

## **DIVISION 33—UTILITIES**

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### **FORMAT**

1. Technical specifications content and numbering system shall be based on the 2004 version of CSI MasterFormat.

### **BASIS OF DESIGN**

1. BGSU Design standards shall not replace fully developed, project and market specific technical specification. Architect/Engineer (A/E) shall utilize the Standards as a minimum standard to guide the design and execution in the field. Exceptions to these standards are allowed provided they are approved by Design & Construction.
2. In instances where fewer than 3 manufacturers are indicated, the A/E shall insert "or approved substitute" in the products section of the technical specifications.
3. All submitted substitute products shall be brought to the attention of Design & Construction prior to approval.

### **RELATED SECTION**

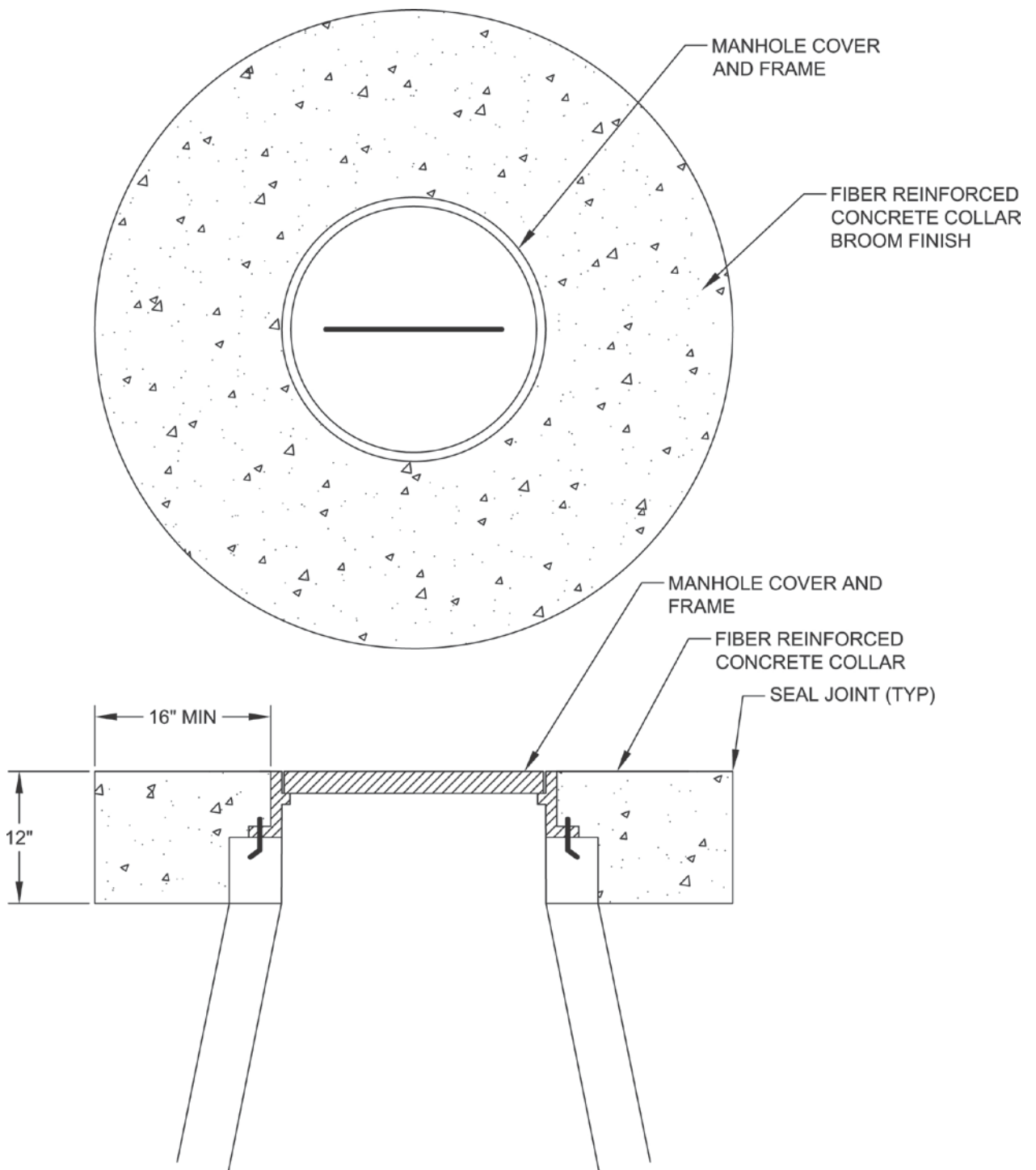
1. Division 02-Existing Conditions

### **GENERAL PROVISIONS**

1. Reserved

### **33 05 13 —MANHOLES AND STRUCTURES**

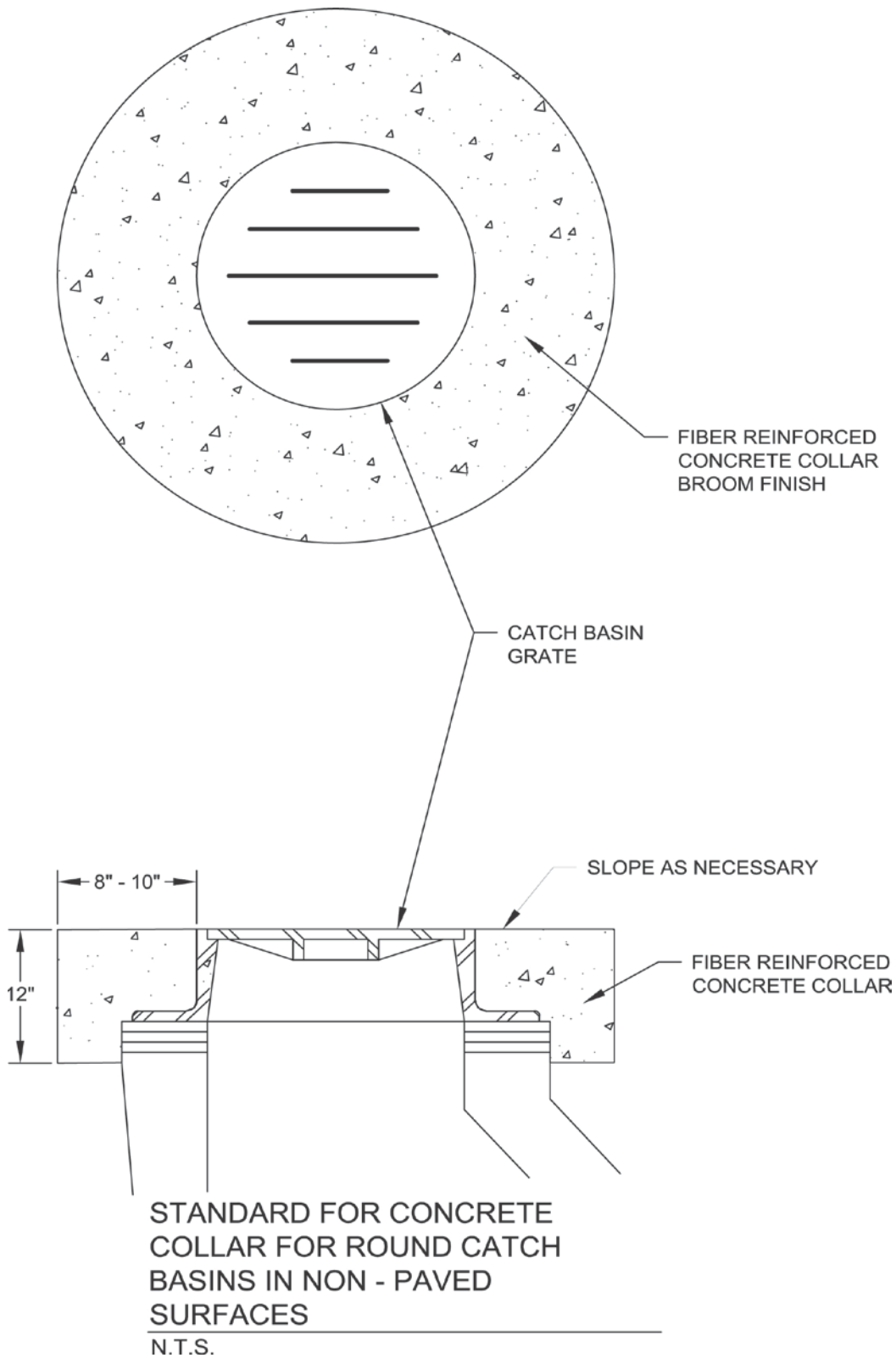
1. Manhole Castings shall have a load rating of heavy duty, H-20, in all non-paved and paved surfaces.
2. A concrete collar is to be installed around all new and existing manholes in all asphalt surfaces. Collars shall be designed to the figure below.



