



Scope: This specification is intended for use as a guideline for the construction of a new tennis court on a crushed aggregate, laser graded base, finished using the unique, patented Nova'ProClay system.

Section 02542

Nova'ProClay™ YEAR ROUND CLAY

NOVA'PROCLAY TENNIS SURFACE NEW CONSTRUCTION – CRUSHED ROCK BASE

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes and is not limited to:

1. Installation of the patented Nova'ProClay tennis court consisting of a base sheet of synthetic fibers and fabric interlocked with select aggregates, synthetic polymers and fast dry / clay court surfacing materials.
2. Crushed rock base, laser graded and stabilized.
3. Tennis net posts, foundations and anchor straps.
4. Brick or concrete curbing.
5. Sub grade preparation.
6. Installation of a sprinkler system.

1.02 QUALITY ASSURANCE

- A. Nova'ProClay tennis surface shall be constructed by an approved licensee certified by NGI Sports (NGI). The Nova'ProClay system shall meet manufacturing specifications set up for same.
- B. All material shall be clearly marked.
- C. Material shall not be installed when rain is imminent or the temperature is below 50°F.
1. The installation of the Nova'ProClay system shall be completed in dry weather.
 2. Neither surface nor aggregates may be moist or wet.
 3. Fabrication should be done in dry weather with the temperature above 50°F and rising.

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B. Minimum 4" crushed stone rock base shall be used.

1. Materials for the crushed stone base may be a combination of crushed stone, crushed or uncrushed sand gravel, limestone gravel, or other locally qualified binder materials approved by the {Owner} {Architect} {Landscape Architect} {Engineer}.

2. These materials shall be thoroughly mixed to ensure the final product will have a uniform grading and plasticity.

3. Stone dust screenings shall conform to local specification for construction and the following:

a. Retained on the 3/8"(9.5mm) sieve	-0- %
b. Retained on the No. 4 (4.75mm) sieve	0-5%
c. Retained on the No. 8 (2.36mm) sieve	0-15%
d. Retained on the No. 16 (1.18mm) sieve	15-50%
e. Retained on the No. 30 (600mm) sieve	40-75%
f. Retained on the No. 50 (300mm) sieve	70-90%
g. Retained on the No. 100 (150mm) sieve	90-98%

4. The crushed stone or gravel shall conform to local specifications for rock base construction and the following:

a. Retained on the 2" sieve	-0- %
b. Retained on the 12@ sieve	0-5%
c. Retained on the 3/4 A sieve	5-30%
d. Retained on the No. 4 sieve	35-60%
e. Retained on the No. 8 sieve	45-70%
f. Retained on the No. 40 sieve	60-83%
g. Retained on the No. 200 sieve	80-92%

C. Stone Dust Screenings Layer: Shall be constructed in one lift, laser graded and finished.

D. Crushed Aggregate Base Course Construction: If the required compacted depth of the base course exceeds 6", the base shall be constructed in two or more lifts of approximately equal thickness.

2.03 TENNIS COURT ACCESSORY MATERIALS

A. Net Post Sleeves

1. At least 24 hours prior to placing concrete, dig 24" diameter holes in the base, not less than 30" in diameter at the bottom and not less than 36" deep. Place net post sleeves in position with the top approximately 1/4" below the finished court elevation and pour 6" of concrete around the bottom to hold in position. Be sure sleeve remains plumb.

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2. Concrete for foundations for sleeves shall be mixed in ratios of six standard 94 pound sacks of cement per cubic yard of concrete, with one such sack of cement to not more than six U.S. gallons of water, attaining a compressive strength of not less than 3,500 psi at the 28th day after pouring.
 3. Foundations shall be so designed and poured, and the posts so set, as not to cause cracking or other damage to the finished court surface.
- B. Net Posts and Sleeves Equipment: Tennis posts shall be made out of steel, metal or wood of sufficient strength to properly support the net at a height of 42". Posts and sleeves shall be set where indicated on drawings. Posts shall be set plumb and true so as to support the net at a height of 42" above the court surface at the net posts.
- C. Center Strap Anchor: A center strap anchor shall be positioned as shown on the drawings and set in concrete footings measuring 12" X 12" X 12".
- D. Tennis Nets: Shall be polyethylene 3mm braided body, 42' long and 3.25' wide, polyester top binding attached with four lock stitched rows. Sides shall be braced with dowels for a neat, taut appearance. Nets shall be installed, upon completion, to posts and cables.

