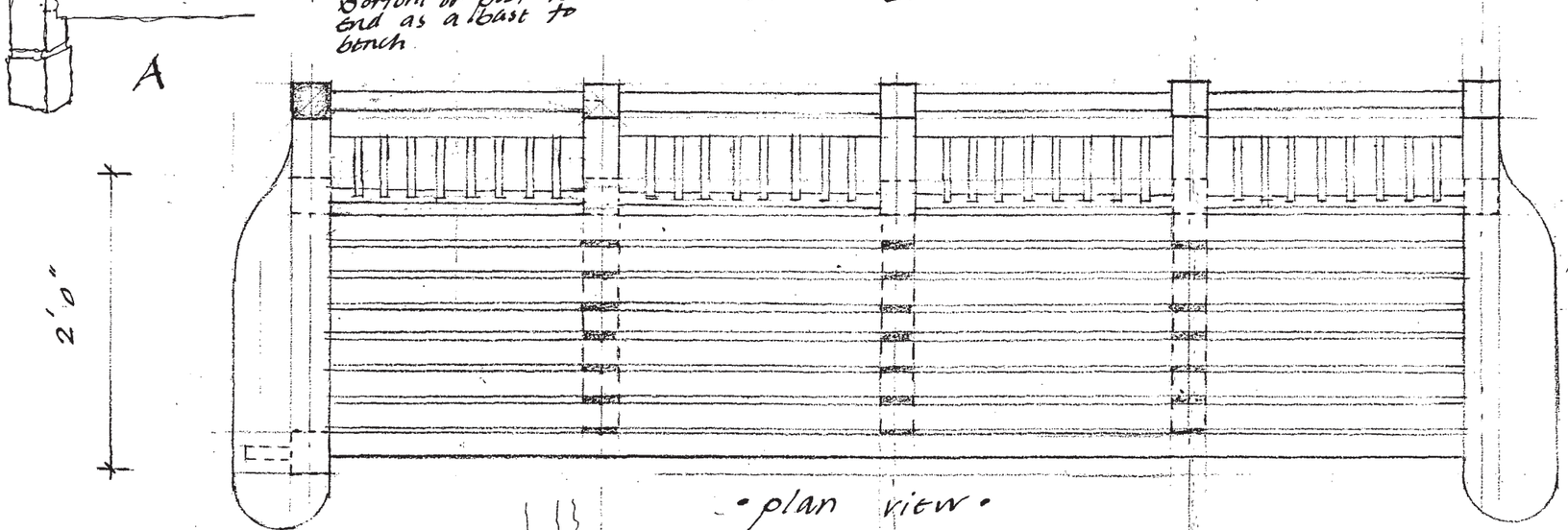
3 · 3 · 99



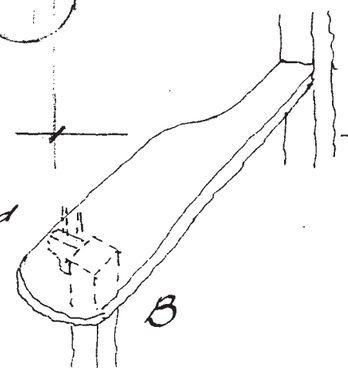
• front elevation •



• side view / section •

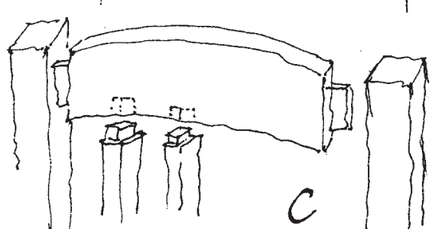


• plan view •



arm to rest atop front post and be supported by bracket.

curved seat back & spindels to have mortice & tendon jts

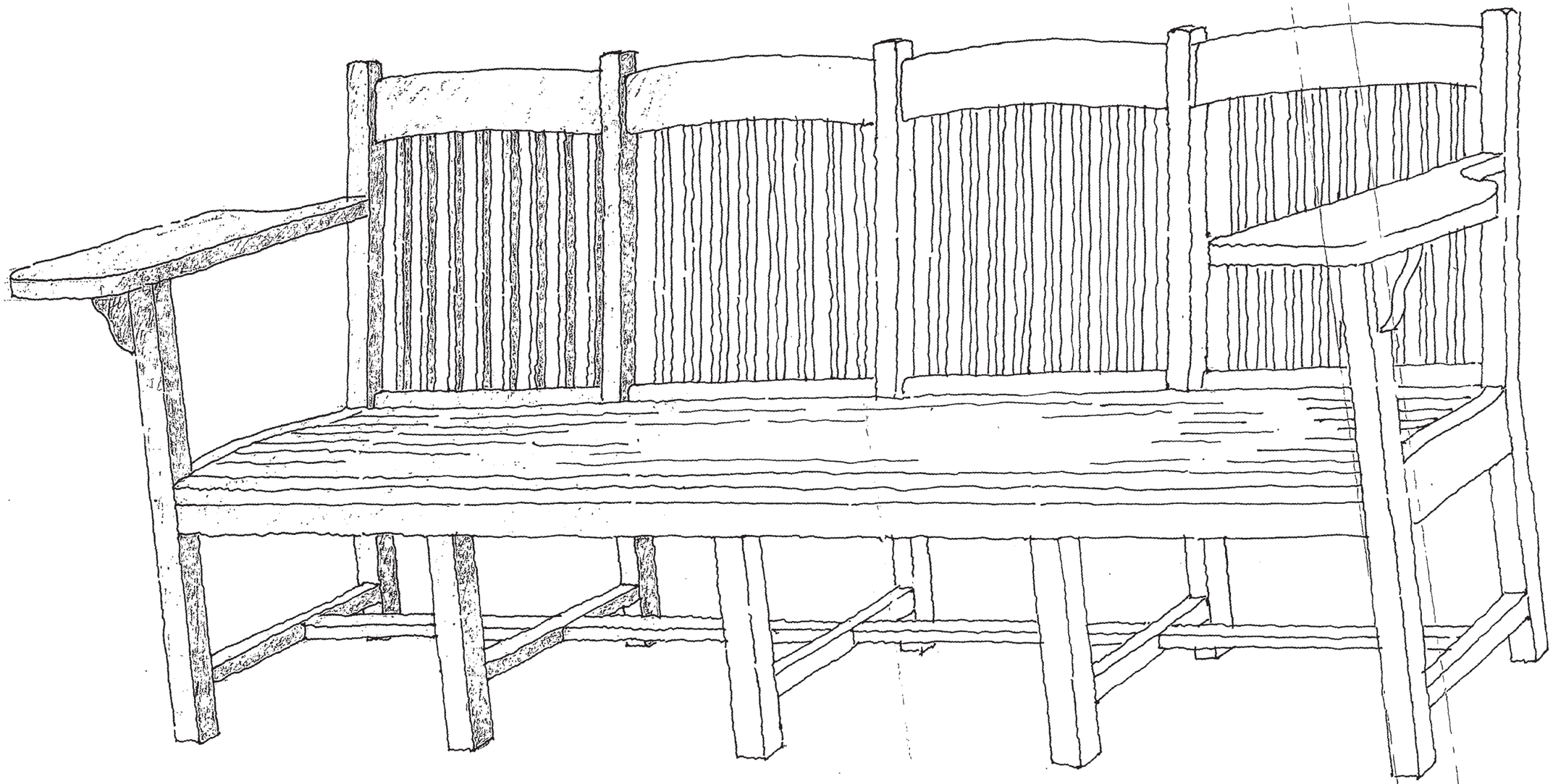


INHP - 9705.02 OP
Park Bench - wood construction - 1" = 1'-0"

Description:
This bench is derived from several federal, colonial style chairs & settees. Several contemporary gestures have been introduced as noted below.

- Heavier wood members give it strength, endurance and stability (English Park Bench)
- Individual bays maintain the light screen that gives so much to the delicacy of this bench (Almadington Bench)
- The arm has been modified to support the arm and activities such as eating, drinking and writing (Windsor Writing Chair & Adirondack Chair)
- Comfort has been increased w/ the introduction of a curved back and contoured seat.
- Crescent shape back rests set between posts add to the rhythm of this bench.

3-3-99

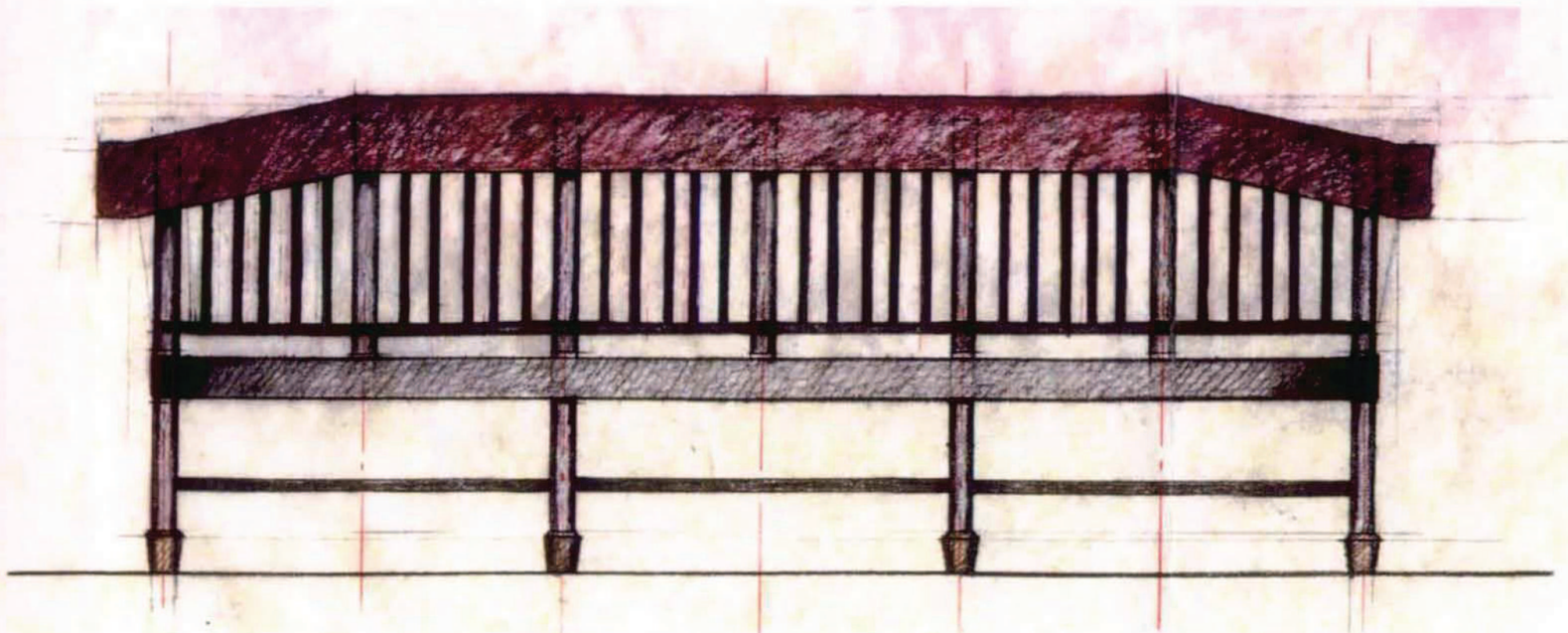


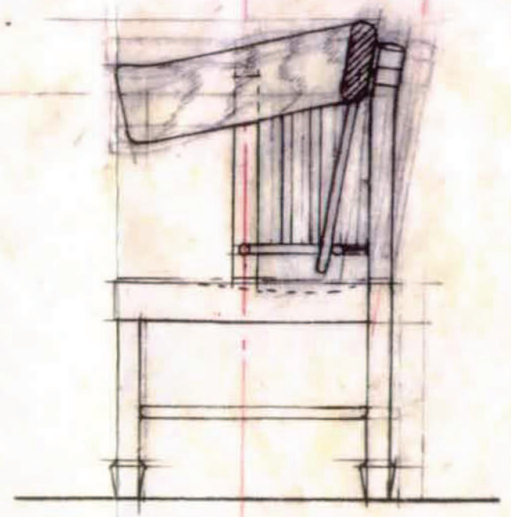
INHP - Bench (wood) based on the federal Style

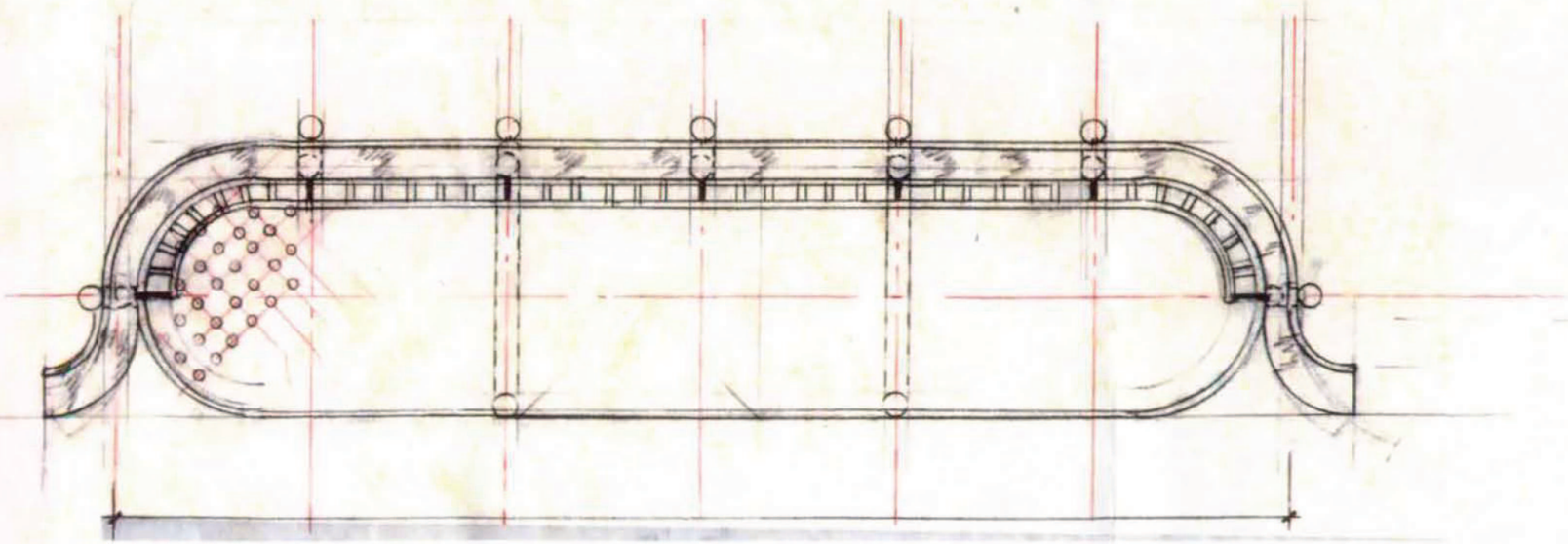
Olin Partnership

15 March,

N/S Perspectiv







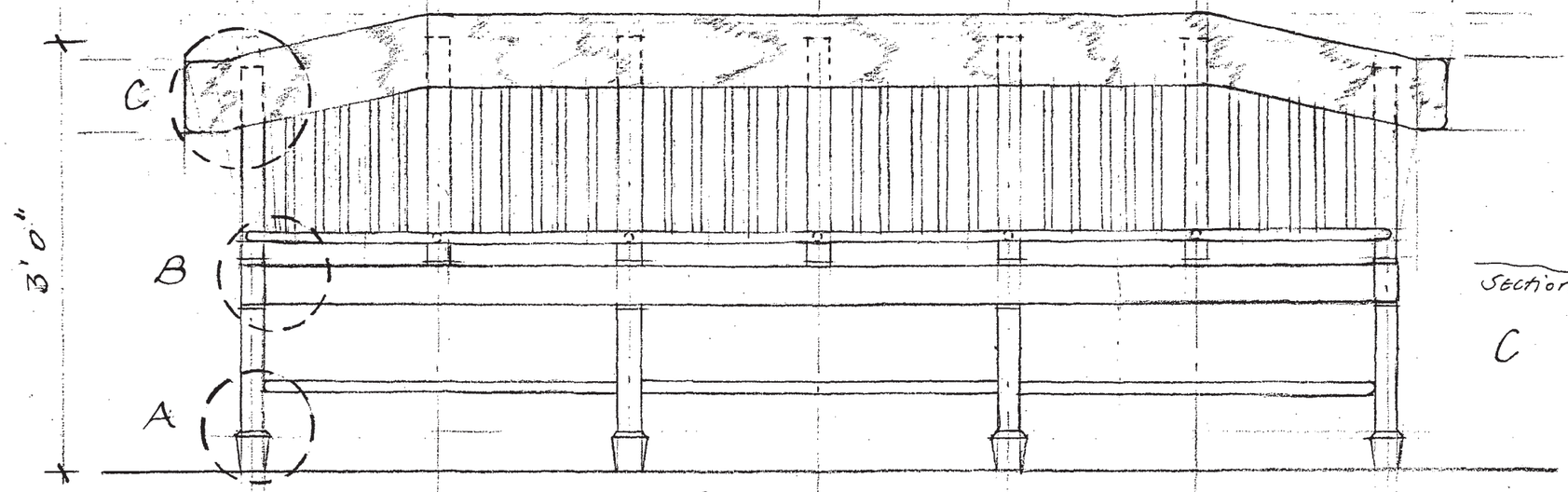
INHP

- WOOD/METAL BENCH

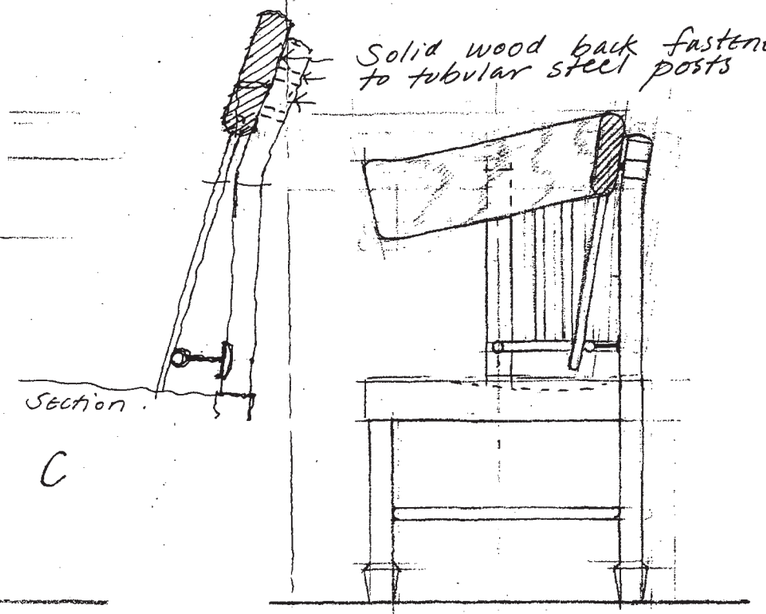


1" = 1' - 0"