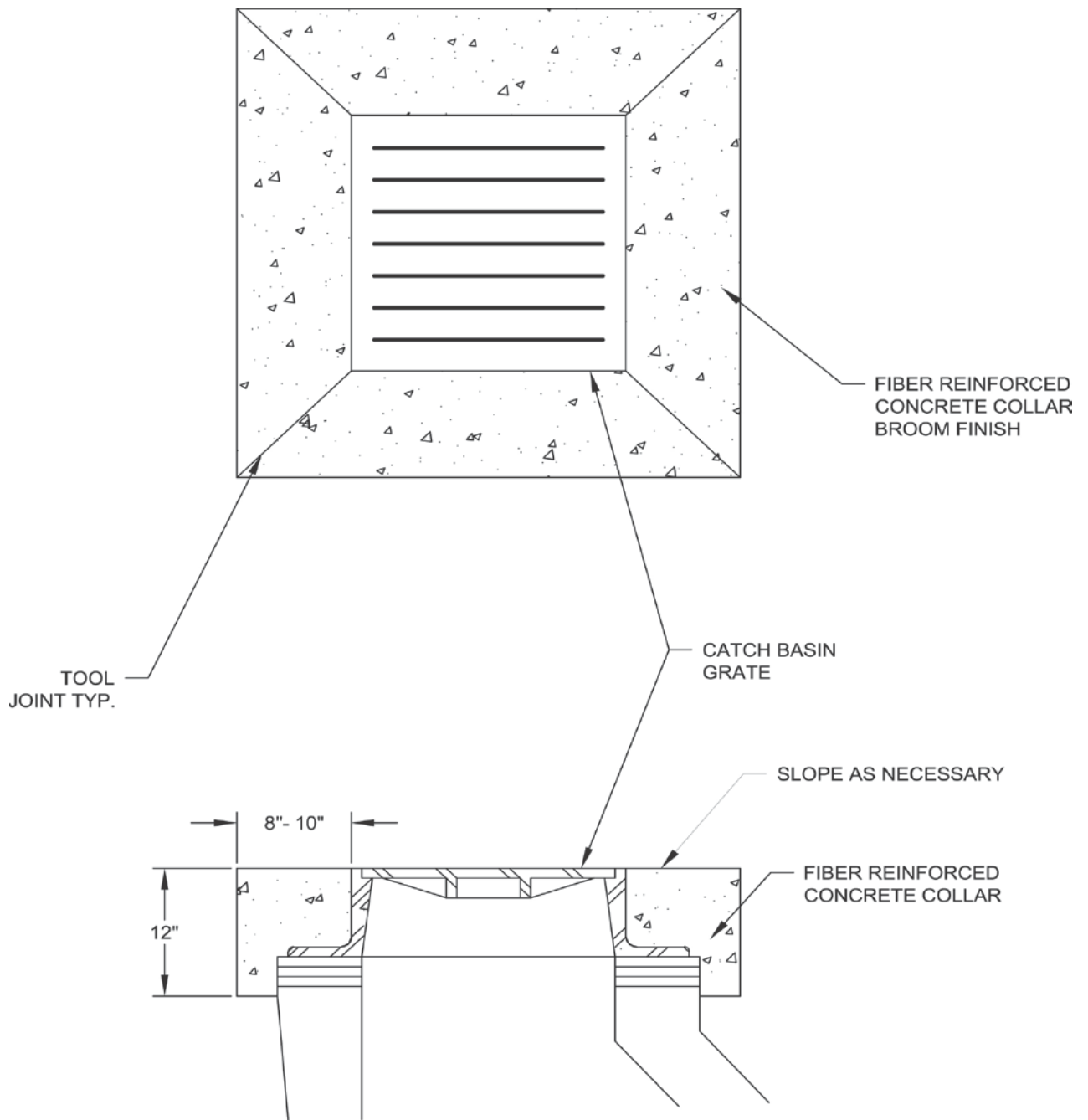
STANDARD FOR CONCRETE  
COLLAR FOR MANHOLES IN  
ASPHALT  
N.T.S.

## **CATCH BASINS**

1. Catch Basin Castings shall have a load rating of heavy duty, H-20, in all non-paved and paved surfaces.
2. A concrete collar is to installed around all new and existing catch basins in all non-pavement surfaces except when catch basin is fully located in a concrete surface. Collars shall be designed to the figure A and B below.
3. A concrete collar is to installed around all new and existing catch basins in all asphalt surfaces. Collars shall be designed to the figure C, D, and E below.

