



August 25, 2022

Ms. Rachel K. Savarie, PE
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, New York 12233-7014

Attention: Mr. David Sweet, VP Sustainability, Griffon Corporation

**Re: Fence Installation at Wooded and Southeastern Areas
Former Union Fork & Hoe Site
253 East Main Street
Frankfort, New York 13340
NYSDEC Site No. 6-2-011
Tetra Tech Project #194-1197-0002**

Dear David:

On behalf of AMES Companies, Tetra Tech, Inc. (Tetra Tech) provided fencing at two locations, wooded area and southeastern area, at the Former Union Fork & Hoe Site (Project) located in Frankfort, New York.

FENCE INSTALLATION AT WOODED AREA

The work involves the installation of a 4-foot chain-link fence around the wooded area as requested by the New York State Department of Environmental Conservation (NYSDEC) in their March 19, 2021, comment letter addressed to the draft Site Management Plan and draft Construction Completion Report prepared by O'Brien and Gere (OBG). The new 4-foot-tall chain-link fence is approximately 1,002 feet in length and consisted of 1⁷/₈" O.D. WT-40 driven line posts (ASTM F1043 Group 1C Pipe – Zinc Coated), 2³/₈" O.D. WT-40 driven terminal posts (ASTM F1043 Group 1C Pipe – Zinc Coated), 1⁵/₈" O.D. WT-40 top rail (ASTM F1043 Group 1C Pipe – Zinc Coated), 48" high chain-link fence fabric (ASTM A491 – 9-gauge Aluminized, 2" Mesh), tension wire (Coil Spring – 7-gauge Galvanized) attached to the bottom of fence fabric, 7¹/₂" tie wire (9-gauge Aluminum) attached to line posts and rails, and fence fittings. One 10-foot-wide and 4-foot-high WT-40 double-swing chain-link fence fabric gate (ASTM F1043 Group 1C Pipe – Zinc Coated) was also installed on 2⁷/₈" O.D. WT-40 concrete-anchor gate posts (ASTM F1043 Group 1C Pipe – Zinc Coated), to provide access to the wooded area. The approximate location of the 4-foot chain-link fence at the wooded area is shown in **Figure 1**.

FENCE INSTALLATION AT SOUTHEASTERN AREA

This work involves the installation of a 6-foot-tall chain-link fence around the southeastern area of the Site. The new 6-foot-tall chain-link fence was approximately 507 feet in length and consisted of 1⁷/₈" O.D. WT-40 driven line posts (ASTM F1043 Group 1C Pipe – Zinc Coated), 2³/₈" O.D. WT-40 driven terminal posts (ASTM F1043 Group 1C Pipe – Zinc Coated), 1⁵/₈" O.D. WT-40 pipe braced and trussed to the line posts (ASTM F1043 Group 1C Pipe – Zinc Coated), 72" high chain-link fence fabric (ASTM A392 –

Tetra Tech, Inc

One Oxford Valley, Suite 200A, Langhorne, PA 19047
Tel (215)-702-4000 | Fax (215) 702-4045 | www.tetrattech.com

9-gauge Aluminized, 2" Mesh), tension wire (Coil Spring – 7-gauge Galvanized) attached to the top of fence fabric, 7½" tie wire (6-gauge Aluminum) attached to line posts, and fence fittings.

The work also included minor clearing of vegetation and trees up to 4" diameter trunk-size and removal/disposal of approximately 256-foot-long existing 6-foot chain-link fence previously installed at the wrong property line. The approximate location of the new 6-foot chain-link fence at the southeastern area is shown in **Figure 2**.

ADDITIONAL NOTES

- 1) Prior to the fence installation at the southeastern area, the property line was surveyed on July 5, 2022, by a Professional Land Surveyor, and the boundaries were staked in the field. Southeast area fence sketch provided by the Surveyor is included as **Attachment 1**.
- 2) Tetra Tech utilized a qualified and experienced Subcontractor for the installation of fence in July 2022. Fence material documentations provided by the fencing company are included as **Attachment 2**.
- 3) Tetra Tech representative was on-site on July 11, 2022, at the beginning of the fence installation, to assist in determining the location of the fence and gate. Tetra Tech representative verified the fence location and workmanship after the completion of the work on August 23, 2022.
- 4) Fence photographs of the new 4-foot-tall and 6-foot-tall chain-link fence installed are included as **Attachment 3**.

Thank you for the opportunity to support the fence installation work. Please feel free to contact me at (215) 702-4097 or via email at Vinay.Singhal@tetrattech.com, should you have questions or require additional information.

Sincerely,

Tetra Tech, Inc.



Vinay B. Singhal, PE
Civil Geotechnical Discipline Lead

Enclosures

- Figure 1 – Wooded Area Fence Location Plan
- Figure 2 – Southeastern Area Fence Location Plan
- Attachment 1 – Southeastern Area Fence Surveyor's Sketch
- Attachment 2 – Fence Material Documentations
- Attachment 3 – Fence Photographs

— FENCE/APPROXIMATE SITE BOUNDARY
 TREELINE

—○— 4-FOOT FENCE



1 inch = 100 feet
APPROXIMATE SCALE IN FEET



1. ALL LOCATIONS ARE APPROXIMATE.
2. FENCE LINE, AND TREE LINE SURVEYED ON MARCH 31, 2016 BY THEW ASSOCIATES LAND SURVEYORS.

1. AERIAL PHOTO "FRANKFORT, NY." MAP. NEARMAP. 06 APRIL 2020.
2. SERVICE LAYER CREDITS: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

WOODED AREA FENCE LOCATION PLAN

FRANKFORT, NEW YORK

PREPARED BY:



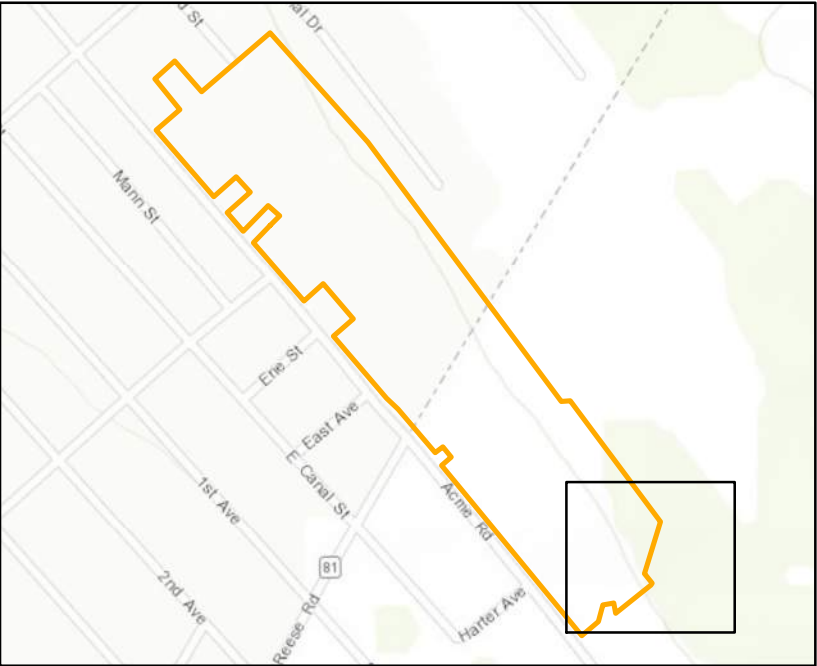
TETRA TECH

PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE 1

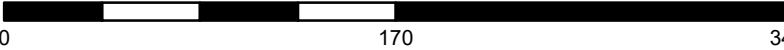


LEGEND

- Current Fence
- Proposed Fence Addition (6-FOOT FENCE)
- On-site Southeast Sample Locations
- Historic Railroad Line
- Existing Fence Removal



APPROXIMATE SCALE IN FEET




- NOTES:
- 1. ALL LOCATIONS ARE APPROXIMATE.
 - 2. FENCE LINE SURVEYED ON MARCH 31, 2016 BY THEW ASSOCIATES LAND SURVEYORS.