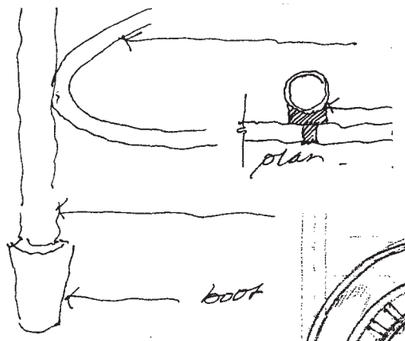
3.3.99

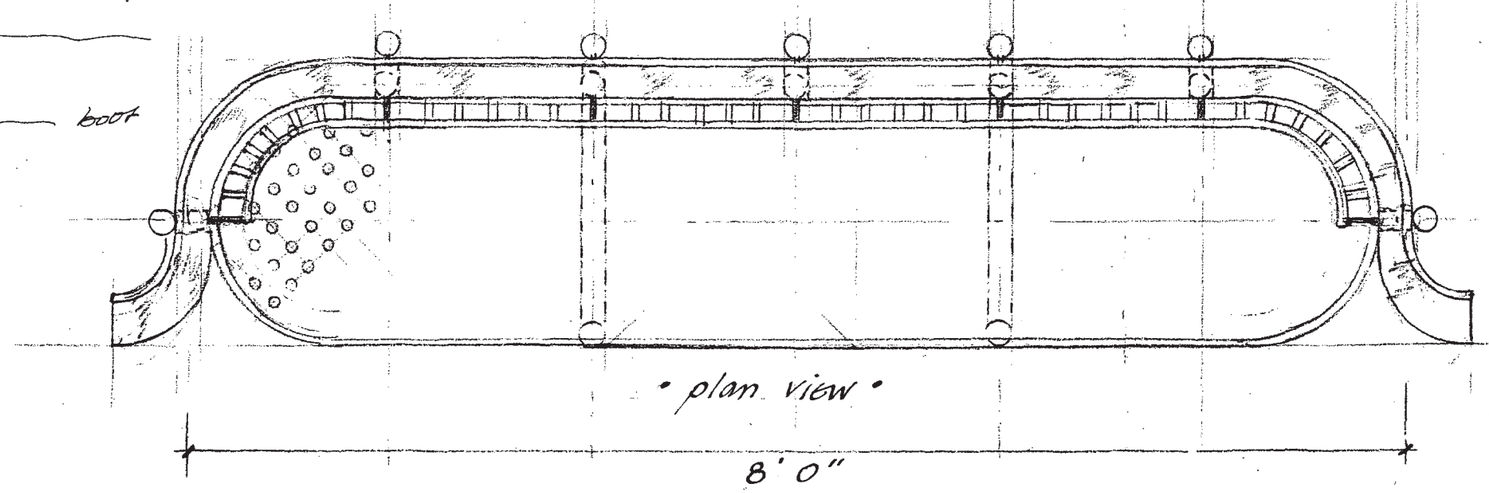


• front elevation •



• side view / section •





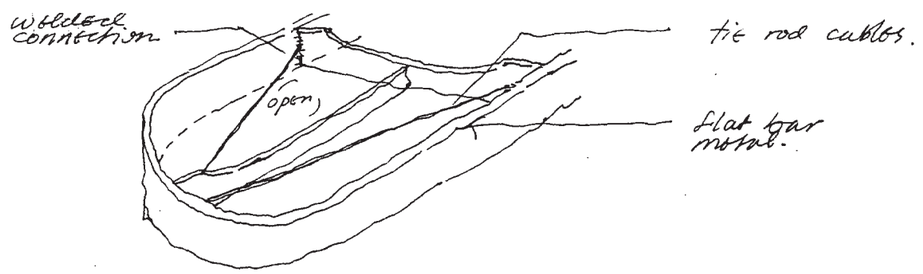
• plan view •

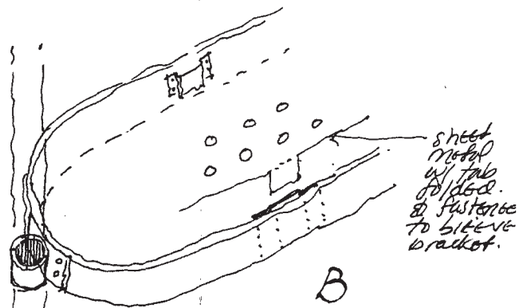
INHP - 9705.02 OP
Park Bench - metal & wood construction - 1"=1'-0"

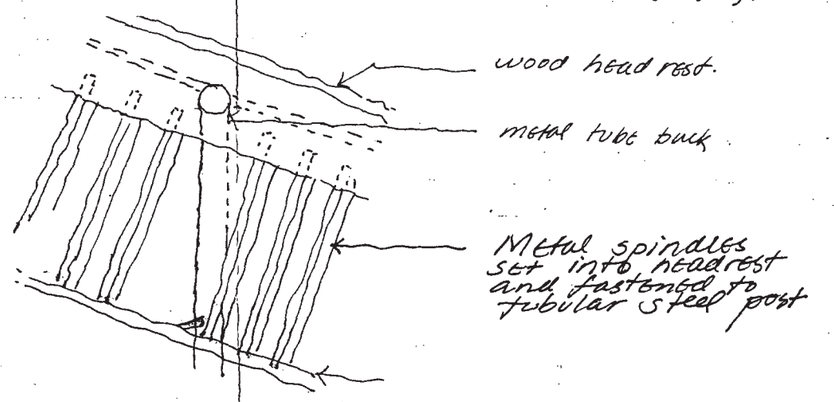
Description:
This bench is derived from the 19th century federal design - The Baltimore Settee.

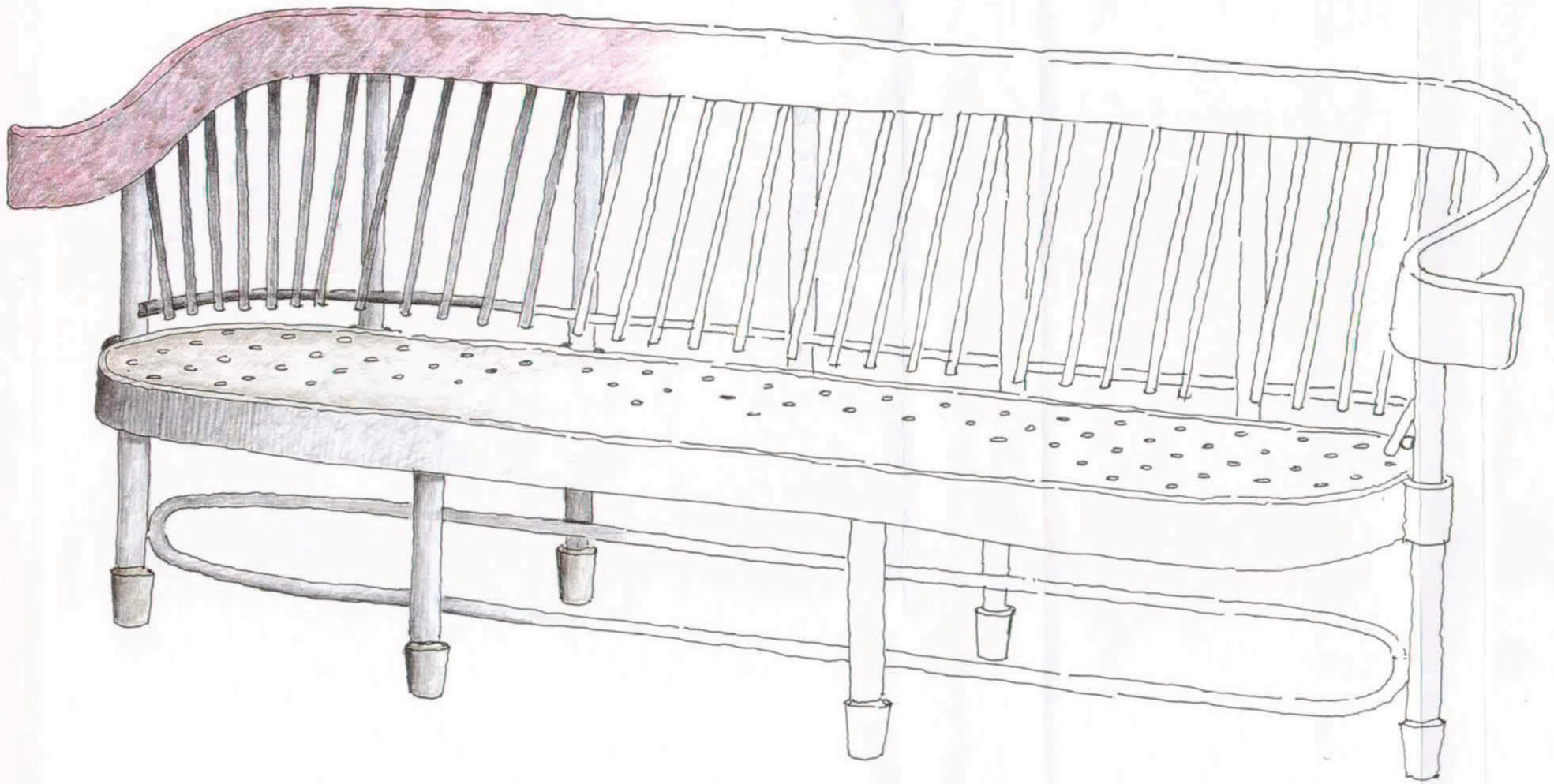
- Metal sheet, tubing, sections and connectors provide the overall construction.
- A curving, solid wood back rest is mounted atop tubular leg posts.
- The seat is made of perforated sheet metal set in a metal frame.

3·3·99







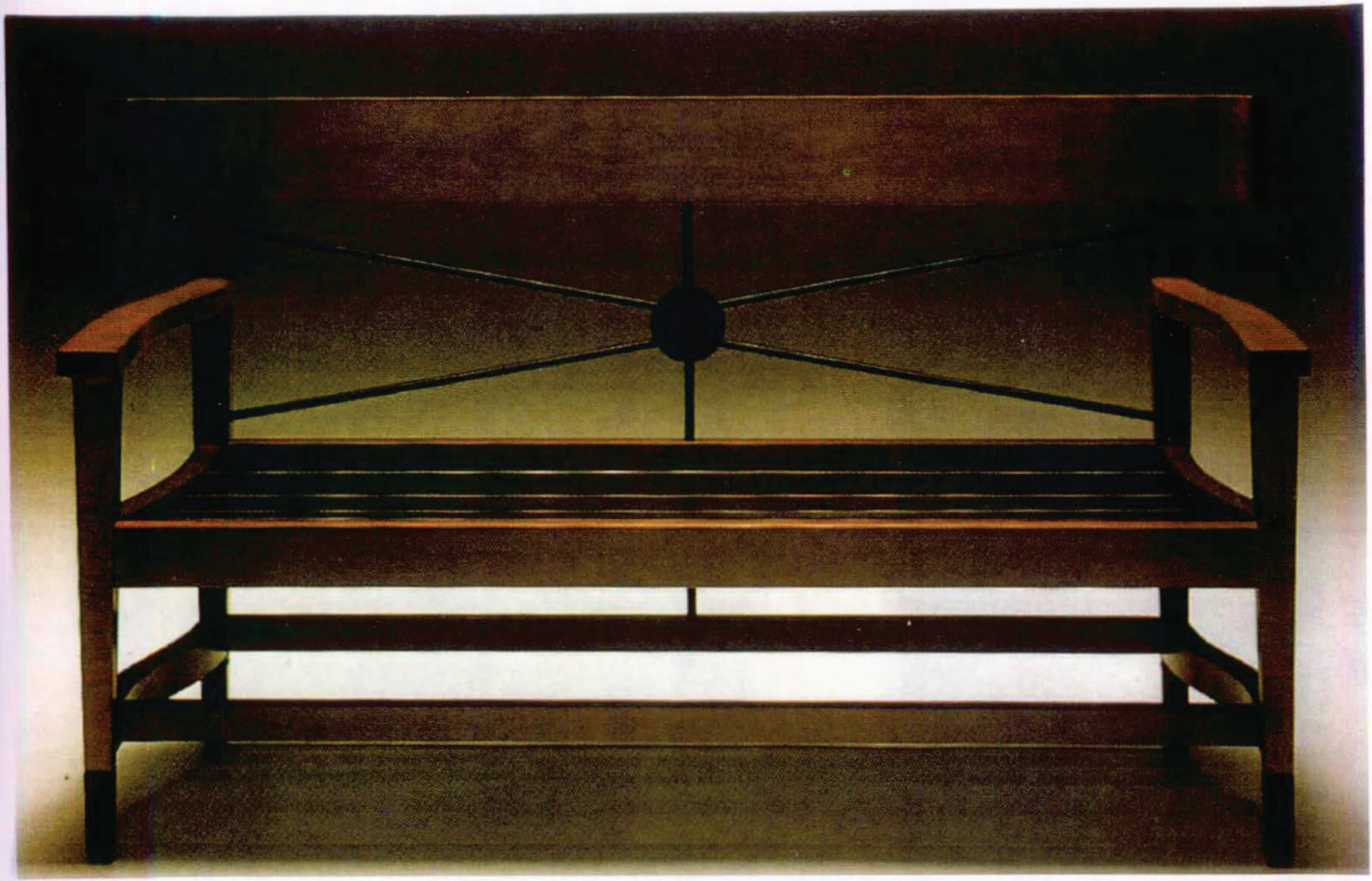


INHP - Bench (wood & metal) based on the Baltimore Settee

15 March, 199

Olin Partnership.