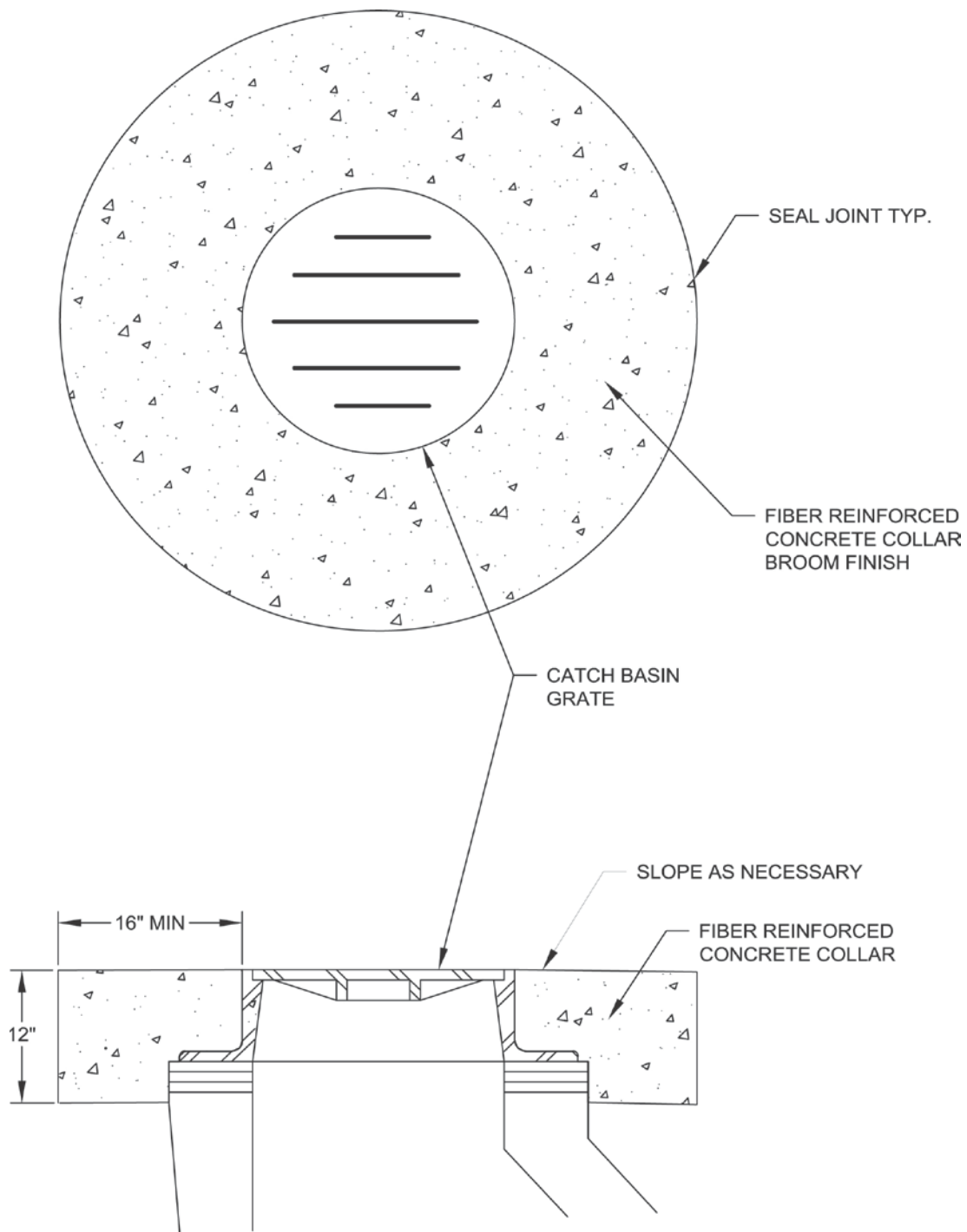


**Figure A**



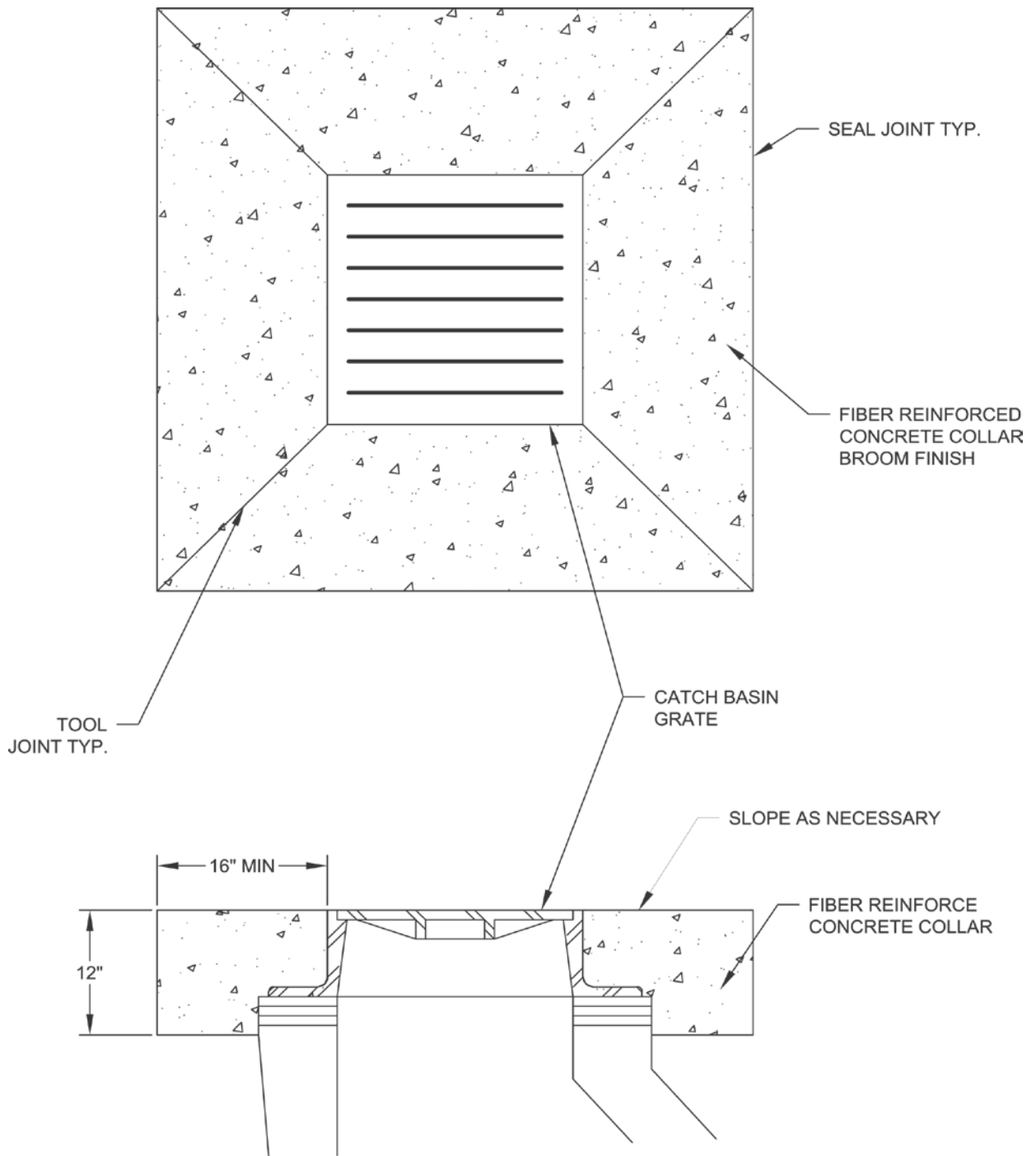
STANDARD FOR CONCRETE  
COLLAR FOR SQUARE  
CATCH BASINS IN NON -  
PAVED SURFACES  
N.T.S.

**Figure B**



STANDARD FOR CONCRETE  
COLLAR FOR ROUND CATCH  
BASINS IN ASPHALT SURFACES  
N.T.S.