"NO WARRANTY IS MADE BY TETRA TECH AS TO ACCURACY, RELIABILITY, OR COMPLETENESS OF THESE DATA. THIS INFORMATION MAY NOT MEET NATIONAL MAP ACCURACY STANDARDS. THIS PRODUCT WAS DEVELOPED ELECTRONICALLY AND MAY BE UPDATED WITHOUT NOTIFICATION. REPRODUCTION MAY RESULT IN A LOSS OF SCALE AND OR INFORMATION."

FORMER UNION FORK AND HOE FACILITY

**SOUTHEASTERN AREA
FENCE LOCATION PLAN**

253 EAST MAIN STREETFRANKFORT, NEW YORK

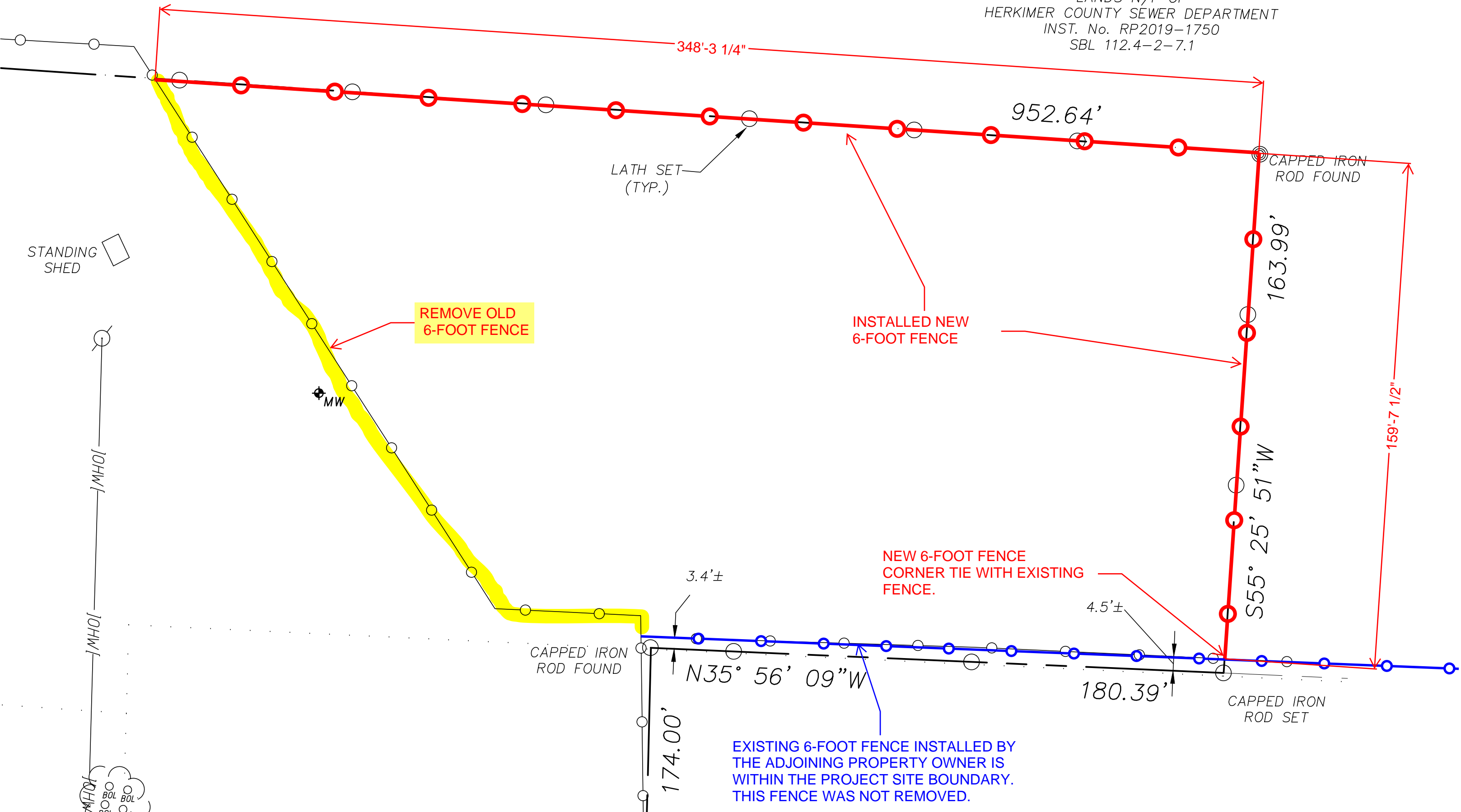


PROJECT NUMBER	APPROVED BY	DRAWN BY	DATE	FIGURE
194-1197		JBW	11/11/21	2

ATTACHMENT 1

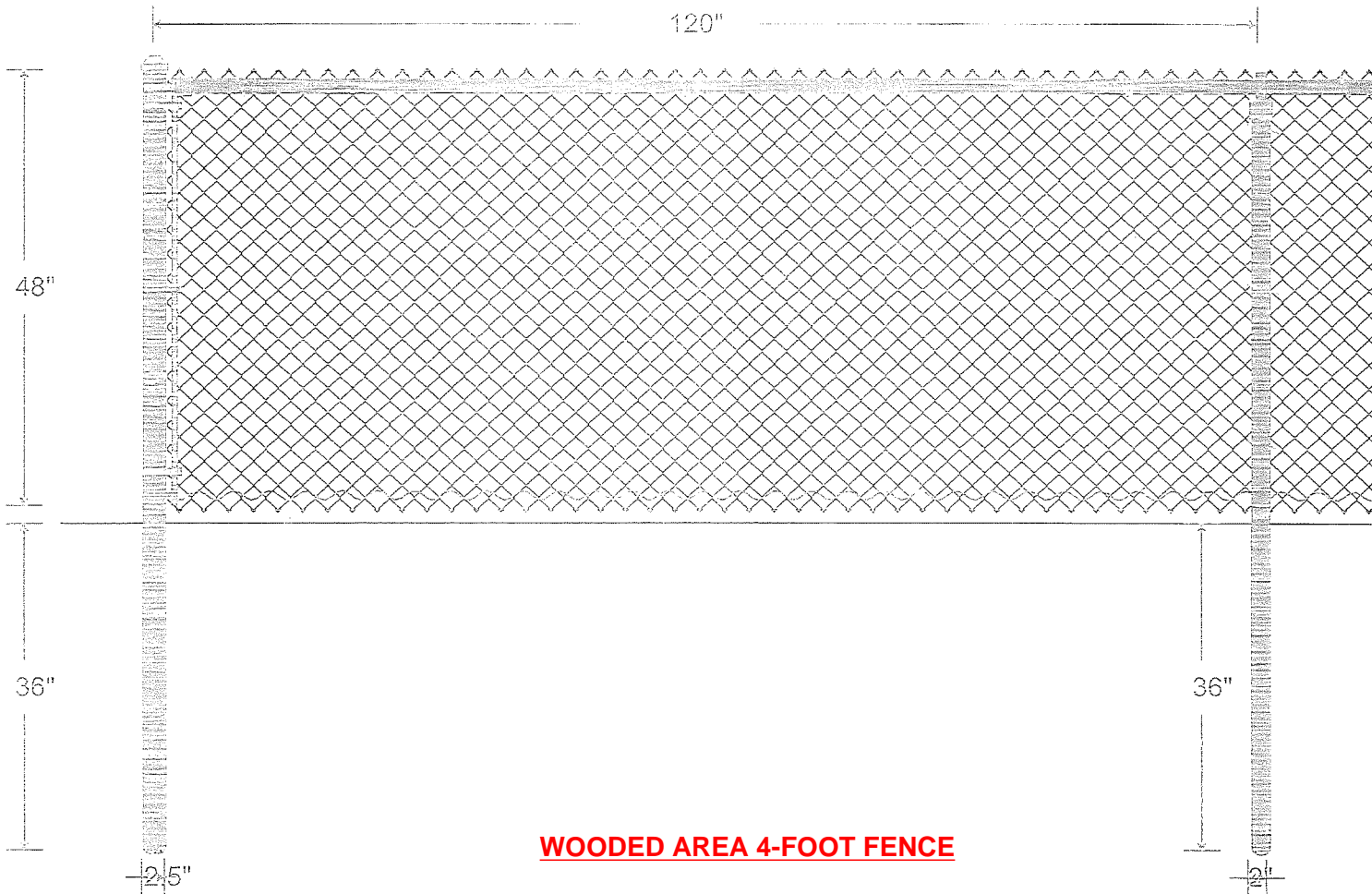
SOUTHEASTERN AREA FENCE SURVEYOR'S SKETCH

LANDS N/F OF
HERKIMER COUNTY SEWER DEPARTMENT
INST. No. RP2019-1750
SBL 112.4-2-7.1



ATTACHMENT 2

FENCE MATERIAL DOCUMENTATIONS



FABRIC: 48" 9 GA. ALM CTD ASTM A491
(2" Mesh) KK CHAIN LINK FABRIC.

TOP RAIL: 1-5/8" O.D. WT40 ASTM
F1043 GROUP 1C PIPE, 1.83 lbs. per
foot. Top rail 21' in length,
joined with 1-5/8" GALV PR-STL X 6"
RAIL SLEEVE.