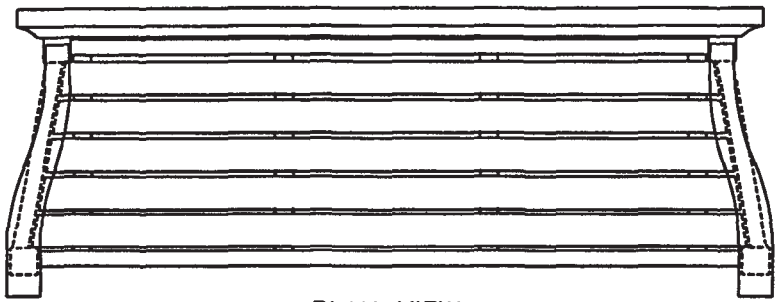
N/S Perspective



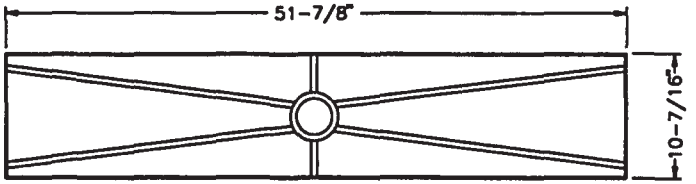
Bench - Milan

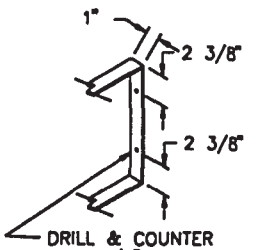
Incorporate Metal Fence Detail from Penna Quilts

— REVISED —

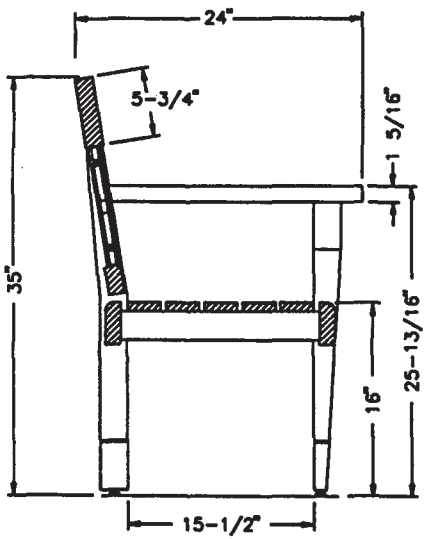


PLAN VIEW

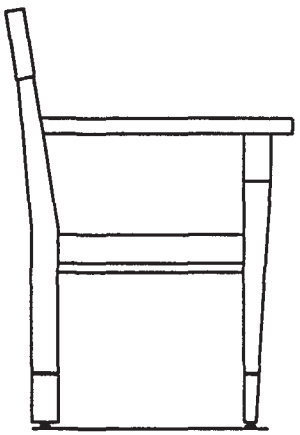




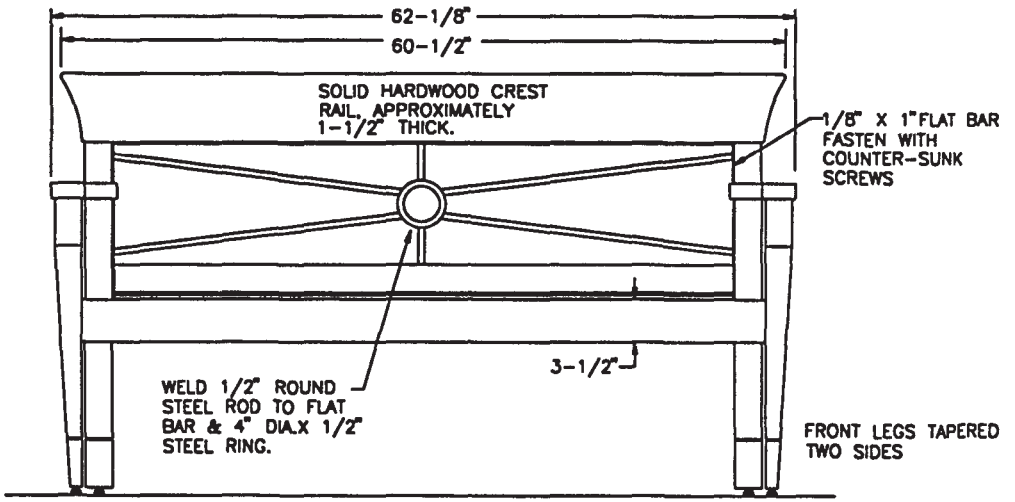
DRILL & COUNTER SINK 1/8" HOLES IN ENDS OF FRAME. CONSTRUCT FROM 1/8" X 1" COLD ROLLED STEEL FLAT BAR.



SECTION VIEW



END VIEW



FRONT VIEW

© 1997

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HINES III
3621 ST. AUGUSTINE ROAD
JACKSONVILLE, FLORIDA 32207
TEL. 1-904-399-4592
FAX. 1-904-396-1867

Item No. MIBR-2463-R	Scale: 3/4" = 1'	Job/Quote Number
Drawn by: JS	Date: 1/30/98	
Item Description: MILAN BENCH/RECTANGLE WITH SLATS		
Job Name:		
Approved by:		Drawing Number: HD019826-A
Size: 24" X 62-1/8" X 35"H		

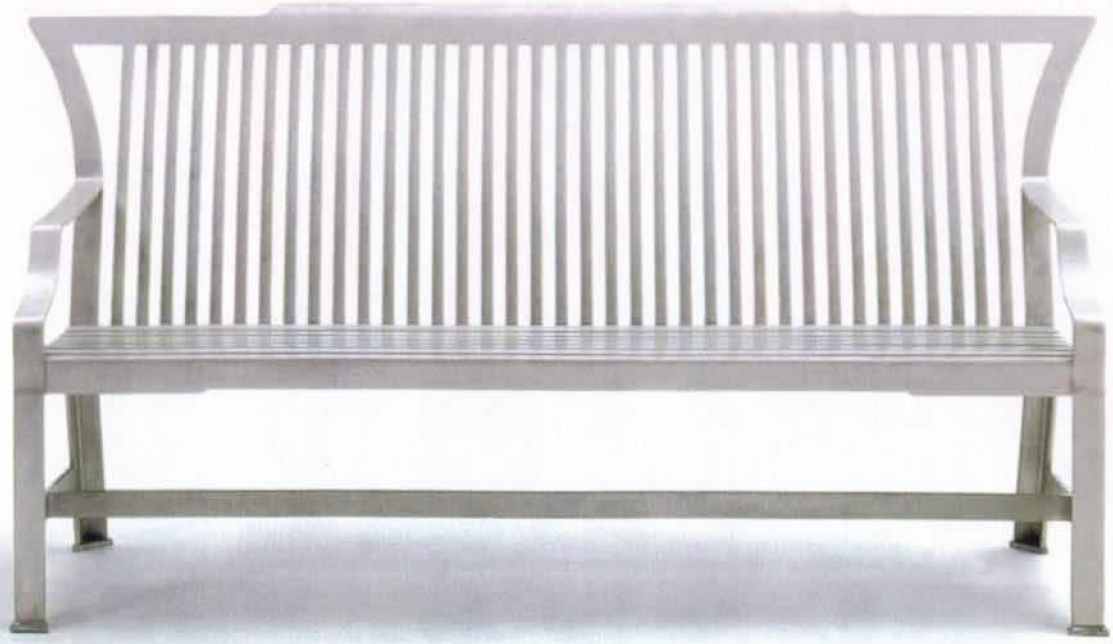
REVISED BACK





WITHERS Our wrought iron Withers Four-Seater Bench, shown above in Gunmetal Gray governs with a commanding presence from the South Portico of the Virginia State Capitol. We also offer the Withers in wrought aluminum, as shown below in the Clear Powder Coated Finish over orbital sanded aluminum, a contemporary and sophisticated update for this garden classic.

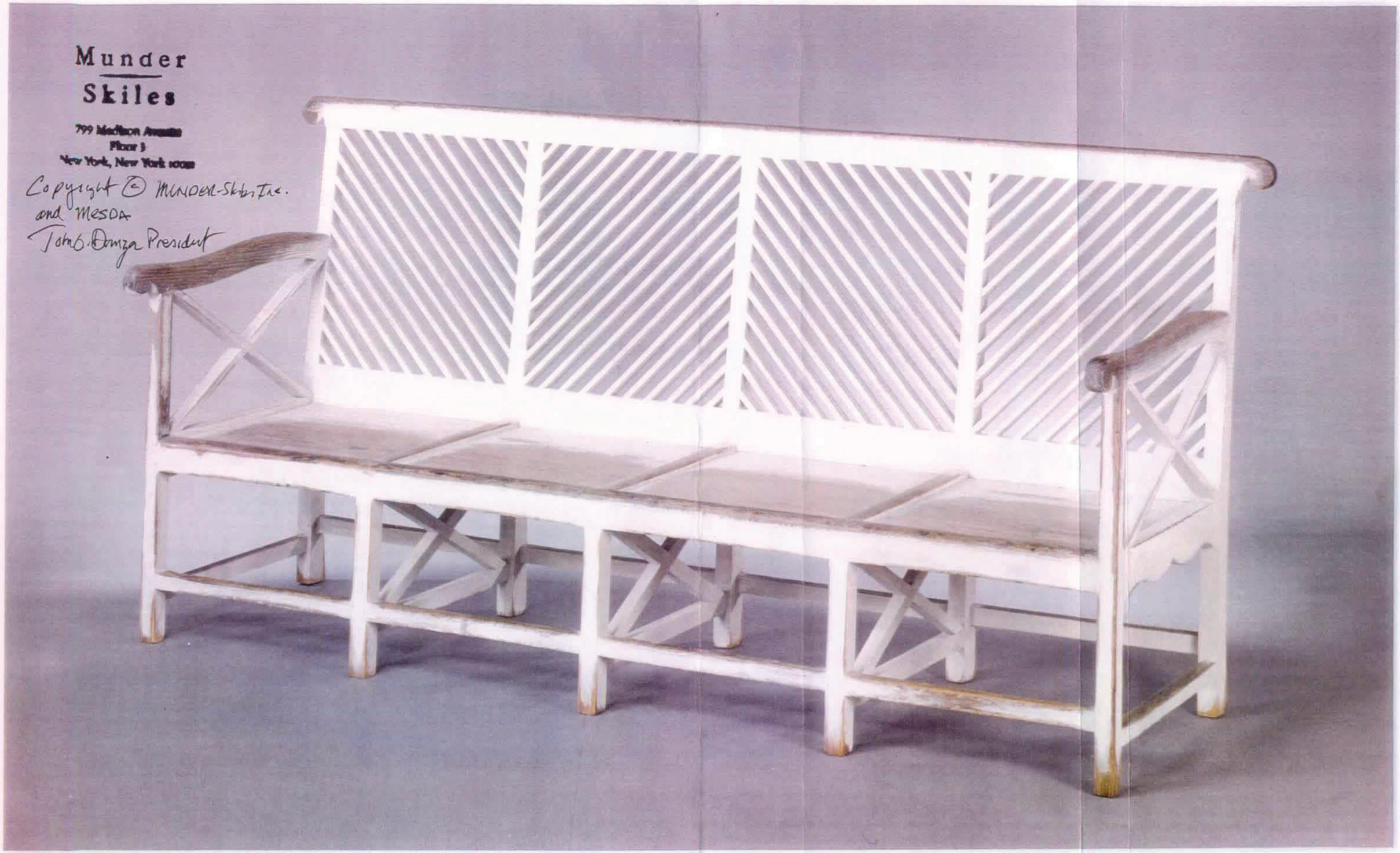
The dramatic flair of the Withers yoke and decisive vertical bars make the Withers a stately bench for any distinguished setting.



Munder
Skiles

799 Madison Avenue
Floor 3
New York, New York 10021

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and Mesoa
John G. Donza President



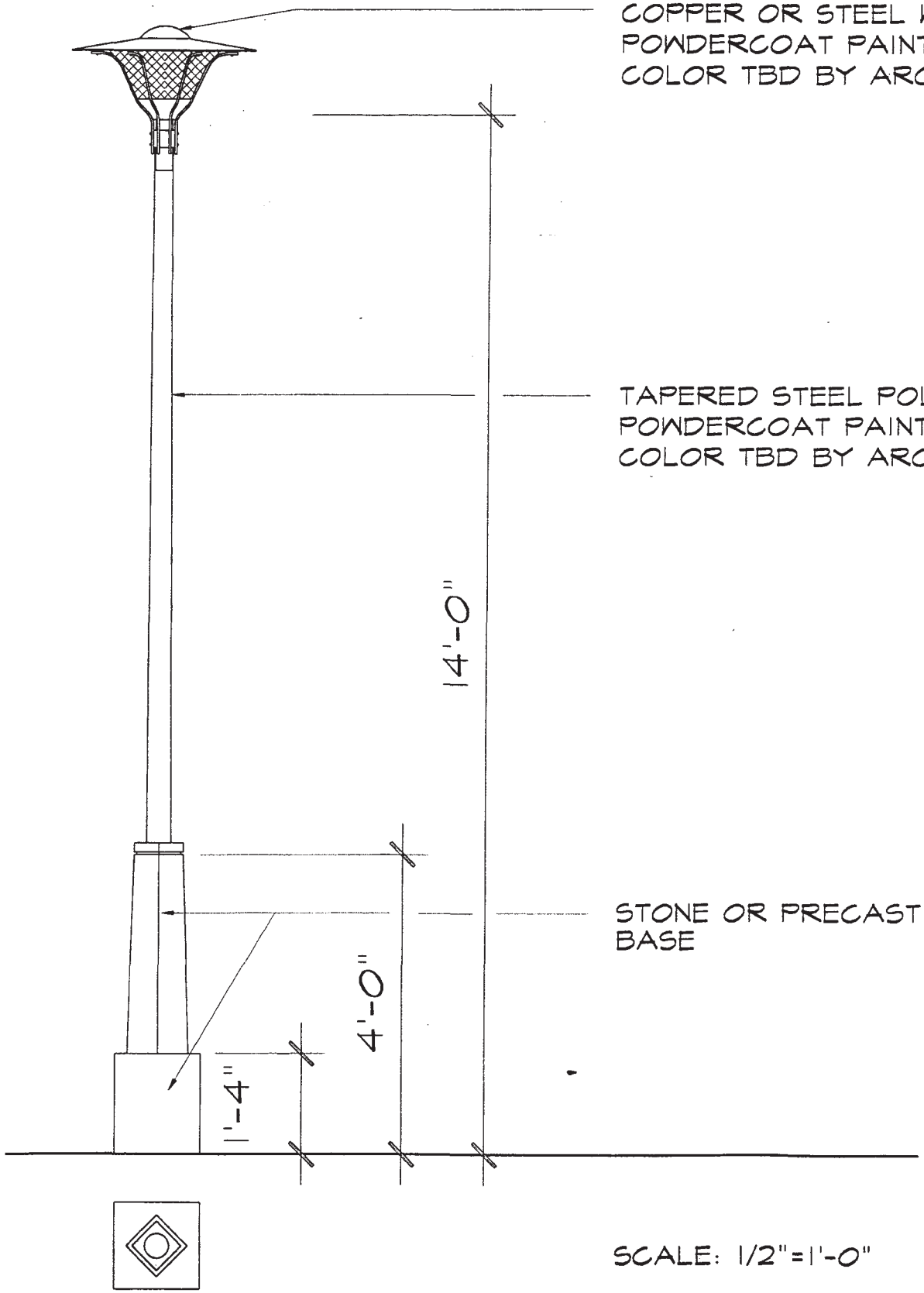
Light Fixtures

Proposed Park Lantern:

- 175 Metal Halide Lamp
- Copper lantern top with copper mesh
- Metal post with stone boot and stone base
- 14'-0" height
- Rough cost: $2,000 EA

This fixture will be located along walkways within the Mall as indicated on the Lighting Plans. A modified version will be mounted on the perimeter wall piers. A similar version will be integrated with the metal fence on the perimeter walls. Sketches are attached.

Light fixtures for the arborway piers and trellis are included in the specifications.



