

**NORTH CLACKAMAS SCHOOL DISTRICT
2006 CAPITAL IMPROVEMENT BOND
UTILIZATION OF GREEN BUILDING DESIGN CONCEPTS**
(by category)

SUSTAINABLE SITE

- Erosion And Sedimentation Control
- Construction Activity Pollution Prevention
- Preservation Of Wetlands And Large Trees
- Alternative Transportation, Pathways For Access To Public Transportation' Bicycle Storage & Changing Rooms, Access To Public Transportation
- Site Development, Maximize Open Space By Creating Building Footprints As Small As Practical
- Storm Water Design; Rain Gardens, Bio-Swales, On-Site Detention
- Protect Or Restore Open Space Where Ever Possible
- Reduced Site Disturbance And Land Use By Constructing Two Story Buildings
- Landscape & Exterior Design To Reduce Heat Islands; Parking Lot Planting Areas, Trees And Planting Buffers, Reduced Building Roof Areas By Constructing Compact Buildings
- Light Pollution Reduction – Downward Shielded Fixtures, Shielded Parking Lot And Exterior Lights
- Preference Given To Materials That Have Pre-Consumer Recycled Content

WATER EFFICIENCY

- Water Efficient Landscaping
- Water Use Reduction By Using Computerized Irrigation Controls, Low Flow Fixtures, And Low Flow Flush Toilets
- Water Infiltration From Impervious Surfaces Via Pervious Asphalt Paving, Bio-Swales And Rain Gardens
- Infill Component Of Athletic Fields Includes Silica Sand As A Water Filter
- Drainage Systems For Athletic Fields Will Include On Site Storm Water Filtration And Detention
- Installation Of All Weather Turf At High Play Athletic Fields For Water Conservation And To Maximize Use Of Valuable Open Space

ENERGY & ATMOSPHERE

- Fundamental Building Systems Commissioning To Insure Optimum Operation
- Minimum Energy Performance Established For All Mechanical Equipment
- Refrigerant Equipment Specified With Environmentally Sound Coolants And Digital Controls For Maximum Performance
- CFC Reduction In HVAC & R Equipment
- At Major Remodel Projects Roof Top Heating/Ventilation Units Are Being Replaced With New, More Efficient Mechanical Units
- Installation Of Energy Efficient Boilers, Cooling Equipment And Fans

- Convection Heating Systems To Provide Clean, Fresh Air With Minimum Use Of Electricity
- Buildings Orientation On Sites To Maximize Energy Efficiency
- Upgrade Of Lighting, Boilers, And Heating Units In Remodel Projects To Current Energy Efficiency Standards
- Automated Heating And Cooling Controls With Remote Access For Maximum Efficiency
- Energy Efficient Light Fixtures In New And Remodeled Buildings
- Window “Eye Brows” Shades, Sun Shades, And Interior Blinds To Reduce Heat Gain
- Operable Windows For Natural Ventilation And Cooling
- Use Of Natural Lighting In Commons, Gymnasiums, Hallways
- Energy Saving Appliances In School Kitchens, Staff Rooms And Classrooms
- Kitchen Equipment Specified To Exceed Minimum Energy Efficiency Standards
- Use Of Exhaust Hood To Discharge Excess Heat And Fumes
- Lower Velocity Fans Specified
- Saving Electricity And Using Less Volume Of Supply Air
- Collection Of Food Waste To Eliminate Waste Disposal In Sanitary Sewer System
- High Efficiency Dishwashers In School Kitchens That Use 65% Less Heated Rinse Water

MATERIAL & RESOURCES

- All Contractors Performing Demolition Work Directed To Metro Recycling Programs
- Track Resurfacing Materials Specified To Be Recycled Rubber Granules
- Artificial Turf Installations Specified To Include Minimum Amount Of Recycled Material
- Carpet And Entry Mat Are CRI Green Label Plus Certified And A Platinum Sustainable Choice Product Rated By The Scientific Certification Systems And Backings Specified To Have 10% Post-Consumer And 20% Post Industrial Recycled Content
- Plastic Toilet Partitions Have Post-Consumer Recycled Content, Manufacturers Offer A Program By Which All Solid Plastic Products They Manufacture Can Be Returned For Recycling
- Preference Given To Ceramic Tile, Mosaic Tile, Ceiling Tile And Wall Tile That Have Pre-Consumer Recycled Content
- Reuse Of Existing Materials Where Practical And Economical
- Window Glazing In New And Remodeled Areas High Efficiency Low E Glass Standard To Reduce Heat Loss And Heat Gain

INDOOR ENVIRONMENTAL QUALITY

- Carbon Dioxide (CO₂) Monitoring
- Increase Ventilation Effectiveness
- Low Emitting Materials, Adhesives & Sealants
- Low Emitting Materials, Paints
- Low Emitting Materials, Carpets

- Fabric Wall Covering Indoor Air Quality Certified Under The Greenguard For Children & Schools Program
- R-410A Refrigerant Is Being Used In The Air Conditioning Units Which Is A Non-Hydrochloroflourocarbon And Has Essentially No Global Warming Potential (GWP).
- Controllability Of Systems, Perimeter (Operable Windows, Lighting And Temperature Control)
- Thermal Comfort Ceiling And Wall Insulation Exceed Minimum Code Requirements.
- Thermal Comfort Computerized Heating, Cooling, Ventilation Controls To Balance Comfort, Energy Efficiency, And Air Quality
- Daylight & Views, Daylight 75% Of Spaces For All New Construction
- Natural Light In The Gymnasiums So That Less Light Needs To Be Used During The Day Time Hours
- Low E Glass Is Being Specified To Offset Energy Gain At All Windows