LINE POST: 1-7/8" O.D. WT40 ASTM
F1043 GROUP 1C PIPE, 2.28 lbs. per
foot. Line posts set 10' on center
maximum spacing.

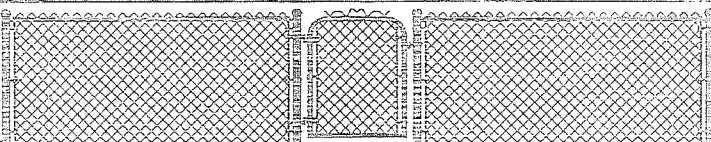
TERMINAL POST: 2-3/8" O.D. WT40
ASTM F1043 GROUP 1C PIPE, 3.12 lbs.
per foot.

TENSION WIRE: 7GA COIL SPRING
GALVANIZED CTD TENSION WIRE
attached to bottom of fence fabric
with 9 GA STANLEY AUTO STRIP
ALUMINUM HOG RING spaced 24" on
center.

FITTINGS: 12GA X 7/8" BEVELED BRACE
BAND & GALV WINUT CARRIAGE BOLT,
GALV PR-STL 2 HOLE RAIL END, GALV
PR-STL LOOP CAP, GALV PR-STL DOME
CAP, GALV STEEL 3/16" X 3/4"
TENSION BAR, 12GA X 7/8" BEVELED
TENSION BAND & GALV WINUT CARRIAGE
BOLT.

TIE WIRE: 7-1/2" 9 GA. ALUMINUM PIG
TAIL TIE WIRE spaced 15" on center
for line posts & 24" on center for
rails.

WOODED AREA 4-FOOT FENCE

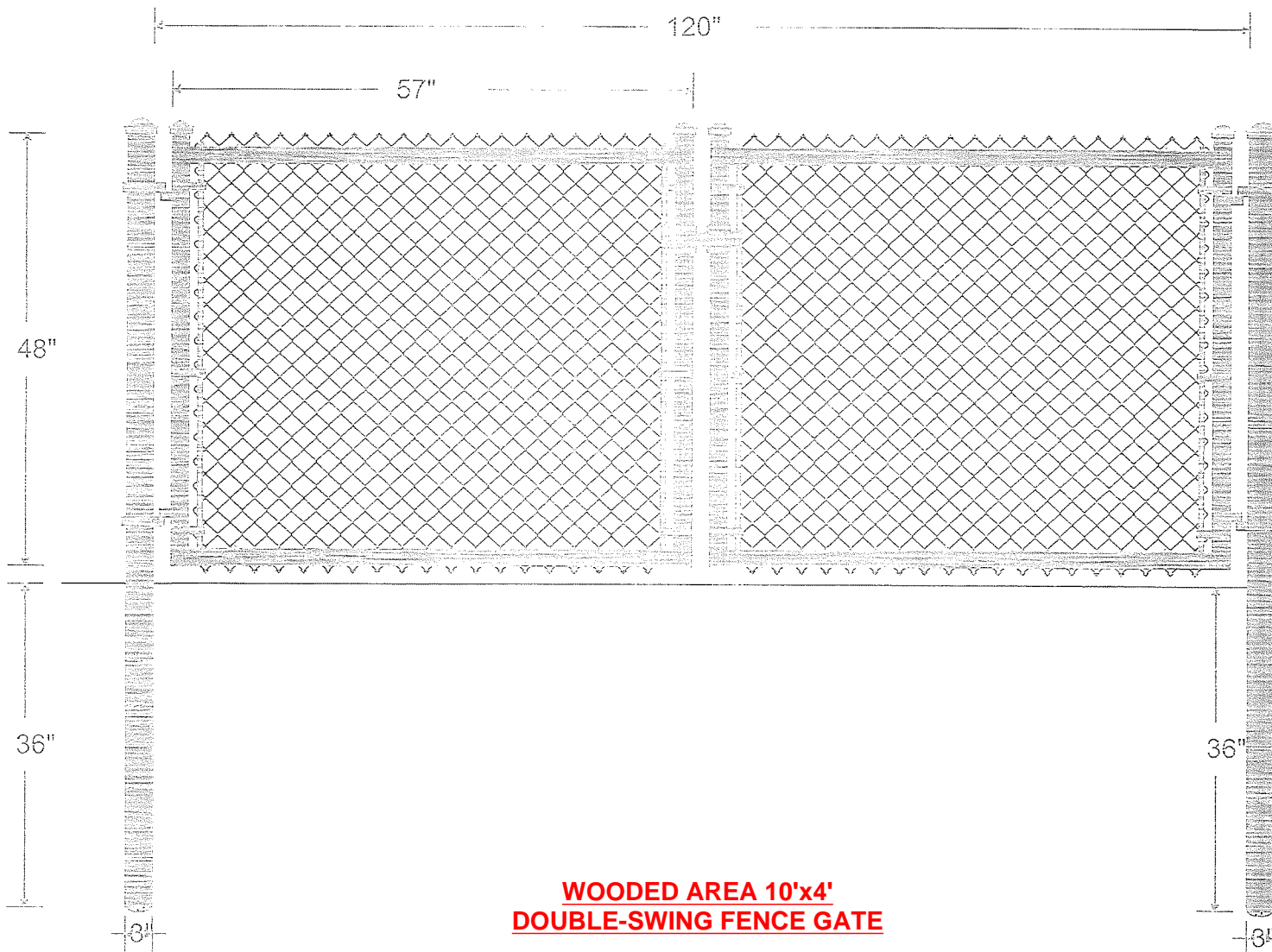


LINE OF FENCE

Rommel Fence, LLC
17 Railroad St.
Poland, N.Y. 13431
(315) 826-3758 fax (315) 826-7224

2021-07140 TETRA-TECH
1250LF 4FT CLF
FRANKFORT, N.Y.