SCALE: 1/2"=1'-0"

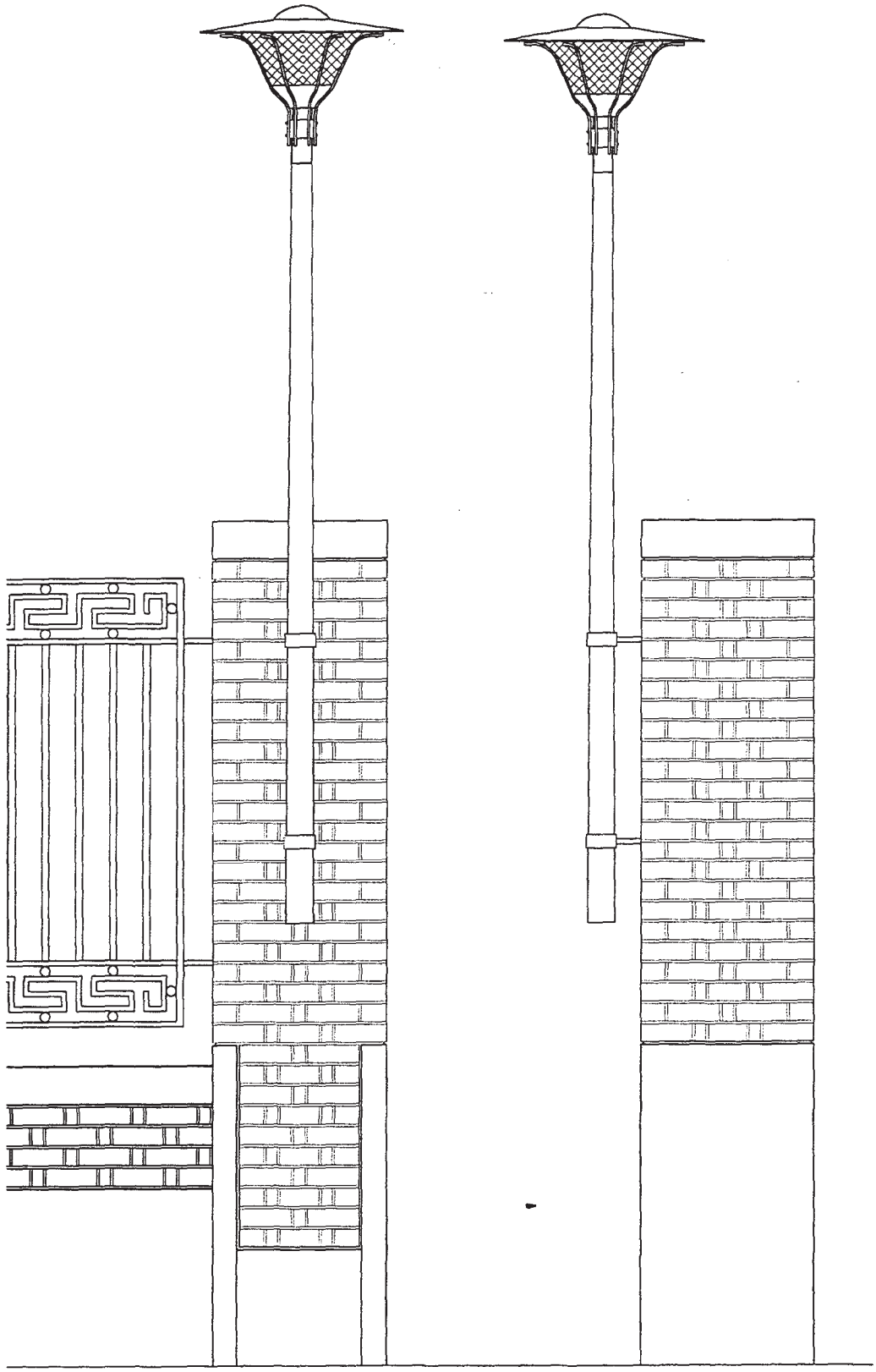
INDEPENDENCE NATIONAL
HISTORICAL PARK

H.M. Brandston & Partners, Inc.
Lighting Design 212 924 4050 *fax* 691 5418

NOT FOR CONSTRUCTION

XPM-1

MARCH, 1999



SCALE: 1/2" = 1'-0"

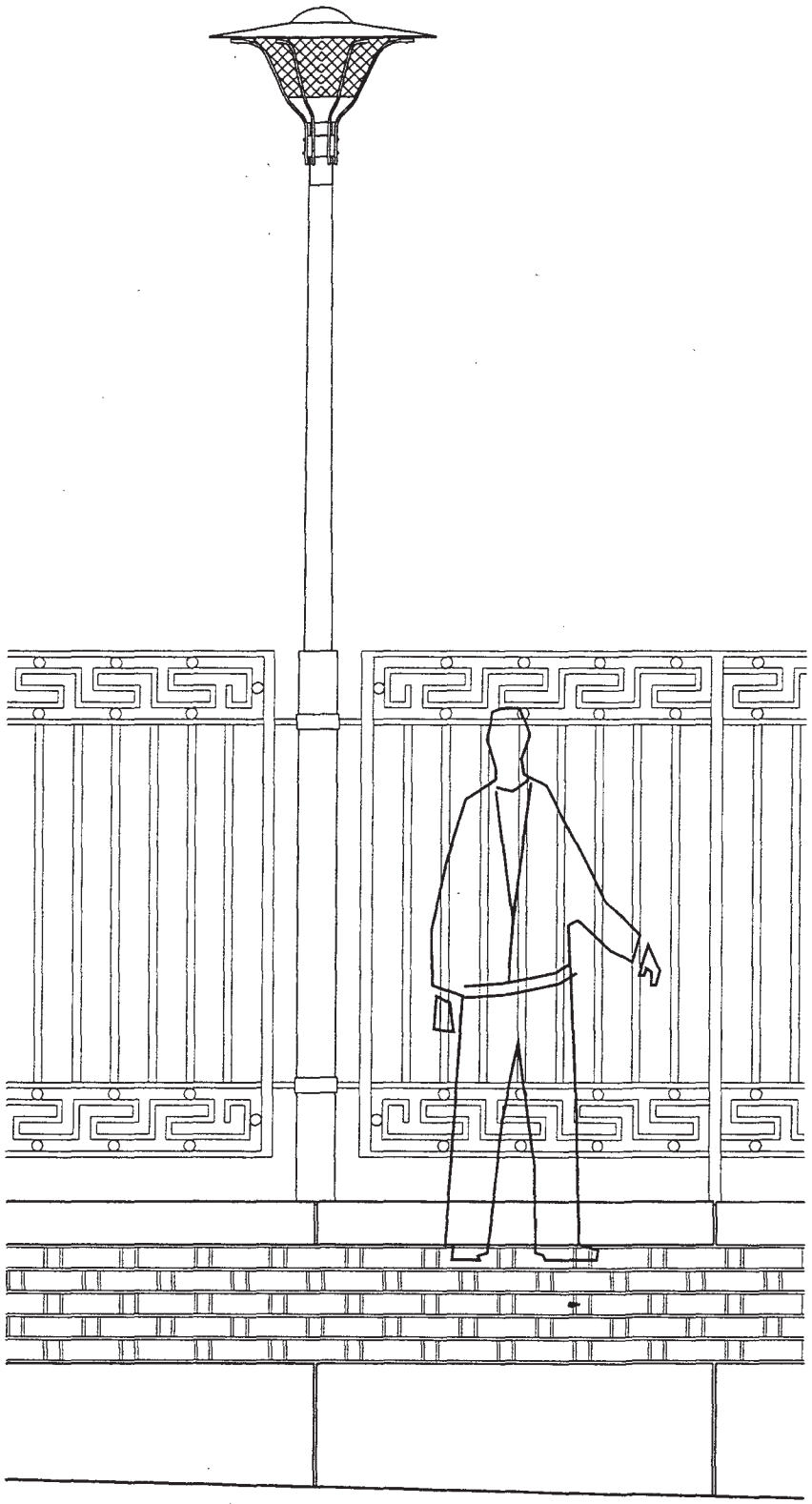
INDEPENDENCE NATIONAL
HISTORICAL PARK

H.M. Brandston & Partners, Inc.
Lighting Design 212 924 4050 *fax* 691 5418

XPM-2

NOT FOR CONSTRUCTION

MARCH, 1999



SCALE: 1/2" = 1'-0"

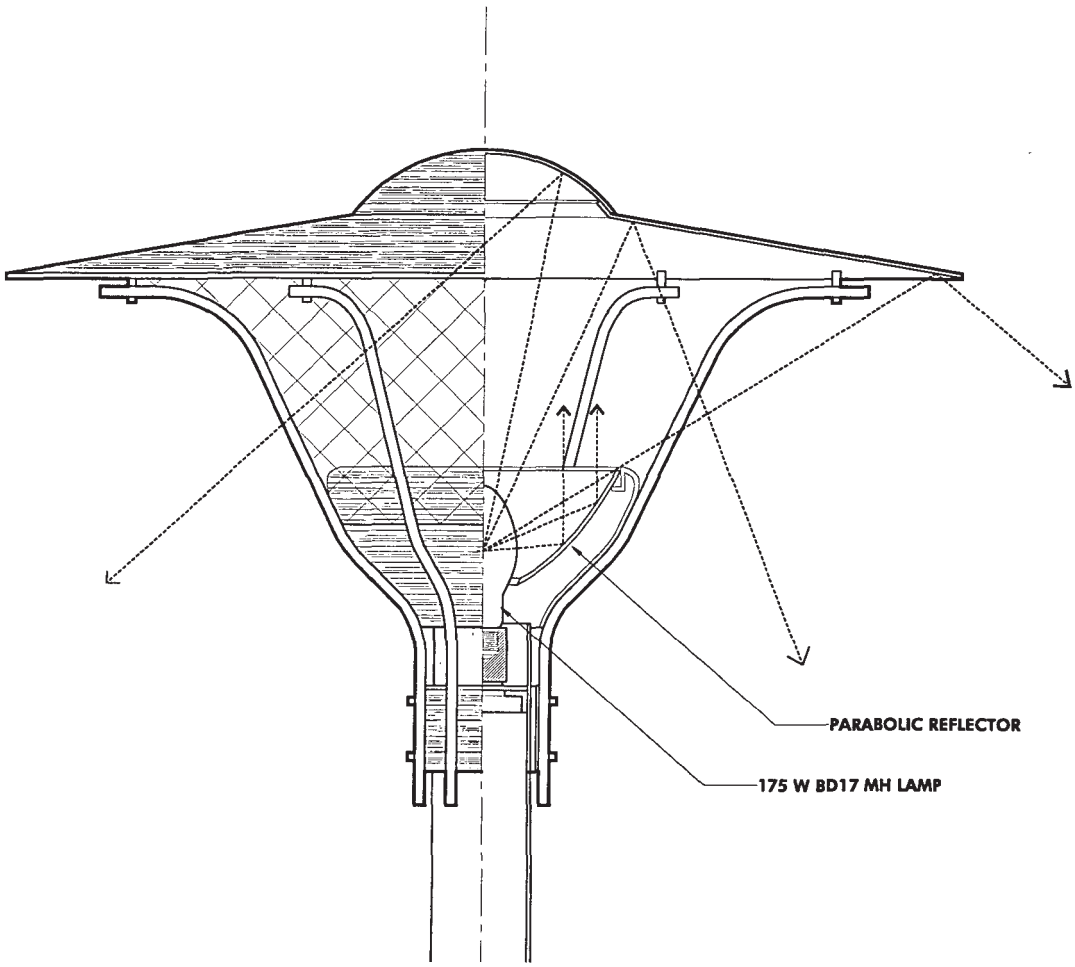
INDEPENDENCE NATIONAL
HISTORICAL PARK

H.M. Brandston & Partners, Inc.
Lighting Design 212 924 4050 *fax* 691 5418

XPM-3

NOT FOR CONSTRUCTION

MARCH, 1999



ELEVATION / SECTION DETAIL

SCALE : 1/8" = 1'- 0"

INDEPENDENCE NATIONAL
HISTORY PARK

H.M.Brandston & Partners Inc.
Lighting Design
212 924 4050 Fax 691 5418

XPM-1, XPM-2, XPM-3
HEAD DETAIL

NOT FOR CONSTRUCTION

11 MARCH, 1999

Bollards and Trash Receptacles

Bollards

1. Mass Produced:

   Bollards - non-retractable: Catalogue cuts and pricing are attached. Modifications to meet security requirements will be included. Prices do not include footings.

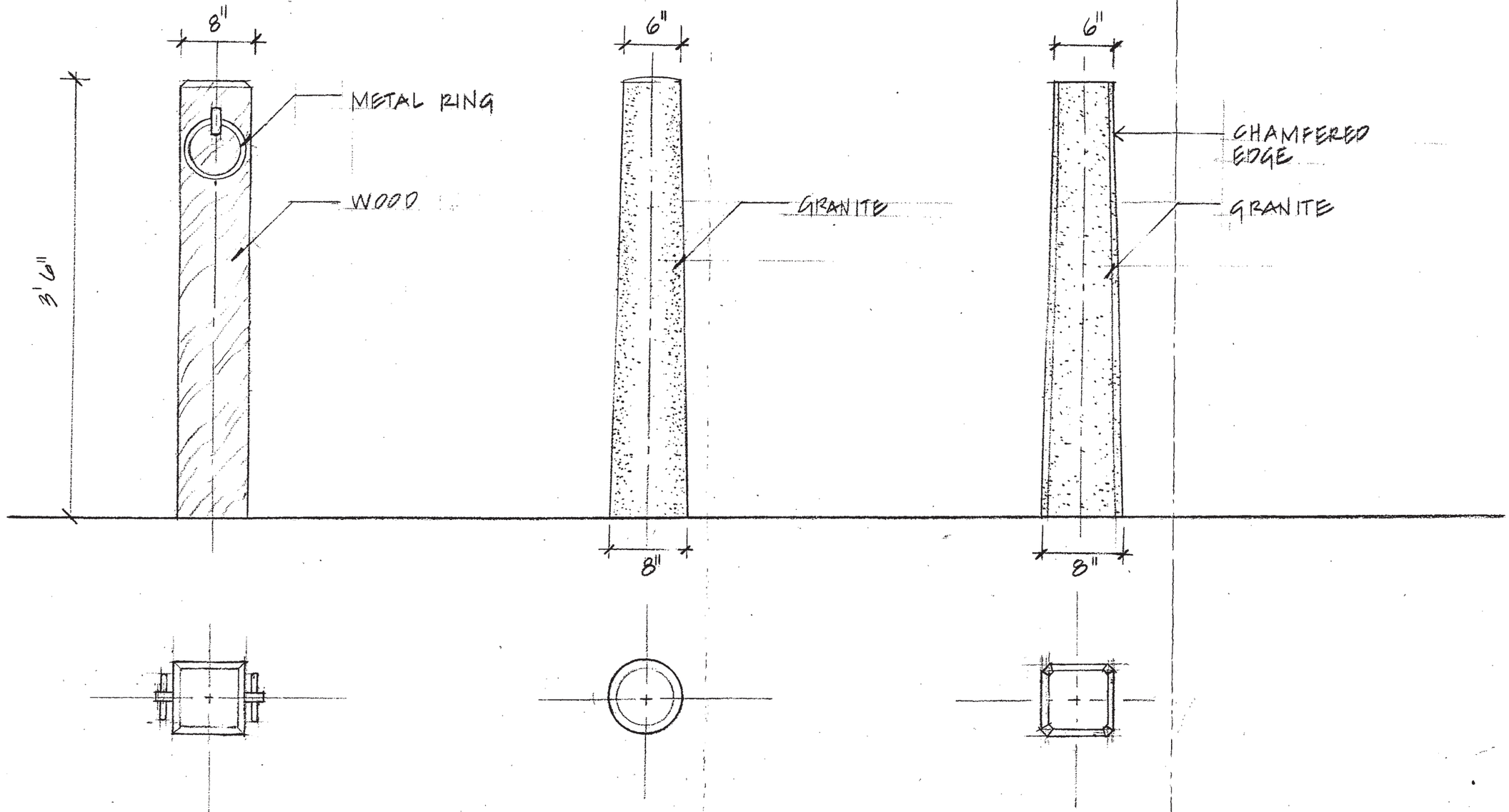
   Bollards - retractable (at accessible alleyways): Catalogue cuts and pricing are attached.

2. Custom Design:

   Sketches are included for wood and stone bollards. Prices have not been developed.

Trash Receptacles

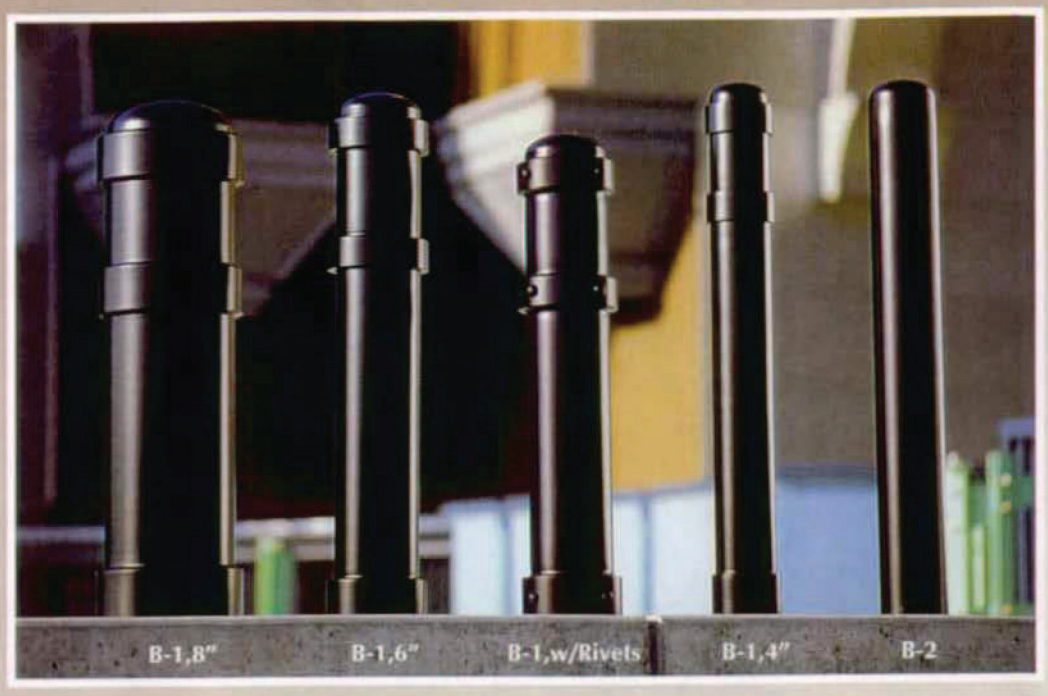
Catalogue cuts illustrating potential trash receptacles and pricing lists are attached.