2.04 SPRINKLER SYSTEM

- A. Sprinkler system shall be provided to water the courts in dry conditions. System will deliver a minimum of three (3) gallons per minute evenly over the entire court area. Contractor is responsible to provide a fully operational system to include a minimum of the following conditions. The existing system may be used or modified at the direction of the {Owner} {Architect} {Landscape Architect} {Engineer}.
- B. Evaluation of existing water supply to determine if an auxiliary pump or pressure reduction is required and detailed requirements and pricing shall be provided as part of the bid.
- C. Provide and install a valve control box and timer to zone sprinkler system for court(s) and provide all electrical wiring as may be required for operation of the sprinkler system.
- D. Sprinkler system will consist of eight heads for coverage of each court. Sprinkler heads to be of the quality to ensure full court coverage, evenly, at a delivery rate of up to five (5) and no less than three (3) gallons per minute. Each head to deliver a minimum radius of 35'. Each delivery line to each sprinkler head to have a shut off valve.
- E. A drain shall be provided to purge the system during freeze periods of the year
- F. All pipes will be high pressure one inch (1") PVC to tie sprinkler head to feed line on court, with a two inch (2") pipe from the water supply to the feed line. All lines to be buried approximately six inches (6") to eight inches (8") beneath the finished surface. Line PSI at 60 PSI.

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PART 3 - EXECUTION

3.01 SUB GRADE AND SURFACE PREPARATION

- A. Area is to be cleared of all trees, stumps, vegetation, and topsoil and treated with a soil sterilent.
- B. Prepare sub grade by blading, rolling and lightly scarifying a sound surface to within a finished tolerance of 1/8" in (10') ten feet when measured in any direction and a minimum overall slope of 1% to 2%.
- C. Contour of the sub grade shall conform to those of the finished grade of +/- 2 ".
- D. Fill and compaction:
 - 1. When fill is required, it shall be placed in 6" lifts, maximum, with approved material and each lift shall be thoroughly compacted to a density of 95% proctor.
 - 2. All unstable or otherwise objectionable material shall be removed from the sub grade and replaced with approved material.
 - 3. All holes, ruts and depressions shall be filled, reshaped and compacted as required to place the sub grade in acceptable condition to receive base material.
 - 4. Prior to placing succeeding layers of material, the top of the under layer shall be significantly moist to ensure uniform moisture between layers.
 - 5. The edges and edge slopes of the sub grade shall be bladed and otherwise depressed to conform to the lines and the dimensions of the finished surface.
 - 6. Install a continuous, engineered 2 (two) mm thick woven geotextile over the entire sub grade.

3.02 PERIMETER EDGING

- A. A free floating type curb of standard brick or concrete block set in cement mortar as detailed in the drawings shall be installed around the perimeter of the court area. Optional for curb design is the use of pressure treated lumber (2" X 8") attached to the fence posts with U bolts. Sections may be left open to allow trucks and other equipment to enter and leave the court area until other work specified herein has been completed.
- B. The finished curb elevation shall be exactly 2' below the finished grade level and the court surface course shall be tapered from 6" (six inches) out to meet it. Provision shall be made for water to drain over or under the curb on the low side of the court.