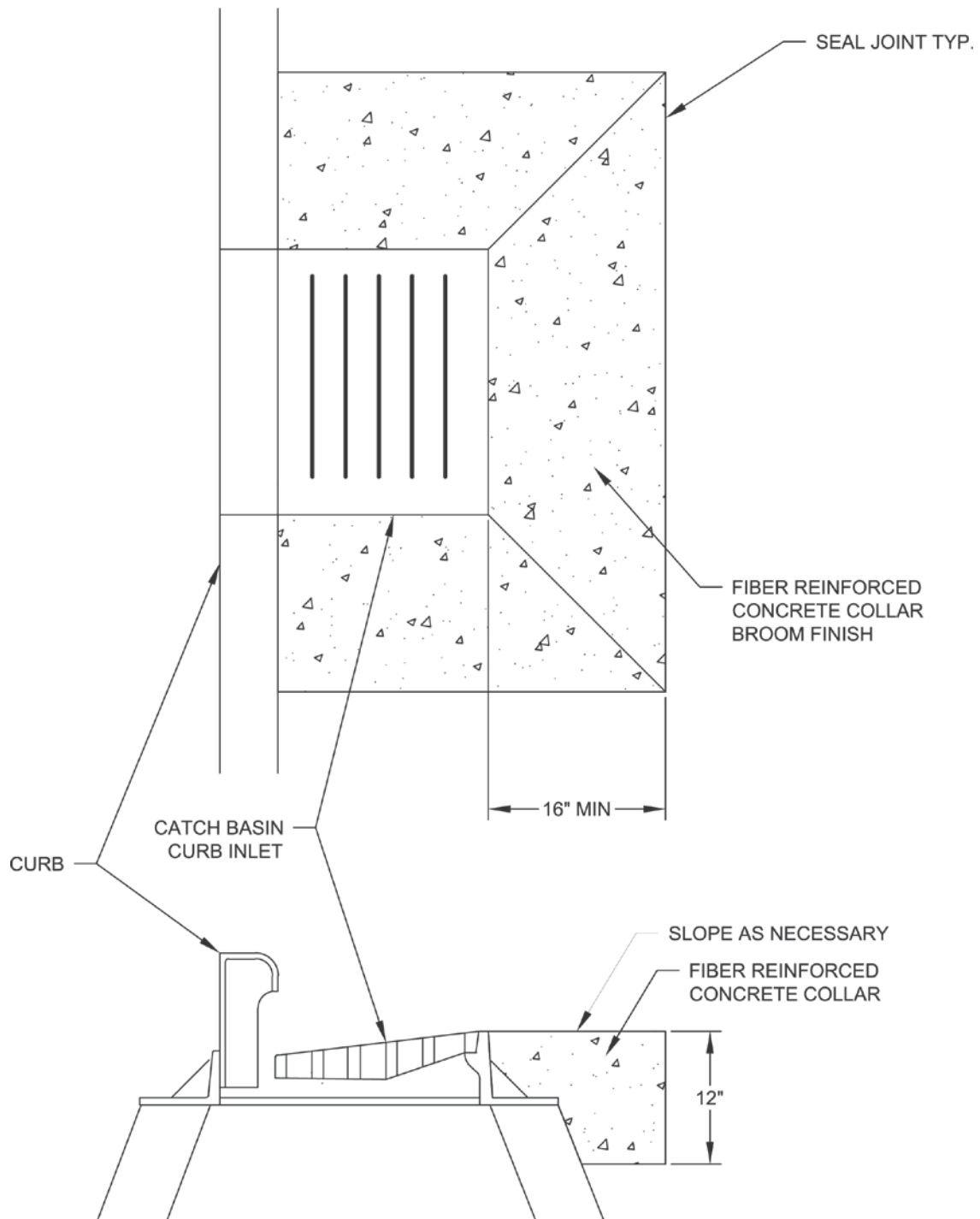
**Figure C**



STANDARD FOR CONCRETE  
COLLAR FOR SQUARE CATCH  
BASINS IN ASPHALT SURFACES

N.T.S.

**Figure D**



STANDARD FOR CONCRETE  
COLLAR CURB INLETS IN  
ASPHALT

N.T.S.