INHP : CUSTOM BOLLARDS
SCALE 1" = 1'-0"

0 6" 1' 2' 3'

OLIN PARTNERSHIP
11 MARCH, 1999



B-1 and B-2 Group



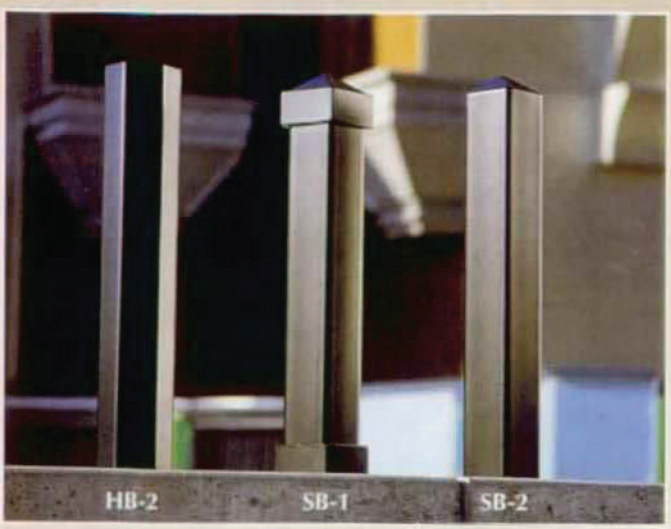
B-2, 12"

Bollards

B-1 Bollards
Our classic bollard with three collars, available in 4", 6" and 8" diameters with fully welded dome top. Decorative rivets are optional.

B-2 Bollards
Simplicity and function, these basic bollards are fabricated with 4", 5", 8"or 12" pipe with fully welded cap and a powder coated finish.

B-3 Bollards
Hemisphere top and 1/2" rings combine in an aesthetically pleasing form with an outside diameter of 6-5/8".



Geometric Group

Bollards

FairWeather bollards provide an attractive means of traffic and pedestrian control. Standard bollard mountings are removable and permanent embed. Removable bollards offer a visual deterrent and easy removal for emergency or service access. Options include lock well covers and receiver covers. Options for permanent bollards include heavy or extra heavy pipe for increased strength. Options for all bollards: surface or custom mountings, eye bolts, reflective tape, two color powder coating.

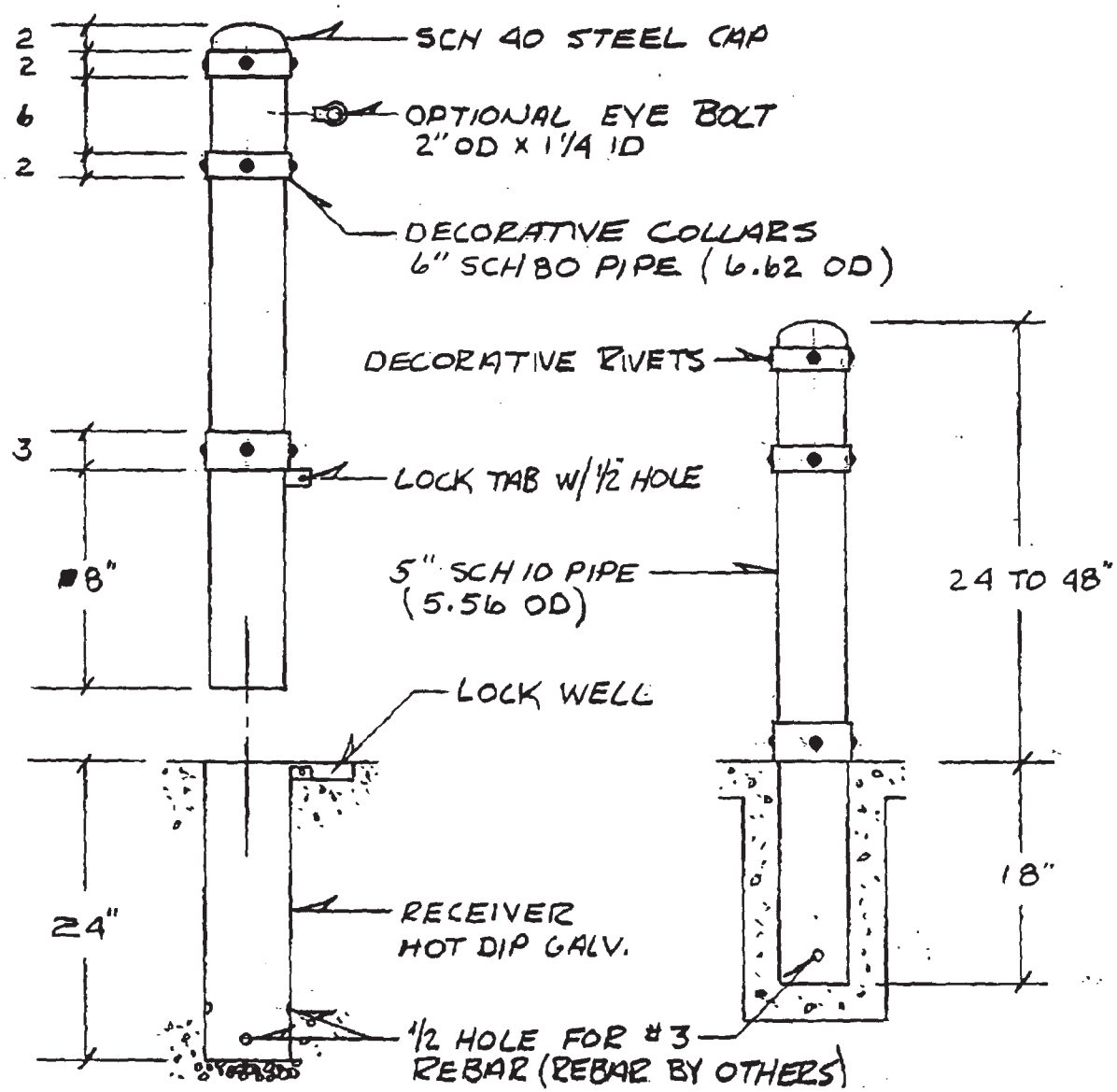


B-3 and B-4 Group

B-4 Bollards
Give you the option of being creative. Design the placement and number of 1" indentions on models B4-A, B and C. (B4-B shown with three indentions)

Geometric Bollards
The square SB-1 (with collars), SB-2 (no collars) and hexagonal HB-1 bollards provide exciting new choices.

- **Bolt down or custom mountings available.**
- **Receiver covers and lock well covers available.**
- **For extra strength, thicker walled pipe is available.** (not recommended for removable applications)



REMOVABLE **PERMANENT**

SPECIFICATION: B-1, 6 inch Diameter, Bollard with collars & Rivets

MATERIAL

The B-1 bollard shall be fabricated with 5" sch. 10 steel pipe (5-5/8" OD), 2 ea. 2 inch and 1 ea. 3 inch sch. 80 decorative collars (6.62" OD), a sch. 40 weld cap and 1/2" steel rivets all fully welded and ground smooth. Steel shall conform to ASTM A53.

The in ground receiver, for removable bollard only, shall be fabricated with a 10 gauge steel sleeve welded to a 3" x 5" lockwell.

PROTECTIVE COATINGS

Powder Coating: Following fabrication bollards shall be cleaned and treated with a five stage iron phosphate process prior to the coating application. This process shall include a non-chromated alkaline cleaner, and an iron phosphate treatment followed with an acidic sealer for maximum adhesion. The protective coatings shall be either polyester or TGIC powder applied by the dry electrostatic process. Following application the parts shall be baked at 350 to 400 degrees F. and maintained at that temperature until properly cured. The coating shall be 3 to 4 mils thick on all surfaces.

Hot Dip Galvanizing: Following fabrication, the receivers shall be hot dip galvanized to standard ASTM A123, 3 to 4 mils thick.

Please Note: Depth and Diameter of installation hole may vary with soil conditions. Consult project engineer for correct dimensions.

Model B-1, 6" Bollards with Decorative Rivets

FairWeather
PH: 206-627-2811 or 800-323-1798
Tacoma, Washington

FILE No. 102 03/11 '99 16:38 ID:S&S RESOURCE 610 353 9463 PAGE 2

FairWeather™

Site Furnishings and Accessories

FairWeather Bollards

Our bollards were originally designed to be primarily a visual deterrent. We wanted to keep the weight down for the removable options so our base pipe for most round bollards is Sch. 10 and for the square bollards is .120 wall square tube.

If your customer has a permanent application where strength is important, we can fabricate our round bollards with either Sch. 40 or Sch. 80 pipe, .180 wall or .250 wall tube for the square bollards. I won't say that this will stop a Mack truck going 60 mph but it does add significantly to the strength. For your information a strength table follows. If a heavier bollard is needed please call for pricing.

We do not recommend using the heavier pipe or tube for removable bollards because of the weight. Sometimes an architect will specify a removable bollard with either schedule 40 or 80 pipe and we will supply them but we do confirm that they are aware of the bollard weight and of how difficult it will be to remove.

Also, some architects want the permanent bollards to have more than 18" embedded. We can provide the bollards with various heights and lengths below grade (for a price of course) but our limiting factor is our oven size. We can supply bollards up to 70" overall with normal handling. If we need to do a bollard that would be longer than 70" it would require special handling and would cost more.

In addition to the standard removable and permanent bollards which are embedded we offer surface mount options which are priced the same as the removable bollards. We can supply either a base plate that shows - this is the stronger installation - or an interior base that bolts down with the bollard fitting over it and secured with set screws. This is a cleaner looking installation but is not as strong as the exterior base plate.

Price list Continued

Bollards

B-4 bollards

B-4-A2, 30" bollard, flat top,		embed	$199
B-4-A2, 30"		removable	244
B-4-A2, 36"		embed	205
36"		removable	250
B-4-B2, 30"	Dome top	embed	209
30"		removable	254
36"		embed	215
36"		removable	260
B-4-C2, 30"	Sphere top	embed	254
30"		removable	299
36"		embed	260
36"		removable	305

Extra reveals 65 ea.
All B-2's are priced with 2 reveals. The B-4B bollard in supplement has 3 reveals, add $65 for bollard as pictured.

SB-1, 5" Square bollard with collars

SB-1	30"	embed	175
	30"	removable	220
	36"	embed	185
	36"	removable	230

SB-2, 5" square bollards, no collars

SB-2,	30"	embed	110
	30"	removable	155
	36"	embed	120
	36"	removable	165

HB-2, hexagonal bollard with flat top, no collars

	36"	embed	205
	36"	removable	255

Pages 8 and 9

Model Number		Shipping Weight (lbs.)	Price
PLANTERS			
PTR-1	Full slat planter with spun aluminum top		
	Red Cedar	100	480.00
	Douglas Fir	100	480.00
	Redwood	100	520.00
	Ipe	168	510.00
	Jarrah	140	540.00
	Patio Yellow Cedar or Con Heart Redwood	140	440.00
PTR-2	Wood planter		
	Red Cedar	47	370.00
	Douglas Fir	47	320.00
	Redwood	47	385.00
	Ipe	84	370.00
	Jarrah	68	39800
	Patio Yellow Cedar or Con Heart Redwood	69	345.00
Optional spun aluminum top		5	40.00
TREE GUARDS			
TG-1	5 ft. Standard tree guard	110	195.00
TG-2	5'6" Deluxe tree guard	135	225.00

Page 10

Model Number		Shipping Weight (lbs.)	Price
BOLLARDS			
B-1	Steel bollards with collars		
	4 x 30 embed	40	165.00
	4 x 30 removable	51	210.00
	4 x 36 embed	43	185.00
	4 x 36 removable	54	230.00
	6 x 30 embed	58	185.00
	6 x 30 removable	75	230.00
	6 x 36 embed	64	205.00
	6 x 36 removable	81	250.00
	8 x 30 embed	134	230.00
	8 x 30 removable	152	280.00
	8 x 36 embed	140	250.00
	8 x 36 removable	158	300.00

Page 10

Add 2025 for '99

Model Number		Shipping Weight (lbs.)	Price
BOLLARDS (continued)			
B-3	Steel bollards with collars		
	6 x 30 embed	58	270.00
	6 x 30 removable	75	315.00
	6 x 36 embed	64	290.00
	6 x 36 removable	81	335.00
Options:			
4" receiver cover			30.00
6" receiver cover			35.00
hinged lock well cover			33.00
eye bolts, each			10.00
lock for removable bollard			10.00
12" freestanding base for 4" bollard			20.00
decorative rivets			35.00
bollards with no collars			Deduct 90.00

BICYCLE RACKS

		L.	wt.	cast in place	bolt down	freestand
BR-1	All steel pipe racks					
BR-1.5	5 bike	38"	75	265.00	299.00	315.00
BR-1.7	7 bike	62"	95	295.00	320.00	345.00
BR-1.9	9 bike	86"	115	490.00	515.00	540.00
BR-1.11	11 bike	109"	140	695.00	725.00	750.00
BR-1.13	13 bike	133"	160	800.00	870.00	895.00
BR-2	Bike bollard					
	36" H. embed				83	110.00
	36" H. surface mount				101	120.00
BR-3	All steel pipe racks					
	36" H. embed				45	88.00
	36" H. surface mount				55	148.00
Options:						
BR-1 and BR-3	*Cast aluminum base cover*				5	40.00



8-2C1



3C1



SJ-C1



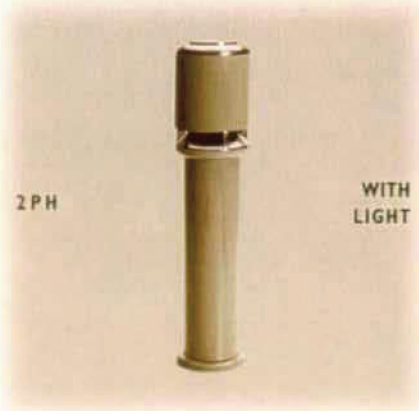
CB

CB/A



WITH LIGHT

2PH



WITH LIGHT

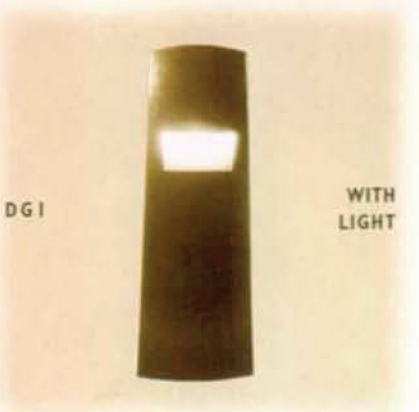


DG3



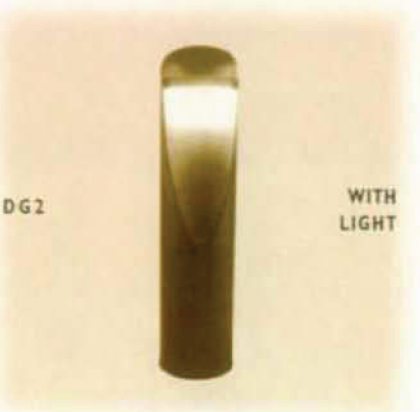
DG4

BOLLARDS



DG1

WITH LIGHT



DG2

WITH LIGHT

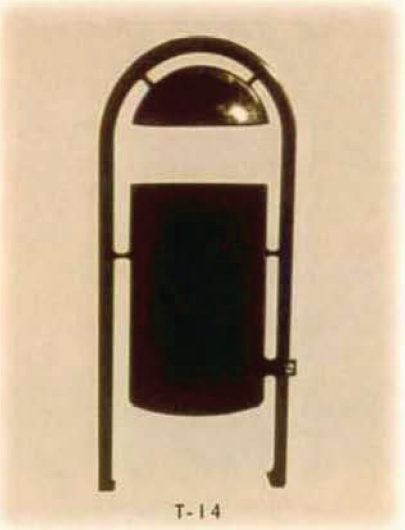


DG5


T-20-T

TRASH


T-12


T-14


T-55

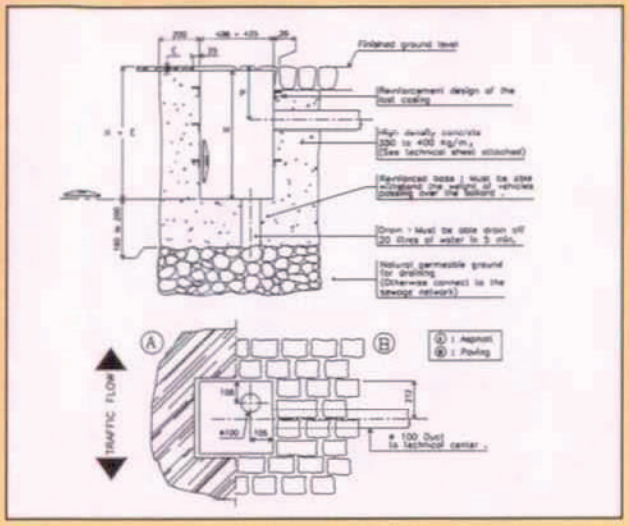
RECEPTACLES


MID ASH

SEMI AUTOMATIC RETRACTABLE BOLLARDS

With elegance and style, **accesses** can now be **controlled:** driveways, parking spaces, private lots, bicycle trails. **Restrict traffic:** pedestrian areas, loading and receiving docks or industrial areas.