Drawn: 04/22/2021
File: 2021-07140 TETRA-TECH PRA



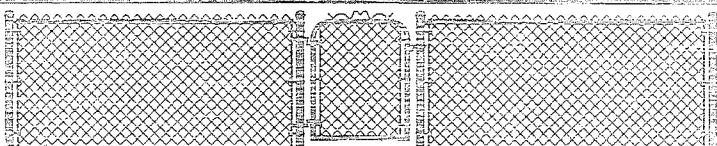
FABRIC: 48" 9 GA. ALM CTD ASTM A491
(2" Mesh) KK CHAIN LINK FABRIC.

GATES: Framework of 1-7/8" WT40
ASTM F1043 GROUP 1C PIPE, 2.28 lbs.
per foot. Gates braced and trussed
as necessary. Same fabric as
fence.

GATE POST: 2-7/8" O.D. WT40 ASTM
F1043 GROUP 1C PIPE, 4.64 lbs. per
foot.

FITTINGS: 12GA X 7/8" BEVELED BRACE
BAND & GALV W/NUT CARRIAGE BOLT,
GALV PR-STL 2 HOLE RAIL END, GALV
PR-STL LOOP CAP, GALV PR-STL DOME
CAP, GALV STEEL 3/16" X 3/4"
TENSION BAR, 12GA X 7/8" BEVELED
TENSION BAND & GALV W/NUT CARRIAGE
BOLT.

TIE WIRE: 7-1/2" 9 GA. ALUMINUM PIG
TAIL TIE WIRE spaced 15" on center
for line posts & 24" on center for
rails.



10' DOUBLE GATE, 1-7/8" WT40 ASTM F1043 GROUP 1C

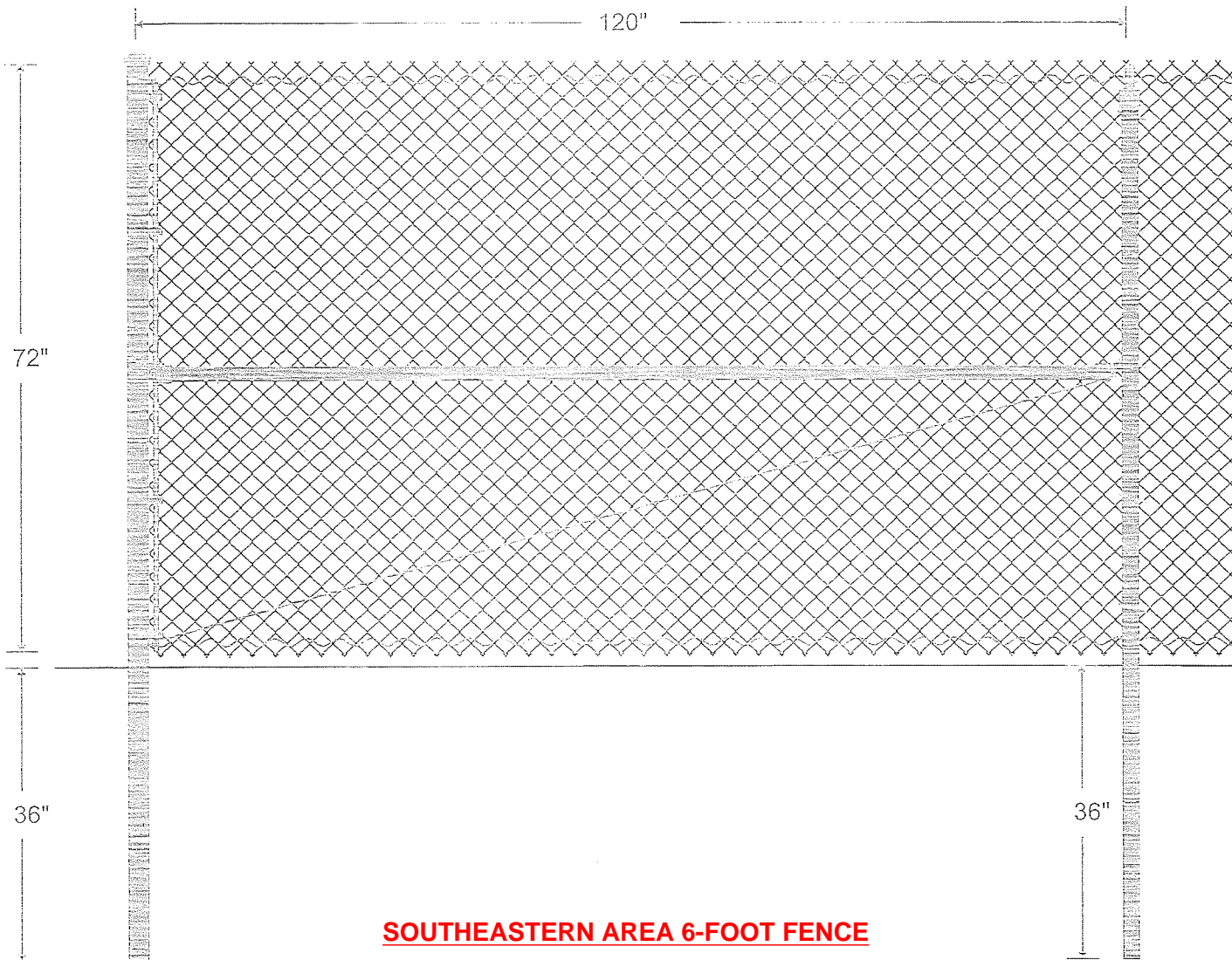
Rommel Fence, LLC
17 Railroad St.
Poland, N.Y. 13431

(315) 826-3758 fax (315) 826-7224

2021-07140 TETRA-TECH
1250LF 4FT CLF
FRANKFORT, N.Y.

Drawn: 04/22/2021

File: 2021-07140 TETRA-TECH FRA



FABRIC: 72" 9 GA. GALV ASTM A392
(2" Mesh) BK CHAIN LINK FABRIC.

TOP RAIL: None

LINE POST: 1-7/8" O.D. WT40 ASTM
F1043 GROUP 1C PIPE, 2.28 lbs. per
foot. Line posts set 10' on center
maximum spacing. Concrete footing:
0" diameter, 36" depth.