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ROCK BASE INSTALLATION

4.01 PLACING OF ROCK BASE

- A. The maximum compacted thickness of any one layer shall not exceed 6" (six inches).
- B. Immediately after placing, the material shall be compacted at not less than 95% proctor.
- C. Prior to placing succeeding layers of materials, the top of the under layer shall be significantly moist to ensure uniform moisture between layers.
- D. The surface of the compacted finish base course shall be uniform and smooth, conforming to specified sloping requirements for hard court construction of 1% in one continuous plane.
- E. Crushed Stone Screening Leveling Course: After the completion of the rock base, a 1" (one inch) to 2" (two inch) layer of stone dust screening shall be applied to make sure the surface is level. The screening may be mixed with a stabilizer, spread, laser graded and thoroughly compacted.
- F. Finished surface of the leveling course shall not vary from the specified grade more than 1/8" in 10' when measured in any direction and shall slope in one direction at a rate of 1%.

THE FINISHED SURFACING IS APPLIED OVER A STABILIZED SUBSTRATE.

5.01 INSTALLATION OF TENNIS COURT ACCESSORIES

- A. Post foundations shall be not less than 24" in diameter at the top, not less than 30" in diameter at the bottom, and not less than 36" in depth.
- B. Foundations shall be situated so as to provide a clear distance between posts of 33' on single courts and 42' on double courts.
- C. The metal anchor strap, located at the center of the net, shall be set in a concrete footing measuring 12" in diameter and 12" deep.
- D. Square footings and foundations are not acceptable.
- E. Tennis nets shall be installed, upon completion, to posts and cables for a neat, taut appearance.

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6.01 TENNIS COURT SURFACE PREPARATION

- A. Nova'ProClay tennis surfacing system shall be installed on a sound base surface within surface tolerance not exceeding 1/8" in 10' when measured in any direction with a minimum slope of .14-.28%.
- B. The entire surface shall be thoroughly cleaned to remove dust, dirt and foreign debris.

7.01 NOVA'PROCLAY SURFACING SYSTEM

- A. Confirm that all center strap anchors and net post sleeves are in place prior to surface installation.
- B. The surface course shall be installed according to manufacturer's specifications.
- C. All surface course materials are to be installed after the surface has been inspected and approved by the {Owner} {Architect} {Landscape Architect} {Engineer}.
- D. Specially engineered base sheet layer, Nova'PC-Stratum, shall be placed over subbase in accordance with manufacturer's instructions.
- E. All sections of the base sheet layer are to be laid out in the same direction.
- F. All joints shall be attached with Nova'PC-Bond, a combination of a one-component, moisture cured urethane adhesive and a weather resistant polyester tape as recommended by system manufacturer. Heat seaming methods are not allowed. All seams shall be cut without damaging the tops of the fibers.
- G. Base Sheet In-fill: Using a special mechanical device to filter the material into the fabric, the Nova'PC- TexFill material in fill shall be filtered into the surface mat in several light layers and shall be brushed in to allow for compaction and a level finish.
- H. Prime Coat: Entire area to receive a coat of Nova'PC-PolySeal binder blended with a pre-measured quantity of Nova'PC-Colorant and allowed to cure for a minimum of 24 hours. All materials to be spray-applied using the Nova'PB-AppSYS.
- I. Inspect entire surface for imperfections; grind and scrape surface to remove any imperfections which may exist.

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- J. Apply a layer of Nova'PC-Finish, approximately .55 lbs psft, evenly over entire surface. Brush to level and lightly water.
- K. Line Tape: Apply Nova'PC-Line Tape using line nails.
- L. Finish: Apply balance of Nova'PC-Finish, approved fast dry or clay surfacing materials, at a rate of .55 lbs psft. Lightly water and groom.
- M. CAUTION: Do not allow petroleum products to be spilled on the Nova'ProClay surface.

7.02 CLEAN UP

- A. Upon completion of the work, the contractor shall remove all containers, surplus materials and debris and have the site in a clean and orderly condition acceptable to the {Owner} {Architect} {Landscape Architect} {Engineer}.
- B. Provide {Owner} {Architect} {Landscape Architect} {Engineer} with Nova'ProClay Maintenance Manual at completion of project in accordance with Section {01700} {01730} of the Project Manual.

END OF SECTION

(revised 02/22/07)

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