PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. The conditions and general requirements of the Contract, Division 0 and applicable parts of Division 1, apply to the work under this Section.

B. All references to products by manufacturer, trade name or performance Specifications bearing the notation "or approved equal" shall be as determined by the Landscape Architect and the Town of Winthrop.

1.2 WORK INCLUDED

A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.

B. To be included, but not limited to the following:

1. Chain Link Fence;

1.3 REFERENCES

A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the Town of Winthrop and coordinate all work under this Section therewith.

B. The following related items are included under the Sections listed below:

1. Section 32 13 13 – Cast In Place Concrete for Landscape
2. Section 32 92 00 – Turf and Grasses

1.4 SUBMITTALS AND SHOP DRAWINGS

A. Submit five (5) complete shop drawings, product literature, catalog cuts and / or samples for all items indicating material characteristics, fabrications, details of construction, connections and relationship with adjacent construction, called for on the Drawings and as specified and in accordance with applicable requirements under Division 1.

B. Take field measurements prior to preparation or shop drawings and fabrication. Allow sufficient time for shop drawing review and approval, before fabricating or ordering.

C. Submit five (5) copies of cut sheets and / or detailed shop drawings for each item to be fabricated and installed under this Section:
D. Do not order materials or begin installation of Work of this Section until Owners / Landscape Architects approval of submittals has been obtained. Delivered materials shall closely match approved samples.

1.5 SAMPLES

A. Initial Selection Samples: Submit samples showing complete range of colors, textures and finishes available for each material used.

B. Verification Samples: Submit representative samples of each material that is to be exposed in the finished work, showing the full range of color and finish variation expected.

1.6 PRODUCT LITERATURE

A. For each product or material used, submit manufacturer’s product data, including installation instructions, use, limitations and recommendations.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials in manufacturer's original unopened and undamaged packages and containers with labels legible and intact.

B. Store and handle materials in accordance with manufacturer’s instructions. Prevent damage and deterioration of products from the environment and construction operations.

C. Handle in accordance with manufacturer's instructions.

1.8 JOB CONDITIONS

A. Examine all surfaces to receive site improvements to see that they are in proper condition to receive the Work specified. Report to the Engineer in writing all unacceptable areas. All defects resulting from use of accepted surfaces shall be corrected by the appropriate Contractor at no additional expense to the Owner.

B. Start of Work under this Section shall constitute acceptance of the site conditions to which this Work is to be applied. Site preparation shall be of proper approved quality. Any defects in Work resulting from such conditions shall be corrected under this Section, at no extra cost to the Owner.

C. Environmental Requirements: Contractor shall not Work on or with soils when they are dry, wet, or frozen. Field Test: Form soil in palm of hand; if soil retains shape and crumbles upon touching, then it may be worked (if it will not retain its shape, it is too dry; if it does not crumble, it is too wet). Landscape Architect shall be final authority on condition of soil.

1.9 WARRANTIES

A. Attention is directed to provisions of the CONDITIONS OF THE CONTRACT and applicable parts of Division 1 regarding guaranties and warranties.
B. Manufacturers shall provide their standard guaranties for Work specified in the Section. However, such guaranties shall be in addition to and not in lieu of all other liabilities which manufacturers and Contractor may have by law or by other provisions of the Contract Documents.

1.10 QUALITY ASSURANCE

A. Comply with applicable codes, ordinances and regulations. Provide products of acceptable manufacturer's which have been in satisfactory in similar service for three years. Use experienced installers.

PART 2 - PRODUCTS

2.1 CHAIN LINK FENCE

A. New Steel Framework:

1. The steel material used to manufacture fence pipes shall be cold-formed, circular, ASTM A-120 Schedule 40 pipe or ASTM- A 1011 SS-40 pipe as manufactured by Allied Tube, and Conduit zinc-coated. All structural shapes shall be galvanized by the hot-dip process conforming to ASTM A123.

2. The manufactured framework shall be subjected to a complete thermal stratification coating process (multi-stage, high-temperature, multi-layer) including, as a minimum, a six-stage pretreatment/wash with zinc phosphate, an electrostatic spray application of an epoxy base, and a separate electrostatic spray application of a polyester finish.