At your convenience Semi-Automatic Bollards retract in the ground to allow the passing of vehicular traffic and no power is needed.



The set contains an underground casing (26", 34", or 36"), carriage, cover and bollard. With the key, the bollard retracts by a easy push of the foot. The bollard locks automatically in the lower position to give way to authorized users.

A French drain flushes excess water and dust which protects the mechanism in freezing temperatures...

URBACO® bollards are EXTREMELY STURDY. Made of cast steel, URBACO® bollards can withstand extreme impacts. URBACO® standard bollards can stop a medium size vehicle traveling 30 MPH without any damage to the bollard. URBACO® retractable bollards are not affected by continuous and heavy frequencies of use (over 1,500,000 operations per year). URBACO® guarantees your investment: the URBACO® retractable bollards have warranties up to 10 years.

TWO TYPES OF KEYS ARE AVAILABLE:

The Master Key: Allows the bollard to be lowered. The key can be removed and the access left open.

The Captive Key: This key cannot be removed until the bollard is raised. This ensures that the users close the access behind them. All retractable bollards are delivered with a master key. Extra keys can be ordered separately.
The standard print is triangular

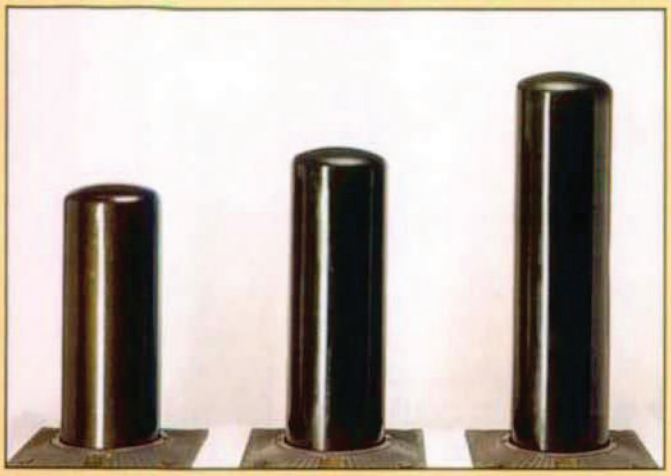


Semi Automatic Bollard & Cover



All retractable bollards are galvanized and painted with a two-coat polyurethane paint.

Since the semi-automatic bollards require a light push of the foot, the maximum height available is 26" for the models having a 10" diameter and 32" for the Chateauneuf models.



Cylinder, Ref. 8212S, 22", Ref. 8213S, 24"



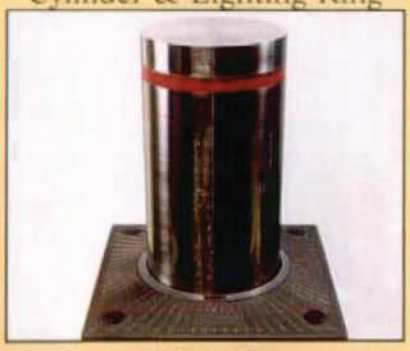
Cabestan, Ref. 8202

The standard bollard cover has an antiskid pattern and is slightly raised. Some of the **URBACO®** bollards are available with a flat cover that is flush with ground level. The flat cover is very useful for pedestrian areas and regions where there is much snowfall to facilitate the use of snowplows without damaging the equipment.

The **URBACO®** bollards exist in the standard version: the cover is slightly raised above ground 2" which reduces the entry of water. Also in the flat top version: the cover is flush with ground level, recommended for areas with a lot of pedestrians.

The **URBACO®** semi-automatic bollards have an interior closed gas jack that is compressed while lowering the bollard. When the locking mechanism is released, the gas jack pushes the bollard in the upward position.

Flat Top Stainless Steel
Cylinder & Lighting Ring



Ref. 8214SP, 22"

ACROPOLE

Standard



Ref. 8223S, 24"

Standard



Ref. 9244S, 31"

CHATEAUNEUF

Flat Top



Ref. 9240D, 26", 9240E, 30"

Galvanized lost casings are available. Easily inserted into the soil to allow completion of all required site works before installing the bollards.

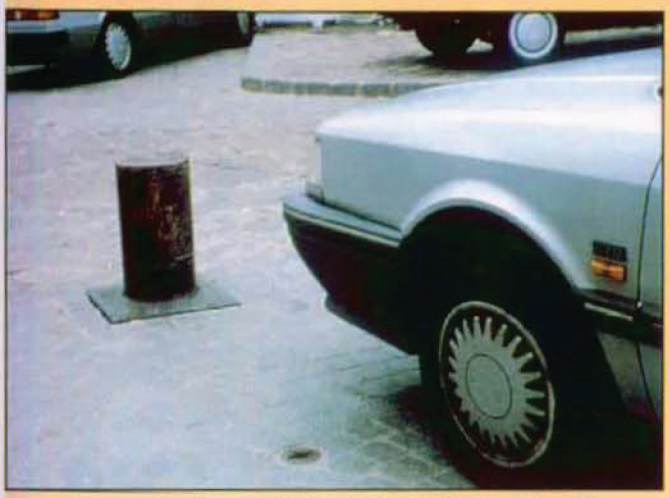
AUTOMATIC RETRACTABLE BOLLARDS

If the access needs to be opened and closed many times a day, we suggest the **URBACO®** automatic bollards. The bollards are controlled remotely.

There are many control devices for the automatic bollards: chip card readers, proximity card readers, remote controls, induction loops (free exits), timer, touch key...etc. See your local representative for further details.

The **URBACO®** automatic bollards are available in taller heights because they require no manual operation.

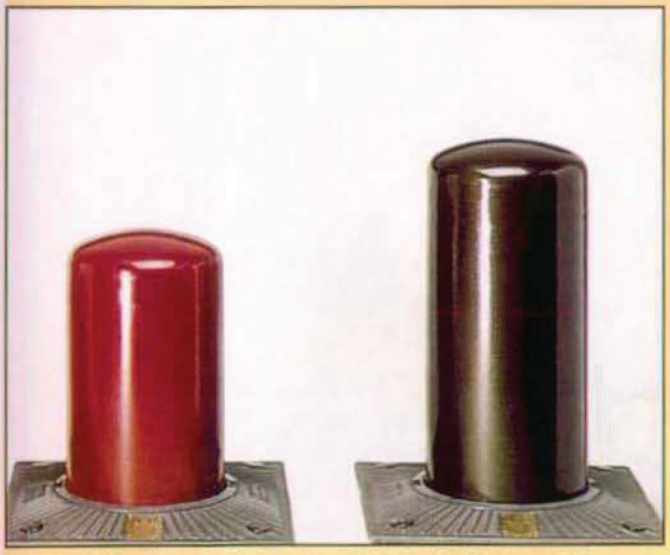
THE BOLLARDS:



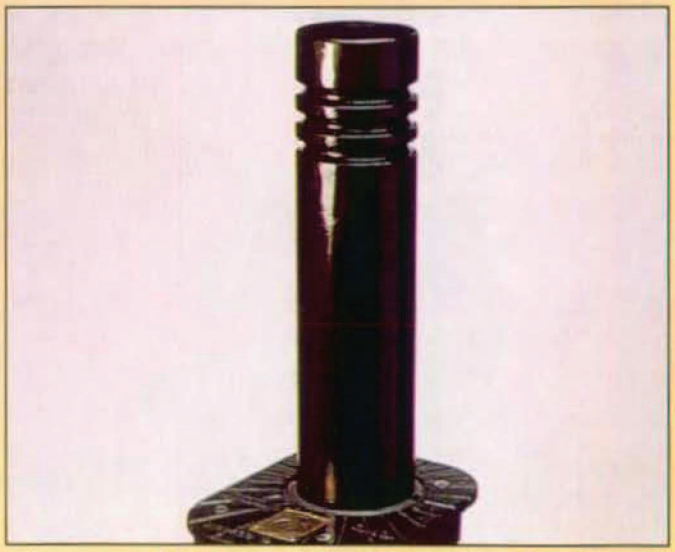
Acropole, Ref. 8148, 22", Ref. 8145, 28"



Acropole, Ref. 8148, 22", Ref. 8145, 28" Retracted



Cylinder, Ref. 8153, 24", Ref. 8154, 28"



Chateauneuf (flat top), Ref. 9161, 24", Ref. 9162, 30"

THE TECHNICAL CENTER operates the bollards. There are several types available depending on the dimensions and configurations of your system. (see next page)

Micro Technical Center Ref. 8619: consists of a silent micro compressor, 1 electrogate solenoid valve and 1 control panel (8625 EV1) which responds to the commands received from the control devices (see p. 7). This technical center can operate up to 3 bollards simultaneously as an entry, exit or both.

Micro Technical Center Ref. 9619 A: a larger version with a silent 2-cylinder micro compressor, 2 electrogates and 1 double control panel (8625 EV2). This center can operate two independent groups of up to 3 bollards in each group.

Priority: Normal
Topic: Urban Accessories
Sent: 3/12/99
From: Accessories Inc., Urban
To: aspulecki
CC:

Urban Accessories
Elaine Rosenberg,

Here is the information you requested

DG-5 / imbed	$744.00 (ea)
SJ CI / Imbed	$599.00 (ea)
T-12 Trash Receptacle	$442.00 (ea)
T-14 Trash Receptacle	$576.00 (ea)
T-55 Trash Receptacle	$703.00 (ea)

Please see drawings attached.

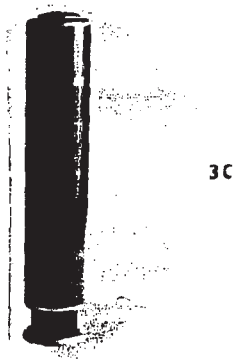
Thank You,

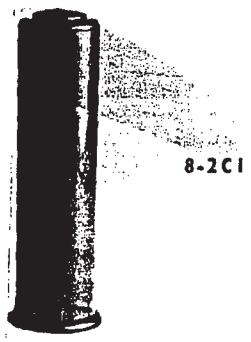
Park Olson
UA

PRICE LIST - REVISED 2/1999

BOLLARDS:	STANDARD FINISH	WEIGHT
(AVAILABLE IN STEEL ONLY)		
EB-24 CI	$ 146.00	35 LBS
EB-30 CI	$ 167.00	41 LBS
EB-36 CI	$ 177.00	35 LBS
EB-24 SCREW	$ 207.00	30 LBS
EB-30 SCREW	$ 207.00	30 LBS
EB-36 SCREW	$ 207.00	.....
REMOVEABLE BASE PLATE - GALVANIZED	$ 105.00	5 LBS
REMOVEABLE CAST IN SLEEVE (18" LONG)	$ 126.00	15 LBS
(AVAILABLE IN STEEL / ALUMINUM)		
6-2C1	$ 358.00	95 LBS
6-2C2	$ 342.00	90 LBS
8-2C1	$ 372.00	95 LBS
8-2C1-R	$ 410.00	.....
8-2C1-D	$ 410.00	.....
8-2C2	$ 341.00	90 LBS
3-C1	$ 427.00	110 LBS
3-C2	$ 445.00	110 LBS
5-C1	$ 482.00	120 LBS
5-C2	$ 528.00	120 LBS
REMOVABLE BASE PLATE - GALVANIZED	$ 126.00	10 LBS
REMOVABLE CAST IN SLEEVE & PLUG	$ 168.00	30 LBS
(AVAILABLE IN STEEL ONLY)		
CB-A1	$ 527.00	110 LBS
CB-F1	$ 482.00	.....
CB-K1	$1102.00	250 LBS
DG-1	$ 797.00	.....
DG-2	$ 655.00	.....
DG-3	$ 434.00	.....
DG-4	$ 544.00	.....
DG-5	$ 654.00	.....
CB-RB LEVELING BASE	$ 45.00	.....
LEVELING BASE	$ 48.00	.....


5C2


3C


8-2C1


DG2 WITH LIGHT


C

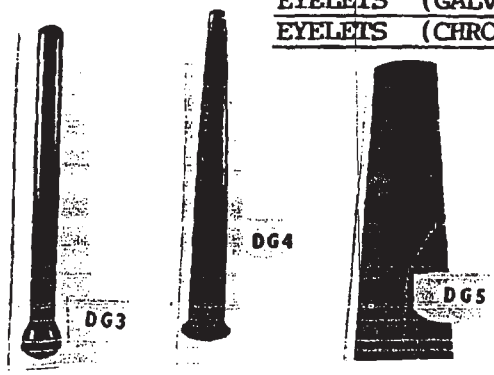

DG1 WITH LIGHT

INFORMATION: COST INCLUDES STANDARD COLORS

EYELETS (GALVANIZED OR PAINTED)..... $14.00

EYELETS (CHROME)..... $23.00

FREIGHT CLASS 70



PRICE LIST - REVISED 2/1999

TRASH UNITS:	1-10 QTY	11 OR MORE	WEIGHT
T-10	$ 609.00	$ 575.00	60 LBS
T-12	$ 442.00	$ 417.00	42 LBS
T-14	$ 576.00	$ 544.00	78 LBS
T-15	$ 648.00	$ 612.00	65 LBS
T-18	$ 414.00	$ 391.00	64 LBS
T-18 REDWOOD/ADD TO ABOVE	$ +71.00	$ +65.00	.....
T-10-T	$ 639.00	$ 585.00	60 LBS
T-15-T	$ 695.00	$ 620.00	64 LBS
T-20-T	$ 728.00	$ 656.00	78 LBS
T-55-T	$1,373.00	$1,296.00	185 LBS
T-10-A	$ 662.00	$ 625.00	67 LBS
T-15-A	$ 697.00	$ 658.00	72 LBS
T-20-A	$ 728.00	$ 687.00	83 LBS
ECONOCAN T-30	$ 667.00	$ 630.00	125 LBS
ECONOCAN T-55	$ 703.00	$ 664.00	148 LBS
ST-55 (NO TOP)	$ 601.00		
(SIMPLE TOP)	$ +45.00		
(COMPLEX TOP)	$ +95.00		
MID ASH	$ 531.00	$ 501.00	125 LBS
TALL ASH UNIT	$ 563.00	$ 532.00	138 LBS