**Figure E**

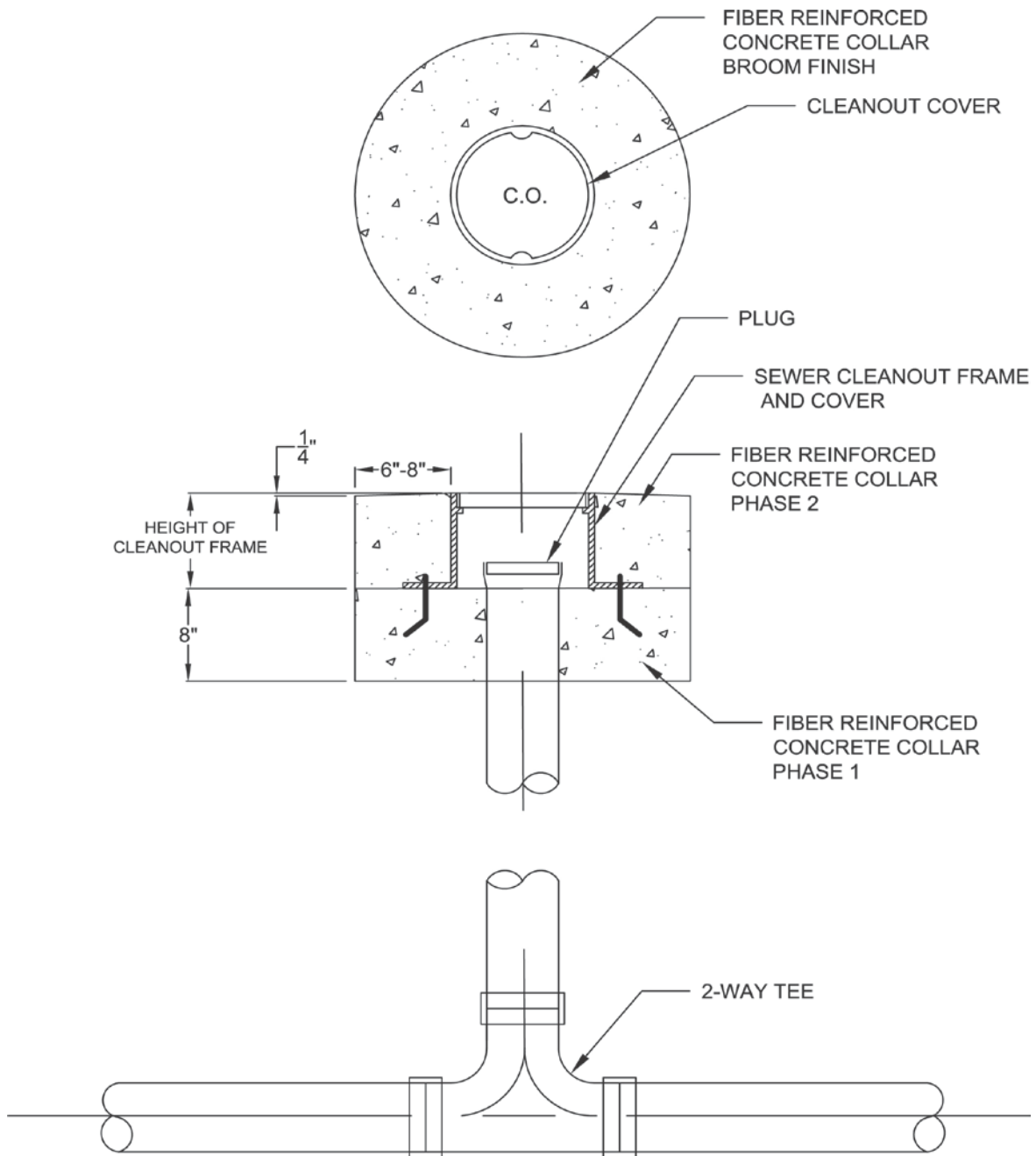


### **33 05 13.13—MANHOLE GRADE ADJUSTMENT**

1. All existing utility lids, valve boxes, drainage structures, etc., shall be adjusted as necessary to match any revised elevations within the project site. A concrete collar shall be added per BGSU Standards. This is to be the case even in instances where the structure is otherwise unaffected by construction. Proposed modifications shall be reviewed and approved by the Project Manager or designee.

### **33 05 17—CLEANOUTS**

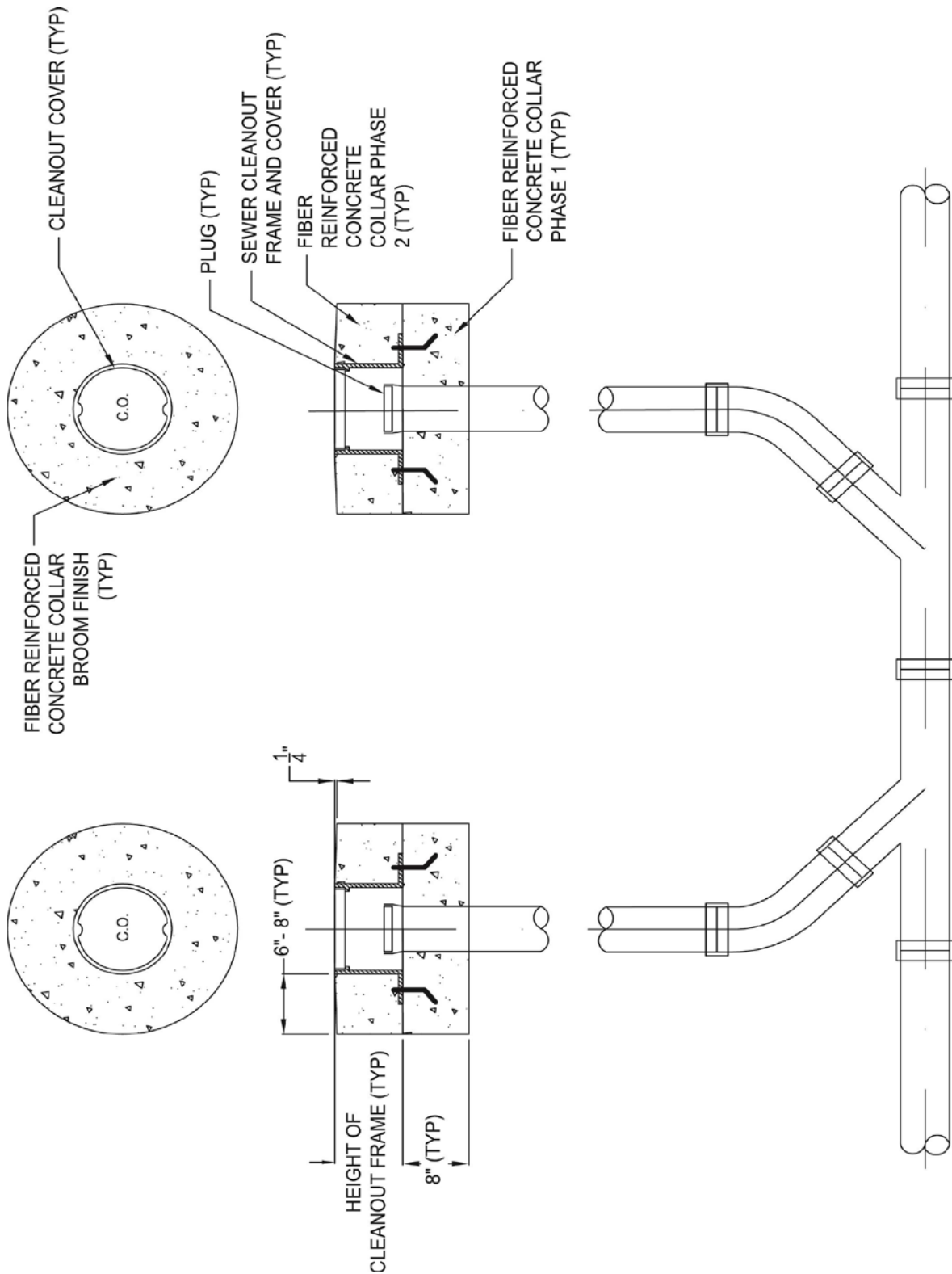
1. Cleanouts shall have a cast iron metal frame and cover. Size will be portioned to the cleanout pipe size. Cleanout cover shall be labeled C.O. Cleanout Castings shall have a load rating of heavy duty, H-20, in all non-paved and paved surfaces.
2. A concrete collar is to be installed around cleanouts in non-paved (such as turf, gravel, pavers, etc.) except when cleanout is fully located in a concrete surface. Collars shall be designed to the figure below (Figure F).
  - a. Collar shall be poured in 2 Phases. The first phase will be poured around the cleanout pipe with provisions to attach the cleanout cover. The second phase will be poured around the cleanout frame and cover once it is installed.
  - b. All new cleanouts shall have a 2-way tee installed at the main line.
  - c. If a 2-way tee is not available, a double cleanout shall be installed. See Figure G.



