
G BUILDING SITEWORK

G10 SITE PREPARATION

G1010 Site Clearing

Site Clearing and Erosion and Sediment Control, in compliance with the NPDES General Permit from the EPA. Comply with the Order of Conditions from the Grafton Conservation Commission which will be obtained at the completion of design and permitting.

Maintain temporary protective barriers through the course of construction.

Maintain safe access for emergency vehicles.

Maintain temporary protective barriers, including construction fence, through the course of construction. Provide temporary signage to guide school and construction traffic.

Maintain safe access to the existing school building which will be operational throughout construction. Construction vehicles must remain segregated from the school operations.

G1020 Site Demolition and Relocations

G1020.01 Building Demolition

See Section F.

G1020.02 Site Elements Demolition

The existing track and associated field improvements will be removed as part of the project.

Remove, salvage & protect the existing Track & Field lighting for reinstallation around the new Track & Field.

G1030 Site Earthwork

Excavation for building foundations, utilities, pedestrian and parking areas including bracing and support as required.

Preparation of subgrade and bearing surfaces including proof rolling and dewatering.

Placement and compaction of fills from onsite and offsite sources. Compact fill layers below building and pavement with granular fill to 95% Maximum Dry Density, per ASTM 1557. Fill in landscape areas will meet the specifications for common fill and requires compaction to 90% Maximum Dry Density.

Preparation of subbase and base courses for building and pavement.

Preparation of landscaping areas including placement of topsoil.

G1040 Hazardous Waste Remediation

Preliminary testing indicates the presence of arsenic within the existing on-site soils. The presence of the arsenic may be naturally occurring as evidenced in other areas within Worcester County. The reuse of soils containing arsenic will be limited to reuse in areas with similar arsenic concentrations. The reuse of the soils must be managed and monitored throughout construction. Removal of soils with arsenic from the site must comply with all state and federal regulations.

G20 SITE IMPROVEMENTS

G2010 Roadways

Bituminous flexible pavement: 2-inch binder course, 2 inch wearing course. Materials in compliance with Paragraph 460 of the Massachusetts Highway Department Standard Specifications.

Porous Bituminous flexible pavement: 4-inch porous asphalt; single lift, with 6" PVC underdrain. Provide porous bituminous pavement at emergency access drive around building.

G2020 Parking Lots

G2020.01 Parking Lot Program

397 parking spaces will be provided to serve staff, students and visitors, including 8 handicap accessible spaces (1 van and 7 automobile). Parking area will be striped and landscaped. Parking lot lighting will be provided.

G2020.02 Parking Lot Paving

Bituminous concrete flexible pavement with a 2 inch binder course and a 1-1/2 inch wearing course. Materials in compliance with paragraph 460 of the Massachusetts Highway Department Standard Specifications.

G2020.03 Parking Lot Curbs and Gutters

Entry drive: VA4 vertical granite.

Front entry plaza and drop-off areas: VA4 vertical granite.

Parking lot curbing: Sloped granite edging and VA4 vertical granite curbs.

Service drive to loading dock: Modular, precast-concrete vertical curb.

Municipal building parking lot: Modular, precast-concrete vertical curb.

G2020.06 Parking Lot Appurtenances

Parking lots will be provided with traffic barriers, parking lot signs and pavement markings. Raised crosswalks (6" high) will be constructed of concrete; provided at 8 crossings within the parking area.

G2030 Pedestrian Paving

G2030.01 Sidewalks

Pedestrian sidewalks will be poured in place Portland cement concrete minimum 6' width and 5" depth. Sidewalks are proposed between each parking lot and drop-off area to the school entrances and between existing sidewalks along existing roads and school entrances as shown on the site plans.

G2030.02 Decorative Pavements

Provide architectural concrete pavers complying with ASTM C939 over an asphalt base with tack coat setting bed.

G2030.03 Exterior Steps and Ramps

Steps: Cast-in-place concrete; standard cements and aggregates; broomed finish. Galvanized steel pipe rail, painted with polyurethane paint system.

Ramps: Cast-in-place concrete; standard cements and aggregates; broomed finish. Widths and slopes conforming to ADAAG and MAAB. Galvanized steel pipe rail, painted with polyurethane paint system.

G2030.04 Cast-in-Place Detectable-Tactile Warning Surfaces

All curb ramps, as defined by ADAAG and MAAB shall be constructed with minimum 24" x 48" detectable warning surface with raised dome tactile surface.

G2040 Site Development

G2040.01 Fences, Backstops and Gates

Chain Link Fences and Gates: Provide a 10 foot high black vinyl clad chain link fence with locking gates at the proposed tennis courts. Provide a 6 foot high black vinyl clad chain link fence with locking gates around the track and field. Provide a 4 foot black vinyl clad chain link fence without gates at the basketball courts and along the parent drop-off corridor.

Chain Link Backstop: Provide a 19' x 34' black vinyl clad chain link hooded backstop with at the baseball field. Provide a 19' x 34' black vinyl clad chain link hooded backstop at the softball field.

Ornamental Fence and Gates: Provide ornamental steel fence with 3-rail system, extended picket design, and fully fusion welded steel construction. Provide pedestrian gates of exact style/construction with lockable latch/hardware.

G2040.02 Athletic and Recreational Surfaces

Baseball and Softball: Provide skinned areas of the baseball and softball field including the infield, coaches' boxes, pitchers' mound, on-deck circles and players' bench areas.

Tennis and Basketball Court: Provide bituminous tennis court with an acrylic color playing surface and line markings. The surface should be sealed with a clear acrylic sealer.

Track: Provide track surfacing consisting of a blend of recycled EPDM and polyurethane rubber surface with line markings over an asphalt base. Provide a 6" wide cement concrete flush curb as an edge restraint.