T 12
12" Dia. x



T 20 T
14" Dia. x 4



T 55
24" Dia. x 4

INFORMATION: ABOVE ITEMS COST INCLUDES - STANDARD COLORS
ABOVE ITEMS ALL CAST PARTS ARE ALUMINUM

CHROME CASTINGS 12".....$ 91.00 PER CASTING
CHROME CASTINGS 14".....$103.00 PER CASTING

DOME OR RING (RAW) .....$ 72.00 EACH
DOME OR RING (PAINTED) .....$101.00 EACH

DOME OR RING: ADD FOR EA. CASTING NEEDED
(POLISH ALUMINUM/CLEAR COATED)....$105.00



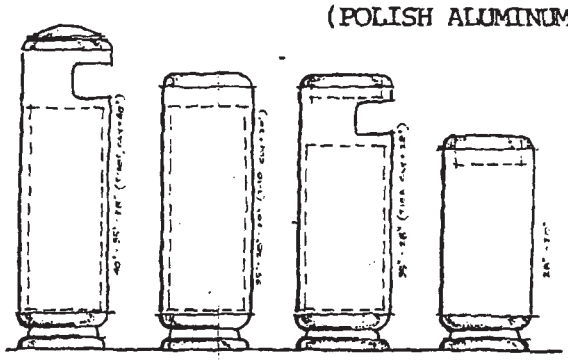
T 14
14" Dia. x 32" H variable

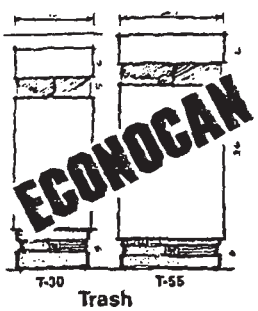


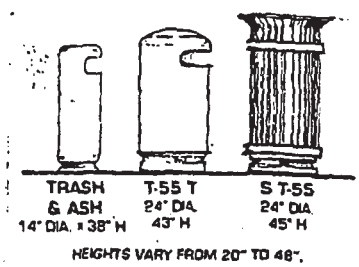
T 20 T
14" Dia. x 43" H



T 18
20" Dia. x 46" H







URBACO USA - 135 West Oxmoor Road - Suite 307 - BIRMINGHAM, AL 35209 - phone 205-942-5333 fax 205-942-5776 Toll free 1-888-887-2220 - URGACO@AOL.COM

ref.	description	unit price in US$
	Cabinets	
8670A	Armoured steel cabinet 1100 x 550 x 800 mm (3.6 x 1.8 x 2.6 ft) galvanized + lackered + sound insulation	2,672
8670E	Armoured steel cabinet 1100 x 650 x 1000 mm (3.6 x 2.1 x 3.3 ft) galvanized + lackered + sound insulation	2,558
8670D	Cabinet with special sizes or adaptations	POA
8664A2	City4 cabinet lower part 1050 x 385 x 265 mm (3.4 x 1.3 x 0.87 ft)	2,452
8670G	City5 cabinet with big cast iron socket thermic insulation 1185 x 457 x 340 mm (3.9 x 1.5 x 1.1 ft)	2,706
8671	Emergency stop button + flap door on cabinet	310
	Compressors	
8602	Air dryer for 50 liters compressor ref. 8603 - optional	2,138
8603	Bi-cylinder URBACO compressor 50 liters / 13.2 gals (for 3 or more access points)	2,859
8600	Standard URBACO compressor 15 liters / 3.9 gals (for 2 to 3 access points)	2,533
8605	URBACO microcompressor without tank - for 1 to 2 access points	2,234
	Detection equipment	
8612A	Detection loop 4 m (13.1 ft) preformed pave-over protected loop. Return : 10 m (32.8 ft).	186
8612B	Detection loop 6 m (19.7 ft) preformed pave-over protected loop. Return : 10 m (32.8 ft).	214
8612C	Detection loop 8 m (26.4 ft) preformed pave-over protected loop. Return : 10 m (32.8 ft).	237
8612D	Detection loop 10 m (32.8 ft) preformed pave-over protected loop. Return : 10 m (32.8 ft).	250
8626KS*	Safety set for 1 way = controlled entry (1 detector 8611A + 2 loops)	1,034
8627KS*	Safety set for 1 way = free exit (2 detectors 8611A + 3 loops)	1,732
8628KS*	Safety set for 1 way = controlled entry + controlled exit (1 detector 8611A + 2 loops)	1,085
8629KS*	Safety set for 1 way = controlled entry + free exit (2 detectors 8611A + 3 loops)	1,783
8611A	URBACO detector (not mounted) 2 canals with saved memory	452
8611B	URBACO detector (not mounted) one direction with saved memory	488
	Electronic control panels	
8625EV1	Electronic control panel for one access (one or two directions)	1,261
8625EV1F	Electronic control panel same as ref. 8625EV1 + traffic light control	1,536
8625EV2	Electronic control panel for two access points (one or two directions)	1,802
8625EV2F	Electronic control panel same as ref. 8625EV2 + traffic light control	2,077
	Micro Technical Center (MTC)	
8620G	**Economical** electro-pneumatic **MTC**, 1 access : simplified without electronic control, without safety nor detection,	3,442
	includes : one metallic housing, thermic insulation, one URBACO microcompressor, an air distribution set 220V,	

* Note : the 8633 URBACO PLC already includes two detections (so only add the loops)

Sent By: ARMR SERVICES CORP; 7038760427; Mar-12-99 11:15; Page 2

ref.	description	lost casing	reel height mm	reel height inches	weight kg	weight pounds	unit price in US $
BTA Ovaly flat (= flat cover) impact resistance 2500 joules							
8130BR	BTA large Ovaly 450 flat bronze	8770N					4,558
8130G	BTA large Ovaly 450 flat ultra strong alloy	8770N					4,000
BTA Senat standard (= raised cover)							
8157E	BTA Senat 700 standard						POA
BTA Villeneuve standard (= raised cover) impact resistance 3000 joules							
8157	BTA Villeneuve 550 standard steel	8770	498	19.62			3,906
8158	BTA Villeneuve 650 standard steel	8772A	550	21.67			4,006

BRTA automatic bollards

Including standard URBACO paint

BRTA Athena flat (= flat cover) impact resistance not tested							
Important : exceptional price only valid until 1st March 1999 as this bollards hasn't been tested on its endurance nor its impact resistance !							
9610	BRTA Athena 500 flat ultra strong alloy	9150C	500	19.7	68.5	151	1,717
9611	BRTA Athena 750 flat ultra strong alloy	9150D	750	29.5	87.5	193	2,004
BRTA Chateauneuf standard (= raised cover) impact resistance 2500 joules							
9163	BRTA Chateauneuf 550 standard ultra strong alloy	9150A	540	21.27	52	114.6	1,897
9164	BRTA Chateauneuf 650 standard ultra strong alloy	9150B	650	25.61	68	149.9	2,056
9165	BRTA Chateauneuf 800 standard ultra strong alloy	9150B	800	31.52	70	154.3	2,238
BRTA Chateauneuf flat (= flat cover) impact resistance 2500 joules							
9160	BRTA Chateauneuf 500 flat ultra strong alloy	9150C	490	19.31	52	114.6	1,908
9161	BRTA Chateauneuf 600 flat ultra strong alloy	9150D	590	23.25	68	149.9	2,005
9162	BRTA Chateauneuf 750 flat ultra strong alloy	9150D	740	29.16	70	154.3	2,196
BRTA Ovaly flat (= flat cover) impact resistance not tested							
Important : exceptional price only valid until 1st March 1999 as this bollards hasn't been tested on its endurance nor its impact resistance !							
9620	BRTA Ovaly 500 flat ultra strong alloy	9150C					1,717
9621	BRTA Ovaly 750 flat ultra strong alloy	9150D					2,004

Sent By: ARMR SERVICES CORP; 7038760427; Mar-12-99 11:15; Page 3/4

SEMI · AUTOMATIC

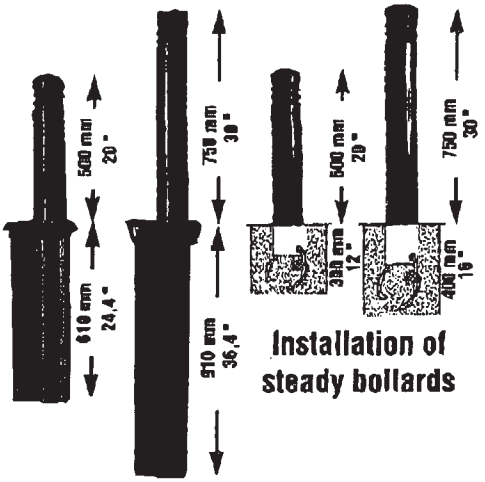
URBACO USA - 135 West Oxmoor Road - Suite 307 - BIRMINGHAM, AL 35209 - phone 205-942-5333 fax 205-942-5776 Toll free 1-888-987-2220 - URBACO@AOL.COM

ref.	description	lost casing	height above ground mm	height above ground inches	weight kg	weight pounds	unit price in US $
9711	BRT Athena flat ultra strong alloy 750	9150D					2,089
BRT Chateauneuf standard (= raised cover) impact resistance 2500 joules							
9243	BRT Chateauneuf standard ultra strong alloy 550	9150A	540	21.27	52	114.6	1,878
9244	BRT Chateauneuf standard ultra strong alloy 650	9150B	650	25.61	68	149.9	2,031
9245	BRT Chateauneuf standard ultra strong alloy 800	9150B	800	31.52	70	154.3	2,118
BRT Chateauneuf flat (= flat cover) impact resistance 2500 joules							
9240C	BRT Chateauneuf flat ultra strong alloy 500	9150C	490	19.31	52	114.6	1,976
9240D	BRT Chateauneuf flat ultra strong alloy 600	9150D	590	23.25	68	149.9	2,128
9240E	BRT Chateauneuf flat ultra strong alloy 750	9150D	740	29.16	70	154.3	2,300
BRT Ovaly flat (= flat cover) resistance not tested							
Important : exceptional price only valid until 1st March 1999 as this bollards hasn't been tested on its endurance nor its impact resistance !							1,712
9720	BRT Ovaly flat ultra strong alloy 500	9150C					2,089
9721	BRT Ovaly flat ultra strong alloy 750	9150D					2,278
Lost casings							
Lost casings BRM							
8770	Lost casing for BRM 420 to 550	8770	665	26.2	10	22	188
8770N	Lost casing for BRM flat 400 to 500	8770N	700	27.58	10	22	188
8771	Lost casing for BRM 300 to 320	8771	475	18.71	10	22	206
8771N	Lost casing for BRM flat 300	8771N	510	20.1	10	22	206
8772A	Lost casing for BRM 600 to 650	8772A	855	33.3	10	22	240
8772N	Lost casing for BRM flat 600 to 610	8772N	880	34.67	10	22	240
Lost casings BRT							
9150A	Lost casing for BRT 550	9150A	630	24.82	10	22	162
9150B	Lost casing for BRT 650 - 800	9150B	920	36.25	10	22	169
9150C	Lost casing for BRT 500	9150C	670	26.4	10	22	164
9150D	Lost casing for BRT 600 - 750	9150D	960	37.82	10	22	171

Sent By: ARMR SERVICES CORP; 7038760427; Mar-12-99 11:15; Page 4/4

2400 joules : CHATEAUNEUF x 2 heights

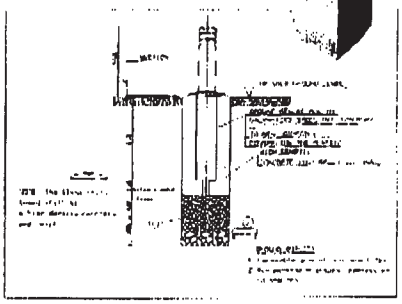
500mm/20 inches and 750mm/30 inches



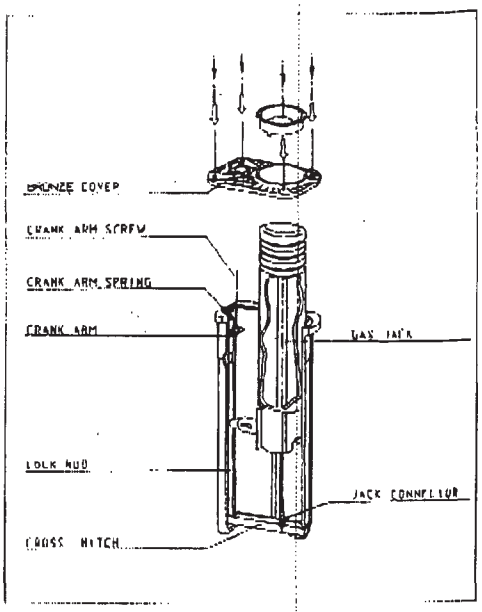
Installation of steady bollards



2 types of lost casings made of galvanized steel to ease installation



Installation instructions included in every shipment

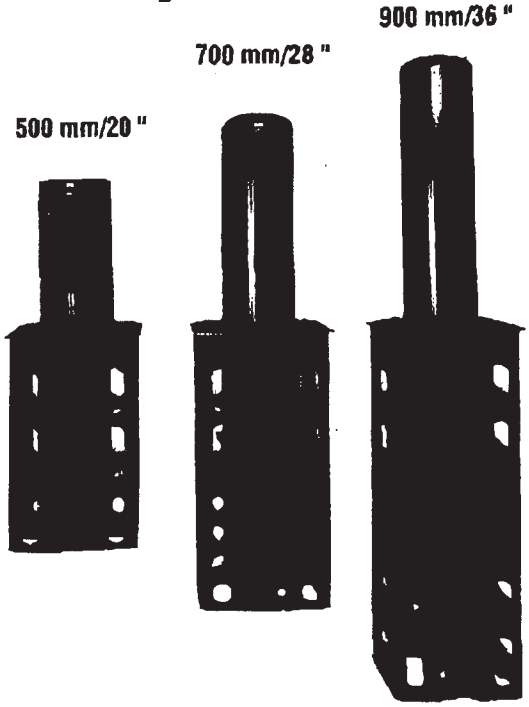


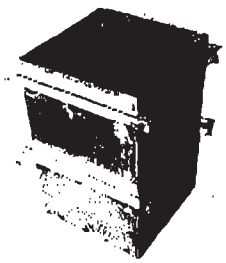
6000 joules : 5 models x 3 heights are avalaible .

900 mm/36 "

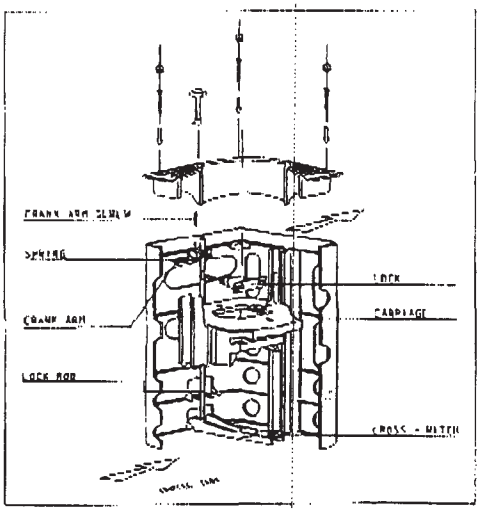
700 mm/28 "

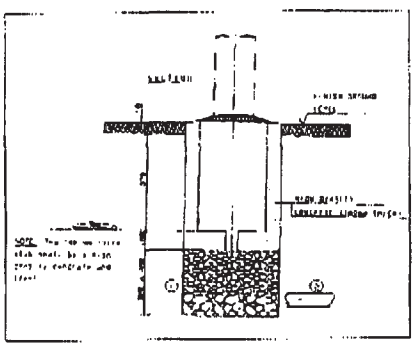
500 mm/20 "





lost casing.





Installation instructions included in every shipment

3 heights

900 mm/36 "

700 mm/28 "

500 mm/20"

The same resistance to shocks. 5 different models to choose from ...

.....500 mm/20 inches.....



CHATEAUNEUF®

THE AUTOMATIC OR SEMI AUTOMATIC BOLLARD



WITHIN A REASONABLE BUDGET, YOU CAN NOW HAVE

- dedicated pavements, squares and carparks ;
- clear accesses to garages or streets ;
- against "Ram Raiding" .
- controlled access for deliveries.
- well controlled semi-pedestrian precincts.

The CHATEAUNEUF RETRACTABLE BOLLARD also exists in fixed version, to be cemented in, or removeable with the FIXATOR® patented system.

DIMENSIONS

- Ø of the Chateauneuf bollard ..... 120 mm
- Height from ground level ..... 550 mm
- Depth of casing in ground ..... 610 mm
- Volume of casing ..... 25 litres.
- Weight ..... 52 kg.

STRUCTURE

The bollard set consists of the *"bollard, cover, casing and gas piston support arm* made in solid cast alloy, **extremely strong, non** -or low - **oxydising, resisting electrolytic corrosion** and acids.

THE CHATEAUNEUF BOLLARD

Solidly cast in **ultra strong alloy, is able to resist any shock, treated against corrosion**, the thickness, of up to 12 mm guarantees the strength. Patented model.

RESISTENCE TO SHOCKS

Tested in a laboratory, the retractabe Chateauneuf functions normally after a shock of over 2400 Joules. (a concrete bollard breaks at 250 joules)

LOCKING MECHANISM

Patent Urbaco. Impossible to become jammed. Made in non-oxydising stainless steel, the mechanism works with two automatic locks and is unlocked manually. The key hole is protected by a **bronze flap** which keeps out dust and gravel.

KEYS

Two types of keys :

- **master key (S key) :** lax enforcement, cleaning services,...
- **captive key (P key) :** users must raise the bollard before being able to pull their key out. Both types are available with several prints. (sea overleaf).

COLOURS See overleaf.

ACCESS CONTROL

cument is not a contract. We reserve the right to improve our products without advance notice.

