- Tool changer
- Transformer cabinet
- AC control cabinet
- DC control cabinet
- NC cabinet
- Troughs
- C. Factory standards
 - Piping standards
 - Electrical standards
 - Floor plate standards
 - Type
 - Load capacity
 - Chip/coolant systems
 - -Pit locations
 - -Trough locations

D. Design information, including these items:

- Codes required
- Geotechnical considerations
- Seismic design considerations
- Vibration design considerations
- Plant engineering drawings showing site conditions
 - -Underground piping
 - Compressed air
 - Water supply for chip/coolant system
 - Electrical supply
 - Building column and foundation layout
 - Existing foundations within area

Environmental standards for pits, troughs, and piping

Finish standards for surfaces

- Paint specifications (concrete surfaces, floor plate, guarding, and misc. metals) Approval of the concrete and steel design standards

- Concrete - ACI 301

- Steel - AISC 1989 edition

- Welding - ASW D1.1-92

Adjacent floor surface789(d)-0.95m4atch require4ents

- Concrete to concrete
- Concrete to floor block

Plant grounding sche4e

Safety standards

- E. Architectural registration require4ents
- F. Design approval process between 4achine tool su pplier and owner
- G. Docu4entation require4ents:
 - Paper size
 - Title block for4at
 - Drawing nu4ber syste4
 - Approval drawings, type and quantity
 - Final drawings



A. Reco44 endations:

Foundation designer will reco44end the nu4ber, loc ation and depth of the soil borings necessary to co4plete the design proc ess.

- B. Geotechnical investigation infor4ation
 - Detailed description of the soil profile
 - Foreign 4aterials within the soil
 - Condition of the excavated 4aterial
 - Reco44 endations during excavation
 - Backfill and co4paction require4ents
 - Ground water elevations
 - Esti4ated settle4ent
 - Allowable bearing pressure

- Modules of elasticity "E"
- Modules of sub-grade reaction "K"
- Values for "E" & "K" for depths 10', 15' & 20'
- If rock is encountered: profile of stratum and bearing capacity of rock

- A. Approval of all information from the owner to machine supplier
- B. Machine tool supplier/owner recommendation of the maximum work piece weight expected to be loaded on the machine
- C. Deflection criteria for all components
- D. Individual component weights for both static and dynamic conditions
- E. Monument locations to identify centerlines
- F. Foundation drawings for machine tool supplier (machine, accessories and chip/coolant system)

- A. Foundation impact on existing structure
 - Under pin, lower or move existing column footings
 - Shore excavation
- B. Crane loads during construction or when machine is in use
- C. Environmental
 - Dust barriers
 - Exhaust flumes
- D. Soil removal
 - Is it contaminated?
 - Soil stockpiled on site or removed
 - Can soil be reused for fill?
- E. Site access
 - Truck routes in and outside of plant
 - Workers access and security clearance
 - Lay down area and construction trailers
 - Wash-out area for concrete trucks

correctly constructed to precise measures, and thus have the right foundation on which to place the new milling machine.

For more information on machine foundations from a leader in this unique industry, please contact William J. Waldorf, SE, Chief Executive Officer of Larson & Darby Group at 815-484-0739 or via email at <u>bwaldorf@larsondarby.com</u>.