3. The material used for the base coat shall be a zinc-rich, gray color thermosetting epoxy; the minimum thickness of the base coat shall be two (2) mils. The material used for the finish coat shall be a thermosetting, no-mar TGIC polyester powder; the minimum thickness of the finish coat shall be two (2) mils. The stratification-coated pipe shall demonstrate the ability to endure a salt-spray resistance test in accordance with ASTM B117 without loss of adhesion for a minimum exposure time of 3500 hours. Additionally, the coated pipe shall demonstrate the ability to withstand exposure in a weather-ometer apparatus for 1000 hours without failure in accordance with ASTM D1499 and to show satisfactory adhesion when subjected to the crosshatch test, Method B, in ASTM D3359. The polyester finish coat shall not crack, blister, or split open under normal use.

4. The finish coat color for all framework shall be black.

5. Post, rail, and bracing sizes shall be as indicated in the drawings.

6. Rails to be furnished in manufacturers’ standard lengths of approximately 21'–0" with outside sleeve type coupling, at least 6" long for each joint. One coupling in each five shall have an expansion spring. Provide means for attaching rail securely to each corner, pull, and end post. Rail shall form continuous brace from end to end of each run of fence.

B. Fence Fabric:

1. The material for chain link fence fabric shall be manufactured from 6 gauge steel core wire, hot-dipped galvanized to Type I, AISI Specifications, and shall be mesh of
a size indicated by the drawings made from a medium high carbon quality steel wire. The tensile strength shall be 80,000 PSI unless otherwise noted. The galvanized wire shall be covered with a Class 2B, Fused-and-Bonded PVC coating to meet the requirements of ASTM F668.

2. The coating color shall match the framework (see above).

3. Selvage Edges: Top and bottom of fabric shall have knuckled selvage, both sides.

4. Accessories: All of the following fittings and fasteners shall be manufactured of steel unless otherwise specified below, and shall all be galvanized and polyester-coated through the same process required for the framework (see above); the color shall match the framework.

   a. Post Tops shall be manufactured of pressed steel or malleable iron, designated as a weather-tight closure cap (for tubular posts). Provide one (1) cap for each post. Where top rail is used, provide tops to permit passage of top rail.

   b. Stretcher Bars shall be one-piece lengths equal to the full height of fabric with a minimum cross-section of 3/16" by 3/4". Provide one (1) stretcher bar for each end post and two (2) for each corner and pull post. Tension bands and brace bands, if utilized, shall be 7/8" by 12 gauge, beveled, galvanized, sized to fit pipe sizes, and furnished with galvanized fasteners.

   c. Stretcher Bar Bands shall be manufactured of heavy pressed steel or malleable iron of 1/8" by 3/4" minimum cross-section and be of sufficient size to secure stretcher bars to end, corner, and pull posts.

   d. Rail Clamps shall be standard clamps (boulevard clamps) furnished complete with fasteners with ASTM designation A153.

   e. Vandal-resistant band ties or approved equal shall be used for tying fabric to posts, rails, and braces. Ties shall be vinyl coated to match fabric and posts.

5. Modifications to the above which are standard manufacturers’ practice will be permitted if strength and security are maintained.

PART 3. - EXECUTION

3.1 CHAIN LINK FENCE:

   A. Posts shall be plumb at a maximum distance of 8'-0" on center in straight sections, and a maximum of 6'-0" on center along curves. Typical spacing shall be as indicated on the drawings.

   B. Rails: Rail shall form a continuous brace from end to end of each fence run. Couplings shall be located a maximum of 12" from line posts.

   C. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.

   D. Fabric: Leave approximately 1-1/2" between finish grade and bottom selvage. Pull fabric taut and tie to posts and rails. Install fabric on street side of fence and anchor to framework so that fabric remains in tension after pulling force is released.
E. Stretcher Bars: Thread through fabric and secure to posts with approved metal bands spaced not over 12” O.C.

F. Band Ties: Ties shall be placed 12” O.C. and securely fastened.

G. Fasteners: Install nuts for tension band and hardware bolts on side of fence opposite fabric side.

3.02 STANDARDS AND COMPLETION

A. Upon completion, the contractor(s) shall remove and properly dispose of all construction debris, surplus materials, and empty containers, and leave the site in a condition acceptable to the Owner.

END OF SECTION