URBACO®
Siège Social :
Z. I. CHALANÇON 2 - B.P. 8 FRANCE. 84270 VEDENE
TÉL. (33) 90 30 90 30 - FAX. (33) 90 30 43 50

THE CHATEAUNEUF BOLLARD

AN URBACO CREATION

Same diameter (120 mm), two heights available : 550 mm and 750 mm
THE CHATEAUNEUF EXISTS IN THREEE VERSIONS, FOR COMPLEMENTARY USES

FIXED

550 mm — To be cemented in.
The cheapest : cast iron. **Ref. 9052 A**
or- Ultra strong alloy. **Ref. 9052 B**
Weight : 17 kg

750 mm — Cast iron : **Ref. 9075 A**
Ultra strong alloy : **Ref. 9075 B**
Weight : 20 kg

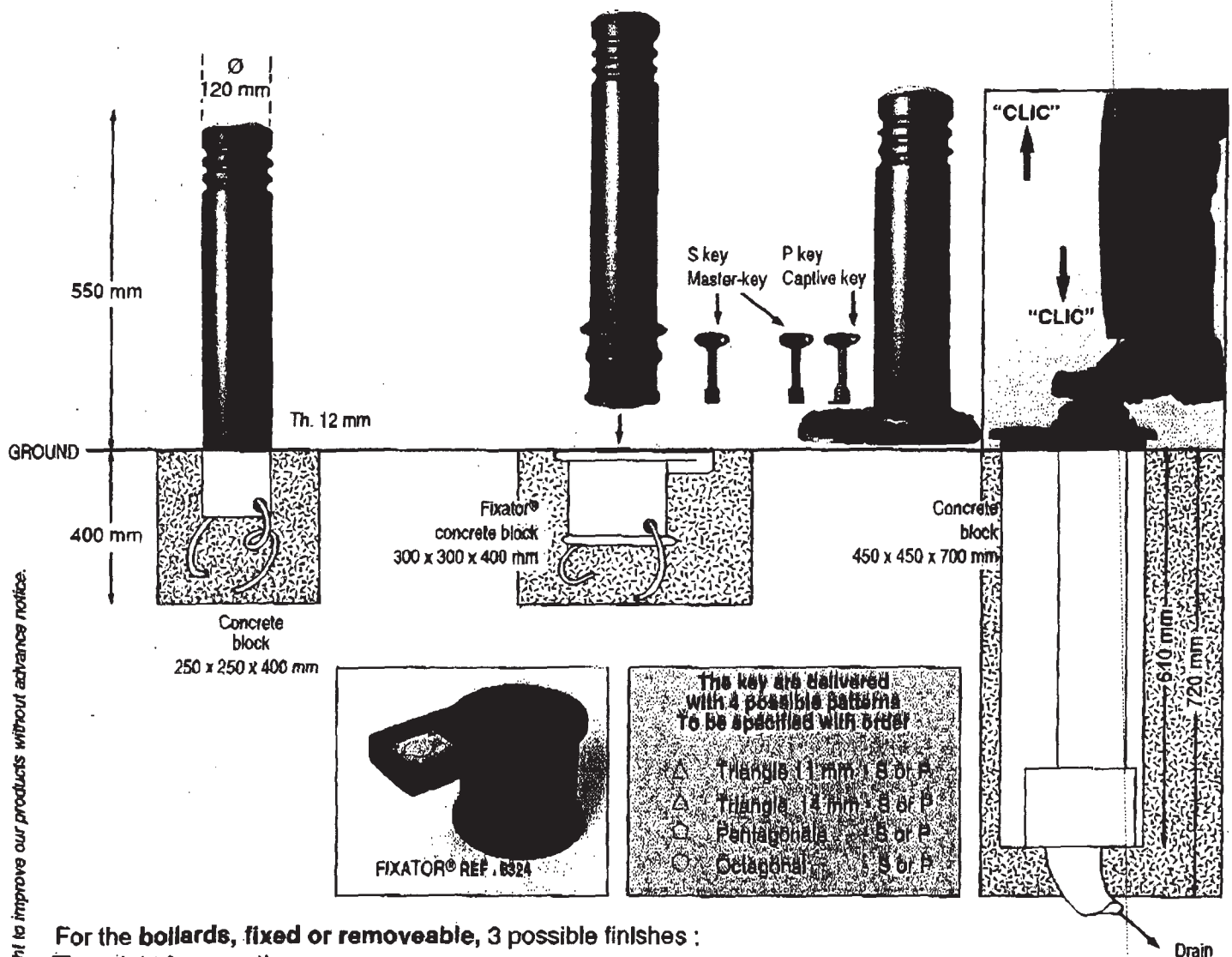
REMOVEABLE

550 mm — The cheapest : cast iron. **Ref. 9055 A**
or-Ultra strong alloy. **Ref. 9055 B**
Weight : 19 kg

750 mm — Cast iron : **Ref. 9075 A**
Ultra strong alloy : **Ref. 9075 B**
Weight : 20 kg
with fixator : **Ref 8324**

RETRACTABLE

Semi-automatic
Ref. 9060
See descriptive overleaf
Total weight : 52 kg



The key are delivered with 4 possible patterns To be specified with order
△ Triangle (1 mm) : S or P
△ Triangle (4 mm) : S or P
⬠ Pentagonale : S or P
⬡ Octagonal : S or P

For the **bollards, fixed or removeable,** 3 possible finishes :
- straight from casting ;
- mat metallic paint : light grey, dark grey,
- lacquered in polyurethane, satin metalic finish : burgundy, black, dark green, brown.

The **retractable bollards** are always delivered "treated against corrosion and lacquered" - colour to be specified with your order.

QUALITY IN THE SMALLEST DETAILS AND DURABILITY AS WELL.

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ment is not a contract. We reserve the right to improve our products without advance notice.

B.R.D.E. RETRACTABLE BOLLARD FOR ELECTRIC POWER DISTRIBUTION



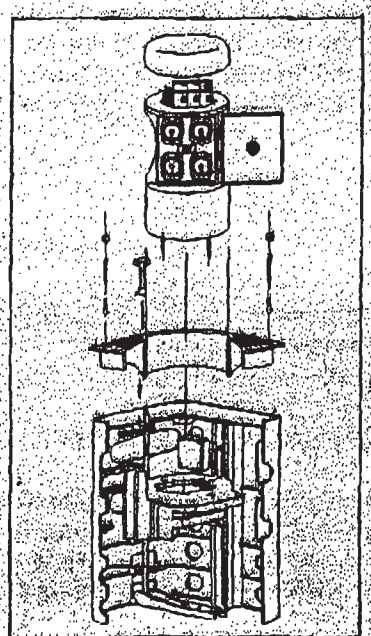
TECHNICAL FEATURES

- Total weight : 187 kg
- Parts of the underground casing cast solidly in one piece casing - cover - carriage / sliding parts - anti vibration brace - rails;
- Locking system : simple patented mechanism, impossible to get stuck - made in stainless steel and hard bronze. Locking system with automatic backlash reduction of wear. The key hole is protected by a bronze flap which keeps out dust and gravel.
- Cover bolted with invisible screws.
- Screws made of stainless steel.
- Upper part in mechanic-welded steel, thickness : 8 and 10 mm. With 2 doors - impossible to retract the bollard when the 2 doors are open.

ALL THE PARTS RESIST ELECTROLYTIC CORROSION.

ELECTRICAL SPECIFICATIONS

- The power supply resists submersions, with two waterproof doors and a water resistant packing box (guaranteed by official administrations).
  - → Doors closed : IP 67 (submersions possible).
  - → Doors open : IP 447.
- 6 sockets 10/16 A, dispatched on the two distribution sides (another possibility for the distribution is 4 x 25 A).
- Power supply : connection socket IP 67
- Safety :
  - → Equipotential connection of components.
  - → Visible stickers "man struck by lightening".
- Warning : this equipment cannot be used in places with a risk of explosion or fire, check regulations on the site.



Structure parts 10 year guarantee.
Locking system non oxydising 10 year guarantee.
Electric parts and jack 6 months guarantee.

INSTALLATION

The installation plan and installation instructions are delivered with the equipment. You have the possibility to order a cast casing (in galvanized steel sheet with a thickness of 1,5 mm) to make the civil works easier and to prepare the installation.

The power supply and installation have to be carried out by a qualified professionnel in accordance with the current rules of the region, particulary regarding the cable section and protection to be installed.

Choice of colours : metallic green, dark green, brown, black and khaki green.

QUALITY IN THE SMALLEST DETAILS, AND DURABILITY.

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B.R.D.E - An URBACO invention

Outdoor or indoor : the electric power...



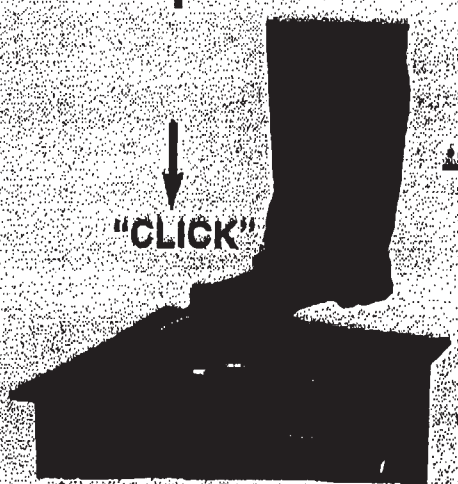
Handy and efficient

...WHEREVER YOU WANT

- For service or technicians
- Market places
- Pedestrian precincts
- Exhibition areas
- Factory yards
- Carparks, etc.
- and other

...WHENEVER YOU WANT

"CLICK"



"CLICK"

Discreet and selective

After lifting the bronze protection flap, you only need to action the locking system by using the appropriate key : the retractable bollard with power supply will come up automatically, without any effort and will lock itself automatically in the upper position (URBACO patent). After opening the waterproof doors, you can make the connection.

...FOR WHOEVER YOU WANT

The locking key makes a selection of the users.

- 5 types of keys are at your choice (To be mentioned on your order) :
  - → Triangle 11 mm → Pentagonal 3/4 circle
  - → Triangle 14 mm → Octogonal
- Locking system cannot get stuck, non oxydising guarantee (URBACO patent).
- Strong distribution power : 8 sockets 10/16 A.
- The underground casing has a strength which passes every test : proven reliability shown by more than 4000 retractable bollards installed in every climate worldwide ≈ 187 kg of quality. All the structure parts are cast solidly in one piece and have a 10 year guarantee.

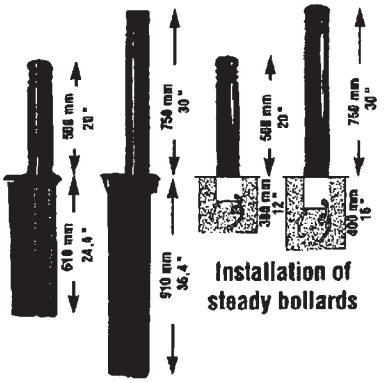
Choice of colours : p.t.o.

QUALITY IN THE SMALLEST DETAILS, AND DURABILITY.

URBACO®
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Tél. (33) 90 32 00 00 - FAX. (33) 90 32 40 56

2400 joules : CHATEAUNEUF x 2 heights

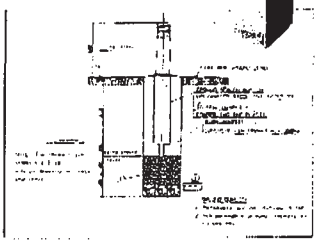
500mm/20 inches and 750mm/30 Inches



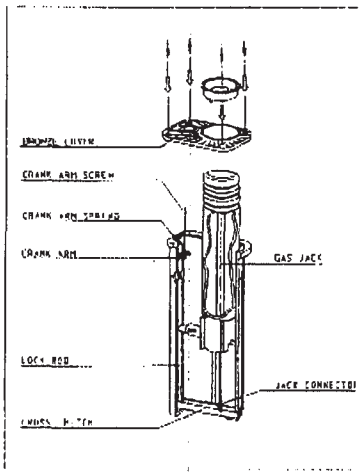
Installation of steady bollards

2 types of lost casings made of galvanized steel to ease installation

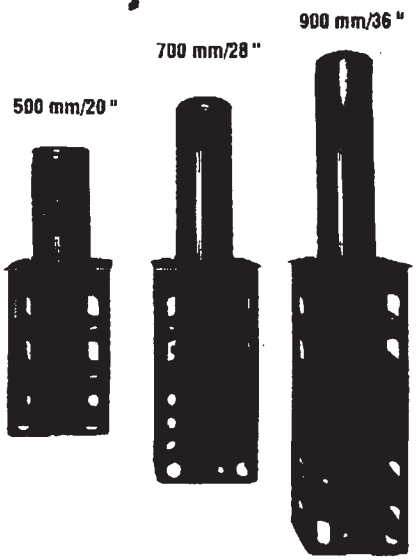


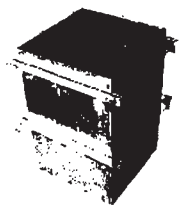


Installation instructions included in every shipment

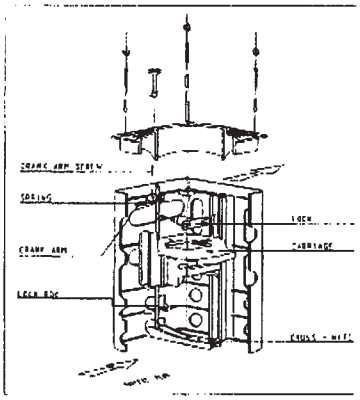


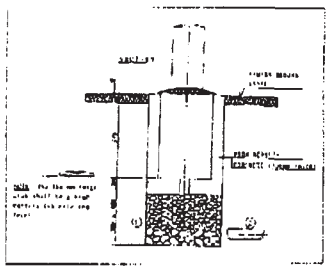
6000 joules : 5 models x 3 heights are avalaible .





lost casing.





Installation instructions included in every shipment

3 heights

900 mm/36"

700 mm/28"

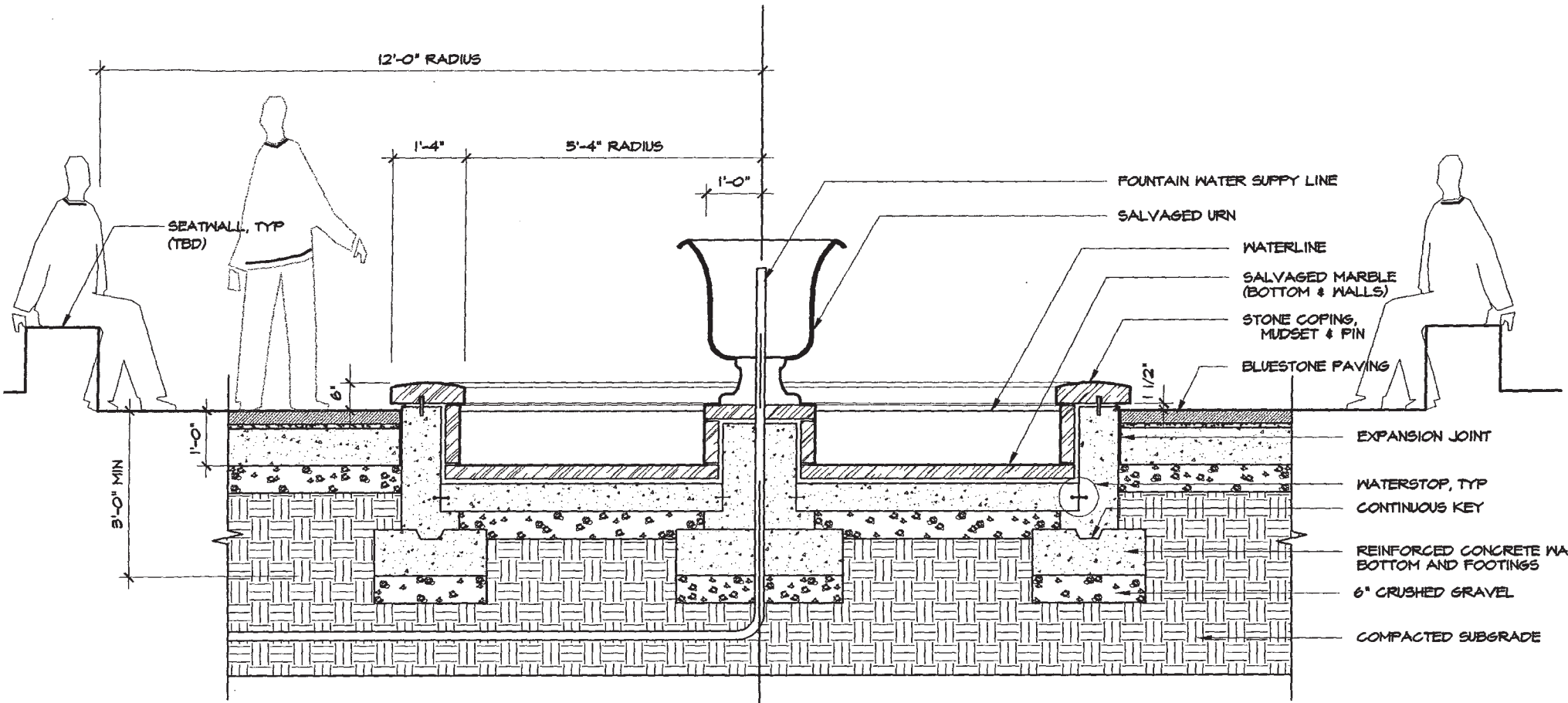
500 mm/20"

The same resistance to shocks. 5 different models to choose from ...

.....500 mm/20 Inches.....



Catalane Cabestan Acropole Acropolis Cylinder



2
L5.3

Garden Fountain @ Block 1 - Section

SCALE: 3/8"=1'-0"