STANDARD FOR CONCRETE  
COLLAR FOR SEWER CLEANOUT  
IN NON PAVEMENT SURFACES

N.T.S.

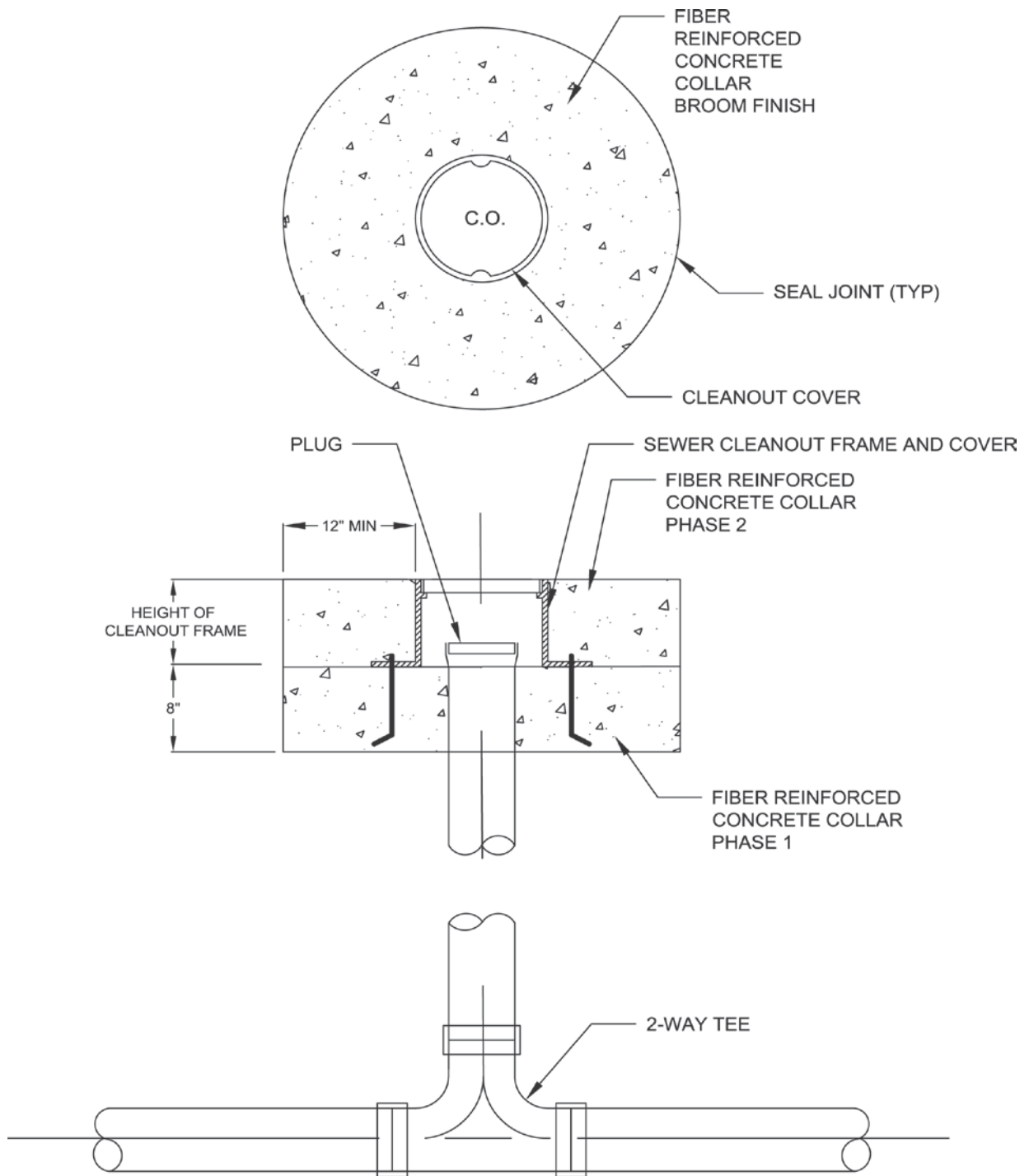
**Figure F**



STANDARD FOR CONCRETE COLLAR FOR SEWER  
CLEANOUT IN NON PAVEMENT SURFACES  
N.T.S.

Figure G

3. A concrete collar is to be installed around all new and existing cleanouts in all asphalt surfaces. Collars shall be designed to the figure below (Figure H).
  - a. Collar shall be poured in 2 Phases. The first phase will be poured around the cleanout pipe with provisions to attach the cleanout cover. The second phase will be poured around the cleanout frame and cover once it is installed.
  - b. If a 2-way tee is not available a double cleanout shall be installed. See Figure J.



STANDARD FOR CONCRETE  
COLLAR FOR SEWER CLEANOUT  
IN ASPHALT SURFACES

N.T.S.

**Figure H**

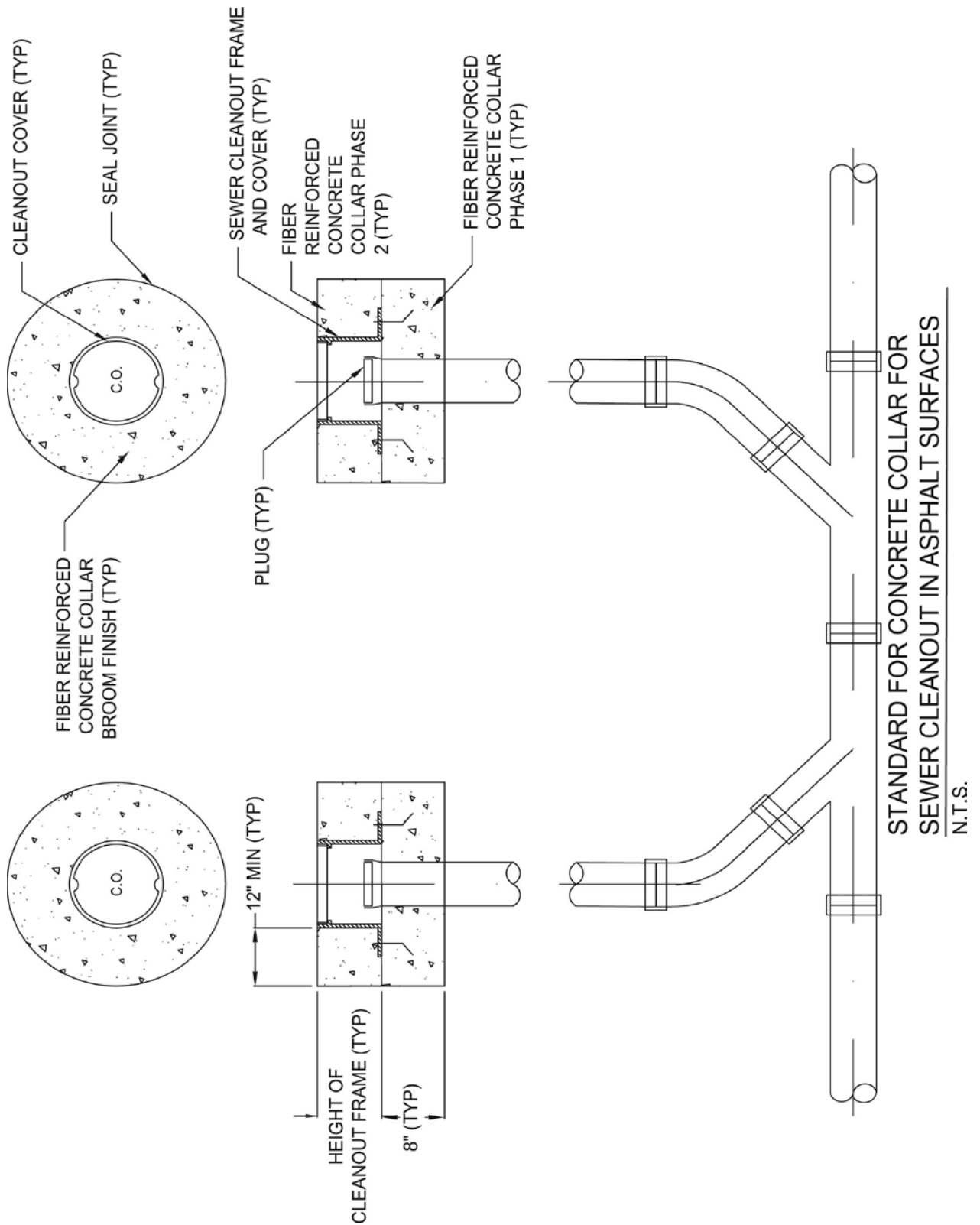


Figure J