Multi-Purpose Artificial Turf Field: Provide multi-purpose field surfacing with synthetic turf system with polyethylene fibers and 100% rubber infill over an aggregate base with sub-surface drainage. Provide a 6" wide cement concrete flush curb as an edge restraint.

G2040.03 Athletic and Recreational Equipment

Tennis equipment will be tennis court posts and nets. Basketball equipment will be goal posts, backboards, nets, and player benches. Baseball and softball equipment will be bases, home plates, pitchers' rubbers with ground anchors, and player benches. Football equipment will be goal posts and goal line pylons. Track equipment will be pole vault box, shot throw ring and toe board, discus throw ring, discus/hammer cage, long/triple jump take-off board and sand pit. Soccer equipment will be semi-permanent goals and nets.

Bleachers will be permanent aluminum grandstand seating installed on a cast-in-place concrete pad.

G2040.04 Site and Street Furnishes

Site furniture will include benches, trash receptacles, bicycle racks, drinking fountains and bollards. Bicycle racks will accommodate bike parking for at least five percent of the building's occupants. Acceptable products for benches, trash receptacles and bicycle racks will come from the same manufacturer and will be packaged together as a collection.

G2040.05 Flagpoles

One ground-set 40' high extruded aluminum or fiberglass pole, with flag.

G2040.06 Site Walls

Mechanical equipment and generator enclosures consisting of a precast concrete wall with brick facing to match the building exterior brick.

G2040.06 Retaining Walls

Cast-in-Place: Provide 4' deep foundation. Provide integral guard railing or chain-link fence as shown on plans. Provide 4" pvc underdrain connected to nearest drainage structure or daylight.

Mechanically Stabilized Earth (MSE): Contractor to provide stamped and certified design by Massachusetts registered professional engineer. Include guard railings and/or chain-link fence as shown on plans.

G2050 Landscaping

G2050.01 Soil Preparation

Provide eighteen inches of topsoil in plant bed areas and eight inches of topsoil in new lawn areas and 4 inches of topsoil in restoring disturbed areas per specified topsoil preparation and amendment additives. Assume that all topsoil will be imported from off-site sources.

G2050.02 Lawns and Grasses

Lawn areas shall be provided to compliment the general plantings and the site. Seed mixes will be appropriate to use.

G2050.03 Trees, Plants and Ground Covers

Trees, shrubs, groundcover, and perennials will be provided to compliment the site and public areas. Planting areas will include three inch deep mulch.

G2050.04 Plant Maintenance and Guarantee

Contractor shall provide maintenance to plantings and lawn areas for a specified time and guarantee plantings for one year to ensure the health and establishment of all plantings.

G30 SITE CIVIL/MECHANICAL UTILITIES

G3010 Water Supply

G3010.01 Site Domestic Water Distribution

The domestic water service will be an 10-inch Class 52 ductile iron line connected to the existing water main in Brigham Hill Road. The water main will be looped around the new building and connected into the existing 6-inch water main on the project site.

G3010.02 Site Fire Protection Water Distribution

The fire protection service will be an 8-inch Class 52 ductile iron line connected to the new water main on the project site.

Hydrants will be provided within 300 feet of each building corner and as required by the Grafton Fire Department.

G3020 Sanitary Sewer

Gravity sewer lines will be PVC (SDR-35). Manholes shall include metal frame and cover with precast concrete structures with concrete channels. Connection will be at the existing sewer line located in Providence Road.

Kitchen wastes will discharge to a precast concrete grease trap.

Laboratory wastes will be treated within the building and will connect to the sanitary sewer service outside the building.

G3030 Storm Sewer

Storm drain pipe will be corrugated polyethylene, smooth interior. Manholes and catch basins shall include metal frame and grates or covers with precast concrete structures. All structures must meet H-20 loading requirements.

Runoff from the loading/service area will discharge to a precast concrete oil-water separator.

Stormwater treatment devices will be incorporated into the storm drain system with hydro-dynamic separators similar to Stormceptor.

Runoff from the building rooftop will be discharged to infiltration structures consisting of 36" diameter perforated corrugated polyethylene pipe surrounded by crushed stone.

Surface detention/infiltration systems consist of 36" diameter perforated corrugated polyethylene pipe surrounded by crushed stone.

G40 SITE ELECTRICAL UTILITIES

G4010 Site Electrical Distribution

G4010.01 Electrical Substations

Utility Company Transformers: Utility company transformers are of the pad mount type furnished, installed and connected by National Grid. Contractor will provide concrete pad and grounding according to National Grid standards.

G4010.02 Electrical Power Distribution Lines

Existing electrical overhead services will be removed. New underground service will be provided as described in section D50 .

G4020 Site Lighting

Refer to Section D50, Electrical Work

G4030 Site Communications, Fire Alarm, and Security

G4030.01 Communications

Telecommunication services will originate from the existing Verizon and Charter Communications overhead lines on Providence Road. A telecommunications utility riser pole will be designated on Providence Road. Four, 4-inch riser conduits will be provided by the contractor and will pass from this pole under Providence Road on to the School property.

The four 4-inch underground PVC conduits will extend across the school property into the service entrance inside the school. The conduits will be installed in a concrete encased duct bank per the utility standard. A pre-cast concrete manhole 6ft. by 8ft. will be provided by the Contractor to facilitate cable field installation. Four 4-inch conduits will extend from the manhole to the front of the existing High School to provide future connectivity. Hand holes will be provided where required. The estimated length of this conduit duct bank is approximately 900 feet

Appendix A

Code Summary

Appendix B
Food Service Program Narrative