TERMINAL POST: 2-3/8" O.D. FULL
WEIGHT ASTM F1043 GROUP 1A PIPE,
3.65 lbs. per foot. Concrete
footing: 12" diameter, 36" depth.

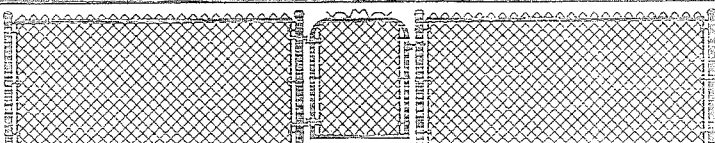
BRACING: Terminal posts braced and
trussed to the nearest line post
with 1-5/8" O.D. FULL WEIGHT ASTM
F1043 GROUP 1A PIPE and 3/8" DIA
THREADED TRUSS ROD & TRUSS ROD GAL
STEEL TIGHTENER.

TENSION WIRE: 7GA COIL SPRING
GALVANIZED CTD TENSION WIRE
attached to top of fence fabric
with 9 GA STANLEY AUTO STRIP
ALUMINUM HOG RING spaced 24" on
center.

7GA COIL SPRING GALVANIZED CTD
TENSION WIRE attached to bottom of
fence fabric with 9 GA ALUMINUM HOG
RING spaced 24" on center.

FITTINGS: 12GA X 7/8" BEVELED BRACE
BAND & GALV W/NUT CARRIAGE BOLT,
GALV PR-STL 2 HOLE RAIL END, GALV
PR-STL LOOP CAP, GALV PR-STL DOME
CAP, GALV STEEL 3/16" X 3/4"
TENSION BAR, 12GA X 7/8" BEVELED
TENSION BAND & GALV W/NUT CARRIAGE
BOLT.

TIE WIRE: 7-1/2" 6 GA. ALUMINUM PIG
TAIL TIE WIRE spaced 15" on center
for line posts & 24" on center for
rails.



LINE OF FENCE

Rommel Fence, LLC
17 Railroad St.
Poland, N.Y. 13431
(315) 826-3758 fax (315) 826-7224

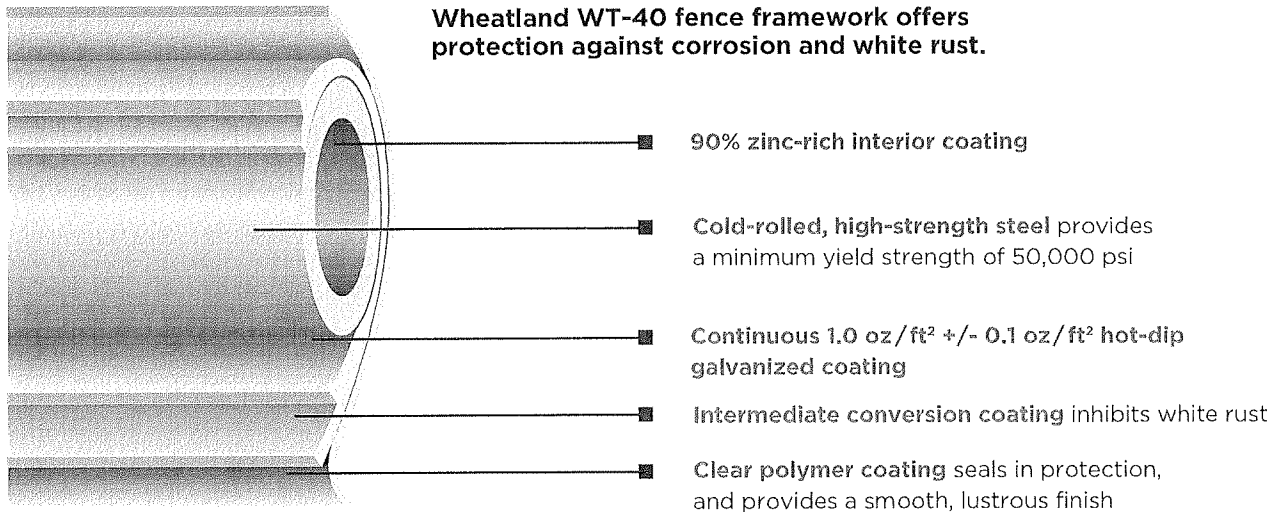
2021-07140 TETRA-TECH
875LF 6FT CLF
FRANKFORT, NY

Drawn: HPB 06/03/2022
File: 2021-07140 TETRA-TECH FRA

WT-40: Heavy Industrial/Security Framework

High-strength Spec Fence Framework

The strength and corrosion characteristics of Wheatland WT-40 fence pipe have been tested, documented and certified by independent testing agencies to ensure complete compliance with ASTM F1043, Group IC, and AASHTO M181. Wheatland WT-40 fence framework meets or exceeds the most demanding specifications and codes imposed by private, independent and government agencies.



Materials

- 1. Steel**—Steel strip used in the manufacture of Wheatland WT-40 fence pipe shall conform to ASTM A1011 and will meet or exceed all performance criteria set forth in this standard specification.
- 2. Zinc**—Zinc used in Wheatland WT-40 fence pipe shall conform to ASTM B6. Galvanizing shall be continuous hot-dipped on OD.
- 3. Conversion Coating**—An intermediate conversion coating shall be applied in-line over the continuous hot-dip galvanizing coating to inhibit white rust and enhance corrosion resistance.
- 4. Clear Polymer Coating**—A clear polymer coating shall be applied over the intermediate conversion coating. This polymer coating provides a smooth, lustrous protective finish.
- 5. Heat-set Internal Coating**—A heat-set zinc-rich ID coating shall have a minimum zinc loading of 90%.

Weight of Coatings

- 1. Zinc**—Weight of zinc shall be 1.0 oz./ft.² +/- 0.1 oz./ft.² and shall be determined by the method described in ASTM A90.
- 2. Intermediate Coating**—Intermediate conversion coatings shall be 30 micrograms/in.² +/- 10 micrograms/in.² and shall be determined by a strip and weigh method utilizing an atomic absorption spectrophotometer or X-ray fluorescence spectrograph.
- 3. Polymer Coating**—Thickness of the clear polymer coating shall be .5 mils +/- 0.2 mils and shall be determined by measurement with a suitable magnetic or eddy current coating thickness tester.

Strength Characteristics

- 1. Load Strength**—The strength of line, end, corner and pull posts shall be determined by the use of 4' or 6' cantilevered bend test. The top rail shall be determined by a 10' free-supported beam test.
- 2. Bending Moment**—Pipe strength may be determined via the alternative method of calculating bending moment. (See table.) Conformance can be demonstrated by measuring the yield strength multiplied by the section modulus. The yield strength shall be determined according to the methods described in ASTM E8. For materials under this specification, the 0.2 offset method shall be used in determining yield strength.

Corrosion Resistance

1. Salt Spray

a. *Exterior Surface*—The exterior clear polymer coating shall have a demonstrated ability to resist 1,000 hours or more of exposure to salt fog with a maximum of 5% red rust. Tests shall be conducted in accordance with ASTM B117.

b. *Interior Surface*—The interior zinc-rich surface coating shall withstand no less than 650 hours of exposure to salt fog with a maximum of 5% red rust. Tests shall be conducted in accordance with ASTM B117.

2. **Humidity**—The exterior clear polymer coating of Wheatland WT-40 fence pipe shall resist 500 hours of exposure to 100% relative humidity without signs of blistering or peeling. Tests shall be performed in accordance with ASTM D4585 (D2247).

3. **Weatherometer**—The clear polymer coating of Wheatland WT-40 fence pipe shall resist failure for no less than 500 hours at a black panel temperature of no less than 145° F. Tests shall be performed in accordance with ASTM G155 Xenon Type BH apparatus (formerly G26) or ASTM G153 Carbon ArcType HH apparatus (formerly G23).

Specifying Agencies

- American Association of State Highway and Transportation Officials (AASHTO) M181, Grade 2
- Federal specifications RR-F-191/2E and RR-F-191/3E
- U.S. Army Corps of Engineers UFGS-32 31 13
- Department of the Navy
- Federal Highway Administration
- Federal Aviation Administration AC 150/5370-10 Item 162
- U.S. Department of Justice—Federal Bureau of Prisons
- ASTM Specification F1043 Group IC Standard Specification for Strength and Protective Coatings on Steel Industrial Chain Link Fence Framework
- American Institute of Architects (AIA) MasterSpec®

Availability

Wheatland Tube is committed to a full complement of finished inventory. Our high-speed material-handling capabilities enable us to react to special length requests with exceptional order fill rates.

WT-40 DIMENSIONS AND STRENGTH CHARACTERISTICS

FENCE INDUSTRY	DECIMAL OD EQUIVALENT		PIPE WALL THICKNESS		WEIGHT		SECTION MODULUS		X	MIN. YIELD STRENGTH		=	MAX. BENDING MOMENT	CALCULATED LOAD (LBS.)			
	OD	in.	(mm)	in.	(mm)	lb./ft.	(kg/m)	in. ³	(mm ³)	x	psi	(MPa)	=	lb./in.	10' Free Supported	Cantilever 4' 6'	
➔ 1½"	1½"	1.660	42.16	0.111	2.82	1.84	2.74	0.1962	4.98	x	50000	345	=	9810	327	204	136
➔ 1¾"	1¾"	1.900	48.26	0.120	3.05	2.28	3.39	0.2810	7.14	x	50000	345	=	14050	468	293	195
➔ 2"	2"	2.375	60.33	0.130	3.30	3.12	4.64	0.4881	12.40	x	50000	345	=	24405	814	508	339
➔ 2½"	2½"	2.875	73.03	0.160	4.06	4.64	6.91	0.8778	22.30	x	50000	345	=	43890	1463	914	610
	3½"	3.500	88.90	0.160	4.06	5.71	8.50	1.3408	34.06	x	50000	345	=	67042	2235	1397	931
	4"	4.000	101.60	0.160	4.06	6.56	9.76	1.7820	45.26	x	50000	345	=	89098	2970	1856	1237

6½" and 8½" full-weight Schedule 40 per ASTM F1083 is available for terminal post applications.

Specifications, illustrated material and descriptions are accurate as known at time of publication and are subject to change without notice.

SUBMITTAL INFORMATION

PROJECT:

CONTRACTOR:

DATE:

ENGINEER:

SPECIFICATION REFERENCE:

SYSTEM TYPE:

LOCATIONS:

COMMENTS:

WFE-022019



4435 S. Western Boulevard
Chicago, IL 60609
P 800.257.8182
F 724.346.7260

2001 East Dominguez Street
Long Beach, CA 90810
P 800.257.8182
F 724.346.7260

info@wheatland.com
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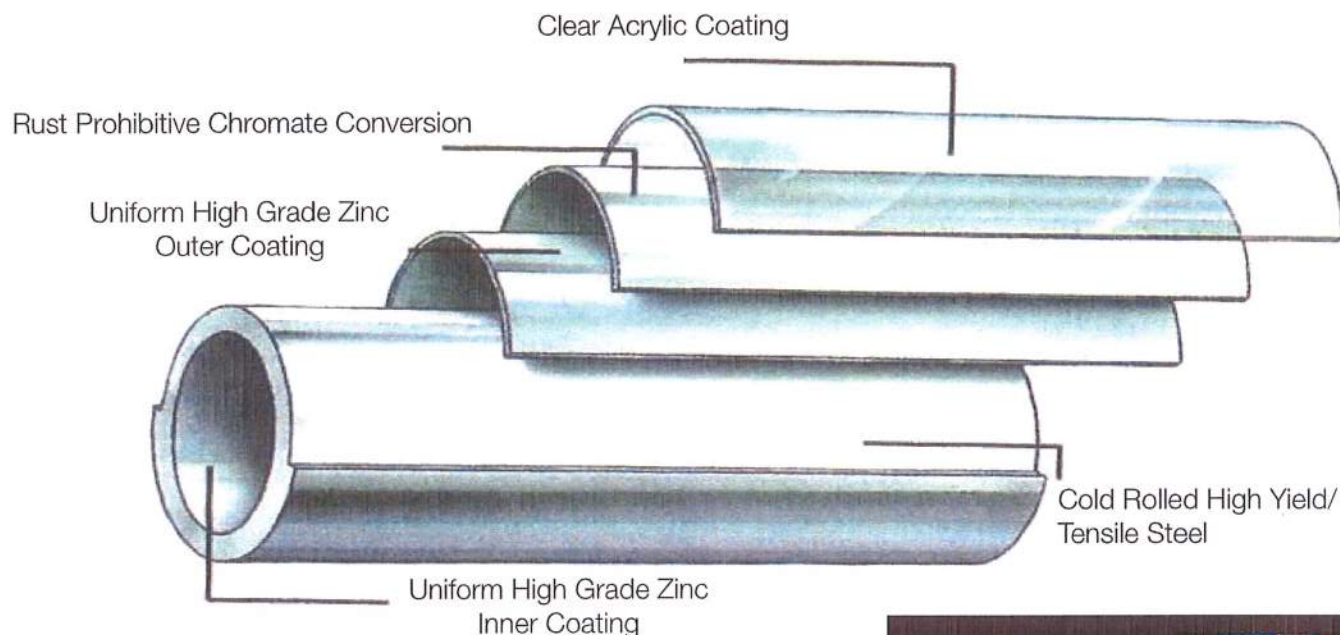
Wheatland Tube
A DIVISION OF ZEKELMAN INDUSTRIES

IRON WORLD

Residential, Commercial

& Industrial Fencing Solutions

IRON GUARD Commercial & Industrial IW-40 High Strength Fence Framework Galvanized Coating



MEETS OR EXCEEDS THE FOLLOWING PARTIAL LIST OF AGENCIES:

- ASTM Specification F1043-13 Standard Specification for Strength and Protective Coatings Group IC
- (AASHTO) American Associations of State Highway and Transportation Officials M181-10
- Federal Specifications RR-F-191/3E (Chain Link Fence Posts, Top Rails and Braces)
- Unified Facilities Guide Specification for High Security (Dept. of Defense)
- Unified Facilities Guide Specification for Chain Link Fence (Dept. of Defense)
- (CAN/CGSB) Canadian General Standards Board 138.2-96
- Dept. of Transportation Federal Aviation Administration AC 150/5370-10G Item F-162
- U.S. Department of Justice – Federal Bureau of Prisons

MADE IN THE USA



All IW 40 products from Iron World Mfg. are manufactured in the USA and are in compliance with Federal, State and Local specifications. We meet "Buy America(n)" requirements.



1-888-487-3448 IRONWORLD FENCING.COM

IRON WORLD

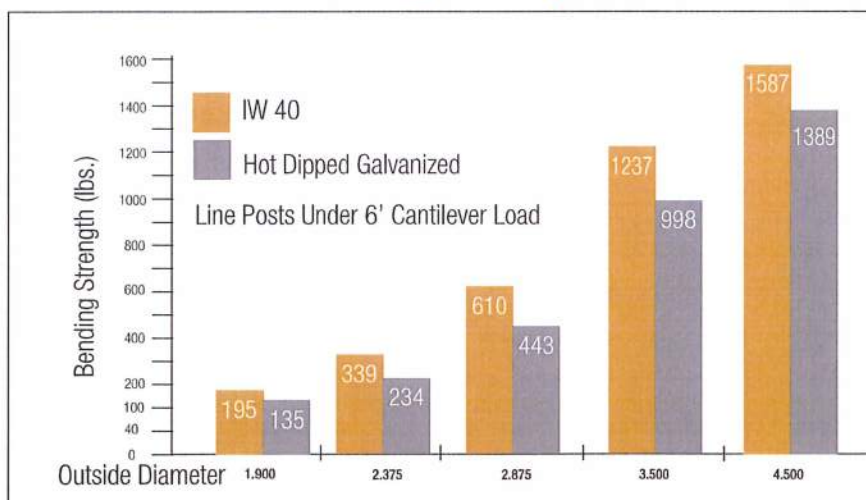
Residential, Commercial

& Industrial Fencing Solutions

Iron World IW 40 vs. Schedule 40

Type	Outside Dimensions (in.)	Pipe Wall Thickness (in.)	Weight (lbs./ft)	Section Modulus (inches ³)	Yield Strength (PSI)	Bending Moment (lbs. in.)	Bending Strength (lbs.)	
POSTS								6' Cantilever Load
1 7/8" O.D.	IW 40	1.900	.120	2.28	0.2810	50,000	14,050	195
1 7/8" O.D.	Sch 40	1.900	.145	2.72	0.3262	30,000	9,786	136
2 3/8" O.D.	IW 40	2.375	.130	3.12	0.4881	50,000	24,405	339
2 3/8" O.D.	Sch 40	2.375	.154	3.65	0.5606	30,000	16,818	234
2 7/8" O.D.	IW 40	2.875	.160	4.64	0.8778	50,000	43,890	610
2 7/8" O.D.	Sch 40	2.875	.203	5.79	1.0640	30,000	31,920	443
3 1/2" O.D.	IW 40	3.500	.160	5.71	1.3408	50,000	67,040	931
3 1/2" O.D.	Sch 40	3.500	.216	7.58	1.7241	30,000	51,723	718
4" O.D.	IW 40	4.000	.160	6.56	1.7819	50,000	89,095	1237
4" O.D.	Sch 40	4.000	.226	9.11	2.3940	30,000	71,820	998
TOP RAIL								10' Free Supported
1 3/8" O.D.	IW 40	1.315	.104	1.35	0.1110	50,000	5,556	185
1 3/8" O.D.	Sch 40	1.315	.133	1.68	0.1328	30,000	3,985	133
1 5/8" O.D.	IW 40	1.660	.111	1.84	0.1961	50,000	9,805	327
1 5/8" O.D.	Sch 40	1.660	.140	2.27	0.2350	30,000	7,050	235

IW 40 Strength Comparison



IW 40 Bundle Counts

Shape	O.D.	Bundle Qty.
Round	1.315	91
Round	1.660	61
Round	1.900	61
Round	2.375	37
Round	2.875	30
Round	4.000	19

IRON GUARD

FREE!

Drawing & Spec Toolkit for Architects & Contractors on our Website!

1-888-487-3448 IRONWORLDFENCING.COM

ZINC COATED FRAMEWORK – OnGuard SPS 40E

ASTM F1043 Group I-C, Federal specification RR-F-191 Class 1 Grade B, AASHTO M-181 Grade 2

PRODUCT NAME

Galvanized Framework,
OnGuard SPS 40E

MANUFACTURER / DISTRIBUTOR

Stephens Pipe & Steel, LLC

PO Box 618, 2224 E Hwy 619

Russell Springs, Kentucky 42642

800 451 2612

spsfence.com

PRODUCT DESCRIPTION

OnGuard SPS 40E pipe is the strongest readily available product to use as end, corner or line posts, and rails, for industrial, commercial and institutional applications.

The requirements for this material are contained in numerous government specifications for use in prison, road, dock, airport, housing, forestry, and military installations.

OnGuard SPS 40E pipe is typically used in installations which incorporate zinc-coated or aluminum-coated steel chain link fence fabric, although it may also be specified for use with other types of fabric, i.e. PVC coated.

Composition and Materials:

OnGuard SPS 40E pipe is manufactured using pre-galvanized cold formed steel with a higher yield strength and tensile strength than schedule 40 pipe. The pipe is triple coated to provide and maintain a pleasing appearance in all climates and severe atmospheric conditions.

Standards:

ASTM F1043 *Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework*, Group I-C Heavy Industrial

ASTM A 653/A 653M *Steel Sheet, Zinc-Coated by the Hot Dip Process*

ASTM A 924/A 924M *General Requirements for Sheet Metal, Metallic-Coated by the Hot Dip Method*

ASTM F567 *Installation of Chain Link Fence*
Federal specification RR-F-191K/3D

Fencing, Wire and Post Metal (Chain Link Fence Posts, Top Rails, and Braces), Class 1, Grade B AASHTO M-181 *Chain Link Fence*, Grade 2 (American Association of State Highway Transportation Officials), Grade 2

Federal Aviation Administration AC 150/5370
Item F162

TECHNICAL DATA

General:

The manufacturer or distributor can supply samples and certification that all materials furnished fully comply with the required specifications.

Zinc Coated Steel Framework:

The information in this document for high yield strength/high tensile strength pipe covers the requirements for pipe sizes NPS 1 to NPS 3 1/2, corresponding to fence industry sizes 1-3/8" to 4". Note: The dimension designator, NPS is used instead of traditional terms such as nominal diameter, size, and nominal size.)

Yield Strength Requirement:

The yield strength of OnGuard SPS 40E is 50,000 psi (344 MPa), min.

Coating Requirements:

The pre-galvanized exterior of OnGuard pipe is triple coated, ensuring the pipe will maintain its appearance. The raw steel is coated with a metallic coating of zinc, plus a chromate conversion coating and a clear organic film, conforming to ASTM F1043 Type B coating requirements. The interior of the pipe is pre galvanized conforming to ASTM F1043 Type B coating requirements. Mill lengths may range from 18 ft to 24 ft, or posts are available cut-to-length.

CORROSION RESISTANCE

Salt Spray

Exterior

The exterior clear coated surface shall have demonstrated the ability to resist 1000 hours of salt spray exposure with a maximum of 5% red rust.

AVAILABILITY AND COST

Availability: OnGuard SPS 40E is available for shipment throughout the United States and worldwide.

Cost: Material costs may vary depending on specific requirements. Costs may be obtained from your Stephens Pipe Sales Representative.

MAINTENANCE

No routine maintenance is required.

TECHNICAL SERVICES

Technical services are available. Call your sales representative for assistance.

SPS STEPHENS
PIPE & STEEL

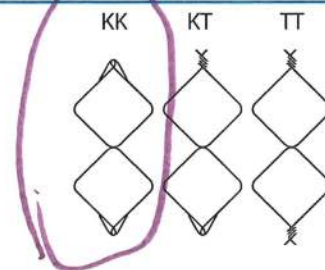
800.451.2612

ADVANTAGE
ONE
SOURCE

Chain link fabric (a.k.a. "wire") is manufactured by Master Halco at several US locations.

Selvage describes how the ends of the chain link wires are finished for the top and bottom of the fabric. Knuckle means that the ends of the wires are folded over each other. Twist means the wires are twisted together to form pointed prongs. Residential fabric uses larger mesh sizes and smaller gauges, and commercial/industrial uses smaller mesh sizes and larger gauge diameters. The smallest mesh sizes, from 1-1/4" to 3/8", are High Security/Mini-Mesh.

Selvage



Galvanized & Aluminized Wire Gauges



Galvanized Before Weaving (GBW)

In this process, the wire is pre-galvanized before it is formed into a fabric. The weaving process creates an exposed cut end that will lack coating and be more apt to some minor rust in wet and severe weather conditions.

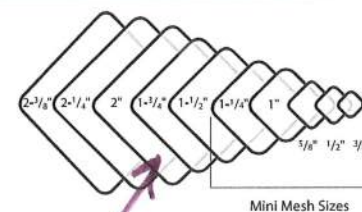
Galvanized After Weaving (GAW)

This process forms or weaves chain-link into a fabric first, and then soaks it in a large galvanized bath which adheres the zinc coating. This ensures that all the wire is coated, even the cut ends created during the weaving process.

Aluminized

Aluminum coated steel chain link fence fabric is made by cold drawing good commercial grade steel rod into wire of the appropriate diameter. The steel rod from which the wire is drawn is produced by the open hearth, electric furnace or basic oxygen process. The coating process consists of passing the cleaned wire through a molten bath of aluminum metal.

Available Mesh Sizes



Process	Coating	Gauge	Diameter	Class	ASTM
GBW	0.80 oz	11-1/2	0.113"	Class 3	A 817 Type II
	1.2 oz	11-1/2	0.113"	Class 1	A 392
	1.2 oz	11	0.120"	Class 1	A 392
	1.2 oz	9	0.148"	Class 1	A 392
GAW	1.2 oz	11-1/2	0.113"	N/A	N/A
	1.2 oz	11-1/2	0.113"	Class 1	N/A
	1.2 oz	11	0.120"	Class 1	A 392
	1.2 oz	9	0.148"	Class 1	A 392
	2.0 oz	9	0.148"	Class 2	A 392
	1.2 oz	6	0.192"	Class 1	A 392
	2.0 oz	6	0.192"	Class 2	A 392
Aluminized	0.30 oz	11-1/2	0.113"	N/A	A 491 Type I
	0.40 oz	9	0.148"	N/A	A 491 Type I
	0.40 oz	6	0.192"	N/A	A 491 Type I



Aluminum Coated Steel Chain Link Fence Fabric

ASTM A 491, Federal Specification RR-F-191 Type II, AASHTO M-181 Type II

PRODUCT NAME

Aluminum Coated Steel Chain Link Fence Fabric

MANUFACTURER

Stephens Pipe and Steel, LLC
Manufacturing Locations:

Stephens Pipe and Steel, LLC
1413 Steve Warriner Drive
Russell Springs, Kentucky 42642

Stephens Pipe and Steel, LLC
4301 46th Street
Bladensburg, Maryland 20710

Stephens Pipe and Steel
2891 State Hwy 160
Warrior, Alabama 35180

PRODUCT DESCRIPTION

Basic Use:

Aluminum coated (aluminized) steel chain link fence fabric for industrial, commercial and institutional application. Fused and adhered fabric is the highest quality available and is used in numerous federal, state, civil, and military specifications.

Composition and Materials: Aluminized steel chain link fence fabric is produced by cold-drawing good commercial grade steel rod into wire of the appropriate diameter. The steel rod from which the wire is drawn shall be produced by the open hearth, electric furnace or basic oxygen process.

The coating is produced by passing the cleaned wire through a molten bath of aluminum metal. Aluminum metal pigs or ingots used to produce the coating shall have no more than the following maximum levels of impurities:

Copper - 0.10% maximum
Cu Iron - 0.50% maximum
Fe

Standards:

ASTM A 491 *Aluminum-Coated Steel Chain Link Fence Fabric*
ASTM F567 *Installation of Chain Link Fence*
ASTM A 817 *Metallic-Coated Wire for Use in Chain Link Fence* Federal specification RR-F-191 K/1 D Type II, *Fencing, Wire and Post Metal (Chain-Link Fence Fabric)* American Association of State Highway Transportation Officials M-181 *Chain Link Fence, Type II*

TECHNICAL DATA

General:

The manufacturer, if requested, will supply samples and certification that all materials furnished fully comply with the appropriate specifications.

Chain Link Fence Fabric:

The base metal of the chain link fence fabric is composed of commercial quality medium-carbon aluminum coated wire. The wire is coated with aluminum to produce a smooth and uniform coating. The wire is aluminum coated before weaving.

Sizes:

Aluminized fabric is available in mesh sizes from 3/8 inch to 2 inches (10 mm to 50 mm), and in heights from 36 inches to 240 inches (910 mm to 6,100 mm).

Unless otherwise specified, chain link fence fabric woven with a 2 inch (50 mm) mesh and 60 inches (1,520 mm) or less in height is knuckled at both selvages-, for fabrics 72 inches (1,830 mm) or greater in height the selvages are knuckled at one edge and twisted at the other. All fabrics which are woven into mesh sizes under 2 inches are knuckled at both selvages.

INSTALLATION

Install fence in accordance with ASTM Practice 567.

AVAILABILITY AND COST

Availability:

Aluminum coated steel chain link fence fabric is available for shipment throughout the United States and worldwide.

Cost:

Material costs may vary depending on specific requirements. Call your sales representative for assistance

WARRANTY

Aluminum coated steel chain link fence fabric is warranted for 25 years against failure due to rust or corrosion. *Note: ASTM specification A491, Federal specification RR-F-191 and other major specifications state that discoloration or rust on the cut ends of aluminum coated fabric at the selvages are not cause for rejection.*

MAINTENANCE

Periodic inspection is recommended but no routine maintenance is required.

TECHNICAL SERVICES

Technical services are available. Call your sales representative for assistance



800.451.2612

ADVANTAGE
ONE
SOURCE

ATTACHMENT 3

FENCE PHOTOGRAPHS

WOODED AREA 4-FOOT FENCE





WOODED AREA 4-FOOT FENCE

WOODED AREA 10'x4'
DOUBLE-SWING FENCE GATE



WOODED AREA 4-FOOT FENCE





WOODED AREA 4-FOOT FENCE



WOODED AREA 4-FOOT FENCE

WOODED AREA 4-FOOT FENCE



WOODED AREA 4-FOOT FENCE

WOODED AREA 4-FOOT FENCE



WOODED AREA 4-FOOT FENCE





WOODED AREA 4-FOOT FENCE

SOUTHEASTERN AREA 6-FOOT FENCE



SOUTHEASTERN AREA 6-FOOT FENCE



SOUTHEASTERN AREA 6-FOOT FENCE



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SOUTHEASTERN AREA 6-FOOT FENCE

